BOA aerospace
Build on Advantages

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BOA aerospace's Flexial Corporation is happy to announce that it has been selected by the United States National Aeronautics and Space Administration's as the featured company in the monthly NASA SLS (Space Launch Systems) *Highlights* publication. Each month, NASA selects one aerospace industry partner who is part of the SLS development team and provides a highlight of their contribution to the program and the industry.

NASA's Space Launch System is an advanced, heavy-lift launch vehicle which will provide an entirely new capability for science and human exploration beyond Earth's orbit. The SLS will be NASA's first exploration-class vehicle since the Saturn V took astronauts to the moon over 40 years ago. With its superior lift capability, the SLS will expand our reach to explore multiple, deep-space destinations including near-Earth asteroids, Lagrange points, the moon, and ultimately Mars.

Weight: 6.5 million pounds

- Equivalent to 8.8 fully-loaded 747 jets

Height: 384 feet

- Tall as a 38-story building

Cargo Volume:

- Could carry 9 school buses

130-Metric-Ton Evolved Rocket Development

The massive 130-metric-ton-configuration will be the most capable, powerful launch vehicle in history. Towering a staggering 384 feet tall, it will provide 9.2 million pounds of thrust at liftoff and weigh 6.5 million pounds. It will be able to carry payloads weighing 286,000 pounds to orbit. This configuration will use the same core stage, with four RS-25 engines, as previous configurations.

Upper Stage and J-2X Engine

The 130-metric-ton-SLS will include an upper stage to provide additional power needed to travel to deep space. The upper stage, built by Boeing, will share common attributes with the core stage such as its outer diameter, material composition, subsystem components and tooling to save cost and design time.

Developed by Pratt & Whitney Rocketdyne two J-2X engines will power the upper stage. The J-2X is a highly efficient and versatile rocket engine — the first liquid oxygen and liquid hydrogen rocket engine to be developed in 40 years that will be certified to transport humans.

J-2X Engine for Upper Stage

- One J-2X Engine produces the equivalent power of 2 Hoover Dams.
- One J-2X engine uses 217 gallons (821 liters) of propellant per second.

Flexial's J-2X Turbopump Seal

For NASA's Space Launch System, Flexial designs and builds the J-2X turbopump lift-off seal. This is a high-performance sealing technology to prevent leakage of hydrogen while the engine turbopump spins at up to 30,000 revolutions per minute; perhaps one of the most demanding face seal applications ever.

BOA aerospace is proud of its exceptional technology and proven capabilities in this challenging industry.

Started in 1994, Flexial was the world's first welded bellows company to become a certified supplier listed in the International Aerospace Quality Group (IAQG) OASIS database, and has since risen to become the preferred supplier of accumulators, seals, sensors, and other products for today's commercial and military aircraft and spacecraft.

Flexial Corporation is enjoying strong, strategically managed growth in its key markets - and it's not by accident. Flexial brings the industry's highest technology approach to product development and design, program management and process control, quality assurance, information systems, and precision manufacturing.