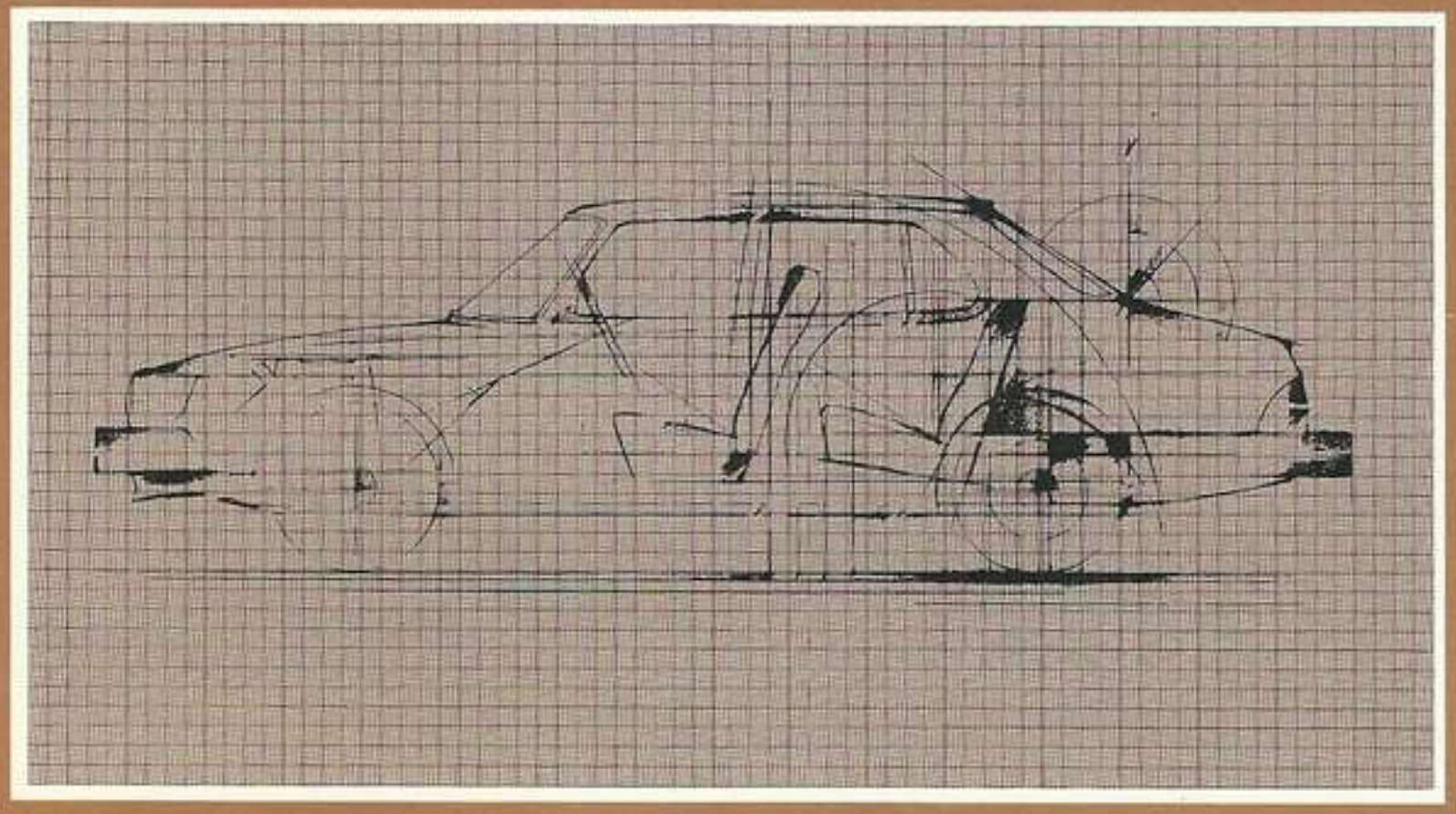
SAAB-SCANIA IS NOW LAUNCHING THE

SAAB 900 TURBO IN A NEW 4 DOOR VERSION



AND AT THE SAME TIME,
YET ANOTHER SENSATIONAL TECHNICAL INNOVATION:

THE APC ENGINE PROJECT

(Automatic Performance Control)

OFFERING EVEN BETTER FUEL ECONOMY AND
BOOSTED ACCELERATION PERFORMANCE.

IT'S REVOLUTIONARY.

The Saab turbocharged engine with APC—a momentous development in motor engineering.

The automotive industry has long searched for a technical solution to the problems associated with cars being forced to use fuels of varying quality or with a varying octane number.

The world's engine designers have tried their utmost to develop a system which would enable an engine to run perfectly, regardless of the octane number of the fuel supplied. And without the risk of the engine being damaged.

The attempts made so far in the automotive industry to overcome this problem have resulted in simpler systems with a number of shortcomings. The improvement in the fuel consumption fell short of expectations, the engine efficiency dropped since the energy in the fuel was partially lost, serious risk was incurred of damage to the exhaust valves due to high temperature, and misfiring and rough running at low engine speeds have all caused problems.

