



Tormenting the «Giulia»

EXPOSURE TO FROST BITE - This is refrigeration room. You must be dressed like an Arctic explorer if you want to enter: it is 30°C below zero. At this temperature the engine must still start easily, the windscreen defrost and the gaskets stay firm just as if it were Spring.



RESISTANCE TO TROPICAL HEAT - This is the sun : from the torrid climate of the Sahara to the humid ites in the world can be reproduced. Even with these tions in temperature, which sometimes reach 60°C, the work must not peel and the chromes rust. The techni- controlling all these tests must be fully protected by stos clothing.

FIGHT AGAINST NOISE - This is the soundproofed room: we are in complete silence. The walls, padded all round absorb every noise and keep out any external sound. The car, with microphones placed inside it, is run on rollers at varying speeds. In this way the slightest noise can be located.







What the «Giulia» owes to racing

It is partly true that the development of the automobile can be based only on the experience gained by racing. However, in many ways, racing is very useful and can be efficiently combined with instruments for scientific research. In addition racing, which requires a quick solution to all problems, accelerates research, stimulates the enthusiasm of those in technical departments and also that of various manufacturers of ancillary equipment. In fact, tyres, brake linings, brakes themselves, clut-

ches, pistons, valves and shock absorbers have all benefited by numerous improvements, thanks to racing. Such improvements have also helped industries which are not directly concerned. Alfa has received and in fact is still receiving from its racing activities useful information which it then transfers to production cars. The Giulia Super is one example of incorporating parts previously used only in racing and this experience, gained by years of success in races all over the world is now available to all Giulia drivers.

Direct fuel feed to each cylinder.

Injector air intake designed to take advantage of pressure waves in the ducts.
100 T.I. - Tour of Sicily 1951.

Spherical combustion chamber.

In overhead camshafts.
C - 1500 Sport - 1928.

Alumina cooled exhaust valves.

«Giulietta Sprint Veloce»
1956 Mille Miglia.

Windscreen wiper mechanism: arrangement of wipers, sweep and flexibility of blade.

Contoured seats for maximum driver's support when cornering.

«Giulietta Sprint Veloce»
1956 Mille Miglia.

Generator and starter motor with vibration proof mountings.

«Giulietta Sprint Veloce»
1956 Mans 24 Hr. 1958.

Exhaust manifold for high performance engines.

Disco volante «3500» and «2000» first races of «Giulietta Sprint Veloce».

Brake fluid with a high boiling point.

Special brake pads. Bearing & wheel grease.

