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**Interview with Guy Levasseur,
Director of Business Development and
Research & Technology of NMF Global**



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The Shape of Wings to come!

Interview with Guy Levasseur. He is the Director of Business Development and Research & Technology of NMF Global

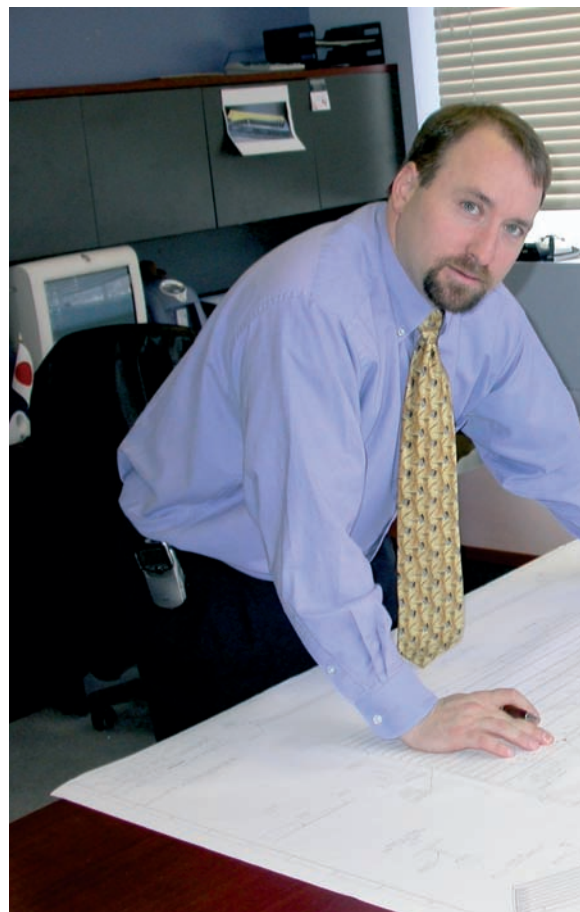
(?) MFN: What is NMF?

(!) G.L: NMF Canada was founded in 1992 in Mirabel, Province of Quebec, Canada. This is however not the beginning of the NMF history since the owner of the company, Mr. David Cook, already owned a company in Texas that performed peen forming but on a smaller scale. In fact, the Cook family started in 1917 to produce components for the very young plane industry by cutting canvas sheet to cover the first aircraft being produced in England.

NMF is a fully integrated company combining, machining, penetrant

inspection, saturation, shot peening, peen forming, pre-fit and trimming, anodising, painting and large assembly of wing skins and associated components.

NMF has five facilities around the world; three in Canada, one in the United-States and one in Spain. Just to show you the vitality of NMF, we have been doubling the number of employees and sales every year since 1992. Even though the market is a little slower now, we still find ways to increase our market shares and are getting ready for when the market of aircraft manufacturing starts to grow again. For anyone that



Guy Levasseur, Director of Business Development and Research & Technology of NMF Global

has been in the aircraft business long enough knows that these are normal cycles and the companies with visions are getting ready for when it starts back and will be the ones on top of the tree.

(?) MFN: What is a "Wing Skin"?

(!) G.L: The wing skin is the aluminium portion that you can see as you are sitting in the plane. It not only serves as a surface for enabling the plane to fly, but as the fuel tank membrane and is a major structural component of the wing. It is therefore, not just a thin sheet of metal that is riveted to the structure of the wing (spar and ribs), but has evolved into a highly complex integral machine structure with integrated stringers and nowadays with some rib attachment points.

All processes which relates to wing skin manufacturing are very complex as the fabrication itself of such high precision yet immense structural component demands extreme precision. They are composed of high yield aerospace grade





provide our customers with documentation on the process so they can use it for certifying their aircraft.

At NMF we believe that by providing technical data and having an open door policy, the knowledge of engineers is increasing toward the process and provides opportunities for alternatives to actual technologies. Nowadays, peen forming and peen straightening is used a lot more because the effects on the component are better known and the advantages are becoming clearer. With this open door policy and if you look at the growth NMF has experienced since its debut, I can say it has served NMF well!

(?) MFN: Why is peen forming so important for NMF?

(!) G.L: Peen forming is the core of NMF. Some companies consider their distributorship as their most important asset, some their strategic position in a specific segment of the market; others will use their reputation, etc NMF with its Formax technology division has always built on its competency and its knowledge of the processes. Most of the processes we have presently are "purchasable". Even though they all have their intricacies and trade secrets that

make it not so obvious, training can be obtained for it and with the right price technology can be purchased. Peen forming on the other hand is what made NMF what it is and is not available anywhere.

We have been meticulously developing our customer base and products in order to grow our peen forming knowledge. Most of the products manufactured at NMF require peen forming and for us the value added portion of what we do is not only in the processes that are added before and after the peen forming, but in our ability to always do a better job and be able to serve our customer better with innovative ideas and thinking outside the box approach in the field of peen forming.

