

***Aisa Conferences no. 46***  
**THE MASERATI 3500 GT**

Lecture of Ing. Giulio Alfieri, Milano - Museoscienza  
12th April 2000

*ALESSANDRO COLOMBO*

I wish first of all to thank warmly my good friend and fellow AISA Member Ing. Giulio Alfieri who accepted the invitation to be here and tell us about an important work of his: the Maserati 3500 GT. I wish to thank also the management of the Museo della Scienza e della Tecnica, who once again hosted us in this beautiful Conte Biancamano hall. Finally, I wish to thank all those who are here.

I extend to **Giulio Alfieri** the kindest greetings of a lady who often in the past drove very successfully Maserati sportscars and also the 250F single seater; this is **Maria Teresa De Filippis**, who most regrettably cannot move because of a pelvic fracture. Also Borsari and Cozza have excused themselves. This said, I ask the speaker to take the floor.

*GIULIO ALFIERI*

Gentlemen, the invitation that was extended to me, to speak freely of the Maserati 3500 GT is for me most exciting; not because of the invitation but for the issues that in my opinion it will be possible to examine. Immediately after the war Maserati were involved in facts that, even if far away time wise, were of the highest importance.

In 1937, a transfer of power and responsibilities had occurred, from the Maserati brothers to the Orsis; even if the Maseratis remained 10 more years inside the company because of a contractual commitment, with technical assignments.

The way in which the company was managed was new, and we can call it the Orsi management. This change had taken place by 1947 when the total management responsibilities went to Mr. **Adolfo Orsi** and to his son **Omar**, whom I wish to mention now with special gratitude for the way they welcomed me inside Maserati.

I went to Maserati in 1953; there was a frantic activity, both in the sports event and in the production of grand touring cars, which was just starting. The Maserati A6 1500 had already been built, same as the Maserati A6G 2000, as well as there had been the A6GCS and the A6GCM in the 2 liter capacity.

Those racing cars proved that Maserati, even in the new racing formulas, was a good company, so that it was apparent that inside the Maserati organization there was the ability to do, to make things come true, the ability to meet with success.

The problem that had to be confronted at that time was the transition from a wartime to a peacetime production, and this is something that poses problems and takes time, especially because all was occurring at the same time as new racing rules had been established. I think that the time that was needed for such transition was rather short, if one takes into consideration all the difficulties that had to be overcome.

In 1947, the A6 1500 was first built; among the racing cars there was A6GCS. Both used a single overhead camshaft 6 cylinder engine. In 1951 the A6G 2000 and the A6GCS started being built, the latter with 2 ohc camshafts. This led to what occurred afterwards.

The racing results achieved with the A6GCM were remarkable and made Maserati well respected and considered by the entire sporting automotive world. It was something new, something completely new; I don't wish to make reference to other situations, it was absolutely completely new and very important.

This is when building the 3500 cc engine gets closer; the 2 liter 6 cylinder engine had been made, then it was increased to 3 liter for the 300S, then it was felt the need to make the 350S, a 6 cylinder engine with an especially long stroke, 101 mm, and bore of 86 mm. I wish to underline this decision, which was a bit contrary to the trend of the time and which a bit at the limit; I was asked more than once what such a short stroke and such a small bore had been chosen.

The condition was not such to allow to say precisely what the advantages and the disadvantages were; just as a personal feeling, as my own belief I thought that a long stroke was better, especially for fuel consumption and torque. This choice was fortunate, from my personal point of view, and was also a good one as far as performance was concerned; even the forthcoming 3500 would have shown specifications that allowed a more than favorable judgment.

The relevant racing activity of those years should not be forgotten. At the time we designed, tested and produced the cars aimed to be grand touring ones; among these we must mention the A6 1500, the A6G 2000, introduced in 1951 and revised in 1954, when the DOH engine started being installed.

It was the beginning of Grand Touring cars production, which made us realize that it was possible to build them; there were of course details still to be refined, since there were issues related to reliability and performance. The total approach to the design were not there yet – also the production of Grand Touring cars had always been limited, 10, 12 cars per year maximum.

Such was the situation up until 1957: in 1953 the basis for a different production organization were introduced and the first steps were made; the first accomplishments were in the engines area, then in 1955 the engine of 3500 cc capacity was built. Engine at that time aimed at a sporting usage: as a matter of fact, if my recollection is correct, its first outing was at the Mille Miglia; the possibility we had chosen could however be a first step towards a complete car with a different usage.

At the beginning, the engine with 3500 cc capacity was built for distance races, to be afterwards modified, keeping always the same dimensions, however with the equipment more suitable for a high performance touring car. The accessories were updated, to make them more suitable to a touring usage, and also some basic specifications were introduced, such as the wet sump.

1956 and 1957 were the fundamental years for the production of the Maserati 3500: even in the frantic activity required by the Formula 1 World Championship it was found the time to study the new car, possibly to be offered with a 3 liter capacity, to be on the market with specifications safer and more reliable than the cars built previously.

