EDITORIAL

A Redux – "Well, But We Can't Do That Because . . ."

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My philosophical approach to shake-and-break troubleshooting is termed IQBF (identify and quantify before fixing). The acronym never caught on and was not catchy enough to become a household word, probably because you cannot pronounce it. Whatever.

The approach is simplistically effective and applicable to many things in life besides vibration glitches – a bad neighbor for example. If you have a problem, find the problem, think about the best way to solve the problem (without creating a new one), then fix the problem And for you purists, confirm that it has been fixed. Simple, don't you think? But obviously way too complicated for the masses.

Having been through a series of economic cycles starting with graduation in 1972, I cringed in 2008 that this one was going to be different. And so it has been, but we are told there is good news and the economy has roared back. Or so we are repeatedly told. I guess this good news is supposed to give a guilt-free green light for us to go back to old habits, regardless of how bad and counterproductive those habits may have been.

I was quietly chuckling to myself the other day about some of those old bad habits and remembered the content of my March 2007 editorial titled "*Well, But We Can't Do That Because*" when the phone rang and it was *déjà vu*.

The green light went like this. "Hey, this is XYZ International, how ya doin today? Hey look, we've developed a new product to move stuff. It's just like the old stuff mover that has been sold for years, sits on the same support structure, but ya know it's different."

"How is it different?" I asked?

"Well, let's see . . . the new stuff mover has a different footprint, it weighs less, has a different orientation, runs at a different speed, and to do that, the driving unit has to run at a different speed and use different sheaves, and the support structure had to be modified to make it work."

XYZ continued to say that they took off the original stuff mover, bolted on the new one, and, after only eight bits of modification, finally got a package that would not self-destruct, or so they thought at the time. But the package isn't as good as the old one and as a matter of fact, it's not too good at all, and it costs too much to manufacture.

"Why do you say that it's not working very well?"

"Because things break and fall off."

As I am listening, I'm thinking that's pretty much how it goes when you ignore IQB and jump right into the F phase. Can't you just picture someone saying at initial startup; "Gee, this new thing really shakes! Hey, let's weld on some . . ."

"Ok, let me backtrack and clarify to make sure I've got this right. XYZ changed the mass, changed the stiffness, changed the driving-force function frequency, and changed the driven frequency, amplitude, and direction?"

"Yes."

"And made a dollar's worth of modifications to the support?"

"No, 8 bits. We made 256 modifications."

"And it doesn't work very well and is too expensive?"

"Yes, not too good, and way too expensive."

"And you want to know why it doesn't work like the old design?"

"Yes."

"And you want to reduce the cost?"

"Yes."

"Ok, let's do some I and Q," I said. "Tell me how the new forcing function and harmonics changed from the old one?"

"We don't know."

"Does XYZ know anything about the old one?"

"No."

What is your balancing specification?"

"We don't have one."

"Ok, I think we should reset the development process and start by testing 'old reliable' and identify how each of the parametric changes effects the overall result."

"But XYZ can't do that, because we do not want to find that there may be something wrong with the original unit."

"Ok, but the old unit works and has been reliable."

"Yes, but the XYZ legal department doesn't want you to find that there may be a problem we don't know about, and marketing has already sold the new product and it has to look just like version No. 256."

"But, the new product doesn't work!"

"Right, it does not work, and time is of the essence."

"Time is of the essence?"

"Yes, we need this fixed ASAP, but we can't get you in here for about six weeks, ya know, because most of the staff will be out for hunting season and the upcoming holidays."

"Ok, here is your first problem," I told him. "You let marketing get hold of the engineering steering wheel and they are driving the bus. I've never done this before, but since time of the essence, I'm going to violate my philosophical approach and jump right into the F phase for a guaranteed path forward. Here is what XYZ should do.

"Take old reliable, paint it a different color, pick a color, any color, but if you ask me to recommend a color I will have to send you a very large bill. Be sure to test the paint for lead and inform the legal department. Give old reliable a new model number and a flashy new name, be sure to add the words 'new and improved,' tell marketing #256 is obsolete. Problem solved! Accept this advice as my Christmas gift, and have a happy holiday!"

Just like Yogi said, "It's *déjà vu* all over again." S/V

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