We are able to provide new peen forming solutions to new problems, i.e. stringer through the dihedral break, integral rib station, integral bracket attachment, and many new features that enable the designer to reduce the weight of the component and at the same time increase the performance of the component.

(?) MFN: What is Formax?

(!) G.L: Formax draws its origin from the French term: "FORMAge AXiale"

which means the ability to form highly complex curvature in many axes. In wing skin forming this is a must. The Formax people are, I consider, the best peen formers in the world. They are trained and work exclusively to better the process. They perform the first article of every new program, and produce the peen forming technique for later transfer to production. They also train the production personnel to peen form parts. They are responsible for the implementation of new requirements and travel around the world to implement this technology either at our manufacturing facilities or to our manufacturing partner through technology transfer program or licensing agreement.

Formax's task starts from the initial stage of planning to the creation of a repeatable technique. They are responsible for ensuring that the component will meet the exact requirement of the customer. They also ensure that the peen forming technology remains homogenous throughout the whole organisation. The biggest benefit for our present customer is that we then take this knowledge and better their actual program through a continuous improvement development program, effectively giving them a better product. So the more we know from development, the more all our customers benefit.

I have participated in many wing design groups and I have to say it is very interesting and challenging to always push the limits of the technology and find new ways of doing something better, cheaper and faster.

In the end, is this not the essence of what drive us forwards and keeps us pushing the limits of what we know? I know for sure that this is what is keeping me thrilled in what I do and compels me to the new challenges that lies ahead.

MFN would like to thank Mr. Guy Levasseur for this interview.

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aluminium alloy and follow a series of fabrication process to machine, form and protect the wing skins from corrosion and thunder strike which often occurs during take off and landing periods.

(?) MFN: What are your functions at NMF?

(!) G.L.: I am Director of Business Development and also Director of Research and Technology with the Formax division under my responsibility.

(?) MFN: Can both functions work together?

Our success in gaining and keeping contracts is based on our knowledge of implied technologies. In aerospace, most of the sales are technical. The commercial side of our development comes only later down the line when most of the technical uncertainties are settled. We have also in many instances introduced the peen forming technology to companies that did not purchase this kind of process and had little data on its effects. In these cases, the technical requirement greatly surpasses the commercial needs mostly in the start-ups.

It is a well known fact that peen forming wing skins is much more cost efficient and flexible than any other method of shaping the wing skins and / or machining to final configuration. In some cases, aircraft designs are retrofit to take advantage of peen forming as a cost reduction method for mid production review.

(?) MFN: In general, how would you define the NMF Philosophy?

(!) G.L.: It can be summed up very easily: DO, DO IT, DO IT RIGHT, and mostly DO IT RIGHT NOW! This philosophy is the base of the vision of our president David Cook. Not a lot of words but a very profound meaning of determination and action. Because the meaning of this philosophy is understood and applied at all levels, the need for responsibility and duty is therefore obvious. This philosophy is individual as well as collective. It requires that a need be turned into action and that actions be performed well and efficiently. I have been with NMF since 1994, I was employee # 12. I am very fortunate to have had Mr. Cook as my mentor. He is a great teacher not only in the technology side of our business but also on the management side. I really appreciate his

guidance for manufacturing equipment, saturation, shot peening and the process of peen forming. I was also involved in Quality and for two years I was the Director of Operations responsible for over 200 employees managing all of the processes at NMF. There are also other very good people at NMF like Christopher O'Neill, Vice-President, who has helped me in developing my skills as a Manufacturing Engineer and my Business Development skills. Now NMF has over 300 employees.

When time permits, I peen form myself to better understand what is involved when doing peen forming. I think it helps me understand more the intricacy of peen forming in order to explain them clearly to engineers or customers alike.

(?) MFN: What is the difference between NMF and other wing skin manufacturers?

(!) G.L.: There are several differences between what we do, but mostly in how we do it. For example, customer service for us is very important. We also have an open door policy with our customers and even though the peen forming technology is the core of what we do, we do not believe in hiding what we do from our customers.

(?) MFN: What is this open door policy?

(!) G.L.: Several years ago, peen forming was guarded as a secret. OEMs using this technology were kept in the dark when there was question of the exact manufacturing process and the know how to of the peen forming. NMF has a different belief. We believe that by telling our customer what we do, we can increase their confidence in the process and that they will be more inclined to use the peen forming process than if they have no information on how it is done.

We have in some instances customers that could not get any information on what was done exactly on their part and this was the way it was. With a monopoly it is hard to argue! NMF has changed this approach. The customer is invited to every step of the process either being in development or production. We also

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Mr. Guy Levasseur, Director Business Development of NMF Global