For the chassis accessories, after a careful examination of what was available worldwide, the attention was concentrated on the English production where it was possible to locate a number of components apt to be installed on our chassis.

I remember that at the time I went very often to England, to establish contact with this branch of the motor car industry, which was completely different from the Italian one, where no one, just with the exception of Marelli and Weber, was building accessories; when it came to other components, such as suspension, clutch, brakes, nothing was available in Italy.

Why? In Italy we always had one single most powerful company (*Translator's note: FIAT*) which concentrated on one single most personalized product, which was made from the start to the finish. Furthermore in Italy there was a taxation system, called IGE, which imposed a certain percentage on each step, on each invoice; the consequence is that high taxes, which imply higher costs, were to be paid if there were various sales, such as from the steel industry to the component manufacturer, and further on ... . This is why the main producers had integrated inside the company all the different productions.

However the other "small" producers, who did not have the possibility to get what the big industries produced for themselves, did not have available a production of good level components.

This is what pushed us to look for some suppliers abroad, so that Maserati could be placed in the possibility to build a car in a way which was not so traumatic, as it had probably been traumatic the previous productions, the 1500 and 2000 cc cars; this is why I practically spent a

week every month, for a number of months, in England, trying to become acquainted with the producers of components.

In England, you can easily check, there were active many many car producers, all small, who obviously had to find find the "feed", the possibility, being small, to build a complete car, even at low cost. This is what pushed us to look at the English market with special attention: how can the British build car at such a low price? They did it because they had a good industry which made good components at prices which were affordable – this especially for us, since we would have had to build, design and so on, a process very long and extremely costly.

This required us to adjust the existing design. This is what at Maserati we humbly did, placing on the side, in some way forgetting about our "ego", the expressions "I did, I said", no, I did nothing, I simply acknowledged that there was that differential, that there was that suspension, that that clutch was available and at a good price.

For 4-5 months, one week every month, I did this. Maserati did this, I was instrumental to realize a program of Maserati's, so I went, looked, took into account that there were possibilities absolutely unavailable in Italy.

The car was introduced at the Geneva Car Show, at the end of March, 1957, if my recollection is right; this means that during the racing season, while trying to win the World Championship, that we eventually won, we were also producing a totally new Grand Touring car. This with just a few people, the motor car division at Maserati was made of 110/120 people, this was the size, but everything was done with great enthusiasm, with great dedication by everybody, so everything was simple, it was easy, and success was immediate.

Let's speak now about the coachwork, another most important component for a motor car; I do not wish to establish orders of importance, however this was a most difficult issue – if the mechanical components were subject to previous internal experiences for the coachwork we had already had experience with several coachbuilders of great name.

I do not remember well now why Carrozzeria Touring was chosen, I do not know how it happened, probably it was Franco Cornacchia (*Translator's note: the Maserati dealer in Milan*) to be the *trait d'union*; this cooperation was to become important, it would bring great satisfaction, great results.

The 3500 Touring was interesting for how it was built, for how it was: an aluminum body, with a support structure of tiny pipes which supported the aluminum coachwork – the body was therefore light. The aluminum is as you know a sound deadening metal, compared to steel, so that by merit, or by luck – I don't know, the car came out to be a great car, the 3500 that you had the kindness to introduce tonight, which indeed pleases me very much.

This car was beautiful, was useful, was comfortable, was everything. So, if today, reading into the past, I have to say whether it was tiring, I must say absolutely not, since it was born so spontaneously, so sincerely, like that, like the most simple and most beautiful things are born, and this was really wonderful.

The car showed very high features, especially from the points of view of comfort, road holding and performance; the sound level inside the cockpit was especially low, same as vibrations.

A second design was built – at the **Carrozzeria Vignale** – however with completely different principles, since the body was steel, built on a shortened chassis, 10 cm. Shorter.

This made two prototypes available, which could respond to different needs, even if the Vignale prototype came afterwards; for a complete year the “Dama Bianca”, the White Dame, this is how we called the car at the time (the Dama Bianca still exists) because it was white, it was a car, however there was a sign of respect in the nickname, because it was a dame, it was a lady, I don’t know who nicknamed it so but in any event it was a happy idea, it was a sign of respect.

This car was subject to tests, and everything went well. The balance between power, performance, road holding, brakes, clutch, practically all the interventions we had to make were just a few, I would say that they were just a handful. This is how it was conceived, born and built.

Comfort, performance: at that time thinking of a Grand Touring car that could reach 230 Km./h was not easy, this however happened with a progression of power, with an easiness in driving, in total the 3500 was a nodal point in Maserati’s life, but it was such for other things that it generated, such as the conscience that it was possible to build a production car, in numbers never thought possible before, I won’t say that there had been no will to do, the impossibility to do but also the will to do, so that we immediately aimed at building a certain number.