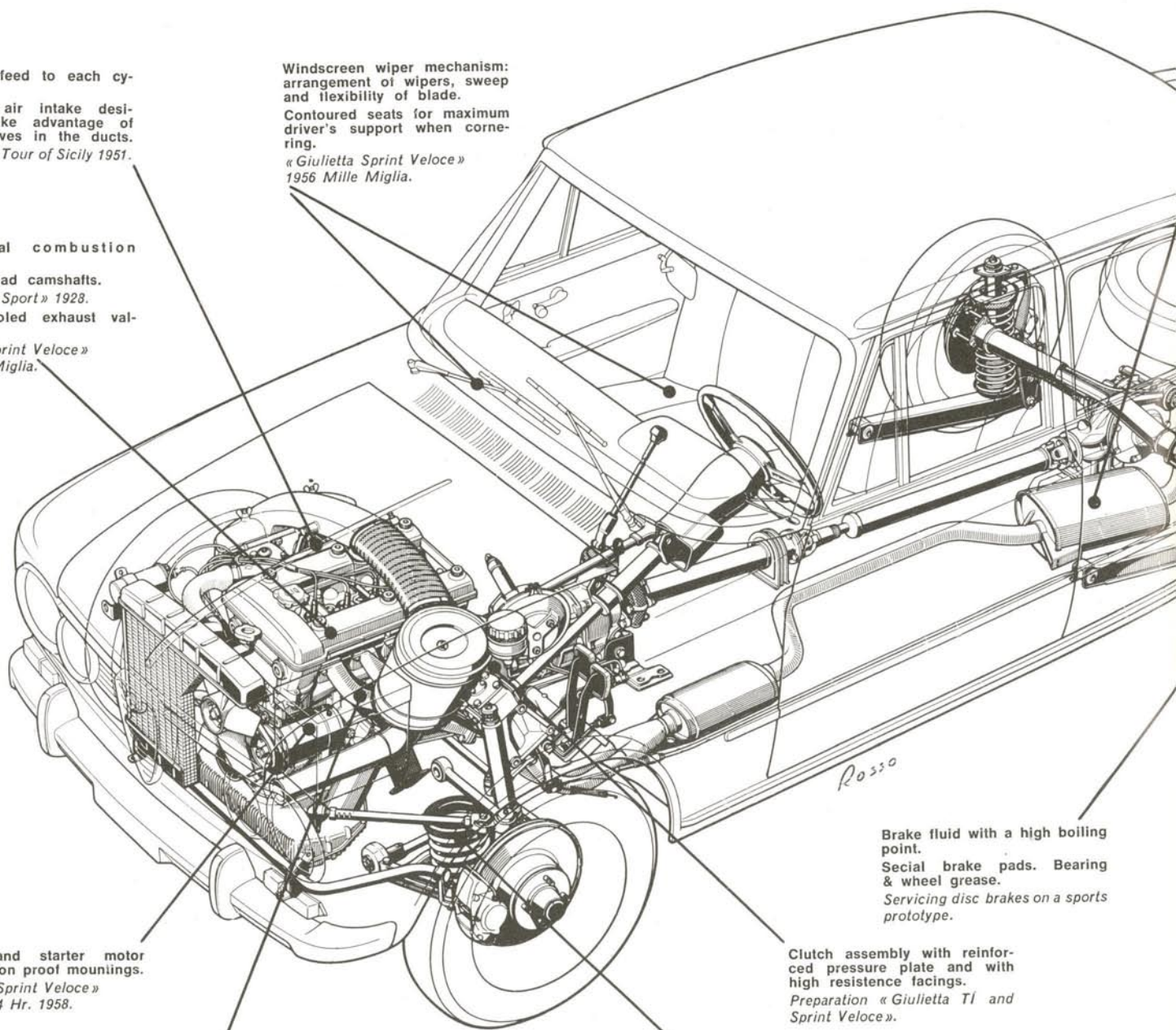
Servicing disc brakes on a sports prototype.

Clutch assembly with reinforced pressure plate and with high resistance facings.

Preparation «Giulietta T1» and «Sprint Veloce».

Attachments, alignment and progressive rubber, bushes for the suspension.

«Giulietta T1» and «SZ» - Targa Florio 1956.



Exhaust mufflers: quiet but free flow.
« Giulietta T1 » for touring category.

Cut-off (fast back) tail.
« Giulietta SZ 1300 » 2nd version.

Special composition rubber tyres for good roadholding in the wet.

« 1900 T1 » Tour of Sicily 1951.

Material and shape of wheel rims.
« 1900 T1 » endurance races at Monza 1952.



