



7. Exercise & Sports

In the exercise and sports industry, demand continues to increase for improvements in energy consumption, long service life, safety and comfort. The exercise & sports equipments must be designed to meet strict precision standards which must be easy to maintain.

As an equipment manufacturer, you expect a comprehensive range of standard parts. Products from HCH bearing group ensure peak performance in practically any type of sports and fitness equipment. Our products are characterized by:

- > Very high quality
- > Long life
- > Good price/performance ratio

In addition, our application engineering and sales experts can use their extensive experience to support you on special solutions. For example, for the need of high impact resistance in this kind of application, HCH has developed a range of good basic load ratings and optimized bearings that enhance operators' comfort. The know-how and resources of a strong international distributionship are thus available to you on a local basis, anywhere in the world.



In cycles, inline skates or treadmills bearings from HCH ensure peak performance in practically any type of sports and fitness equipment. With our HCH brand, we are a leading global supplier in this sector. In addition, our sales engineers can use their extensive experience to support you on special solutions.



General requirements for exercise & sports

Save power by reducing friction

Some exercise equipments are used in indoor places. Excessive noise and vibration level associated with exercise equipments are strongly required to be eliminated. High noise levels result in a poor living environment for personnel and family. High vibration levels also increase energy consumption. HCH offers a range of solutions with low friction materials, optimized seals solutions, clearance as well as the lubricants.



Comfort

It is absolutely vital that an optimal comfort level can be obtained during driving. Avoiding stress and fatigue is an important way to keep a good way of comfort. As for HCH, customer comfort considering is a prioritized area. Therefore, we offer both original equipment manufacturers and drivers a range of excellent and reliable precision bearings to satisfy a high level of comfort. Since precision is a key issue to HCH's customers, it's also a key issue to us at HCH.



Maintenance free

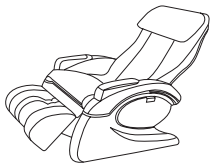
For both manufacturers and end-users, it is of utmost importance that exercise and sports demand as low maintenance efforts as possible. To meet these demands for reduced maintenance, HCH can offer you a wide range of solutions to improve bearing quality and steel material to sustain long service life.

Environmental concerning

Advocating harmony with the global environment is HCH's most important issue and we will make constant efforts to contribute to the harmonious development of society, while aiming to reduce environmental impacts and create a recycling society. HCH bearings all pass RoHS to make sure that every single piece used in exercise & sport equipments is with no harm.

7.1 Fitness Equipments

Leisure and exercising is more and more enjoyed by people all over the world. It is practiced in gymnasium or in family to have fun. HCH's experience and expertise in the design and manufacture of high reliability and quiet running bearings make us an ideal partner for your exercising equipment needs. From massage chairs to treadmills to various newly developed fitness equipments, HCH offers a complete line of solutions for the movement of your product. Among our customers, there are world leading fitness equipment manufacturers in USA, Italy, Japan and China. We believe that their success and HCH's professional skill and continuous improvement cannot be separated.



Massage chairs

Massage chairs must be designed ergonomically for the exercisers as well as smooth and quiet for comfort. As people size and weight varies, chair design has to be reliable and robust.



Treadmills

For this game, HCH makes no compromises between bearings' efficiency and robustness. HCH has access to the best bearing technology, which brings the absolute combination of low friction and extreme robustness.



HCH bearings for fitness equipments

HCH bearings are designed to fulfill the requirements of different types of fitness equipments. All HCH bearings are of high quality level. There are no compromises. At HCH, we know that robustness, protection, low friction and comfort are important for every equipment performance. HCH engineers are more than bearing specialists. They are experts in the industries they serve as well. They understand the demands of a specific industry and the role played within it by

bearings. That's why we have put our expertise at the service of fitness equipment market with a complete range of deep groove ball bearings to satisfy every need.

In some difficult area, HCH also provides specific high quality grease with additives for extreme pressures. Rubber seals are also considered when the environment is extremely dusty. For further information, please contact your HCH application specialist to ensure best results.



Modern sports and fitness equipment combine very high performance capability with high levels of comfort and long life. A significant proportion includes bearings of the HCH brand which ensure unrestricted sports and leisure enjoyment. The technical know-how of our engineers ensures reliability, long life and cost-effectiveness of the bearings.

7.2 Skating



From everyday fun to racing, HCH are able to satisfy every needs with full range of bearings for skating. Among our customers, there are many market-leader skates manufacturers and important skating racing teams. We believe that some of their successes derive from working together with the HCH's professional skill. HCH also enjoys itself in sponsoring world famous skating races especially in Brazil and USA.

Leisure skating

Fitness skating becomes popular in the beginning of the 1990's when more and more people came together to practice inline skating. At the end of 1990's, a skating bicycle started to be popular. Because skating bicycle needs no professional skill even without any training, from the child to adult, people enjoy the fun by this equipment. To faster the speed, engineers improved this equipment with electric motors inside to replace manual moving. Since then, it becomes to be a miniature vehicle, which is also enjoyed by students and office people to ride instead of bicycle. HCH bearings have been supporting leisure skating since the beginning.

Sports skating

It is usually practiced by 4 wheels skates with short frames for higher mobility. Sports skating could be divided in function as aggressive skating (in which skateboard can be also included) and skate racing. Aggressive skating means pushing the limit of extreme practices, having fun with stunts and figures while skating on skate-parks, streets and sidewalks. Equipment like bearings must survive to 3 meters and over high jumps! For racing games, there are several big events like Roller World Cup, National Cups and Championships, and many more everywhere in the world, Speed and reliability become the most important in that area. For all of them, skaters need the best bearings.