Possibly there were also politically favorable moments, also as far as the customers’ evaluation was concerned, since if there is no favorable environment the product can be excellent and it will have no luck: there must be a favorable environment to evaluate it in a positive way, and not only to evaluate but to buy it, which is a completely different matter. There was Italy that was being reborn, that looked with new hopes, with new energy to her future; there was the Italian industry that was being born, maybe there were the entrepreneurs, the small ones, former workmen or headworkers who had started their own company and wanted to show their achievements, their success; What is the best way to show this? Something moving, a theater by itself, the motor car.

I made a bit of psychological evaluation of the customer of that period and of the motivations that pushed to buy; there were different kinds, different cultural background, and from the fact that he came in a certain moment, that he bought, there was a lot to learn on psychology:

the customer who came with his wife, the other with the mistress, it was immediately apparent how many were the chances of success, that is to say to sell.

It has been a car that conquered customers, it conquered them for what it was, for what it offered, so that Maserati became a catalyzer of interests; many people that we would never think of came, movie stars, very wealthy people, less wealthy ones, we had the possible types of customers.

It was the first time that such a product was offered in Italy, and the market was especially attentive to what had been realized for this car: elegance, comfort, good sound deadening, performance in line with the successful sportscars of the time.

Availability: another most important issue, I believe. Soon we made air conditioning available, we were first to do it. In a following model (*Translator's note: the Quattroporte*) we made the air-conditioning equipment a fundamental part of the chassis, so that all Maseratis had air conditioning. This also because of a need, because protection from heat was so difficult at that time that it was easier to produce cold air rather than dispersing heat. This however made that this model was characterized by having air conditioning available.

Performance was according to the request of the time for the class of cars to which our belonged. This started a new phase, completely different from what had been the case until then. At that time Maserati freed themselves from production quantities barely enough to stay in the marketplace, with new aims as far as quantity was concerned, with a production planned on a day by day basis.

This was the moment when production started having to be controlled, both for the quality and the quantity, the regular flow of production became a basic need, both from the point of view of forecast and of cost control. Today one can smile of these requirements, but at that time, in a working place where the plan was to build racing cars, with the habit of starting always from the beginning, the idea of building two cars per day was not an easy one. The value of Maserati's workmen, of the technicians was however such that everything became easy. It looked difficult, but it was easy.

Just think that, prior to the 3500, Maserati had never built more than 2/3 cars per month. Real production series were absolutely unknown; there have been problems, however they were all solved, I would say easily, with no effort or trouble, and talking of 2 cars per day was a most ambitious task.

The records show a clear picture, in 1957 18 cars were built, and the day before Christmas Eve of 1957 the first 3 cars were dispatched; in 1958 122 cars were built, in 1959 198, in 1960 420, in 1961 535, in 1962 500 – regrettably a reduction had occurred – in 1963 630 car. The personnel had basically remained the same.

Today, I spoke of a turning point, in introducing my speech: this was the first moment of this turning point, which was cultural, industrial, of behavior. Another point of view of this turning moment is the much wider approach to the markets; this has been the mean to realize a wider change, and also the management took a wider approach; on the issue I must underline that the interest for the new Maserati production had no boundaries. It went from Italy to Europe, to America, to Africa and even to the communist Russia.

The Maserati Quattroporte was not the only one, since this was a car that generated a family of other cars; in Communist Russia, I don't know if everybody is aware of this, **Leonid Breznev** bought a Maserati Quattroporte. The Internationalization of customers occurred spontaneously, which on one side provided the great satisfaction to see the Maserati products go to places so far away; on the other however it created serious logistical problems, which required to be completely available to service.

Several times we had, to comply with the service, make serious sacrifices; Maserati always did it, conscious of their responsibilities.

Also this side of the problem was a clear message sent inside the organization, to be always ready to answer the most differentiated queries in the shortest period of time; the answer was always precise, timely and, we are now able to say, also up to the needs.

Another effect of the change generated by the Maserati 3500 GT was to make the company aware that they could build products different from those deemed to be ingrained to the company's tradition. It is the car that went against tradition, for the number built, for the design, for the capacity – prior to it Maserati concentrated their interest on smaller capacities, 1500-2000 cc; this was the first time they went towards the 3 liter capacity, which later on would produce the 8 cylinder engine, the 4.2 liter, then the 4.7 and the 5 liter, therefore also outside to the products ingrained to their tradition.

The wideness of the problem, from the point of view of designing the car to be produced, pushed to cope with even wider and more difficult issues; a good example – and I know what I am talking about – was the Quattroporte.

This project was, and maybe still is, subject to criticism or, better, to perplexity. This was originated by the belief that Maserati's main aim had to be different, while the 3500 had substantially changed things, making a more flexible and available approach possible.

If we analyze – for example – the **Quattroporte**, we can say that it was something crazy; however, if we value it as a consequence of the efforts made and of the results achieved with the 3500, from the point of view of production, of quality, of our presence on the marketplace, then it was almost spontaneous, or it was justified that we had turned our

interest went towards a four door car, which implied a series of problems which were stronger, greater, and much more delicate.

