



# SwissBob

**Passion For Speed**



Engineering by Sauber in Switzerland

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**SwissBob**

# Vision

A black and white photograph of a bobsled covered in a dark, crinkled tarp, set against a snowy background. The tarp is heavily wrinkled and draped over the vehicle, which is partially visible on the right side. The background shows a snowy, hilly landscape under a bright sky.

“Our mission is to bring bob sport to the next level by providing a high performance, cost effective, industrialized, safe and exciting product to the international bob sport community.”



# The Concept

## Set the benchmark

### **Monocoque Chassis:**

Single piece fully structural chassis to improve safety, drag and aesthetics (same concept as Formula 1 monocoque) without frame

### **Identical production:**

State-of-the-art industrial production processes and strict quality control guarantee identical specification for each bob

### **Speed:**

Revolutionary Formula 1 design techniques to improve aerodynamic performance

### **High tech:**

Design, engineering and manufacturing by world class Swiss engineering companies

### **Increased safety:**

Designed to provide best-in-class safety for the bob pilot

### **Affordable:**

Designed to guarantee competitive costs for production and maintenance

### **Low maintenance:**

Materials and design chosen to minimize maintenance



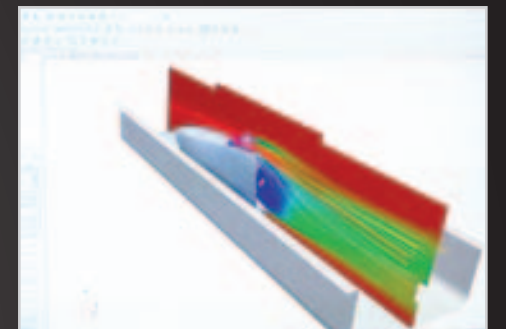
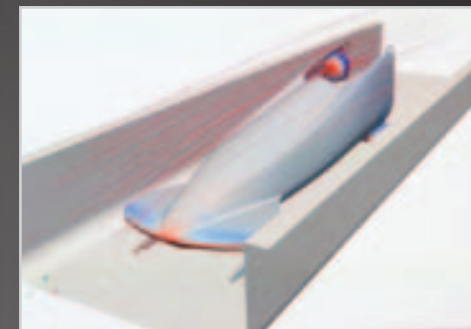
# Development

## Taking bob sport to the next level

Computational Fluid Dynamics (CFD) was used to aerodynamically develop the monobob using super computers at Sauber Motorsport. Compared to a current competition Two Man Bobsleigh, aerodynamic drag could be reduced by 8% adding stability under yaw at the same time improved safety. This was mainly achieved due to its unique shape, the fully integrated rear bumper and the runner covers.

Not only the bodywork but also the mechanics were re-engineered starting from existing “best-in-class” systems.

All mechanical hardware was designed using CAD to ensure perfect function, fit and ergonomics.



# Features

## The new Ice Racer

### Monocoque Chassis

Single piece fully structural chassis to improve safety, drag and aesthetics (same concept as Formula 1 monocoque)

### Steering

Best-in-class steering mechanism

### Brake System

Adjustable foot operated brake

### Aerodynamically Refined

Highly developed body to reduce drag and improve lateral stability

### Driver Position

Rearward position to maintain perfect CoG on an adjustable seat and foot grid

### Ballast

Possibility to easily add up to 30 kg of additional ballast

### Driver Protection

High Sides for increased head protection

### Rear Bumper

Integrated bumper and axel fairing reduces drag

### Internal Padding

Optional / removable padding to improve pilot comfort and safety

### Runner Spacing

Spacing similar to a 2-man bob to maintain handling

### Runner Fairings

Significant drag reduction achieved by streamlining the runners and carriers

### Runners

High quality stainless steel runners



# Manufacturing

## High tech made in Switzerland

All chassis are manufactured at Sauber Motorsports AG, Hinwil at their state-of-art Formula 1 production facility. The single-piece monocoque is made from high tech composite prepregs and cured under vacuum in the autoclave.

All parts pass through the Sauber Quality Control before dispatch to the final assembly.

High quality materials are used for manufacturing all mechanical parts, this not only increases performance, but also minimizes maintenance.



# On the ice

## Remarkable performance

The monobob has successfully completed the test program with exceptional feedback from the pilots.

Besides driving performance, pilots particularly enjoyed the High-quality standard, the innovative Design and ergonomics of the cockpit. The wide composite monocoque not only allows for more space and comfort during the entry, but gives the driver the feeling of complete safety.