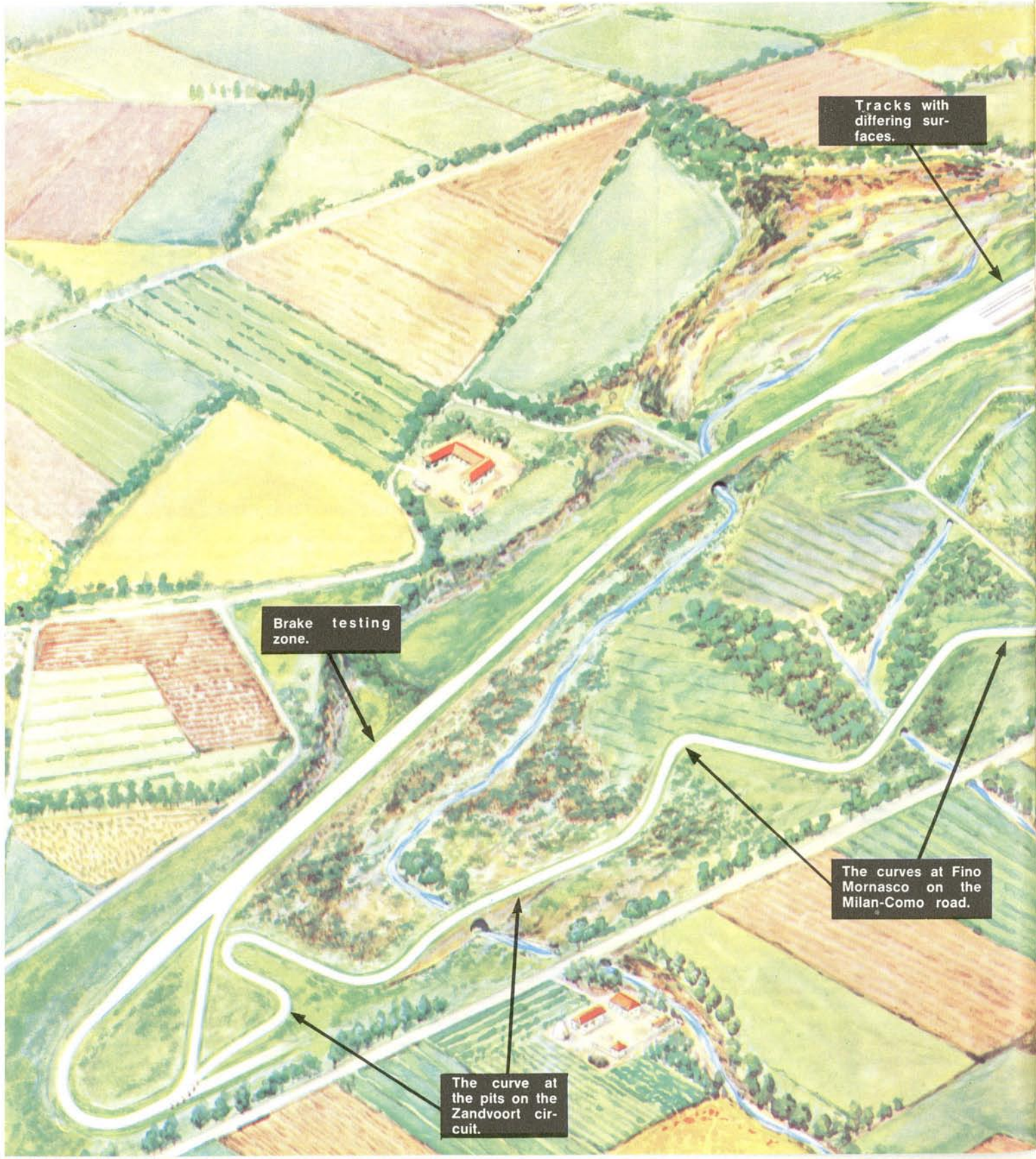
THE MAGNIFICENT SEVEN - Today, even when the majority of tests are carried out in the laboratory, it remains man's responsibility to carry out the final test and judge the handling qualities of the car on the road. It follows that, during this final and very severe test, the cars can only be entrusted to extremely experienced men, with perfect control, not to mention courage. Here are seven of the best Alfa Romeo test drivers. They have all benefitted from racing experience which has improved their reaction and put to the test their courage. The motor car is their life and the credit for the safety and performance of the Giulia must go also to them.



TESTS FOR A MILLION MILES - After laboratory tests - road tests. The vehicles travel in secrecy and disguise to avoid inquisitive stares and the unwelcome attention of hidden cameras. The car is deliberately driven over thousands of miles of the most rugged terrain to be found in Europe. Here a prototype of the Giulia is on a country road in Yugoslavia.