When we made the Quattroporte, we were conscious of the problems that we were to face, however we had the strength – sometimes this strength can be very close to craziness – since the idea of strength can be seen in this way, however I say the strength, because we were conscious of the difficulties and we did the Quattroporte.

The Quattroporte was a car that did not achieve the same success, because the Quattroporte built were, I believe, about 860, so it was not as successful as the other car; it was the success of the 3500 GT that brought a kind of youth feeling, that made our opinions be founded on sound basis of goodwill, so that we attacked a much wider and more difficult problem. In a way the 3500 bears also this responsibility, to have generated a self trust, of high opinion of ourselves, so that we attacked a technical theme as important as the Quattroporte.

The perplexity that I mentioned earlier was based on the opinion that many had of Maserati, while it had to be kept in mind that the 3500 GT had changed things, that had produced a kind of availability to sacrifice, to the total commitment to the product, so that it did not make sense anymore to think of predetermined limits.

We considered logical to make the design work progress, by attacking problems which were more difficult, since this car had to have tighter specifications, more difficult to realize. The Quattroporte had requirements, as far as quietness, comfort, rigidity well above those of the cars that had been built until then. The task of building such a car was considered possible by a handful of men that approached the problem with humility and great push towards success. The road was indeed difficult, but even now we feel that everything was kept under reasonably honorable control.

The Quattroporte was a successful automobile even if in the Maserati production at the same time there were other products that could have been in-house competition. If la Quattroporte was the evolution of the design possibility we built also a 2+2 Maserati that still today we regard as good, in the line drawn by the Maserati 3500 GT.

A special place is deserved by the **Maserati Ghibli**, which represents the getting together of the old, the Maserati 3500, and the new, the Quattroporte mechanical components. The Ghibli was very successful, being at the same time very elegant and extremely performing. All these products, the same as those built afterwards, **Mexico, Indy, Bora** were the consequence of the change brought by the 3500, which had given us the consciousness of what we could do, the pleasure of taking risks, the cultural need of doing products which were stylistically conservative and at the same time advanced; products of which the man was absolute master and as such everything was subject to his needs.



This is the task that I had given myself; I do not know whether I was able to make it clear – the Maserati 3500 GT was a sign, sent to the geographical world, to the world of culture, to the automotive world, to a world that we will identify as we wish, which in Maserati's life was a most important point of growth for the changes that it brought along.

*ALESSANDRO COLOMBO*

I wish to thank once again Ingegner Alfieri for what he told us; before allowing queries to be posed, I would like my friend **Carlo Felice Bianchi Anderloni** to tell us the way in which the connection Maserati-Touring, on which Alfieri was a bit doubtful, was established.

*CARLO FELICE BIANCHI-ANDERLONI*

The contact Maserati-Touring, which is a bit doubtful for Alfieri, and which is 99% sure for me, was done through Commendator Cornacchia. **Franco Cornacchia** was the first, the most important Ferrari dealer in Italy. Cornacchia, who was rather heavy, had become a racing driver to promote the sale of Ferraris, but at one point he had had conflicts with Ferrari; maybe he wanted to show that he was an important person even without Ferrari, that he could have remained in the automotive world as dealer for other makes. He promoted these other makes, and I am almost sure that it was him to introduce us to Commendator Orsi and to be the "middle man".

It is to be said that he was a man of enormous trust in what he was doing and in Maserati, to which he had addressed himself and of which he had become dealer. The car was introduced at Geneva in the year mentioned by Alfieri, I think it was 1957, with the shape that the production run would keep. The only change was made to the front part; we had made a wider grille, Cornacchia thought that it was not enough representative of Maserati, not aggressive enough. This was the only change.

After this, for the one thousand and more cars we built (Editor's note: 1973 cars) the coachwork was always the same. Small modifications due to some embellishments placed here and there, however nothing substantial. The car remained as it had been born. The first car, that famous "Dama Bianca," I think is still owned by Adolfo Orsi jr., who confirms.

A funny story: you know that we built coachwork also for **Lamborghini**. Talking to Lamborghini, who was a bit of a fanatic when it came to fast cars, so that he modified all those he had to make them faster. One day on the motorway he saw a white flash that overtook and left him behind. When the car stopped at the Modena pay-toll station he saw that it was the new Maserati. He bought two, afterwards.

*GIULIO ALFIERI*

Yes, I remember. He bought two and, to tell the truth, he said that our car was not sporty enough. This was his idea.

I thought that it was sporty enough as far as it was evaluated in connection with other needs: that for comfort, for quietness, of handling. This is why at a given moment – it was Lamborghini to tell me very openly – he wanted to prove that he was able to make a better car. Better than the Maserati and better than the Ferrari (because at the same time he owned one or two Ferraris).