# Customization

Truly make your  
bob unique

## **Special runners:**

You can chose a set of runners made from stiffer steal to increase your performance even more

## **Padding:**

Customized shoulder padding for additional comfort in the cockpit

## **Special seat:**

Custom seat made from different materials to increase your comfort

## **Additional ballast:**

Gradually increase the weight of the bob and reach the perfect weight distribution with the ballast system

## **Individual painting:**

Customize your bob with any color, paint scheme, design and make it truly unique

## **Transport rails:**

Special aluminum transport rails that perfectly fit your bob





# Parabob



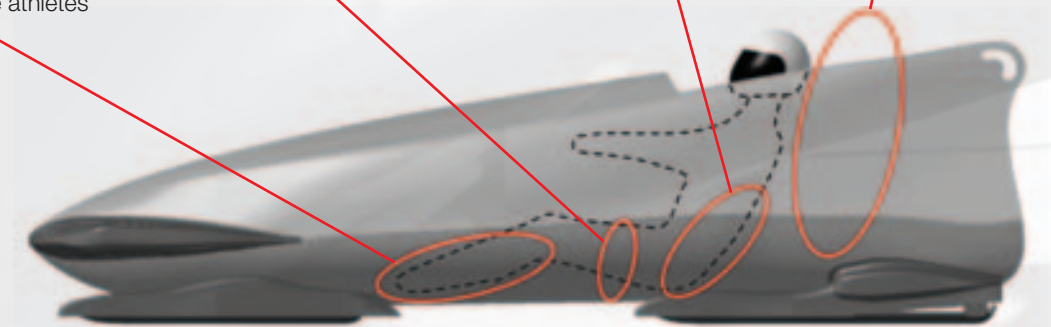
The Para-Kit to be mounted within 15 minutes. The kit consists of Para-seat with safety belts, lower leg containment “tunnels”, upper leg fixation points, hand-brake attachment and 2 rear safety structures, mounted to the side walls of the bob.

**Lower Leg Tunnels**  
Padded tunnel to contain the athletes lower legs

**Upper Leg Fixation**  
Straps attached to the athletes upper legs clip to fixation points in the chassis

**Para-Seat**  
Seat offering great back support and retaining straps

**Rear Safety Structure**  
Additional structures mount behind and above pilot

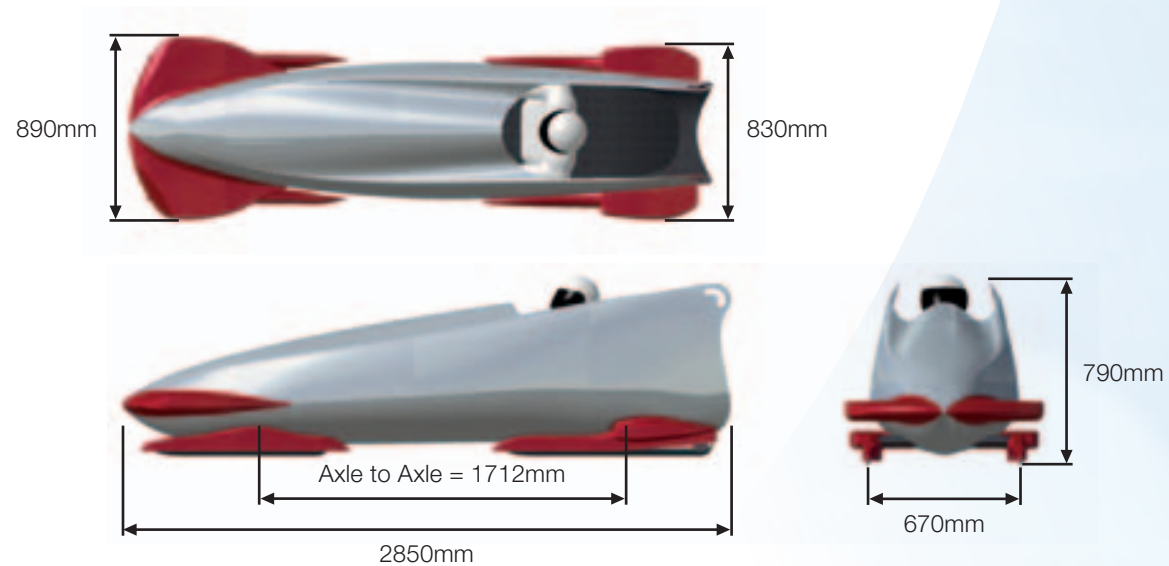




# Specifications

## Model: Ice Racer

- Empty Weight: 165kg
- Front Axle Weight: 91kg (55%)
- Rear Axle Weight: 74kg (45%)
- Rear Ballast: Up to 30kg
- Front Ballast: Up to 30kg
- Roll Range:  $\pm 16^\circ$  Roll
- Steer Range:  $\pm 12^\circ$
- Runner Pitch FA:  $+5^\circ/-2^\circ$
- Runner Pitch RA:  $\pm 5^\circ$
- Runner Radius: 3.5mm







SwissBob AG  
Bahnhofplatz  
P.O. Box 4010  
6304 Zug  
Switzerland

[www.swissbob.org](http://www.swissbob.org)  
Email: [questions@swissbob.org](mailto:questions@swissbob.org)  
Tel: +41 41 726 04 89

#### Partners:



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