

# JICEY

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**JICEY**

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YEARS  
OF INNOVATIONS  
IN PRECISION  
SHIMMING



## 1946 - 2016: 70 YEARS OF INNOVATIONS

The usefulness and role of shims in the industry is now well established. This element is now recognized as an essential part of any mechanical precision set. The shim easily and perfectly positions together the various mechanical components of a set for optimum performance.

The reason Jicey is unanimously recognized in France and in Europe as the reference and benchmark in this area is that it has developed an early revolutionary and innovative process: the laminated peelable shim. This essential and innovative product can replace the use of numerous conventional solid ground shims of increasing thicknesses with a single shim made of a stack of individual sheets that you peel to obtain the desired thickness. It is a clever and extremely economical process. Jicey is the market leader for 70 years and has maintained a significant technological advance by introducing new developments and adaptations of its flagship product.

The first major innovation is the dual or bi-composition of the laminated shim. It consists of sheets of different thicknesses on each side. For example, a 1mm shim may be composed of 8 sheets of 0.1mm and 4 sheets of 0.05mm. A process which is very economical and cost effective as the use of thicker sheets reduces the overall cost of the shim while keeping the accuracy and precision with the thinnest sheets on the other part. Jicey wanted to go further and then associated the bi-composition to the coloring of metal depending on its thickness to allow a visual and immediate identification of the side to peel. The blue tint of steel enables to recognize a thickness of 0.1mm while the yellowed steel indicates a 0.05 mm thickness. It is still an exclusive Jicey's innovation, economical and convenient for the end user.

Another innovation is the separable shims. This is a major adaptation for the Public Works' specific market. Here the shim need to be particularly convenient while being used under specific conditions (weather conditions, harsh environments, agricultural machinery). No question for a fitter, in these circumstances, to peel a laminated shim conventionally. Jicey has then developed a set of shims of different thicknesses glued together with glue points on the edge rather than

on the whole surface. After a simple manipulation, the fitter breaks the glue points and can retrieve the desired thickness; installation is much easier.

Then came the advent of the composite material. Greatly sought by the aviation industry for its light weight, since its density is 50% that of aluminum. Jicey then launched the Alkomposit Mylar and Alkomposit Kapton composite shims.

The related latest Jicey's innovation is the Viewtek process. It is like any major innovations: clever and simple. In order to further facilitate the use of its laminated composite shims, Jicey has developed a marking concept which allow to immediately see the side of the shims that need to be peeled in terms of thicknesses (0.025 0.050 0.100 mm). This patented design uses the direct marking of elementary thickness on the middle layer of the shim, visible by transparency from topsheet. The Viewtek process also uses color coding for each of the proposed thicknesses. Thus, in addition to an exceptional comfort in use, it provides the ability to propose bi-composition with different thicknesses on each side of the composite shim without confusing them. The adjustment time is thereby significantly reduced by the fastest approach to get the right dimension and size.

The Viewtek exclusive marking method allows visual and immediate identification of the face to peel. The fitter can do the right adjustment by peeling the thicker leaves and ending with one or two thinner sheets. The exceptional peelability of the composite material allows to cleave the shim by hand without any special tool or cutter blade, and even (re)use a removed leave as a single unitary shim.

For 70 years Jicey has proven that its leadership is due to its strong will to provide users and partners with the best products and services on the market by placing innovation at the heart of its development.



## SPACE PROGRAM: TOWARDS MORE AND MORE INDUSTRIAL PERFORMANCE

The aviation industry is a market with high demand and is growing steadily. It is imperative for us, the industrial sector and their suppliers, to continuously improve our processes to develop and increase our performances in the context of globalization and strong competitiveness. At all levels, players in the aviation industry must deal with the financial impacts of a global internationalized market.

To ensure the preservation of a major role in this industry and to promote the excellence of European supply chain, we face some major challenges which are: continuous improvement of the performance of the supply chain, increase in industrial demand and also financial and technical investment in research and development.

By becoming a member of the Space Association Jicey places performance at the heart of its development and competitiveness, not only for the aviation industry which Jicey is the preferred partner but also for the industry as a whole.

The goal of the Association is to build world-class action plans to achieve the best industrial performances of the supply chain.

Under the Aeronautics Strategic Committee, GIFAS has also launched a national pro-

The program covers a total of 400 SMEs grouped into 65 clusters. Jicey has integrated the Safran Transmission Systems (formerly Hispano -Suiza) cluster with 4 other SMEs. The project aimed to improve competitiveness through the continuous improvement of industrial processes, quality, projections and On Time Demand.



gram to improve the performance of aeronautical suppliers. This three-year plan (2014 - 2016) supervised by GIFAS and SPACE Association is specifically dedicated to SMEs.

With a budget of € 22.9 million, the "Industrial Performance" program received the support of all players in the sector. It is funded by the French state (in the Future Investment Program), the French regions (as part of the training), GIFAS (as part of the Aeronautics Strategic Committee) and the contractors and suppliers.

## RETRO JICEY: THE JRD YEARS

JICEY RACING DEVELOPMENT

High-competition racing engine developer, always inventive, Jean Caillas deposited at the beginning of 1968 a new patent for a type of seal consisting of a metal or fiber sheet covered on both sides by an elastomeric film. Beyond convincing results obtained in the laboratory, he wanted to test his invention on racing engines. So he bought a Formula 3 car which was, like most of them, a 1,000 cm3 Cosworth engine derived from that of the Ford Anglia. It was the former old car of the famous french driver François Cevert.

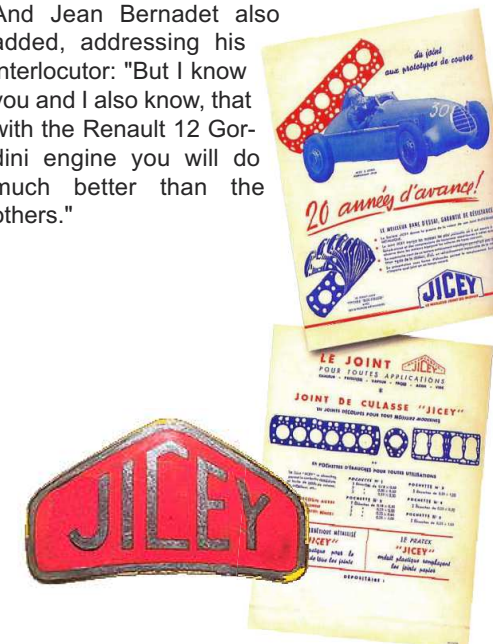
The car with the engine tuned by Jean Caillas was driven by Patrick Perrier, who was a rookie at that time. Waiting to get his license, he ran hill-climb races, allowing to test the quality of Jicey's new seals. In 1970, Patrick Perrier, license in hand, engaged in various races. That's when Marcel Morel, having more experience than him, proposed to become a pilot of another Formula 3 prepared by Jean Caillas that bought a second Tecno to Robert Mieuxset. The second contract was the same as happened with Patrick Perrier.

The car belonged to Jicey and Marcel Morel was the race driver and assured the maintenance.

One evening after a race at Montlhéry, Jean

Caillas met the famous journalist Jean Bernadet who told him that the reign of the 1,000 cm3 Formula 3 was over and that 1,600 cm3 was the next step and that it would be catastrophic because not a single developer was able to get enough power from the future new engines

And Jean Bernadet also added, addressing his interlocutor: "But I know you and I also know, that with the Renault 12 Gordini engine you will do much better than the others."



## Focus

# 46%

This is the part that represents the aviation industry in the turnover of the company Jicey. Jicey has been the preferred partner of the leading actors of this industry for over 70 years.

