



# SFSA CASTEEL REPORTER

Steel Founders' Society of America

a monthly publication  
serving SFSA steel casting industry Members

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## October — 2011

### Casteel Commentary

I have reproduced for the commentary this month an article by Mike Collins on how to replace tribal knowledge. We as an industry are facing this challenge and I thought you might find his insights useful.

### Technical & Operating Conference

Register for the Technical & Operating Conference by October 31 to take advantage of the reduced registration fees. The discount applies for registrations paid in full by October 31, so register now.

The programs and registration materials can be found here, <http://www.sfsa.org/sfsa/toconf>.

### Bonuses Don't Always Make Sense

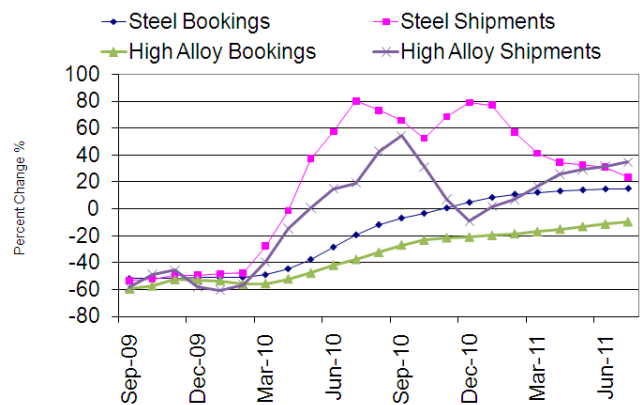
This article contains an interesting video on what motivates people and how bonuses may be counterproductive in some situations. <http://www.fastcompany.com/1646337/science-shows-that-bigger-bonuses-create-worse-performance>

### Nino Davi

Nino Davi of Pacific Steel Castings passed away on October 18. He was a great supporter of SFSA and was involved with SFSA from the 1950s onward; chairman of the Western Division T&O Group, and winner of both the Gustav A. Lillieqvist and Charles Briggs awards. An obituary is attached to this newsletter.

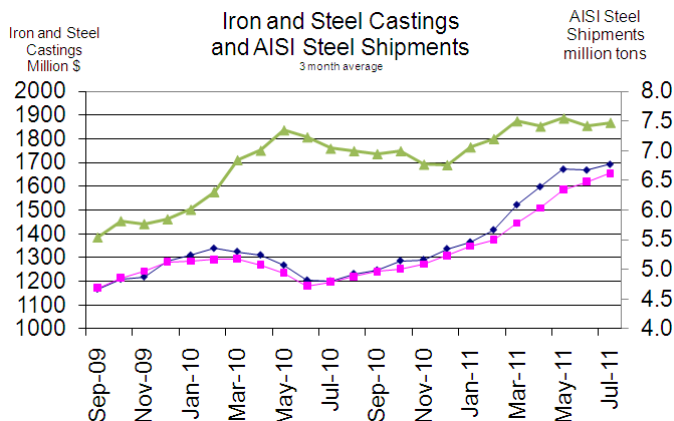
### Market News

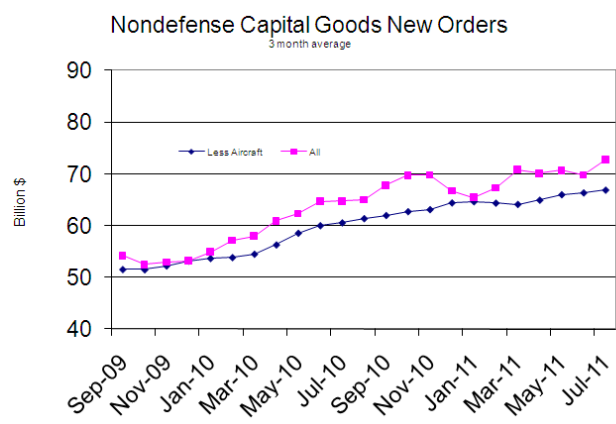
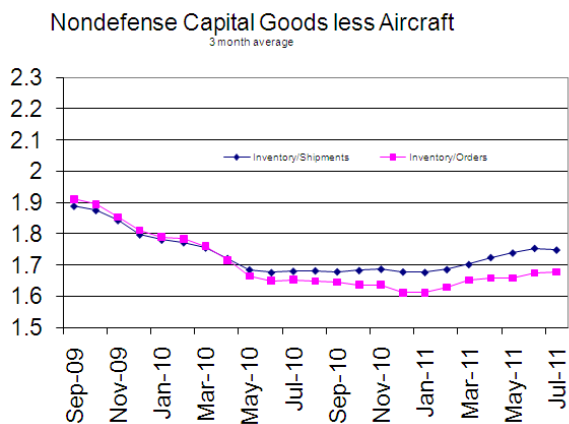
The SFSA trend graph show continued growth in shipments of steel and stainless steel castings in July. Since the recovery in demand began in early 2010, the steel casting market has rebounded. Last July regained most of the lost ground from 2009



and this July shows another over 10% increase. The SFSA forecast expects continued increases for the next year.