HCH bearings for skating

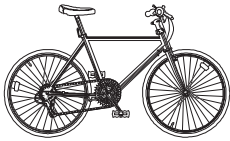
608 bearings and other miniature bearings are usually applied in the skating. HCH bearings are made from high quality chromium steel with the standard grease applied. In addition HCH high precision standard satisfy skating players who want to have access to the best bearing technology, which brings the absolute combination of low friction and extreme robustness as well as maintenance free.

Deep groove ball bearings of the HCH brand ensure that the rollers on inline skates and skateboards run smoothly and easily. Even at high speeds such as those achieved by sports skaters, these bearings have very low friction and can even withstand the vibrations occurring in travel over uneven ground or in jumps.

HCH can support makers to meet their requirements with a number of proven quality solutions including:

- > Standard rolling: standard grease filling
- > Good protection against dust: 2 metallic shields
- > Excellent robustness: made of world class cleanest chromium steel
- > HCH average precision standard, optimized internal clearance for skates bearings

7.3 Bicycles



HCH has put its expertise at the service of bike market to satisfy every bikers needs from racing to everyday fun. 5 years ago, cooperating with famous bicycle producer LOOKCYCLE, we have developed extreme thin series ball bearings for the bottom bracket unit of bicycles. By now this has become a standard feature in almost all high quality bikes. After taking a close look into the biker's demands and wishes of today, we found plenty of room for improving the reliability, durability and all-round-performance of this most critical part of any bicycle. Currently, HCH offers an absolutely unique solution for mountain, road and trekking bikers that ask for a truly reliable BB-set.

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Mountain bike

The nature of mountain bikers is always to have fun and being active without limits. When doing so, the bikes have to withstand high loads and forces, which can lead to destruction and early failures. HCH are offering a variety of thin series ball bearings that can survive from different kinds of impacts. It gives you security and good feeling to ride wherever you like and forget about possible failures.

Road bike

Road cycling is a passion, which is shared by many bikers across the world. They love to spend hours on their bikes by covering many kilometers in highest possible speed. It is vital for those that the bike is light and functions perfectly. We have put a lot of efforts to design light but reliable ball bearings for BB, which nevertheless fulfills these needs for many years.



HCH bearings for bicycles

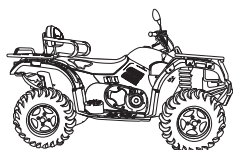
HCH thin series bearings and other miniature bearings are usually applied in the bicycles. At the same time, it allows for great freedom in designing both optimized cranks and bottom bracket units. The bearings are made from high quality chromium steel with the specific grease applied. Especially in road bikes, many bikers rely on light and convenient packing way. HCH developed extreme thin series ball bearings to satisfy the biker's light, easy for carrying requirement. In such kind of bearings, cage is also specially designed with crown shape.

Our goal is to be recognized as a leader in bearing solutions for performance of bicycles. By understanding that the bearing performance is part of a complex system, HCH can offer the competitive advantage you need in sealing, lubrication, and material to a variety of bearing types.



Our range offers maximum benefits to motorcycle manufacturers and their customers, including an extended operating life of the bicycles thanks to highly-developed and weight-optimized bearings. We support our customers with environmentally-friendly products and offer them perfection by optimizing costs, performance and quality in an integrated approach.

7.4 Recreation Race Vehicles



Except for cars and motorcycles, there are a variety of race vehicles currently all over the world such as lonestar racing, snowmobile racing etc. They are generally called recreation race vehicles. Under the harsh conditions of recreation race vehicles exposed to the vehicles are experiencing bearing failures in the form of material wear as that there was not enough reliability to make it through practice on Saturday and the race on Sunday. To avoid losing a race over failed

bearings, the bearings are normally changed out on Saturday night.

We have an end-user come to us in USA who meets the problem with bearings in the vehicle that can easily fail during the competition. He provided us the temperature data taken under competition conditions. So we specified high temp double lipped seals, high temp synthetic grease and all in a greased-for-life package, and told him to leave off the grease fitting. The HCH bearings were installed and away we went. Instantly the failures disappeared and not only were the HCH bearings running whole weekend, they were running multiple race weekends with no failures.



HCH bearings for recreation race vehicles

There are a lot of cheap bearings out there these days. They stack up easily when a little snow, salt, dirt or water ingress inside. It happens to bearings in the field in recreational products applications which destroy the dream of players. By applying HCH bearings, customers will be surprised to find that result is much better than what they can expect.

Following listed two bearing applications for recreational race vehicles and the requirement for these two applications:



Deep groove ball bearings for crankshafts, transmissions, and differentials	> Single row deep groove ball bearings in popular sizes > High capacity and special heat treatments available for long life > High quality clean bearing material for long life
Deep groove ball bearings for wheels	> Full line of 6 series ball bearings in popular sizes > Steel cage or glass filled nylon cage > Available with a variety of sealing options > Greased for life with rust inhibiting greases > High temperature versions available

Through targeted research and development, constant increases in quality and an intensive exchange of experience with manufacturers and drivers, we have increased our bearings' functionality and operational reliability and at the same time minimized friction. Vehicles that are fitted with high-quality HCH rolling bearings have become generally more efficient and more reliable, and as a result more competitive.