

How fast? This fast: 0 to 100 m.p.h.: 0.8 seconds Top speed: 337.58 m.p.h. G-forces: 6.0

Defending Top Fuel champion Tony Schumacher and the U.S. Army team flex their muscle in Joliet this weekend **By Max Rust and Phil Geib | TRIBUNE GRAPHICS**



TONY "THE SARGE" SCHUMACHER

On the relationship with his crew: "To be able to get in a car and drive it 300 miles per hour, you have to have trust. You have to have a tight group, like harmony or a symphony. You're as good as the people you surround yourself with."

On racing in Chicago (his hometown): "I love it. On one hand, it's the greatest weekend to race. On the other hand, I'm not sure where the 2,000 people come from who ask me for free tickets and remind me they're my friend. It's a good time."

DRAG RACE BASICS

Event: Series of two-car races called eliminations.

Vehicle classes: Decided by engine size, fuel type, weight, modifications and aerodynamics. Top Fuel is the highest pro class.

Performances: Two are monitored for each run:

1. Elapsed time: Upon leaving start, vehicles activate elapsed-time clock that stops at finish line.

2. Speed: Measured by speed trap area at the finish line.

Winning: First vehicle across finish line.

Disqualification: Leaving starting line too soon, crossing center lane, touching guard wall or rail, striking track fixture, failing to stage, failing post-run inspection.

The U.S. Army dragster

Optimized for extreme acceleration, this dragster shoots four-time NHRA Top Fuel Champion Tony Schumacher down the quarter-mile track in about 5 seconds.



Stabilizer wing
Creates downforce, and helps tires adhere to track at high speeds. Generates about 8,000 pounds of downward thrust.

Dragster weight: 2,300 pounds

Parachutes
Deployed at finish line.

Rear wheels
Huge treadless (slicks). Sides are soft, allowing them to expand during a run. Approx. cost: \$1,082 a pair (last about one or two runs).

Rear disc brakes
Controlled by lever in cockpit. Halt the car after initial burnout and the run and hold dragster in place at starting line.

ENGINE
500 cubic-inch V-8 (maximum allowed), derived from Chrysler's 426 hemi. Milled from solid aluminum block. Output 8,000 horsepower. Approximate cost about \$80,000 new.

Components
Clutch pack
A series of pressurized discs and plates that progressively engage during the run, propelling the dragster down the track.

Spark plugs (16)
Two per cylinder.

Header pipes (8)
Where exhaust and nitro flames exit

Magnetos (2)
Ignition system that powers the spark plugs.

Oil pan

Blower hat
Inlets open for air to mix with fuel inside the supercharger.

Supercharger (blower)
A crank-driven air compressor that increases atmospheric pressure in the engine to produce more horsepower.

Frame cutaway



Frame
Chrome-moly tubing. Left unpainted to allow team to inspect for any cracks.

Cockpit
Where Schumacher sits and controls dragster. Contains black box that records data to examine run.

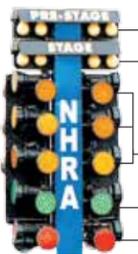
Fuel tank
Fuel is a combination of Nitromethane: **88%** Methanol (racing alcohol): **12%** Oxygen content allows the engine to be fed with huge amounts. **Use per run:** Approx. 12 gallons **Cost:** Approx. \$1,200 per 42-gallon drum.

Wheelbase: Maximum competition length of 300 inches

Quarter-mile run

1 BURNOUT
Driver spins and heats tires for short distance to clean them and get them acclimated (hooked) to the track surface.

2 START
An electronic starting device (Christmas tree) starts race.



Pre-stage: Indicates to drivers that the front wheels are about seven inches behind starting line.

Stage: Indicates that the front wheels are on starting line.

Countdown: Light up simultaneously 0.4 seconds prior to start.

Start: Drivers leave starting line.

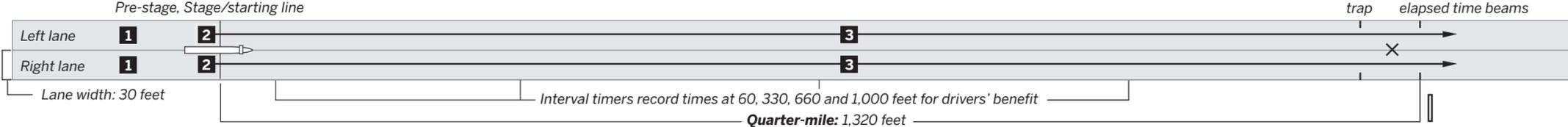
Foul: Driver left before start light.

