

MANUFACTURING NEWS



TODAY'S INFORMATION FOR BUSY PROFESSIONALS

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NASA's Commercial Crew Program and Who They're Playing With

Okay, I have to say, I am very excited. Why? Because NASA is getting ready to name the eight (8) astronauts they plan to send to low-Earth orbit and the International Space Station by this Friday, August 3rd.

Why is this important? For several reasons but first, let me explain a few things before I go into the why and how of it all.

Manufacturing, as you know, covers a host of topics – everything from forming steel lengths for building construction to building parts for an airplane. In the last couple of weeks, I've been exploring aerospace – which includes both aeronautics and astronautics. Each area is subdivided into three (3) to five (5) subdisciplines. Aeronautics covers aviation, aeronautical science, and aeronautical engineering. Astronautics handles astrodynamics, spacecraft

propulsion, spacecraft design, controls, and the space environment.

In my blog Aerospace – How Aeronautics and Astronautics are Defined, I discuss a range of topics:

- How is aerospace defined?
- · What exactly does aeronautics include?
- · How is astronautics different?
- · How are the two related and where do they overlap?
- Who were the key historical figures in aeronautics and astronautics?

Once that was complete, I went onto briefly discuss physics, Earth's atmosphere, and gravity (you can find these on the Industry Info page). These are supplemental discussions not included in the blog but on my website for anyone who wishes to obtain a little more information.

In the upcoming weeks, I will be exploring more aspects of aerospace and today's headline announcing the upcoming astronaut names couldn't have been timed any better.

There is a good amount of interest in returning to space – not just to the International Space Station (launched in 1998 and expected to remain until approximately 2028) but beyond. We're always hearing about the snazzy pictures we receive from telescopes here on the ground or those already in space sending them back. We often hear the name Elon Musk in the news and discussions about finding another Earth-like planet that might be habitable for humans.

Accordingly, NASA (after discontinuing the Space Shuttle missions in 2011) has been working with the private aerospace industry who have expressed interest in creating new spacecraft and launch systems for humans in space. The program is called the Commercial Crew Program and they have been supporting private industry's efforts by awarding \$8.2 billion in agreements and contracts to eight (8) companies:

- Alliant Techsystems
- Blue Origin
- Boeing
- Excalibur Almaz Inc.
- Paragon Space Development Corp.
- Sierra Nevada Corporation Space Systems
- Space Exploration Technologies (SpaceX)
- United Launch Alliance (ULA)

The two (2) 'finalist' – or rather, companies that are ready to test-launch – are Boeing CST-100 Starliner and SpaceX Crew Dragon. What will happen is once the test-launch has been completed and the data comes back to NASA, NASA will determine if the space capsule designs are truly efficient and effective in holding crew. If everything gets the green light, both Boeing and SpaceX will be launching crewed missions by the end of the year.

Once in space, they will travel in what is called the low-Earth orbit (located within the exosphere (the farthest layer of our atmosphere and sits 400 - 6,200 miles above Earth's surface) which is the best location for satellites to orbit the Earth) and eventually rendezvous with the International Space Station.

The whole idea – as Elon Musk proposed back in February – is to create a new Space Race. However, unlike the first Space Race (which occurred during the Cold War years and was a 'race' to get the first man on the moon), this will be between private industry (with funding from government) and not between countries. If this endeavor is successful, it will open doors in many areas. And the wish to have humans explore the Solar System with actual beings and not just probes and robotics might well occur sooner than we think.



Chewelah Trip

I will be heading to Chewelah, WA once again for a last 'business-vacation' before my year begins to get truly busy. I will be there from August 11 - September 3. I will be

available to meet with any company interested in doing so while on the East side we can discuss in person how I may be able to assist you and your company. You can contact me in a number of ways, so don't be shy!

National Golf Month

It's that time again - a whole month 'dedicated' to those of us who purposely go out and whack a little white (or green, pink, red, orange, or whatever color suits your fancy) ball and get annoyed when it sails the wrong way. Personally, I can't wait for that aggravation - in a weird way it calms me. Go figure.

Topics of Discussion

Over the next several weeks, I will be discussing all sorts of different (or not so

different, depending on how you look at it) topics. There will be a minimum of four (4) discussions per subject and several supplemental pieces that will accompany them. Visit us at our Business Blog and Industry Info pages for more information (and of course, titles will likely be different).

Aerospace - Aviation

General Aviation Civil Aviation Military Aviation

Aerospace - Astronautics

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