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By: Lucian Dorneanu, Science Editor



Observe the massive flames behind Shockwavejets

## How Does a Jet Truck Work?

### *Jet or Truck?*

What happens when you mix a truck with a jet fighter? It's called Shockwave, a triple jet-engine truck on a 260-inch (660-cm) wheelbase, and it holds the Guinness record for jet-truck speed at 376 miles per hour (605 kph). Driving on a runway, Shockwave races airplanes that are flying above it at 300 miles per hour. It uses three Pratt & Whitney J34-48 engines, also used in the U.S. Navy's T2A Buckeye plane. The engines are arranged in a pyramid formation, tilted at a three-degree angle to help keep the 6,800-pound (3,084 kg) truck on the ground. The three engines put out a total of 36,000 horsepower and 19,000 pounds of thrust. The outlet of the engine is fitted with a special fuel line that carries raw diesel fuel to a specially modified burner inside the outlet. Dumping the raw diesel fuel into the burner is what produces the flames and smoke that make for some very special effects. Actually, the front of the truck is the only part not modified, being an original 1985 Peterbilt cab. The twin vertical chrome exhaust stacks are modified with piezoelectric ignitors for lighting the raw diesel fuel to produce flames. This truck consumes 400 gallons per mile during a race. If the afterburner mode is used, the fuel is consumed even faster. Shockwave uses conventional truck tires, but 85 pounds of tread must be shaved off each of the tires to reduce the weight (mass) of and to keep the tread from separating and flying off when traveling at 300 mph. All-wheel, large-diameter disc brakes are used on each wheel, but it wouldn't be enough without aircraft parachutes to slow Shockwave down at the end of a run. In a typical show, an aircraft approaches the jet truck from behind, flying at about 200 mph (321.8 km/h). The Shockwave jet truck accelerates from zero to 300 mph in about 11 seconds in an attempt to catch up with the plane overhead, it does so due to its massive acceleration and incredible high-speed and it finally beats the plane to the finish line, to the excitement of the hundreds of fans.