

fact sheet

United States
Department of Transportation

Office of Public Affairs

Washington, D.C. 20590

The information contained in this fact sheet has been checked for accuracy and corrected as of the date shown below. The Office of Public Affairs should be contacted if further information is required.

Subject: Research Safety Vehicle:

Date: October 1980

Phone: (202) 426-4832

A prototype vehicle developed by Minicars, Inc., of Goleta, California, under a contract with the U.S. Department of Transportation's National Highway Traffic Safety Administration.

Purpose: The Research Safety Vehicle Program is designed to demonstrate that substantially improved safety, good fuel economy and low exhaust emissions can all be achieved in an attractive, comfortable and affordable four-passenger car.

Safety Features: Frontal Protection -- The vehicle's structure and restraint systems are designed to provide protection in 45-50 mph frontal and frontal oblique crashes without serious injury to the driver and front passenger.

Side Protection -- The car is designed to eliminate 75 percent of the serious injuries and fatalities that now occur in side impact accidents. Front seat occupants are provided protection when struck in the side by large cars with closing speed vectors of 50 mph.

Pedestrian Protection -- Development tests of the no-damage bumper and exterior plastic surfaces indicate significant reduction of impact forces on a pedestrian.

Structure: The vehicle structure is made of thin sheet metal similar to current unitized body production, but with hollow sections filled with lightweight inexpensive polyurethane foam. The foam-filled structures provide improved protection by controlling crash forces and maintaining occupant compartment integrity.

The car features aluminum gull-wing doors with strong posts and sills that are much less likely to be crushed inward in side impacts than cars now in use. Rollbars, roof supports and rails form the upper structure.

Restraint Systems: The vehicle employs the most advanced occupant protection systems available. Front seat occupants are protected by air bags.

Rear seat occupants are provided with force limited three-point manual belt systems.

Engine: The car is equipped with a Honda Civic CVCC four cylinder stratified charge engine located in the rear, and a five-speed manual transmission. The RSV was tested at a test weight of 2875 pounds with a road load of 11.15 HP. Only low mileage had previously been accumulated and Michelin tires were used.

Fuel Economy: City - 28.9 mpg; Highway - 41.2 mpg;
Combined City/Highway - 33.4 mpg

Exhaust Emissions: 0.40 gram/mile - hydrocarbons
2.53 gram/mile - carbon monoxide
0.71 gram/mile - nitrogen oxides

These levels meet EPA requirements for 1981 if it is assumed that these low mileage emissions are representative of 50,000 mile performance.

Damageability: The front and rear bumpers are made of resilient foam covered by flexible urethane faces, and are designed to provide 8 mph frontal and 5 mph rear no-damage protection. Structural damage in frontal crashes above 8 mph, but below 20 mph, occurs only in a bolt-on, replaceable section behind the bumper, allowing quicker and cheaper repair.

The exterior surfaces of the car in front of and behind the doors are made of flexible polyurethane which will eliminate or drastically reduce cosmetic repair costs that result from parking lot or minor roadway accidents.

GENERAL SPECIFICATIONS

-Body and Chassis-

Seating Capacity	4 passengers
Body Type	Sedan with two gullwing doors
Volume	Passenger compartment: 91 cu. ft. Luggage compartment: 9.5 cu. ft.
Propulsion	Rear transverse engine Rear wheel drive
Suspension	4-wheel independent
Wheelbase	104 inches
Overall Length	177 inches
Overall Width	71 inches
Overall Height	55 inches
Curb Weight	2550 pounds

-Engine and Power Train-

Type	Liquid cooled 4-cylinder stratified charge Honda Civic CVCC engine
Displacement	1.5 liter
Transmission	5-speed manual

Research Safety Vehicle



