solenoid valve. This design also eliminates the need for many seals used with existing ball valve and globe valve designs, which commonly cause failure, too. This, coupled with the elimination of the valve stem and conventional valve actuator, improves valve reliability and seat life.

Other mechanical liftoff seats have been designed; however, they have only resulted in increased cost, and incurred other reliability issues. With this novel design, the seat is lifted by simply removing the working fluid pressure that presses it against the seat and no external force is required.

By eliminating variables associated with existing ball and globe configurations that can have damaging effects upon a valve, this novel design reduces downtime in rocket engine test schedules and maintenance costs.

This work was done by Bruce Farner of Stennis Space Center, (U.S. Patent #8,336,849), and is available for licensing. For more information contact the SSC Office of the Center Chief Technologist at (228) 688-1929 or by e-mail SSC-Technology@nasa.gov. Refer to SSC-00264.