3 FACTORS AFFECTING A RUN

Reaction time
The time it takes a driver to react to the green starting light is key to winning the race.

Track condition
Temperature and moisture play key roles. Crew chiefs physically inspect and take several readings of the surface prior to each run.

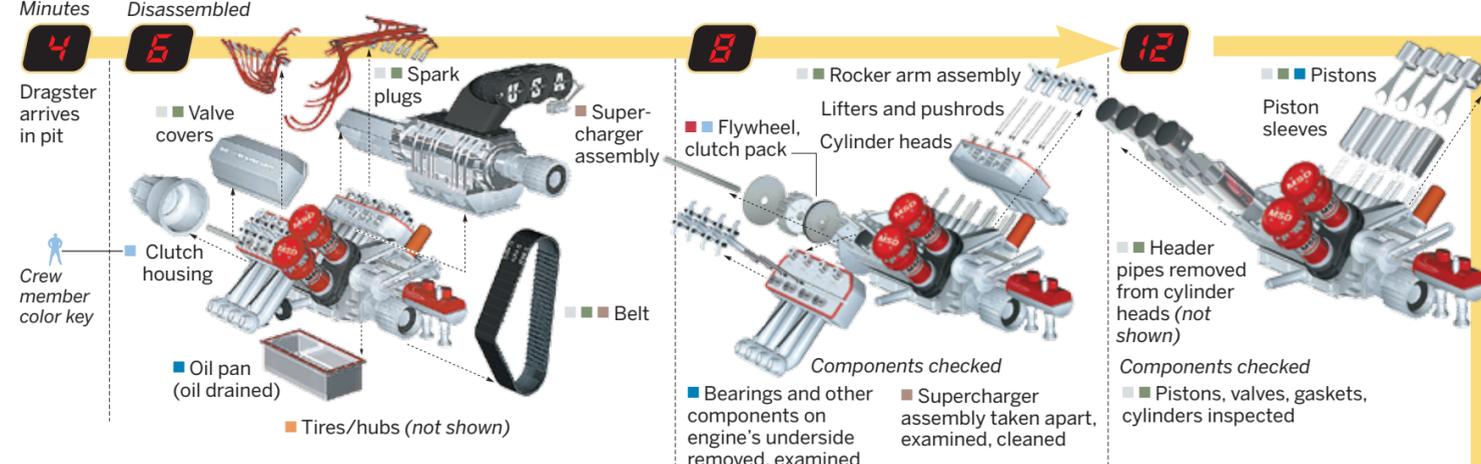
Lane choice
One lane may have better conditions than the other, offering a slight advantage.



Tear it down, build it up

By rule, the pit crew has 75 minutes after each run to completely disassemble, examine and rebuild the engine before the next run. The process is precisely choreographed; performed in almost complete silence as each crew member anticipates the others' positioning and timing.

TEARDOWN



U.S. ARMY PIT CREW Color key

- Clutch Assistant:** Adam Baranski
- Bottom end:** Robert Proctor
- Supercharger:** Nick Peters
- Ignition, rack:** Brian Husen
- Crew chief:** Alan Johnson
- Tires:** Shane Boyington
- Cylinder heads:** James Marcellus
- Clutch:** Roger Whitworth
- Assistant crew chief:** Jason McCulloch

CATCH THE ACTION The NHRA POWERade Drag Racing Series
Competition categories: Sportsman, Pro Stock Car and Motorcycle, Funny Car, Top Fuel Dragster
Qualifying: Thursday, Friday and Saturday **Eliminations:** Sunday



Between races

- Watch crews and the cars in the pits. Some drivers sign autographs.
- Merchandise vendors including clothing, car parts and collectibles.
- Food and drink available.

For more information on ticket prices and parking, call (888) 629-7723 or <http://www.chicagolandspeedway.com>
SOURCES: Mike Lewis, Schumacher racing; National Hot Rod Association; U.S. Army Racing