This is seen also in the Census numbers showing increases in shipments and new orders for iron and steel castings through July. This strong growth since late 2010 reflects improving conditions for casting production. Neither casting shipments nor shipments of steel from AISI have exceeded their pre-recession highs. Many steel foundries however are reporting record business, higher than pre-recession levels.





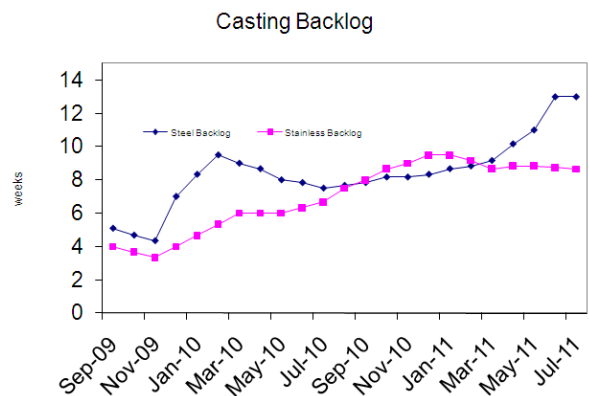
Nondefense capital goods have recovered to pre-recession levels. Inventories of these products exceed pre-recession levels and may dampen future demand.

Casting backlog has remained elevated suggesting continued strong growth for steel casting production.

The outlook for steel casting production remains bright.

The current economic slowdown and possibility of another recession is troubling. Greece is likely to default and drag the Eurozone into a recession with unknown results for the Euro as a currency and the survival of many large banks. A significant additional financial event like that could result in another slowdown and temper the demand next year. If the global economy has another financial recession, I expect that demand for steel castings to drop, but not as far or as long as the 2009 event.

Hopefully, we will not see this recession but it is troubling.



## **Casteel Commentary**

### **How To Replace Tribal Knowledge**

***Have you done an assessment in your company that identifies the older workers and the valuable tribal knowledge that is about to walk out the door? I think the two most practical solutions are to do everything possible to capture the knowledge and to develop strategies to retain older workers.***

*by Mike Collins, Author, Saving American Manufacturing*

Some experts estimate that, of the 11 million manufacturing employees now working in the U.S., approximately 25 percent (or 2.7 million) are 55 years of age or older. Replacing these people is a big problem for manufacturing because they are the most experienced and usually the most skilled people working in a manufacturing plant, and the knowledge base is about to leave with them when they retire. In many industries, a good deal of the knowledge and solutions are not written down — they are in the workers' heads. I call this "tribal knowledge" and it is not only more important than most corporations will admit, it is also a driving force behind innovation. Every manufacturing company needs to assess written knowledge versus tribal knowledge. At the same time they need to identify the "tribal knowledge gurus" in the company. The objective is to download their brains and get the knowledge documented before they walk out the door. This critical knowledge is often a big part of the company's competitive advantage and is also the basis of the training for their replacements.

When I was a general manager of a custom machine manufacturer, I struggled with this problem for years. I never made a lot of progress trying to capture key tribal knowledge but, in retrospect, I think I would have approached the problem as follows:

- Identify the knowledge gurus — Some of our field service people had worked on all of the machines that were ever built. Two or three had a reservoir of knowledge, service tips, repair tricks, and machine idiosyncrasies that nobody else had. But, as technicians, they did not like to write and it required special techniques to get the information downloaded from their brains. There were also two engineering managers and two in sales who had almost all of the information on costs and prices. They had all been involved in developing costs, prices, and quotations for more than 25 years and a good deal of it was not written down and only in their memory. Had these four gotten bubonic plague we would have been out of business.
- Identify the knowledge — In the case of service techs, there was an enormous amount of service tips, diagnostic procedures, and information on how the older machines really worked that would be invaluable in service maintenance and operation manuals as well as training programs for the new hires. The cost/price information was also voluminous in terms of options, accessories, engineering solutions, and past applications that were all applicable to future sales opportunities. But if we could not get this information documented we could not train their replacements and the family jewels would still be in one basket.
- Commit to the time — Both the downloading of the information and the development of new training programs is much like an apprentice program that will lead to journeymen. One must accept the fact that it is a long-term investment that may be three to five years. As soon as it is practical, it is necessary to appoint the people who are likely to replace the gurus to both learn from their mentors and to get the tribal information onto paper.

The cost justification is always difficult because you are asking management to invest. The costs for the additional labor and training costs could be in the hundreds of thousands and it is difficult to pin down in a return on investment formula. But the danger of doing nothing is endangering millions of dollars in future sales. This problem is not going to be solved by just an aggressive hiring program of new people after the gurus have retired. It will take a long time to transfer all of the skills and knowledge needed to replace the baby boomers with most of the tribal knowledge.

### **Using Older Workers**

Once you have identified the people who have valuable tribal knowledge or who have skills that are difficult to replace, see how many of them are approaching retirement age. The next step is to develop a human resource program to retain and use them.

