

**SCANIA**  **VABIS**





*Scania-Vabis. It's a name that stands for quality; its truck and bus operators have been quick to learn in 20-odd countries—in Scandinavia, Western Europe, the Near East, and South America. And in today's highly competitive market, Scania-Vabis is winning ever more custom for its reliability and unsurpassed running economy.*

*The purpose of this brochure is to tell the story of our rapid expansion, to introduce you to our organization, and to show . . .*

*how we make Scania-Vabis*



## THE FRAME

The frame is a truck's backbone. Like the spine of a human being, it must combine good solid strength with flexibility. Modern truck frames have to be of absolutely top quality because they are severely strained by torque and displacement forces, which increase the more as the condition of a road or highway deteriorates.



An automatic cutting tool shapes the frame side members from high-speed steel sheet. It is guided by a complex and costly mechanism that cuts at the same time.



When the cross and side members have been joined together tightly the frame is ready to start its journey down the assembly line.

The frame is lubricated. In spite of its small size this unit on the left applies a pressure of up to 25 tons.



Largest and most impressive of all the machines is the press (see left) that cold-shapes frame members from 3/8-inch up to 3/4-inch long under a pressure of 1,200 tons.

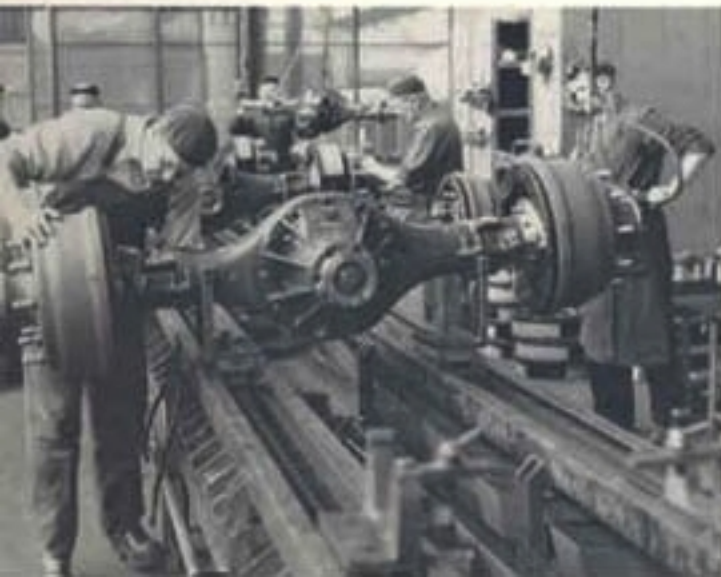
## AXLES

Everyone who has seen a heavily loaded truck climb out of a gravel pit can appreciate the terrific strain to which axles and the rear-axle gearing are subjected. This page gives some idea of the precision put into the manufacture of SV rear axles.

Special automatics shape the helical teeth of the drive pinion in a complicated series of operations (right). The pinion's partner, the ring gear, is machined in a similar automatic (above) before the two come together.



All front and rear axle parts are put together on a separate assembly line. Here the brake parts for a rear axle are being adjusted.

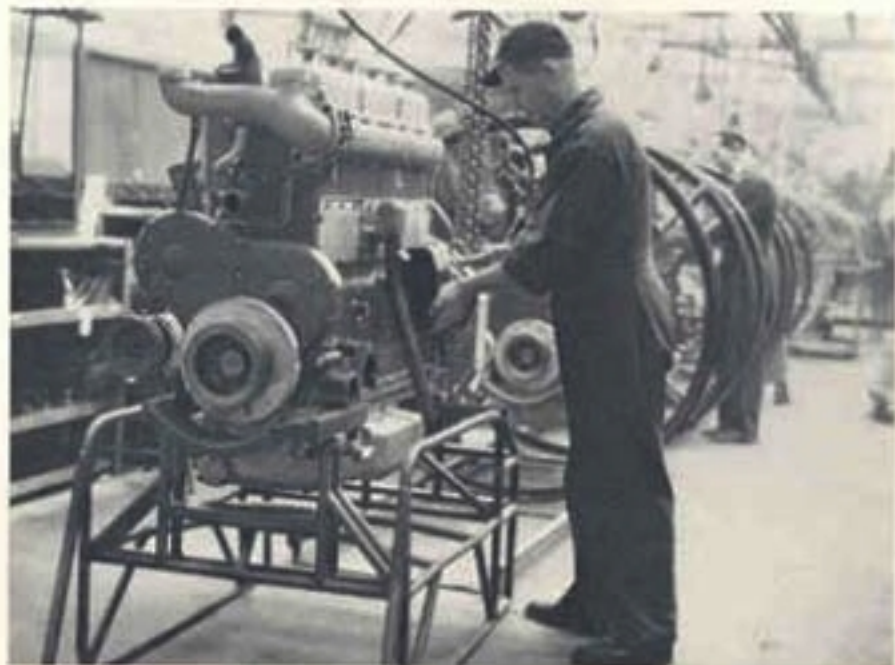


Final touches to a rear axle. Work items are balanced to ensure that both a front and a rear axle are ready just when they are needed for final assembly, which takes place nearby.