*CARLO FELICE BIANCHI-ANDERLONI*

Talking on **Ferrari**, this brings us of the conflict that occurred between Lamborghini and Ferrari because, according to Lamborghini, Ferraris were trucks. His was a much better car, and so on and on, this would bring us very far, while I wish to say something in connection with what you just said: Lamborghini had found the Maserati as not aggressive enough because he had not realized that at that moment the Maserati was a turning point for sportscars. It was possible to be sporty, to be fast, to be everything, however in comfort, well seated, at ease, going in and out easily, no problem with the heat, and so on. The Maserati 3500 GT had really reached what sportcars before had never even tried to accomplish.

*GIULIO ALFIERI*

On this subject, since Ingegnier Bianchi Anderloni mentioned what I said, I can tell you that in one moment of my life when I had to leave Maserati I was called to become Managing Director at Lamborghini; I really had to impose on to myself to be able to understand the Lamborghini product as it was demanded of me. This to me was something impossible, against all logic's, but I was there, under that roof, so that I was to make something as it was required to me.

Commendator Ferruccio Lamborghini left this mark, he really did, that the car had to be an extreme sportscar, not only as far as performance was concerned, but also for the aesthetics, for the shape; this is why, I tell you very honestly, I had to impose upon myself. To the point that, at a given moment, I told myself: "Are you the same Giulio Alfieri, or are you a different one now?" These were absolutely different ways of thinking.

*CARLO FELICE BIANCHI-ANDERLONI*

Please excuse me if I take the floor once again; I wish to thank Ingegnier Alfieri for what he said on the car that we did together; it is to be said that our mutual cooperation at the time was formidable. We got together very often, with passion, no one stood on his positions: it was good to work together, at that time.

*GIULIO ALFIERI*

I believe that seldom in my life I found a partner as faithful, punctual, trustworthy as Carrozzeria Touring; this also because of the proactive approach, and because they had this style which was well in line with my way of thinking. I saw beauty where they also saw it; this I believe is one of the greatest aims that a car manufacturer can share with the coachbuilder.

*CARLO FELICE BIANCHI-ANDERLONI*

I fully agree. Thank you again, Ingegner Alfieri.

*ALESSANDRO COLOMBO*

Ingegner Alfieri with that sentence "it fulfilled also other needs" and the following intervention of our friend Bianchi Anderloni in a way limited the question that I wished to ask, which was: to step into a new world, which at that time in Italy was dominated by Ferrari, what were the main differences between the Ferrari product and the Maserati product. It is understood, from what it has been said, that the Maserati product tried to fulfill also other needs; to give comfort, to give quietness, to give good handling, to give a number of qualities which were not just sporting ones: this means that the synonymous "sporty equals uncomfortable" in this case did not apply. I wish Ingegner Alfieri to say something more on this.

*GIULIO ALFIERI*

Yes, this is a most interesting issue which could be covered by a Lecture, being so wide. I will just say that, when a car is designed, when a car "is made", each of us has inside the basics of what will be the final solution.

In the moment when one finds a partner with the same thinking, then everything becomes really easy: one understands the other, there is joint progress, joint achievements, and I feel that I was really fortunate since I had a common way of thinking with the owners, with Commendator Adolfo Orsi and with his son Omar.

If there had been a different approach, non unanimous directives it would have been more difficult; I will not say impossible, because of course I would have complied with the will of those who had higher responsibilities within the company – they had the highest; a great responsibility because it involves the risk. I have been entrepreneur and I know what this means – everyone who is in a high position but who is not an entrepreneur will never have the same responsibilities. This is to be acknowledged, the sense of beauty that was within Maserati I never found anywhere else, so I wish to thank openly and in public the proprietors of Maserati who allowed me to do what I did. Thank you.

*QUESTION*

The 3500 chassis, was it made by Maserati or was it subcontracted to **Gilco**?

*ALFIERI*

No. Gilco had built chassis for the 2000, but from a given moment on all the chassis were made by Maserati; so the Maserati was designed within Maserati, the prototype was built by Maserati, then a contract was made by a craftsman in Maranello (editor's note: Forghieri) who built the production units.

*ADOLFO ORSI*

I wish to thank Ingegner Alfieri for his kind words on my father and grandfather. I think that the relationship must have been mutually satisfactory if it lasted so long. While he was speaking I wrote down a few issues, connected with the product, to the history of that time.

Ingegner Alfieri did not underline one issue: the 3500 GT allowed Maserati to remain alive, since at that time withdrawal from competition had occurred, there had been a moment of financial difficulties due to the other side of Maserati Industries, the tooling machinery first of all.

Let's say that in April 1958, Maserati had to file for what in the US is called "Chapter 11", from which the company came out brilliantly in a short period. However, had the 3500 GT not been so successful, most likely Maserati's life would have stopped, this in my opinion must be mentioned when speaking of the 3500.

I wish to underline also one more thing: as a matter of fact the car that enjoyed such a great success is Ingegner Bianchi Anderloni's credit. At the beginning however Maserati had another prototypes built by Allemano. There was an hypothesis that I saw only on paper, that I don't think was ever built, by **Zagato**, for a more sporting car, with covered headlights, similar to the A6G54 berlinetta.

