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#19

ALL ABOUT THE PEELABLE SHIMS

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THE SECRETS OF THE PEELABLE SHIMS

ESSENTIAL

Let's start by discussing the context that determines the need of companies for this particular product.

Developing and manufacturing mechanical parts natively implies machining tolerances. The imprecision of the production processes makes that a piece cannot be made in accordance with the dimensions previously fixed to the plan, even if today, innovations to revolutionize the machining allow to gain in speed and precision. In 2016, at its Mirabel, Quebec, facility, Safran achieved a 60% reduction in A350 XWB landing gear manufacturing time by optimizing its machining programs *. The machining tolerances were better respected, because there was, for example, no more need to poistion several times the workpiece. Better respected, yes but not removed. Because the cost of deeply modifying the production equipment can be enormous and the investment ratio is not always justified. In addition, a mechanical assembly consists of several hundred or thousands of pieces; then the tolerances add up and inevitably constitute spaces that must be compensated.

This is where the peelable shim is positioned, the interest of which has never been denied. This innovative and highly technical small piece, with many advantages as we will see, remains the most obvious and economical solution to fill these spaces ranging from a few microns to a few millimeters.

Jicey's flagship product demonstrates all our know-how in innovation, machining, gluing ultra-thin material, finishing and precision.

TAILORED

The peelable shim is an adjustment wedge made to plan, strictly to measure, in dimensions and specifications of our customers in a wide choice of materials (composite or metal) and thickness.

ECONOMIC

Using a peelable shim in place of a full shim avoids subsequent machining or grinding with comparable or even higher accuracy. In addition to saving time on assembly, ease of use and cost reduction, the peelable shim helps to reduce inventory by avoiding having to hold plain shims in many thicknesses.

EASILY PEELABLE

The excellent peelability of the Althermill Jicey's shim is a must for our customers. Jicey attaches great importance to the high peelability of its products. Jicey's peelable shims must be quickly and easily peeled with a scalpel or by hand (for composite shims) to provide high precision and time-saving installation.

The laminate materials used for the composition of peelable shims are at the heart of our technology. Our R&D has developed a specific adhesive and a proprietary continuous sheet gluing's system developed to ensure the best peelability of the market. The thickness of the glue, of within one micron, does not intervene in the final thickness of the shim. This is strictly the addition of the elementary sheets that compose it.

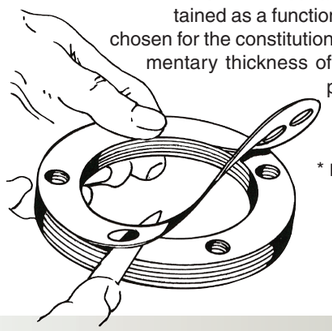
INNOVATIVE

Attentive to its customers, Jicey has always placed innovation at the heart of its products, with the constant idea of improving the use of peelable shims in situation. The bicomposition, for example, makes it possible to obtain peelable shims consisting of sheets of different thicknesses on each side, in the same material, which can be identified either by staining or colouring (metal shims) or by marking on the intermediate part (Viewtek composite shims). The approach of the adjustment is made by starting with the peeling of the thickest elementary leaves, then the fineness is obtained by the peeling of the finest elementary leaves.

This process is extremely ingenious and economical because it allows on the one hand to reduce the assembly time and on the other hand to reduce the costs by the use of a maximum of thick elementary leaves. The bicomposed peelable shims are very successful in all industrial sectors.

PRECISION & QUALITY

In order to guarantee a piece of high quality and very high precision, whatever its shape, the shim is machined and uncut. This allows a shim without any burrs. The accuracy is obtained as a function of the elementary thickness chosen for the constitution of the shim. Thus, for an elementary thickness of 0.025 mm, the accuracy is plus or minus 0.002 mm.



* L'Usine Nouvelle 2016, june 16th

JICEY WELCOMES SIX COMPANIES FOR THE GIFAS'S IMPROVEMENT PROGRAM OF THE AERONAUTICAL SUPPLY CHAIN

On November 15th, Jicey received the companies in its cluster as part of the second industrial performance plan launched by the Gifas, Space and the French regions at the 2017 Bourget, three years after the launch of the first one Jicey was already involved in.

Around the table, Safran Transmission Systems, Bodycote Nitruvid, Forgeavia, Barre, SFMS Aerodim, Mekamicron and therefore Jicey, all focus on one goal: on the one hand to significantly improve the efficiency of the supply chain, in particular to meet the increase of the rates and on the other hand to improve the relationship between principals and subcontractors. The stakes are high given the record number of orders and the sector's booming outlook for the coming years. Today there are 28,000 aircrafts in operation and aircraft manufacturers are planning 34,000 new aircrafts by 2034.

On this busy day, companies have identified and diagnosed areas for improvement and laid the foundations for their respective and common action plans. Constructive discussions on strengthening the competitiveness of subcontractors around, among other things, business planning (ICP and PDP), ERP development, load / capacity matching and training.

It was also the opportunity of a Gemba Walk within our production plant. A Gemba Walk is a factory tour, during which several stakeholders visit the field to take a pragmatic and constructive look at the situation at the very heart of the production entity. This very positive situation analysis is a reflection of the many continuous improvements that Jicey has made since its implementation on the Houdan site.

SPACE

RETRO JICEY : THE JRD YEARS

JICEY RACING DEVELOPMENT

Continuation of News 18

Marc Mignotet, the historic engine manufacturer of Alpine who told Jean Caillas that he was "certainly one of the best engine technicians of the 20th century" put at his disposal his two test benches.

In the first year, Jicey Racing Development (JRD) developped nearly half the production plateau of 1600 F3 engines.

Then, after having approached the Formula 3 with the Renault engine, in 1973, JRD became in a short time the appointed preparer of the Chrysler France plant, and participated in the adventure of the CG Simca TM prototype which he developped the engine. In the context of the Simca Shell Federal Cup, JRD prepared and developped the Chrysler 180 block for this competition at its Thiverval location. The quality of his work will make him the exclusive supplier for the two years of the Cup.

For the rally as for the Coupe, only the block and the crankshaft, which were however re-machined, remained from the original Chrysler 180 engine. A new double-ended hemispherical cylinder head capped the whole. Two horizontal Weber carburettors of 45 were responsible for the feed, while the lubrication was done by dry sump. JRD has obtained from this engine about 200 horses at 7000 rpm. The Simca Shell Cup was a great success largely thanks to the exemplary engine preparation provided by Jicey.

Text : Pierre Fouquet Hatevilain
Photo : Jean Paul Weber

The story continues in the next issue

SALON DU BOURGET

The 2017 edition of the last Paris Air Show was a great public and commercial success. Many of you have visited our booth and we thank you for it.
Next appointment in 2019.

2018

Jicey wishes all its customers an excellent 2018 year, full of success, innovation and projects.