On the secret track at Alfa Romeo all the



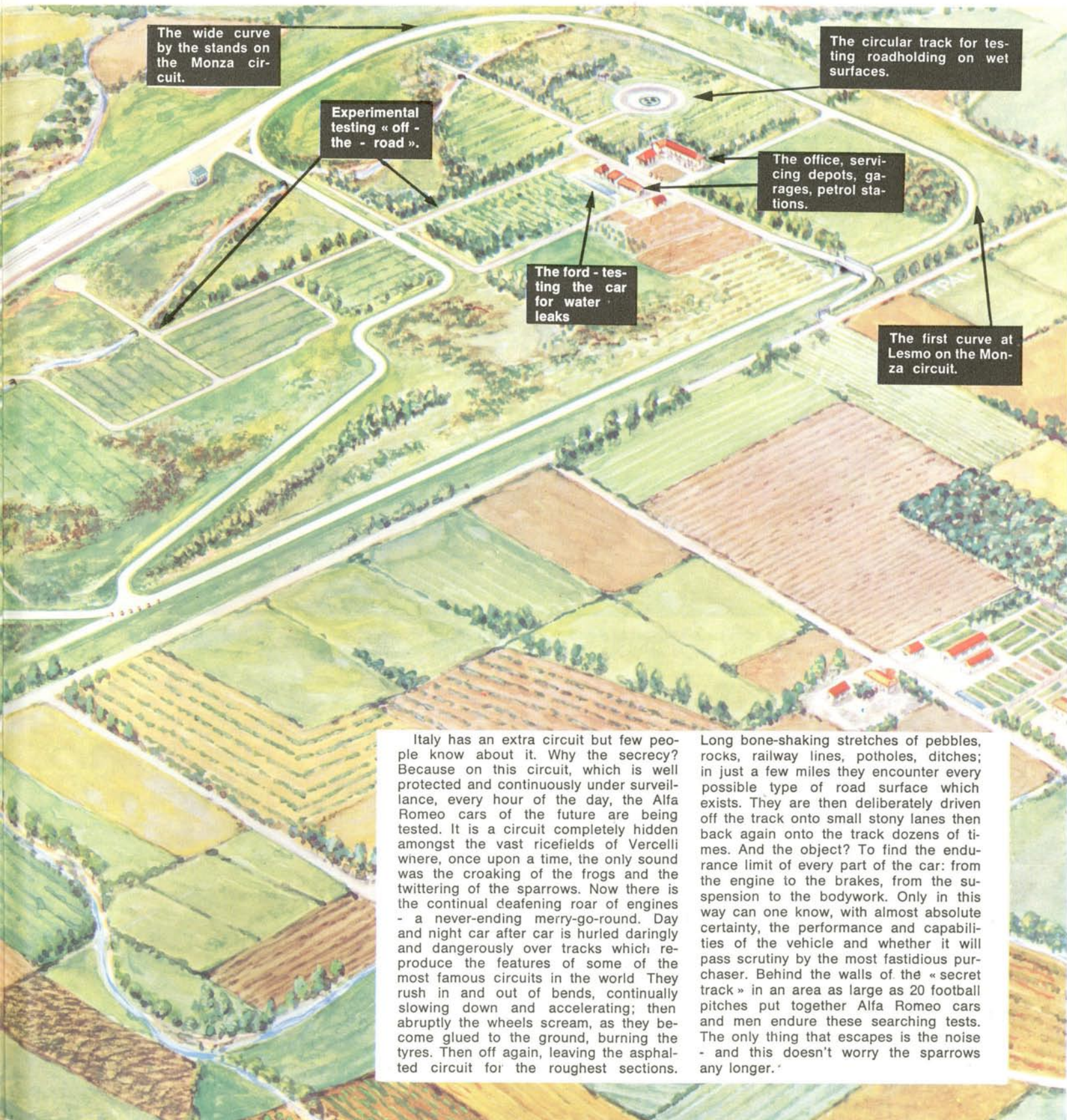
Tracks with differing surfaces.

Brake testing zone.

The curves at Fino Mornasco on the Milan-Como road.

The curve at the pits on the Zandvoort circuit.

tests and all the roads of the world.



The wide curve by the stands on the Monza circuit.

Experimental testing « off - the - road ».

The circular track for testing roadholding on wet surfaces.

The office, servicing depots, garages, petrol stations.

The ford - testing the car for water leaks

The first curve at Lesmo on the Monza circuit.

Italy has an extra circuit but few people know about it. Why the secrecy? Because on this circuit, which is well protected and continuously under surveillance, every hour of the day, the Alfa Romeo cars of the future are being tested. It is a circuit completely hidden amongst the vast ricefields of Vercelli where, once upon a time, the only sound was the croaking of the frogs and the twittering of the sparrows. Now there is the continual deafening roar of engines - a never-ending merry-go-round. Day and night car after car is hurled daringly and dangerously over tracks which reproduce the features of some of the most famous circuits in the world. They rush in and out of bends, continually slowing down and accelerating; then abruptly the wheels scream, as they become glued to the ground, burning the tyres. Then off again, leaving the asphalted circuit for the roughest sections.

Long bone-shaking stretches of pebbles, rocks, railway lines, potholes, ditches; in just a few miles they encounter every possible type of road surface which exists. They are then deliberately driven off the track onto small stony lanes then back again onto the track dozens of times. And the object? To find the endurance limit of every part of the car: from the engine to the brakes, from the suspension to the bodywork. Only in this way can one know, with almost absolute certainty, the performance and capabilities of the vehicle and whether it will pass scrutiny by the most fastidious purchaser. Behind the walls of the « secret track » in an area as large as 20 football pitches put together Alfa Romeo cars and men endure these searching tests. The only thing that escapes is the noise - and this doesn't worry the sparrows any longer.



