

The Rotator

Winter, 2016

Engineering Humor

Santa Clause: An Engineer's Perspective



1. There are approximately 2 billion children in the world. Since Santa does not really visit children in hot, humid areas, this reduces the workload to 378 million. At an average rate of 3.5 children per household, that comes to 108 million homes.
2. Thanks to the different time zones and the rotation of the earth, Santa has about 31 hours to work. This works out to 967.7 visits per second and a total trip of 75.5 million miles. So Santa's sleigh has to move at 650 miles per second.
3. Assuming that each child gets only a medium-sized Lego set (2lb), the sleigh is carrying more than 500,000 tons. A reindeer can pull no more than 300lb. Even if the "flying" reindeer could pull ten times that, Santa would need 360,000 of them. This increases the payload another 54,000 tons.
4. 600,000 tons traveling at 650 miles per second creates enormous air resistance. The lead pair of reindeer would absorb 14.3 quintillion joules of energy per second each; they would burst into flames almost instantaneously, creating deafening sonic booms in their wake. The entire reindeer team would be vaporized within 4.26 thousandths of a second, or about the time Santa reaches the fifth house on his trip. Not that it matters, however, since Santa would be subjected to a centrifugal force of 17,500 Gs. A 250lb Santa (which seems ludicrously light) would be pinned to the back of the sleigh by 4,315,015lb of force, instantly crushing his bones and organs.
5. Therefore, if Santa did exist, he's be dissipated by now.



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Out & About

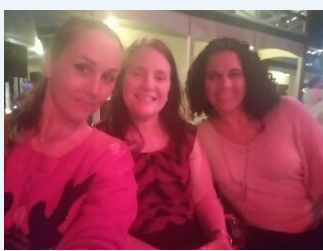
[Let The Holiday Fun Begin!](#)

What's AME Up To

AME is wrapping up 2016 stronger than ever with a well-rounded and nearly cross trained service team. Our service technicians are some of the most advanced in the industry in laser and optical alignment.

Most recently, two of our mechanical





On Tuesday, December 13th, AME attended the [MIASF/IYBA/USSA/YPY](#) Annual Christmas Party at [Stranahan House](#).



Later that week on the 15th, they joined Flagship Management for their holiday celebration.



The beautiful [Events by Grateful Palate](#) on the intercoastal waterway was the background for AME's holiday brunch on Sunday, December 18th. The team gathered to celebrate a fantastic year with great food, activities and fun with work friends and family.

Boat Show Season Is Still Here!



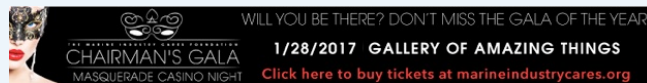
On January 26 - 27, visit

engineers, Tim Crimmins and Tony Planamento completed ISO CAT II in Vibration Analysis in Houston.



The MICF Chairman's Gala planning committee has already raised over \$60,000 through the procurement of supporting sponsors. The "roving", flow-through, black-tie soiree will feature complimentary valet, a grand tasting area, live music and dancing, gambling and an auction, all in a masquerade-type atmosphere. VIP+ ticket holders will have exclusive access to two private areas, the High Roller Venetian lounge and the Hidden Court room reminiscent of a Mexican flair Dia de los Muertos Masquerade whereas they'll experience custom gaming experiences, expanded dining options, and high end libations at open bars.

"Our industry currently has a shortage of skilled trade workers," said event Chair and AME CAO, Christine Battles. "This will only get more challenging as the existing workforce ages out. Getting the younger generation involved is vital to preserving our thriving industry."



VIP+ tickets sold out last year. Don't miss out! Click the image above to get your tickets today. Want to get your name, business, brand or product seen at our event? Email [Teresa](#) to see how you or your business can support this cause by donating an auction item.

Marine News

AME just finished a 10 year ABS survey on a long time client, a 150' Trinity, M/Y **"CARPE DIEM II"**. The survey included rudder pull and bump tests, bearing clearance measurements, prop scans, balancing and minor reconditioning. The shaft line also underwent an optical alignment check using our calibrated Brunson Optical Scope. "AME

AME in **booth 315** at the **Refit International Exhibition & Conference** at the Broward County Convention Center.



February 16-20, come see the AME street team on the docks of the [Yachts Miami Beach](#) showing off their latest t-shirt campaign.



Next up, the team will be at [Seatrade Cruise Global](#) in booth L3-362, with its inaugural year in Fort Lauderdale.

Looking to Get Ahead?



AMESOLUTIONS.COM

AME is looking to fill the following career positions:

- Alignment Technician/Mechanic
- Field Service Engineer
- Project Engineer (Mechanical Engineering Degree Required)

Submit your application and resume online [here](#). Please



has been tending to my running gear work for the past couple of years and "CARPE DIEM II" is running smoother than ever," said **Captain Alan Tookey**. "They are efficient, willing and very able, completing the project on time and within budget." Did you know AME also services valves? We have a custom fabricated jig to pressure test multiple valves at once, making this part of your survey efficient and cost effective.

Earlier, in November, the AME street team made a splash on the docks of [Bahia Mar](#) at [FLIBS](#) with their annual t-shirt campaign for head stewardesses and pursers. This year's slogan "Seal the Deal" was an homage to AME distribution of [Wartsila Shaft Seals & Bearings](#).



Later, in early December, AME debuted their new booth at the [International Workboat Show](#) which complemented the launch of several new products AME represents.

AME was proud to be part of the launch of the new Wartsila SLR Seal, and Windrock 6400 Diesel Engine Monitoring System. The products were received so well, AME President Rich Merhige was booked solid with press interviews with [Maritime Executive](#), [Maritime Reporter TV](#) and [Marine Log](#).



Industrial News

We love getting calls for unusual jobs. When **Memorial Healthcare System/MHS** called us to perform vibration, noise and resonance testing to compare the conditions of a new space for microscope equipment to be installed on the walls, we jumped at the opportunity.

Testing was performed in a room where the Zeiss Microscope System was already installed and at the new Doctor's office. Office location where the equipment is currently installed will be used as baseline to determine what was necessary to adequately protect the integrity of the equipment. "AME's vibration analyst performed the necessary testing efficiently and with great skill," said **Mark Greenspan, MHS**. "The

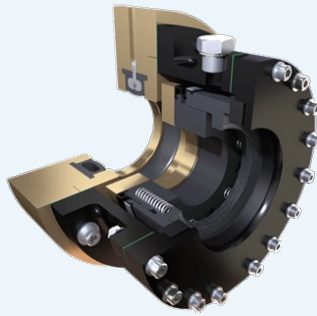


no phone calls, or, walk-ins.

resulting report and recommendations will go along way in helping with our move."

Final Thought

Looking for a high quality, cost effective seal that's easy to install and



maintain? Wartsila has your sealing solution with the new SLR seal that made it's debut at the International Workboat Show. "In addition to availability, the new design offers other major benefits to vessel owners," says Simon Kill, Inland Water Ways and Coastal Sales Manager, for Wärtsilä Seals and Bearings. "It was critical in the development process that we

understood the needs of the customers in order to design a product that meets their requirements and withstands their operating environments. We wanted to provide vessel with a pollution-free seal that is cost-effective as well as easy to install and service, and we have backed all this up with a 5 year warranty." Want to know more? Call Teresa at 954-764-2678.

Vibration, Noise & Alignment Specialists

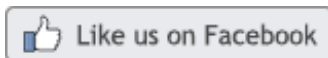
All Running Gear Services

Advanced Mechanical Enterprises & Advanced Maintenance Engineering

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