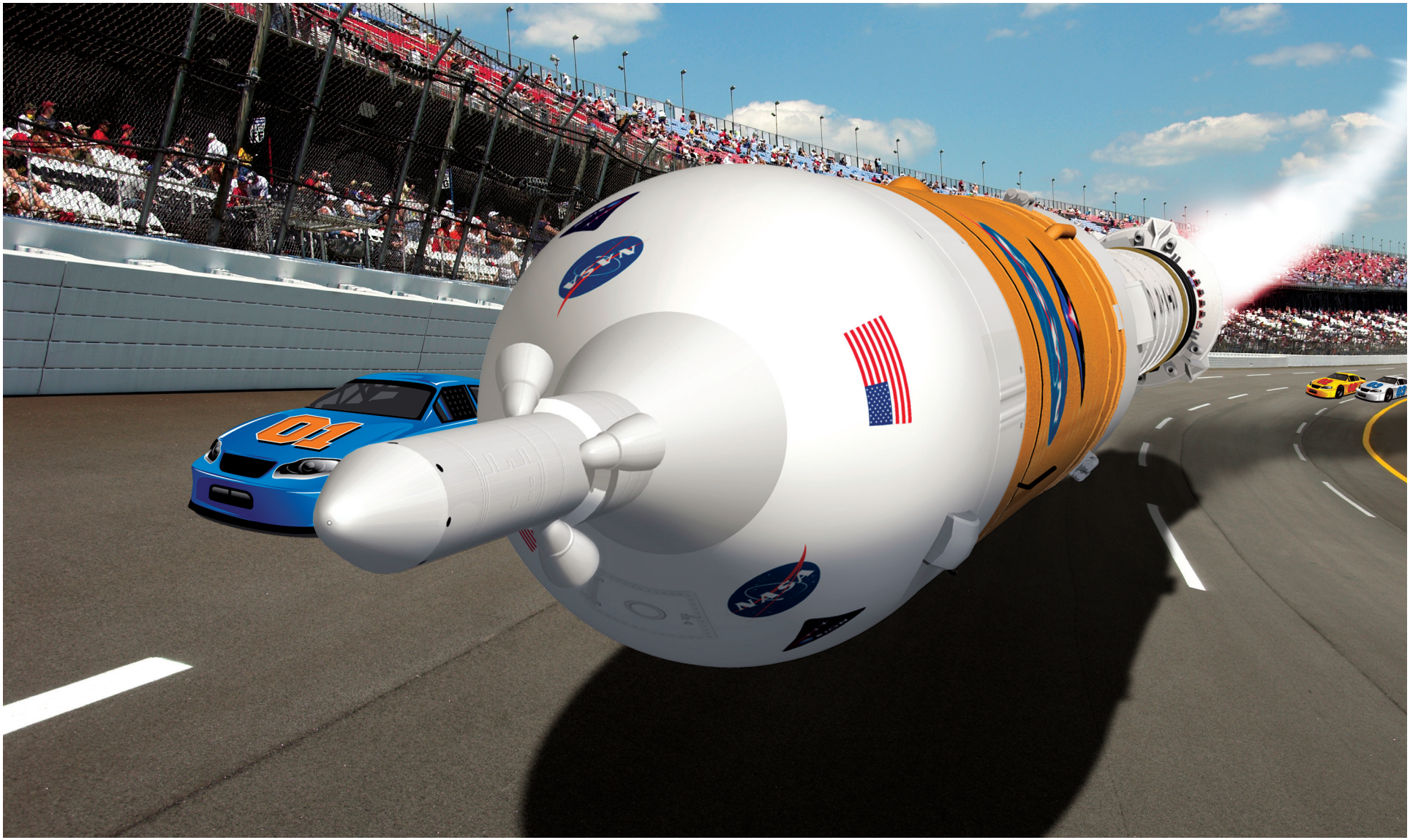
National Aeronautics and Space Administration



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

www.nasa.gov

Rockets and Race Cars

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.

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.

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: 8 1/2 minutes to reach orbit

Gettin' Around:
Stock car track: ~1/2 mile to ~2 1/2 miles
One orbit around Earth: about 26,000 miles

Fast Company:
Stock car: 50 to 60 seconds to circle a 2 1/2 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

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 42¢ 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

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