*GIULIO ALFIERI*

A kind of contest was organized, everyone expressed his ideas, and at the end it was thought that Touring's was the most beautiful one, the most functional, it was thought that it was the car nearest to our wishes, wishes that we thought to be the same as our customers'.

*ADOLFO ORSI*

After this car, I feel it is correct to remind, a convertible was made, first a few prototypes by Carrozzeria Touring on long wheelbase chassis, then one by Frua, and then in 1959 by Carrozzeria Vignale, on shortened chassis, on which later, in 1961, the Sebring coupé was built always by Vignale. I wish to say this as well: the engine is a derivative from a racing engine, then it had been detuned, and it was a most reliable

engine. In Maserati we were visited by a trader, I would say of flowers in Milan, who had driven his 3500 Touring for 580.000 kilometers, having just done the head: the block, with everything which was inside, had never been open. This shows how reliable this engine was.

*GIULIO ALFIERI*

Yes, as a matter of fact the 3500 engine was, I won't say perfect, however it fulfilled all the thermic, mechanical, vibration requirements which are mandatory to have a long life. It was a pleasant surprise also for us because we didn't think that it would be possible to build so many engines that could do 400.000 kilometers without disassembling the head – this not on just one but on many engines, it was a great result.

We got there through many difficulties: this is why I do not say that our way was easy, since we often had to develop solutions in the house. An example: the problem of head gaskets is most difficult to solve, so we put in place a solid joint, the so called "small ring", which went extremely well; there was a most substantial need, it had to be perfectly executed, and this brought out again the high value of the personnel, it brought out the Maserati that was making tooling machinery and that was therefore familiar with thousandths, so that we made a product of really high quality.

*ADOLFO ORSI*

It was not yet mentioned that the 3500 GT was the first production car in Italy to have fuel injection.

The Lucas fuel injection, which is so criticized today by the collectors who own the cars, in my opinion because over the years this equipment was not properly maintained and also because it is much more difficult to tune than the carburetors, on which any mechanic can work; however, it gives the engine a different personality, besides improving fuel consumption and giving other advantages.

*GIULIO ALFIERI*

The injected engines, the fuel injection in Otto type engines, have always been a most interesting issue for me and the 3500 really was the only production car using at that time a fuel injection system. A bit unusual, to tell the truth, since it was a 7 bar system, therefore with a low pressure, but it gave balanced values; the feeding of the air was well split from the other, so that an even weight of air had to be injected, same as the quantity of fuel, so that from this point of view the Lucas injection equipment automatically had what it needed to operate properly.

*ADOLFO ORSI*

Just a last remark, which is personal for me: at that time I was little more than a "child" and in the afternoon, when school was over, I went into the factory. I remember this period as a golden one; inside the shop there was an excellent relationship between the workers, the technicians, the customers, so that it really was a fortunate period.

In the success of the 3500 it is not to be forgotten that Maserati could count, both in Italy and in Europe, on a group of dealers and of authorized garages really of the highest level; people who had Maserati at heart and who really went beyond the call of duty to solve the problems that inevitably occurred, people of the service department who left Rome in the evening, came to Modena in the night to pick up spare parts, and in the morning delivered the car to the customer, who did not even know what was behind the delivery.

*GIULIO ALFIERI*

There was an absolute dedication.

*ADOLFO ORSI*

I believe that the image that Maserati could create in those years was due to the quality of the product and to this network of dealers and authorized garages who really were of first quality.

*GIULIO ALFIERI*

Of course! To build car is important, however the most relevant issue is that they run well. It is also important to have good service which can even cover up some minor problems, so that the image is not affected. Service that unfortunately we did not have in America.

If we wish to analyze how the 3500 and as a consequence Maserati were present in the world, we must see that in America we did not achieve the results that, I was about to say, were "mandatory" for us, having won Indianapolis twice.

There is one thing I read in these days – I had to bring myself a bit up to date before coming here, memory is a good thing, however in some circumstances having objective confirmations is so much better – and I found articles written at that time a critical approach which is not right, articles which were at all not right.

I don't know, those journalists, those experts that expressed those opinions in America showed that they were not objective; in my opinion there was this competitor of ours who was still doing racing activity, was still present, so that in my opinion our lack of achieving in America the success that we deserved if our product had been objectively judged, depended on the fact that we were not racing; this had an impact in the evaluation of the Americans, also in their possibly childish way of judging, which push them to like one product better than the other.

Since our product was more in line with the American way of thinking, which is a practical one.

