
What is an RSV?

Calspan Corporation and Chrysler Corporation have developed a Research Safety Vehicle (RSV) under contract to the Department of Transportation. The RSV is a small but roomy five-passenger vehicle designed to provide the best possible protection to occupants, pedestrians and the vehicle itself, using the latest structural science and advanced occupant protection systems.

Calspan is providing overall direction and management of the program, conducting tests, and developing occupant protection systems. Chrysler is providing its practical experience in automotive styling, design engineering, materials, cost analysis, manufacturing feasibility, and is building prototypes.

The starting point in the design was Chrysler France's Simca 1308—European Car of the Year for 1976. In modifying the basic body structure to meet extreme design requirements, engineers experimented with lightweight, high-strength materials, and energy-absorbing components, including "soft" front and rear ends.

The RSV is designed to provide front barrier and rear car-to-car protection at speeds up to 50 mph—the equivalent of hitting a parked car at 100 mph—and to protect passengers in car-to-car side impacts up to 45 mph.

Occupants are protected by a passive inflatable front seat belt restraint system. The belts come into place automatically when the doors are closed.

Other features are "soft" front and rear ends which compress on impact and minimize the potential for pedestrian injury from the initial impact at speeds up to 20 mph, soft interior trim, see-through head restraints, high-positioned taillamps and special tires that, in the event of a flat, can run 50 miles at 50 mph without damage to the wheel rim or tire.

The RSV is more than a safety vehicle. Calspan and Chrysler engineers also took into consideration all key requirements in attempting to plan a car for the future: fuel economy, emissions, manufacturing feasibility, cost, and customer acceptance. A research prototype now, the Calspan/Chrysler RSV may set the direction for cars of the future.

The RSV Program

The Department of Transportation established a four-stage development program for the Research Safety Vehicle.

Phase One: concept studies by Calspan Corporation and Chrysler Corporation.

Phase Two: test components, restraint systems, evaluate fuel economy, emissions control, material availability, manufacturing feasibility, and cost factors. As a starting point in the design process, the Simca 1308 manufactured by Chrysler France served as the base vehicle for the prototypes.

Phase Three: complete final design, build limited quantity for further testing and evaluation.

Phase Four: test and evaluate finished vehicles.

A number of companies have contributed to the success of the RSV program:

Allied Chemical (restraints);
Davidson Rubber (bumpers);
Goodyear Tire and Rubber (tires);
Great Lakes Steel (high-strength, low allow steel);
Modern Engineering Services (vehicle fabrication);
Motor Insurance Repair Research Center (repairability);
Roblin Industries (recycling), and
Hexcel (energy absorbing panels).

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Calspan/Chrysler RSV Features

1 'See Through'
Head Restraints

Impact Protecting Fuel
Tank and Filler Location **10**

2 Passive Inflatable
Front Seat Belt
Restraint System

Lap and Shoulder Force
Limiting Uni-Belt System **11**

3 Energy Absorbing
Door Trim Panels

High Level Stop and
Turn Running Lights **12**

4 Soft Front End with 20MPH Pedestrian
Protection and 8MPH No Damage
Barrier Impact Protection

Soft Rear End with 2½ MPH
No Damage Barrier
Impact Protection **13**

5 Low Profile Aerodynamic
Shape with Lower Air
"Dam" for Fuel Efficiency

50 MPH Car-To-Car
Rear Impact Protection **14**

6 Transverse Front Wheel
Drive Engine for
Added Crush Space

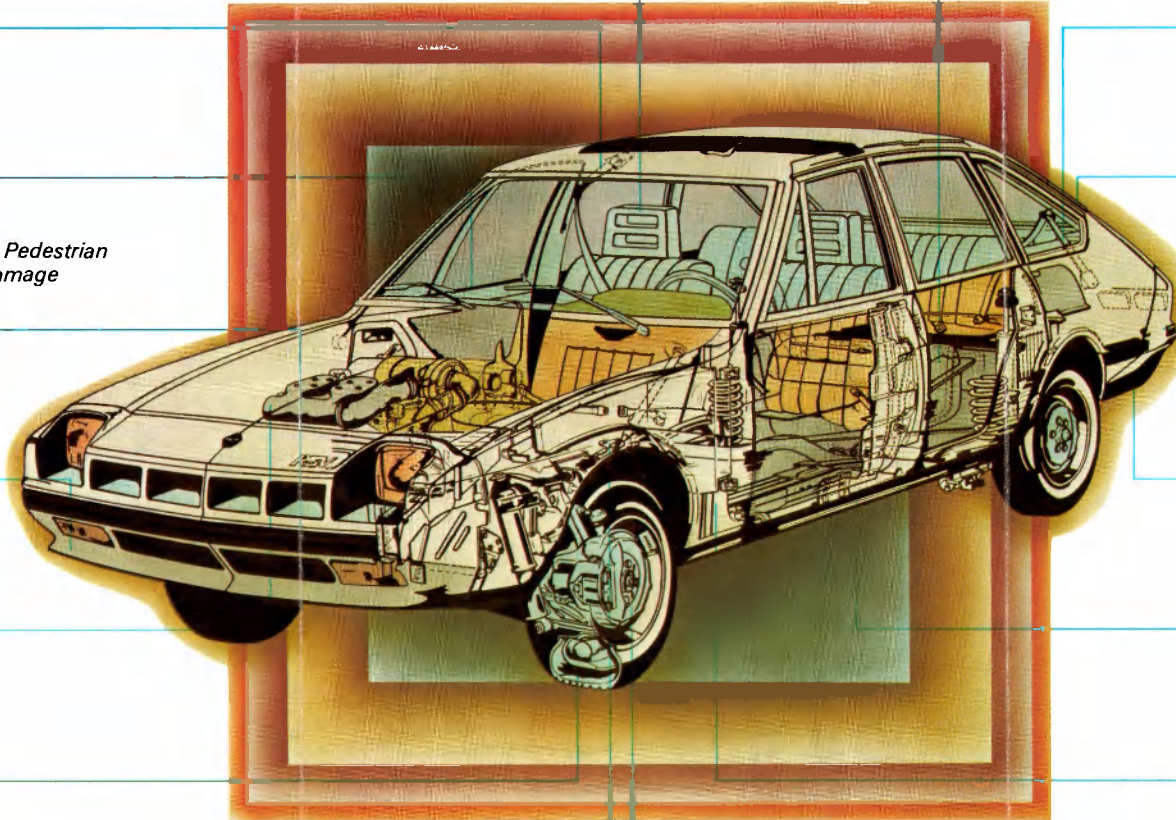
45 MPH Car-To-Car
Side Impact Protection **15**

7 "Run Flat" Tire Stabilizer

50 MPH Front Barrier
Impact Protection **16**

8 Break Away Steering
Column

9 Disk/Drum Diagonal
Split Braking System



Length 172.76 Inches
Width 67.01 Inches
Height 53.11 Inches
Wheelbase 105.67 Inches
Track 55.71 FRT, 54.72RR
Weight 2637 Lbs.
Eng. Disp. 1716cc