A test driver's order: put them through their paces, without mercy



THE GIULIA CORRECTING A CURVE - Even on a wet road. The cornering ability is being tested on an enormous circular track made of various types of asphalt which has been artificially flooded.



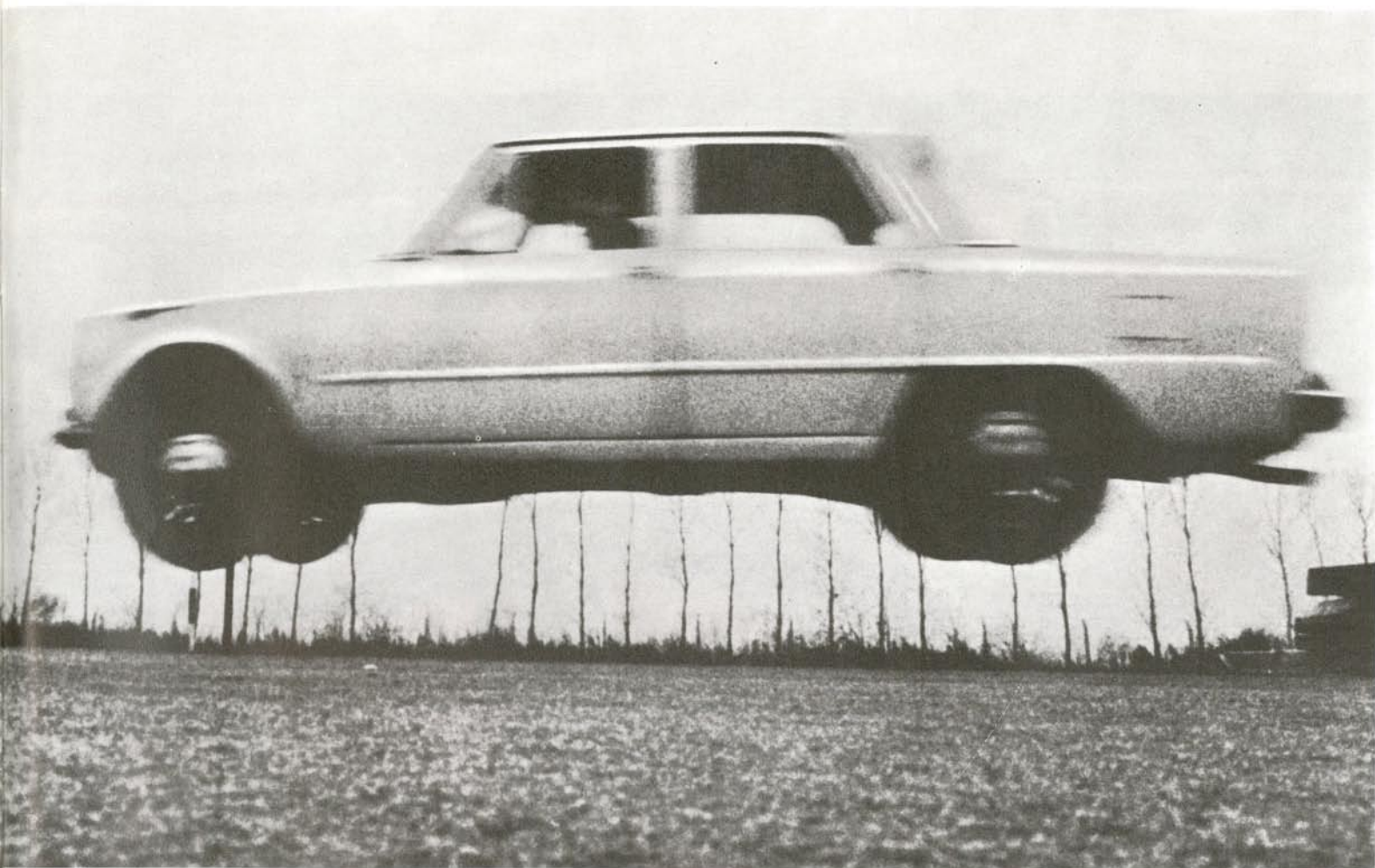
ON COBBLES - Difficult, merciless tests for the suspension and shock-absorbers are purposely carried out on surfaces much rougher than any in existence in order to discover more rapidly the limits of endurance.