The development work and tests on the new APC system—comprising a sensor, electronic unit, solenoid valve and pressure sensor—have not revealed any of the disadvantages of the systems tested earlier.

On the other hand, the advantages are numerous:

- The engine will run smoothly on low-octane as well as high-octane petrol.
- The fuel consumption is reduced by up to 8%.
- The acceleration is improved by up to about 20%.
- The engine is even livlier at low speeds.
- The useful life of the engine is increased.

By applying the APC system to the Saab 2-litre turbocharged engine, the performance level is such that it has so far only been attainable with great difficulty on a conventional car engine.
This will make the Turbo unique.

Unveiling the Saab 900 Turbo in a 4 door version.

The first Saab experimental turbocharged cars rolled out of the laboratory in mid-1976. After a few months, the turbocharged car became known practically all over the world. Primarily for its sparkling overtaking performance. But also for its good roadholding and high comfort.

More than 25 000 Saab Turbo cars now ply the roads in Europe and the USA. Many as 2 door or 3 door Saab 99 cars. But most of them as 3 door or 5 door versions of the Saab 900.

In time for the Geneva Motor Show, the prototype of a new 4 door Sedan model is ready for its unveiling. The car will be a welcome addition to the three versions of the Saab Turbo now available on the market:


SAAB 900 TURBO, 5 DOOR


SAAB 900 TURBO, 3 DOOR


SAAB 99 TURBO, 2 DOOR

They are all well-worth a test on the road. If for no other reason than to experience the behaviour of the car which has been afforded such an incredible reception by the world's motoring experts as well as by motorists who make strict demands on their cars. The Saab Turbo is unique even on this score.

SAAB 900 TURBO 4 DOOR SEDAN

The Saab turbocharged engine with APC adjusts itself automatically to the fuel quality.

A petrol engine which is run on a cheaper fuel with a lower octane number than the recommended value will start to knock at a relatively low load. If allowed to continue, this knocking will cause damage to the engine.

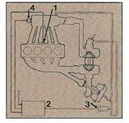
But on the turbocharged engine with APC, the risk of knocking and associated damage have been eliminated. The explanation is as follows:

The sensor (1 in the drawing) fitted to the engine block senses how the engine is running. On the slightest tendency towards knocking, the sensor will actuate the electronic unit (2) which will command the solenoid valve (3) to open the control valve and reduce the charge pressure. This reduces the load on the engine and any form of disturbance will be eliminated. (Item 4 is a pressure sensor on the intake manifold.)

Completely unknown to the driver, all this will take place at very short intervals—in fractions of a second.

The electronic unit and the solenoid valve are exclusive Saab innovations and are the brain of the APC system.

The engine output varies slightly, depending on whether low-octane or high-octane petrol is used. As a general rule, the engine torque will change by 2–3% for every unit by which the octane number changes.



When fitted the APC system, the engine will use the fuel more efficiently, its fuel consumption will drop and its acceleration performance will increase.

The fuel is used more efficiently, whatever its octane number. This increases the engine efficiency and simultaneously reduces the fuel consumption. The increase in compression ratio from 7.2 to 8.5 has contributed to this improvement.

The improvement in the fuel consumption is up to 8% as compared to the ordinary turbocharged engine—which is extremely economical as it is.

As a result of the increased compression ratio, the acceleration has also been appreciably improved. Acceleration from 25 to 40 km/h in third gear is 15% faster. And that from 90 to 110 km/h in top gear is improved by 20%. The most marked power increase is at low engine speeds.

Extensive broad-based tests before serial production.

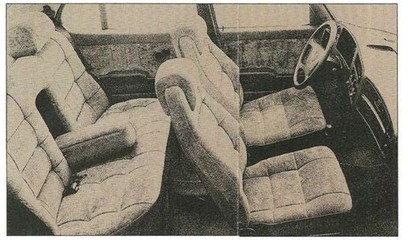
DURING 1980, Saab-Scania will undertake a "broad-based" test of the same type as that preceding the introduction of the Turbo. A large number of Turbo cars will be equipped with the APC system and will be driven for tens of thousands of kilometres under widely varying conditions. The tests are designed to provide further confirmation of the reliability of the system, before serial production is started.

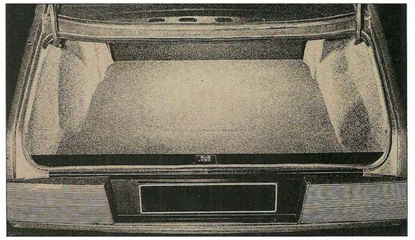
The comfort is as advanced as the roadholding and acceleration of the car.