The long engine life is partly due to the high quality of the cylinder liners. Checking and inspection are extremely thorough; the internal diameter, for example, is measured for accuracy to a thousandth of a millimeter at no less than twelve points.



There are many belts along the peak of a crankshaft in its home in the engine block. After turning and drilling, the bearing surfaces are hardened electrically and the crankshaft is balanced. It is then ready for inspection in the crank detector. The picture shows how it is sprayed with a solution containing powdered iron which is electromagnetically made to adhere to the crankshaft if there are any cracks. Cracks that are adhesive impossible to detect are in this way undeniably exposed.



The various parts come together on the assembly line. Here an engine is being given a final inspection before leaving the assembly line for its test-room trials, the last stage in the control programme.



Test-room running is divided up into two stages: first four hours of running-in and then a final run of one and a half hours. In addition to output and fuel consumption checks, other tests are performed and final adjustments made.





*All holes in the sides of the transmission are drilled in a radial drilling machine.*



*Special machines grind tiny small grooves in the slope of the tooth and give them their final surface finish.*



*Precision machines cut the teeth on the turned gear and shaft blanks.*



## CITY BUSES — GET THROUGH TRAFFIC

A new specialty for Scania-Vabis is the mono-construction bus, regarded by international experts as the best in the world. Its features include a load-carrying steel body based on new principles of construction, a fully automatic transmission and servo-steering. What makes these buses so ideally suited for modern city service is their huge carrying capacity, their design for one-man operation, and their ability to weave in and out of congested traffic. The Stockholm Passenger Transport Board is concentrating on the new models and has ordered 350 of them since 1953. A whole factory at Södertälje is exclusively concerned with their manufacture.

*Blasely jig is the generic name given to the main body assembly jig. The two body-framing halves are welded separately in the two wings; the wings are then folded up and the halves are welded together along the roof and joined to the chassis frame. Here a body framing is nearing completion while the halves of another are taking shape in the wings.*

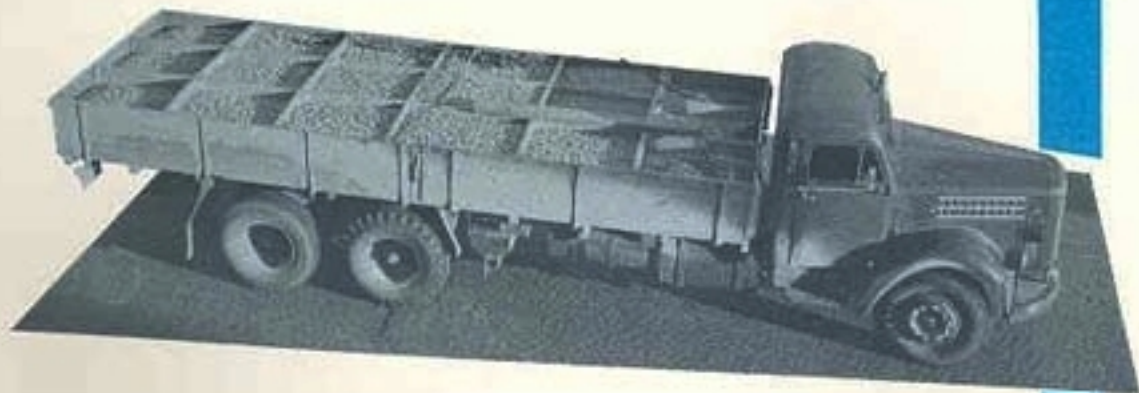


*Even a partial line-up of Scania-Vabis buses is an impressive sight in the yards of the Stockholm Passenger Transport Board.*

## BUSY WHEELS

The buyer should never play the role of guinea pig. The vehicle he gets from the factory must do what it's supposed to do. That's why we incessantly subject our vehicles to all kinds of tests. At left, a heavily loaded truck drives along the factory's stone-paved testing road, which is specifically made to cause lurches and load-shifting. The results of these tests are measured with special devices.

However, traffic is much more intensive on the SV "Wear-and-Tear" road, 24 hours a day, a fully loaded Scania-Vabis LS71 is driven along it back and forth by three drivers, one for each shift. It is stopped only long enough to have a few measuring instruments installed, or to test the performance of some new construction. Practically no new part is O. K.'d for production until it survives lengthy rough riding on the SV fatigue-test truck (shown below).