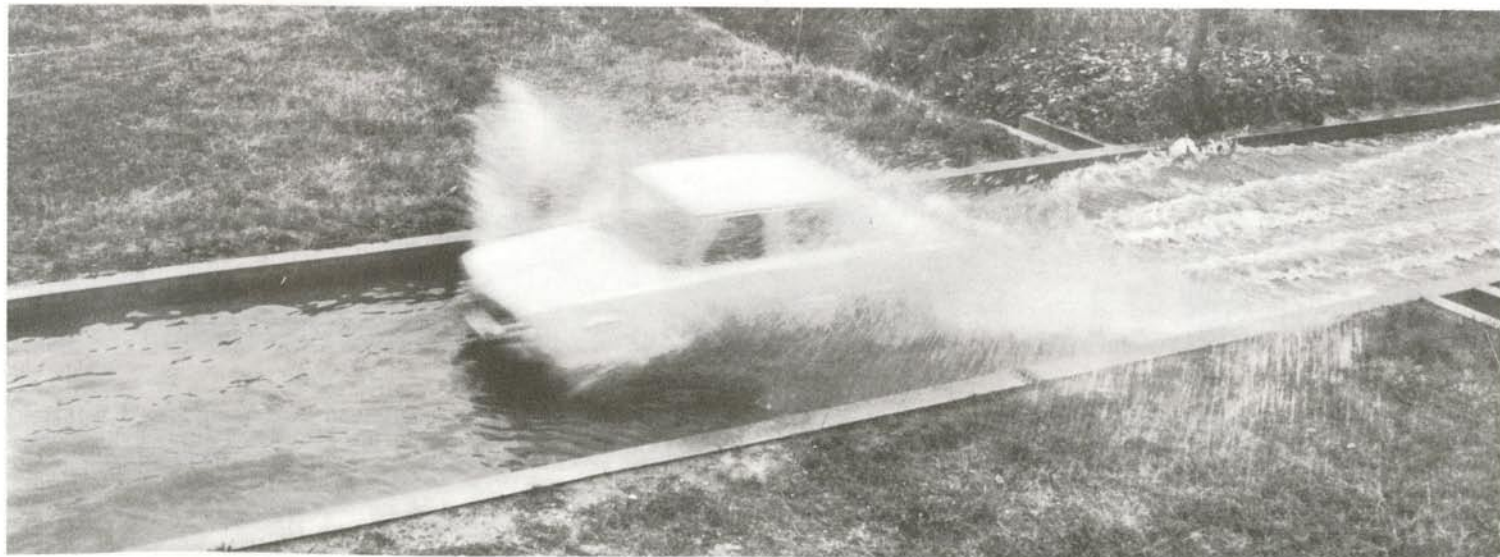
ALL THE ROADS IN THE WORLD - Swiss, Italian, Belgian: every part of the Giulia is tested to destruction, then modified to eliminate the faults.



Under racing conditions, when a car reaches speeds in the region of 250 km/h, superb touring cars are the result: this is the case of the Giulia, pictured here, during some of the most spectacular tests carried out at the Alfa Romeo circuit. For these vehicles, this is the moment of truth.



FLIGHT OF THE GIULIA - Not even the most daring driver would imagine himself able to make such a jump - let alone try it. Test drivers, on the other hand, enjoy themselves: danger is their business.



EVEN WATER SKIING - The car must prove that it can even get safely through floods: the ford - where the test is carried out, is roughly 65 yards long and 10 inches deep.



The «men in green»: a guarantee of quality



Three years of research and testing are over - now every 90 seconds a new Giulia is born at the new factory in Arese, near Milan. Nevertheless, throughout the long, patient, unnerving hours, continuously searching for improvements, nothing must be lost. What is the secret that guarantees the quality in production, the quality that was attained during the experimental stages. The secret lies in inspection: very strict checks carried out with precision and continuity by teams of specially trained men: the «GREEN MEN» - so called because the colour of their overalls distinguishes them from other workmen in the factory. Posted at strategic points along

the assembly line, these men discard, ruthlessly, everything that doesn't exactly measure up to the strict standards required. The worksheet which accompanies every vehicle, from birth to warehouse must carry an O.K. for each item.

So, we come to the end of our little talk still speaking of men. In fact, notwithstanding the very high standard of automation in every department, it is always they who are the real actors in this fascinating story about the birth of a car. As we have said, motorists love Alfa Romeos - this is the best reward for all the hard work that has been done - this is what really counts.