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Contact me with any questions you have or for any accessories you'd like for your Volvo.

Joe Craig's Hours	
Monday	9am-9pm
Tuesday	9pm-9pm
Thursday	9am-6pm
Friday	9am-6pm
Saturday	9am-5pm
Service/Parts Department	
Monday - Thursday	7am-7:30pm
Friday & Saturday	7am-5pm

March 2006						
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# The Volvo Voice

## Volvo Creates Robotic System for Test Track Environment

Volvo.com

Irvine, CA (February 27, 2006) - Volvo vehicles are known for their ruggedness, durability and of course legendary safety. What may not be known is the Swedish marques' use of electronic robotic vehicle testing versus good ole carbon-based life forms (humans). Towing tests are an important part of Volvo's rigorous durability testing, and probably the only manufacturer to have its own range of trailers plus robotic control driving management system.

Favorable characteristics for any tow vehicle are: good engine performance with high torque at low rpm, coupled with smooth shifting transmissions, positive steering control, suspension attributes, and, of course braking systems are all key elements to towing performance and safety.

### Vehicle attributes

The vehicle's suspension must not be too soft, preferably level, when towing as the angle of the car's wheels and therefore its grip on the road can change under heavy rear-end focused loads. "We need to look at many different vehicle attributes, while towing different kinds of loads, and the best towing test driver runs on 12 volts," according to Stefan Svensson who is responsible for vehicle dynamics at Volvo Car Corporation, Sweden. "When test towing, you should always try to maintain a steady course and avoid unnecessary movements of the steering wheel. Our robotic control system is accurate 100% of the time.

### Robotic system

Volvo uses robotic controls to avoid inconsistent or subjective behavior when test towing. From human to human test driver, there are so many variations. And when coupled with different towing loads, road conditions, weather conditions, time of day, and differences in vehicle dynamics (i.e. throttle position, steering wheel movement, and braking), accurate measurements are nearly impossible. "What we needed to achieve was consistency in as much of the testing program as possible. By removing our human test drivers, we're much closer to gathering true empirical data than ever before," according to Stefan. "Our robotic control system can run the course the same exact way...every time. We can even program the system by adding in over-control to create an unstable trailer, which is something we want our test engineers to experience."

### New ISO standard

Volvo helped create a new ISO standard for towing tests which involves measuring the lateral acceleration of the trailer, the angle between the car and the trailer, the angle of the steering wheel, the yaw angle and actual vehicle speed. All measured values must be within certain criteria for the car to be approved by Volvo. "The new ISO test standard is an off-shoot of our own internal testing criteria," according to Stefan. "Seems we're on the right track, considering ISO is using our methodology as a benchmark for new standards."

### Extreme durability tests

Volvo has two extreme testing facilities. From bitter winter cold in Sweden to blistering summer hot in Death Valley, California, they use an armada of about 35 trailers ranging in size from 1,500 pounds to nearly 4,400 pound Volvo is prepared to run the tow testing gauntlet. If that's not extreme enough, Volvo uses the 'hill from hell' in Death Valley which is a 14 mile, 7% grade usually where July temperatures run 115 degrees. "That's 115 degrees air temperature, black pavement is much hotter," comments Stefan. "This is a great test for our engine cooling system."

### Towing capacities

Volvo tow hitches are tested to the same extremes as its vehicles. All Volvo's are factory pre-adapted for tow hitches with anchorages engineered into the vehicle platform. For each model there is a match tow hitch with the following capacity <sup>1</sup>:

- S40 2,000 pounds and 165 tongue weight
- V50 2,000 pounds and 165 tongue weight
- S60 3,300 pounds and 165 tongue weight
- V70 3,300 pounds and 165 tongue weight
- XC70 3,300 pounds and 165 tongue weight
- S8 3,300 pounds and 165 tongue weight
- XC90 5,000 pounds and 500 tongue weight

<sup>1</sup> Check Volvo Owner's Manual for towing details.



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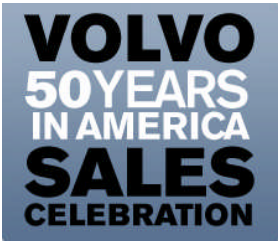


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-  **Green Bean Casserole**

**Pre-Owned Inventory**

Year	Model	Color	Mileage



**Complimentary Volvo Bluetooth Hands Free System** on the 2006 Volvo XC70 and Volvo XC90 until March 31, 2006.

Please give me a call to schedule a test drive for any of the above.

## Green Bean Casserole

<p><b>Ingredients</b>                  2 (9 oz.) pkgs. frozen French-cut green beans                  1 can cream of mushroom soup                  2 sm. cans French-fried onion rings</p>	<p>Cook green beans as directed on package. Heat soup, adding liquid from beans to thin as desired. Mix about half can of onion rings with soup mix and add this to green beans. Place in casserole and finish cooking in oven or microwave oven. When cooked to your taste, pour remainder of onion rings on top and heat for a few minutes.</p>
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