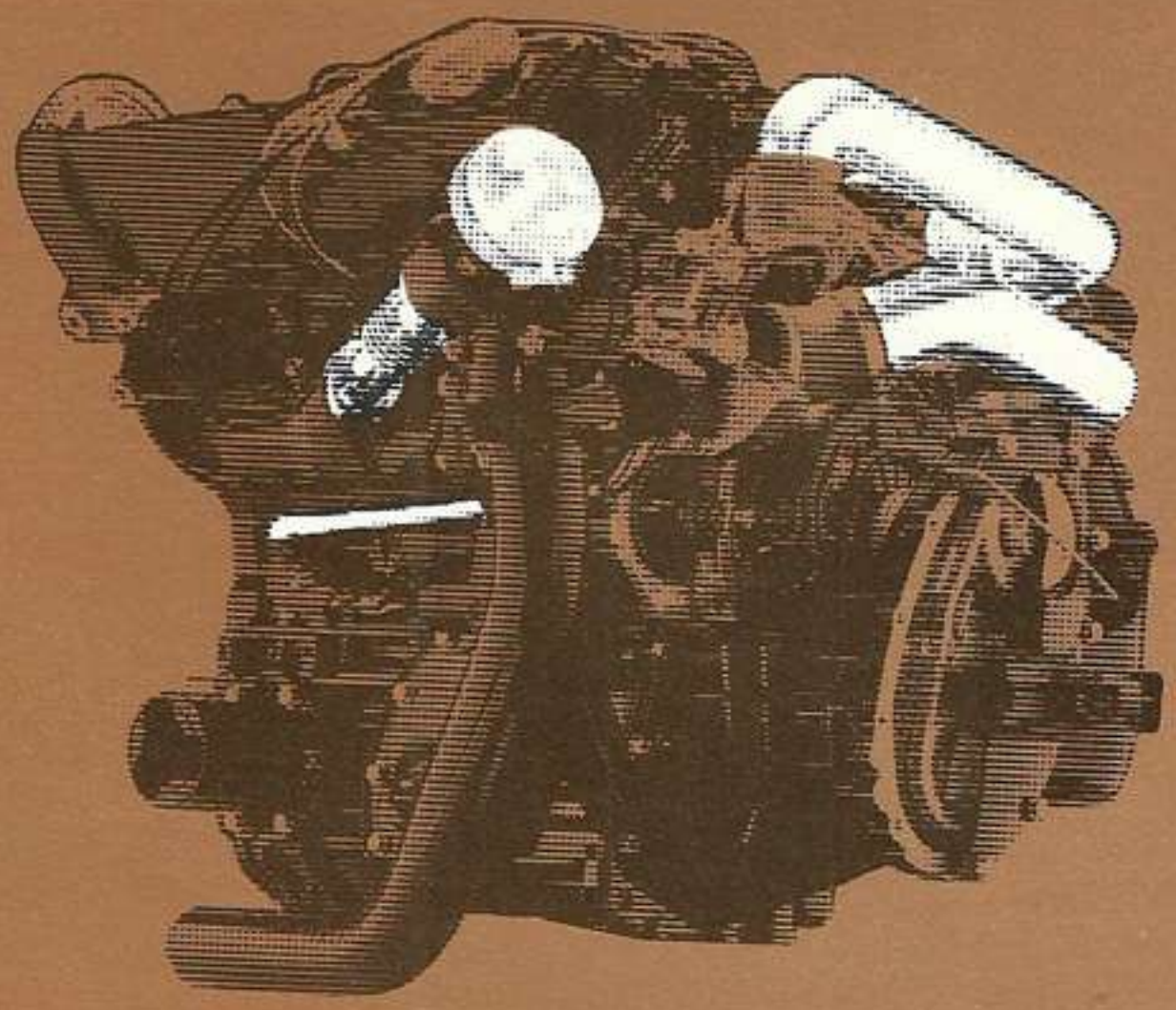
The Saab 900 Turbo is one of the leaders in the automotive world in terms of roadholding and performance. And it is also far ahead in the care it takes of the driver and passengers. The comfort is well matched to the behaviour of the car on the road.

The Saab front seats are among the best available. The sound level in the car is low. And the filter fitted to the ventilation system cleans the air before it is admitted into the interior. These are only a few examples out of the long list of comfort features.

The luggage compartment is extra roomy—appreciably larger than those of many cars of corresponding type. It can easily be converted to a large "cargo space"—in the well-known Saab manner.







In 1976, Saab became the leader among the world's car manufacturers with the new turbocharging approach.

The Scania Division of Saab-Scania was among the world's first manufacturers of heavy trucks to power its trucks with turbo-charged engines.

The experience on trucks was put to good use when the idea of turbocharging Saab cars was hatched. The result was a turbo-charged engine which was well-matched to the acceleration and speed demands of the every-day motorist. An engine which offers a surge of power only when it is needed—on over-taking, on steep uphill gradients, etc. The Saab Turbo thus opened up a new era in automotive history.

The APC system introduces a new stage in the development. The second generation of the turbocharged engine is here. Saab has made a new, revolutionary contribution to the development of motor engineering.

SAAB

Saab-Scania, Saab Car Division
S-611 81 NYKÖPING, SWEDEN

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