*ADOLFO ORSI*

I'd like to make a comment on the success that Maserati did not achieve in the US, while it had it in Europe and in Italy: this was in part due to the distribution. Over the years we had several distributors and only in the sixties we found some reliability, while on the other side one cannot forget the great importance that **Luigi Chinetti** had in Ferrari's history. Chinetti was very important in America and in the progress of Ferrari's fortunes; if Ferraris hadn't been sold in America by Chinetti probably Ferrari's image in the world would not be as splendid as it is now. As far as the product is concerned I built up this opinion: it is likely that the Maserati product fulfilled the wishes of the Italian and European customer, who wanted a car that was fast, with good road holding and with other specific characteristics.

In America the road system is completely different from ours, and in America long trips were already made by plane; the American businessman of the time already had his private airplane to travel, while in Italy the businessman who wanted to go from Milan to Rome with the Maserati needed 3 hours, 3 and a half hours, no other transportation was as fast and as reliable.

Since they had a domestic product which already gave a lot from the point of view of torque, we all know that American engines have abundant torque, having to turns or just a few, in my opinion in European cars they sought an image of great aggressiveness which is more in Ferrari's line.

They wanted the furious power, also because these were not automobiles to be used every day, they were week end cars, more fun toys than anything else, while the Maserati had been conceived as an every day car, that is to say the car that a businessman could use everyday for his business trips.

According to me the lack of success of Maserati in the United States at the beginning was due to lack of distribution, at least until 1965, and then later on, because the Maserati product was more aimed at Italy and Europe, more than at the American market.

*GIULIO ALFIERI*

Yes: as a matter of fact it is very difficult, when one makes a product, to make everyone happy; the product is made with a personal interpretation, in a way or another.

*MARCO MAKKAUS*

As someone involved with marketing, I would like to see this issue from a different point of view. I also have memories, even if I have no family

ties, and I was also at that time a "child", as I tried to be all my life long. At the time the feeling was that, in the Maserati, Lamborghini and Ferrari makes, what I remember, is that there was a sharp – let's say, allow me the word – difference in "elegance" also in the customers; Ferrari was in the middle and covered also the customers more sport oriented, Maserati was a much more elegant car, more refined, and Lamborghini a car for sporty customers, maybe a bit "wilder", let's say. I would like to know if this feeling is right or wrong.

#### *GIULIO ALFIERI*

As a matter of fact this was the situation: we always tried to make a serious car, an elegant car, a car that fulfilled the user's needs, a car that gave also excellent performance, that gave it every days and for 10 hours continuously, I say 10 hours because a 10 hour trip had to be possible; the human being, the human being in the cars was our first priority, because the car must serve the man, and therefore it had to give the man the best chance to use it.

This was a "primary" concept that lead us; I understand Orsi's considerations, which are right, on the American market, a market that I also had the chance to see and understand; especially when I went to Lamborghini.

I wish to tell you one episode: in a given moment an American, very wealthy, came to pick me up at the airport; already going out of the airport, which was not a big one, he had come to pick me up almost under the plane, and he immediately told me: in there I have my personal plane, which can come even to Europe – then he went to the other side and took me to see that he had there not, two Countaches; I asked him, how many kilometers do you drive with them? Ah, I use them very little, but I have a great pleasure when I do!

These are completely different approaches, one of someone who wanted to make a car which can be used all the time, every day safe, and the other who wanted the pleasure to use it once in a while and to be able to say, when he was with his friends, look, I have also this car.

#### *MARCO MAKKAUS*

Sometimes people talk of Maserati as of the Italian Jaguar. How was it positioned vis-a-vis the English cars, and I think of Jaguar but also and more of Aston Martin, also because of the coachwork.

#### *GIULIO ALFIERI*

With Jaguar, there were similar solutions and as general concept there was not much difference, but we were more sporty, had a higher power output, with different coachwork, with a better power to weight ratio than the others. Certainly the theme, the factor that was just mentioned to me is the extremely long run of Maserati engine: 400.000, 500.000



kilometers is something of the highest importance to a technician like me; maybe that for someone who buys the car, keeps it for one year and then sells it, all this is irrelevant.

It is on the contrary important to have a type of car with a different noise, since a while ago we spoke of Ferruccio Lamborghini, "A ghe l'armor", "It has a good sound – referring to his Ferrari car – it is selling well because of the noise". This talk was done in my presence by Lamborghini.

Do you have other questions?

#### *LORENZO BOSCARELLI*

It came out with great evidence how the product 3500 GT was innovative, that is to say that this was a high performance car, however drivable every day, thus most interesting for someone looking for sportiness and elegance. My query is how this concept of product had been born.

The concept of product is the basic definition of a product, and my question is whether you took inspiration of an already existing car; in the fifties – I do not wish to make objectable comparisons – here in Italy there had already been a car, before the Maserati 3500 GT that was elegant, sporty and reliable to a very high level: this was the Aurelia B20, obviously very different from the Maserati 3500 GT, which however was not so different for the principle of sportiness.

Who contributed to the concept of product, was this you, or the Orsis, did someone else give ideas to you and did you inspire yourself from previous cars.