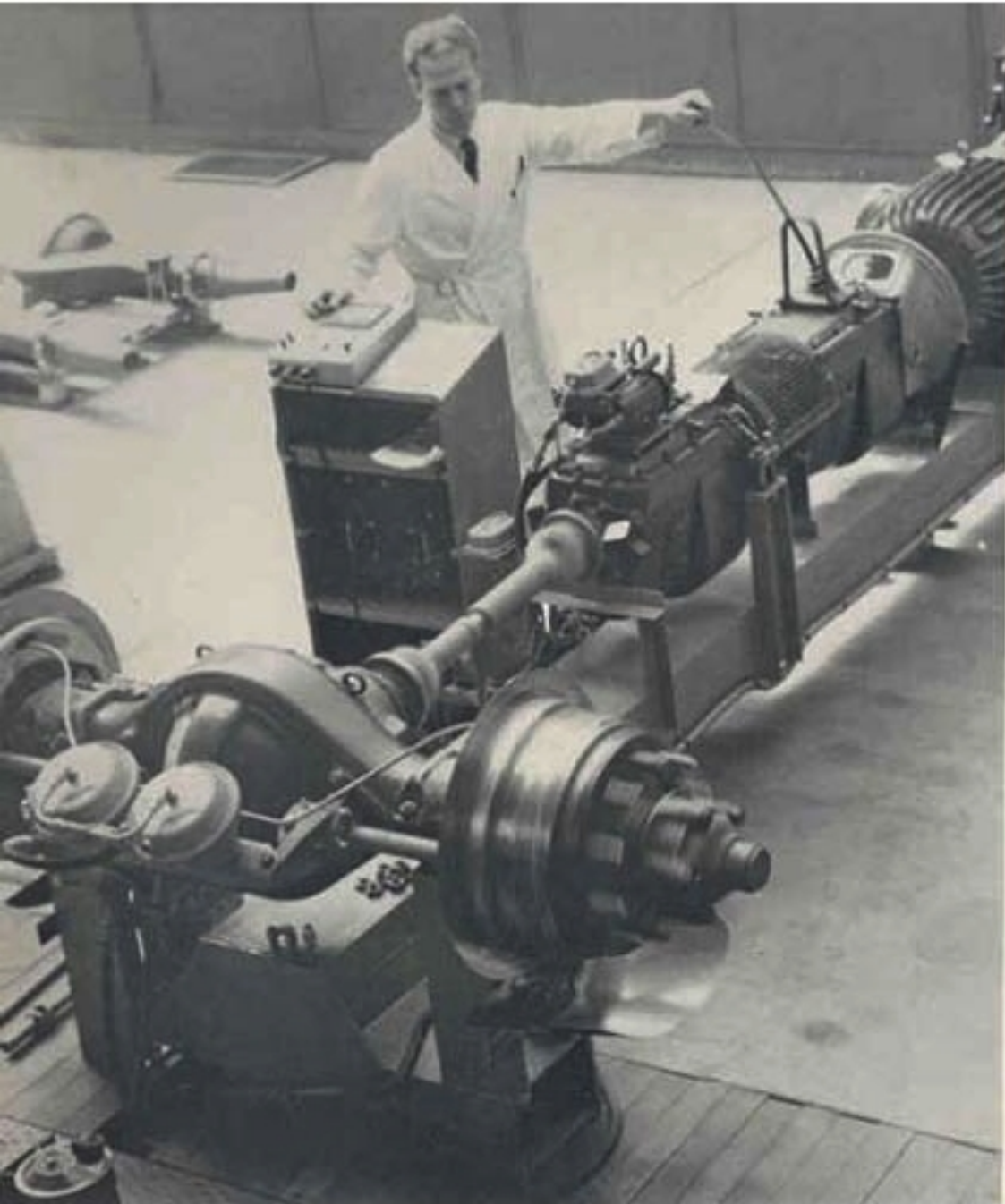
## OVER LOGS AND ROCKS . . .



No one has yet seen the Scania-Vabis cross-country truck climb a tree, but the thousands of visitors who have ridden in it so far would probably feel convinced that it can. In any case, the way this truck goes over long stretches of roughland, up the sides of ravines and down precipitous slopes makes the roller coasters of most amusement parks look "pasty" tame. Besides giving visitors unforgettable memories, these runs over our cross-country test track give the factory much valuable information about the strength and durability of materials.







*Tests with one cylinder give quicker results than tests on a full-size engine. This method is used to test different pistons and piston rings and the shape of the combustion space.*



*Every new type of frame is subjected to meticulous tests and investigations. Stress measurements make the strength properties of the frame an open book to the engineering staff of Boeing-Lab.*

*The rear axle gearings must stand terrific strains. To get an idea of what the rear axle will really put up with, the experimental department makes use of a fatigue bench in which a 2-hour run represents a full month of road work.*



To these children of Lima, Peru, "el Sennia" is a fresh breeze from another world.



Sennia-Fabia vehicles are a frequent sight on Holland's few super-highways. The semi-trailer shown here is owned by Van Goud & Looze, hauling commodities to the Dutch Reichsmars.

In South America, SF trucks do heavy-duty service on some winding roads, often under very difficult conditions.



Filefjell provides the only mountain pass kept open in winter in Norway, where Sennia-Fabia is a well-established workhorse. Every day sees buses from the SF factory traversing this difficult road, which reaches an altitude of more than 1,000 meters.



Long columns of trucks carry grain to Syrian ports in towering lines, with sometimes a furious sandstorm blown in. The striking contrast of the old and new is illustrated by these two very unlike means of transportation.

