

FIT TO WIN

WITH A SMALLER CREW AND A TEAM WEIGHT LIMIT, AMERICA'S CUP ATHLETES MUST BE ABLE TO KEEP UP WITH THE DEMANDS OF MORE PHYSICAL BOATS.

LOUIS SINCLAIR, the 24-year-old bowman for Oracle Team USA, is a beast. He can dead-lift 400 pounds, vertical-jump 85 centimeters, has a VO2 max of 70 ml/kg/min., and has just 8 percent body fat. He's "young, big, strong, fit," say his teammates. He is the model modern AC sailor.

"The ideal America's Cup athlete would have the aerobic fitness of [cyclist] Chris Froome and the anaerobic fitness of [sprinter] Usain Bolt, in one person," says Pete Cunningham, trainer for Artemis Racing. "That's the challenge — finding an athlete who has both the endurance and the strength to be able to turn the handles and handle extreme loads."

In order to meet those standards, the sailors have both strength and cardiovascular training multiple times per week, on top of sailing practice. While the helmsman and wing trimmers' muscular strength is less important than the grinders', each athlete needs to be as fit as possible.

"We take kilos away from the average weight of the helm and trimmer and give it to the grinders," says Ben Williams, trainer for Land Rover BAR. "That way, those with the greatest physical output are stronger. But they all still have to be strong, uninjured and healthy."

"We're trying to look at training more scientifically than we have before," says Williams. Teams use blood screening for vitamin and mineral monitoring, and wearable tech to aid nutritionists and trainers in creating food and fitness plans unique to each athlete. They measure skin folds on different areas of the body to ensure the athletes are getting stronger and lighter without losing muscle.

Three trainers — Cunningham, Williams, and Craig McFarlane of Oracle Team USA — shared what their ideal AC athlete physiology would be.



THE NEW BREED OF AMERICA'S CUP SAILOR

The boats are nearly one-design, as are the sailors who control them. They must strike a balance between strength, size and skill.

HEAD

"With the new commercial viability, each individual has to bring more than just sailing to the team," says Williams. Many of the sailors hold advanced degrees in design, yacht manufacturing or engineering. "These guys can actually provide input for the development of the boat after they sail it," he says.

HEART

During a typical race, the athletes have 25 minutes of consistent physical activity. The ideal athlete would be able to maintain between 75 and 99 percent of his maximum heart rate for that period of time. Sailors on Oracle Team USA wear monitoring devices from Zephyr Tech that measure their activity, heart rate and other statistics in real time. Trainers can download that information and form fitness plans to solve deficits.

ARM

Taking away the helmsman and wing trimmer, the team has only four athletes dedicated to grinding. "We try to get two full sessions of on-land grinding training with these guys each week, in addition to their normal sailing," says McFarlane. "The power-to-weight ratio of these guys is incredible. They're 10 kilos [22 pounds] lighter than last Cup, but their wattage output on the grinders is equal. That all stems from long-term effort and development."

LEG

Ankles and knees are vulnerable to injury when running across the trampoline and making sudden movements when aboard. "There's a high risk of injury," says McFarlane. "We focus on injury prevention with yoga and mobility, and we make sure we have a good recovery program in place."

BY THE NUMBERS

Height: 6'-6" **Weight:** 88-89 kg [194-196 lb.] for grinders; 82-84 kg [180-184 lb.] for helm and trimmer **Body Fat:** 8-10% **Metabolism:** 800-1,000 calories/hr. **Age:** 24-28 **Max dead lift:** 400 lb. **Max bench press:** 350 lb. **Weighted pull-up:** 110 lb. **Grinder output:** 1,400 watts