#### *GIULIO ALFIERI*

The concept of product came spontaneously, there were no special considerations, no special thoughts. Up until then we had made just 2 liter engines, revving high and we were looking for solutions which improved reliability and at the same time gave acceptable torque and top power in line with the other similar cars. Maybe this was why the capacity of 3.5 liter was chosen.

It was a choice of lack of bravery because at that moment I was very young (consider that at that time, in 1956, I was born in 1924, I was 32), however a young man who felt his responsibility, the responsibility to the factory, the responsibility of making a product which did not need, to be successful, of excessive costs, a product which could be easily made by the existing organization, because when one thinks of making a product he must be aware of what he has available within the organization, so that this same organization can provide the best in favor of the product.

I made a very easy choice, let's say, and I said it before, the others make 3 liter cars, I'll make a 3.5 because it will be easier to have good

results: from the point of view of consumption and therefore of the costs it is irrelevant; through a combustion chamber like the one we had designed, with low surface compared to the total volume, we had small surfaces, so that only little heat went to the walls, as opposed to the others, who had very high revving engines, short strokes and as a consequence a much higher thermodynamic efficiency.

In the moment when I have to achieve high torque performance, feasible and easily reachable, however powerful to be able to have a car of a certain weight, about 1.4 tons, I must have a certain power, no one will condemn me if I will make half a liter more. This is the truth, the truth is my laziness.

*QUESTION*

Ingegnere Alfieri, one more technical question. Going back to the elegance of the 3500 model, as owner of one, it seems to me that the elegance was not limited to the visible part of the car, but that it was the first example of how one can try to hide the silencers by making them go through the door sill, unlike other models, like Ferrari, where the exhaust system caused quite some problems on uneven roads.

*GIULIO ALFIERI*

Well, even in this case, the exhaust system must go underneath, however not in the middle which is where the heat irradiation is maximum; the heat had to run on the side, in a space expressly built in the sill, where we could protect it, by filling with insulation and at the same time have a sufficient air flow to hope that the heat is dispersed.

It is a solution dictated by need, so to have a low floorpan, a low center of gravity, with a lot of minor advantages – these are the thoughts of a designer, made even when he is walking around.

*QUESTION*

Maybe I don't remember well, but it seems to me that the first type of the Maserati was equipped with drum brakes of so called "unwinding" kind.

*GIULIO ALFIERI*

Self winding – The hinging point was against rotation, to have a very strong amplifying effect, so that it was friction to magnify the pressure of the shoe.

*QUESTION*

Then I don't remember well, maybe it was another car to have the unwinding brakes.

*GIULIO ALFIERI*

Those were the Girling brakes; Girling made them unwinding. We installed them so that they were self winding.

The power brakes that existed at that moment did not have enough pressure, to stop a car of 1.4 tons like that one, at the speed of 250 km/h.

*QUESTION*

My question is a bit odd: What car did you use in those years?

*GIULIO ALFIERI*

A Fiat 1100 and then a Fiat 1300.

*QUESTION*

Did they have any influence in designing the Maserati?

*GIULIO ALFIERI*

No, they didn't have any influence. As modest as my knowledge was, I tried to personalize the

Problem, to live with it and to try to find a solution; this was just a bit of common sense.

*DI GRAZIA*

Since I am also involved with marketing and communication, I see an evolution of the product, in the way you said, the American market was in any event a point of reference for Maserati; at one point the eight cylinder engine were born, 4,2 - 4,7 - 4,9 liter. This is the question I ask: to please that market which required higher torque, probably higher capacities...

*GIULIO ALFIERI*

Yes, the concept of America was there, however if we wish to draw a line, in the moment when we made the eight cylinder engine we wanted to make an engine more modern and with a more reduced unitary capacity. So that the specific power would be a bit higher, and we did the eight cylinder. It was not made having America in mind, those were completely different concepts. Then we made the 4.2 liter engine, which was enough, however not for some of the customers, who required engines of higher capacities, with higher torque, so we made the 4.7 liter and then the 4.9 liter, but the 8 cylinder engine was made not for the need of a specific car, it was made for the need to do something different, something new, to step out of the 6 cylinder scheme.

*ADOLFO ORSI*

One last intervention to clarify for good and ever the tale that at that time Ferrari and Maserati were in competition for the same customers.

In the period we are discussing, the sixties, the Maserati customers and the Ferrari customers were completely different. Maybe 15% of them could be customers that switched make and went either to Maserati or to Ferrari; for the balance, I think they were really different customers. Everybody speaks of Ferrari and Maserati as of competitors and as a matter of fact they were, on the race track and for many years, I would even say that it was a fortune for both of them to be competing in the same area, since obviously the result was specialization, however the customers were different. Maserati built cars thinking of a kind of customers, Ferrari thought of another kind, which were their own. Then there could be that 15% of fluctuating.

I would say that Lamborghini were aiming at the same customers of Ferrari's; maybe we had more customers who were Iso customers, to mention one make, rather than Ferrari customers, maybe also Mercedes, Jaguar or even Rolls-Royce customers.