- Some older workers may still want to work or may need to work because their retirement benefits are inadequate. If they are knowledge gurus, it is wise to develop a staffing strategy to allow them to work part time as employees or on a contractual basis.
- If their retirement is a defined benefits program that doesn't allow them to be re-employed, then develop an agreement with a separate company to "lease back" the special employees.
- These older workers can also be used for projects that require special expertise. These could be short term projects for design engineers or installation projects requiring project management skills. Perhaps this may require recruitment of retired employees with special skills for the length of a contract.

## **Recruiting New Employees**

Recent surveys show that many companies do not want to retain older employees. Instead, according to an article by KM World, they are going to “fill future talent tracks by relying on an aggressive recruiting program for new employees.” The CEOs who say this are probably not close enough to the key workers with the tribal knowledge and don’t know the real value. This is problematic when it comes to manufacturing of industrial products which require a lot of skills — especially since a recent survey by the Fabricators and Manufacturers Association showed that “52 percent of teens have little or no interest in a manufacturing career and another 21 percent are ambivalent.” Those companies who have decided they are going to aggressively recruit new employees are going to have to overcome a negative image. The ongoing publicity of outsourcing, plant closures, union busting, and cyclical industry layoffs has not sold young people, teachers, parents, and school counselors on American manufacturing as a career.

I think to overcome the image and security problems, manufacturers are going to have to make a commitment to long-term (three to five year) training programs as well as long-term employment security. So far, most large corporations have said they are looking for highly skilled people, but I haven’t heard any of them commit to funding a three to five year training program to develop these skills.

## **Getting Practical**

So, in looking at these problems in the short term, I think the two most practical solutions are to do everything possible to capture the valuable tribal knowledge and to develop strategies to retain older workers.

Have you done an assessment in your company that identifies the older workers and the knowledge that is about to walk out the door?

*Mike Collins is the author of Saving American Manufacturing. You can find him on the web at [www.mpcmgt.com](http://www.mpcmgt.com).*



**NINO V. DAVI**

1921 - 2011

We regret to announce the passing of Nino Davi on October 18, 2011.

Nino joined Pacific Steel in 1950 and was elected Vice President of operations in 1969. He served as a director of the American Foundrymen's Society in 1956-1957 and chairman of the SFSA Western Division Technical and Operating group in 1958-1959. Nino presented several research and development papers at SFSA meetings and won the Gustav A. Lillieqvist award in 1959 for the best published technical paper in the industry. In 1972 the SFSA presented Nino the industry's highest award for technical achievement, the Charles W. Briggs technical and operating gold medal. This award was presented to Nino only upon the unanimous vote of the SFSA board of directors, the medal recognized outstanding scientific contribution towards the advancement of the industry. In more recent years, Nino was honored by the California Cast Metals Association with the Erwin G. Tetzloff memorial award for outstanding service to the foundry industry.

All of us at Pacific Steel have been privileged to have known and worked with Nino Davi. He was a true legend in the foundry industry and his contributions to Pacific Steel Casting Company will never be forgotten.

Arrangements are as follows:

The services will be held on Tuesday, October 25<sup>th</sup> at 1:00 pm at St. Paschal Baylon Catholic Church, 3700 Dorisa Avenue, Oakland, CA.

**STEEL FOUNDERS' SOCIETY OF AMERICA  
BUSINESS REPORT**

<b>SFSA Trend Cards</b> (%-12 mos. Ago)	12 Mo Avg	3 Mo Avg	Jul	Jun
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**Carbon & Low Alloy**

Shipments	43.0	23.6	10.2	31.5
Bookings	8.9	15.0	15.1	15.3
Backlog (wks)	9.3	13.0	12.0	16.0

**High Alloy**

Shipments	16.9	34.6	35.2	37.5
Bookings	-14.8	-9.7	-7.9	-9.6
Backlog (wks)	8.2	8.7	9.2	8.3

**Department of Commerce**

**Census Data**

**Iron & Steel Foundries (million \$)**

Shipments	1,337.3	1,654.7	1,683	1,668
New Orders	1,378.4	1,692.7	1,723	1,682
Inventories	1,738.1	1,984.0	2,003	1,973

**Nondefense Capital Goods (billion \$)**

Shipments	61.0	68.3	69.4	68.4
New Orders	64.0	72.7	74.1	71.1
Inventories	134.2	162.9	165.0	163.0

**Nondefense Capital Goods  
less Aircraft (billion \$)**

Shipments	57.3	64.1	64.7	64.5
New Orders	59.5	66.8	66.9	67.1
Inventories	98.1	112.1	113.2	112.1

Inventory/Orders		1.7	1.69	1.67
Inventory/Shipments		1.7	1.75	1.74
Orders/Shipments		1.0	1.03	1.04

**American Iron and Steel Institute**

Raw Steel Shipments (million net tons)	7.2	7.5	7.4	7.6
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