



**Ares I: 0 to 1,000 MPH in Less Than 60 Seconds**

# Rockets and Race Cars:

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Stock car racing and NASA's newest rockets both push technology beyond the limits of daily life. While stock cars are some of the fastest vehicles on Earth, NASA's exploration spacecraft can take humans farther away from Earth than they've ever traveled before. NASA is developing the Ares family of rockets to succeed the Space Shuttle, ferry crews to and from the International Space Station, and send explorers for extended stays on the Moon and journey to Mars and beyond.

**NASA's new Ares I launch vehicle could finish a 500-mile race in 104 seconds and develops 3.85 million horsepower, equal to the horsepower of 4,280 stock cars.**

## **More amazing facts:**

### **Going The Distance:**

Stock car race: 200-600 miles

Ares I mission: 1,253 miles from launch pad to Earth orbit

### **Stop Watch:**

Stock car race: 2-3 hours for a 500-mile race

Ares I: 8½ minutes to reach orbit

### **Gettin' Around:**

Stock car track: ~½ mile to ~2½ miles

One orbit around Earth: about 26,000 miles

### **Fast Company:**

Stock car: 50 to 60 seconds to circle a 2½ mile track

NASA's International Space Station: 90 minutes for a 26,000-mile lap around Earth

### **Top Speed:**

Stock car: more than 200 mph

Ares I: 17,500 mph

**The next giant leap for mankind is taking shape under NASA's Constellation Program, and the journey begins with the development of America's new crew launch vehicle, the Ares I.**

### **0 to Really Fast:**

Stock car: 0 to 60 mph in approximately 6-7 seconds

Space Shuttle: 0 to 1,000 mph in 60 seconds

Ares I: 0 to 1,000 mph in 57 seconds

### **Fill 'er Up:**

Stock car 4.5 mpg, 137.5 lb. of gasoline, 111 gallons for a 500-mile race

Ares I: 0.0065 mpg, 1.6 million lb. of solid and liquid propellants, 217 gallons per second for the J-2X engine

### **Vroom Vroom:**

Stock car engine: 850 horsepower

Ares I J-2X engine: 3.8 million horsepower

### **Passenger Room:**

Full-size minivan: 163.5 cubic feet for up to 7 passengers

Orion crew vehicle: 361 cubic feet for up to 6 astronauts

### **Price of Admission:**

Stock car race: \$100 to \$1,500 per ticket

NASA: about 15¢ per day per taxpayer

### **Economic Impact:**

Stock car race: \$100 million to \$300 million per race in the track region

NASA: \$1.5 billion annually in Ares rocket and Orion crew vehicle contracts across nearly every state