

## ET-138 Delivery Ceremony set for Thursday, July 8

### *Finish Strong®*

To commemorate the final production tank rolling off the line, Lockheed Martin is hosting an ET-138 Delivery Ceremony at 9 a.m. Thursday, July 8 just outside Test & Checkout, Building 420. Last week LM finished the build of ET-138 and delivered the tank to NASA on June 25.

All NASA, Lockheed Martin and Jacobs employees are invited to the Delivery Ceremony, which will take place under a huge tent with ET-138 rolled out on the apron as the backdrop. NASA and Lockheed Martin leaders as well as various political and community leaders will be on hand, along with LM retirees who expressed an interest in attending the historic celebration.

There will be limited seating under the tent so please be prepared to stand as we do during General Assemblies. Attendees will be given fans and handkerchiefs to second-line with once the speeches are over, and ET-138 begins to roll toward the barge at about 9:45 a.m.

The Storyville Stompers will lead the handkerchief-waving, second-lining crowd, following the tank down Saturn Boulevard for several blocks. Water



(Continued on Page 2)

### CONTENTS *(Click on icons to view stories)*



ET-138 Delivery Ceremony



Key highlights during ET history



ET-137 mates with SRBs



STS-134 crew sees both ET-122 & ET-138



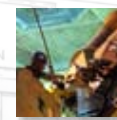
STS-132 crew visit picks up the pace



Geyer thanks Orion employees for Crew Module work



"Doing It Safely" winners



ET Incentive Plan milestones



Space Shuttle schedule



Milestones Employee anniversaries



(Continued from Page 1)

will be available at the ceremony and at the bus stops. Buses staged at strategic points along the rollout route will return everyone to their vehicles or to the factory for an employee lunch at 11 a.m.

As the 37-year ET program nears its end, one employee said, "Don't be sad that it's over, be glad that it happened." Finish Strong®.

## ET-138 Event Guidelines

- Please obey all signage
- Treat event area as FOD Awareness Area
- Please stay in designated event areas
- No scooters or bicycles at ceremony; park in special lot near Saturn Blvd & Venus Drive
- Please stay off the roadways where tank will roll

## Tips

- Wear cool clothing and comfortable shoes, bring a camera
- Water will be available at event
- Bring an umbrella for sun and second-lining; you'll receive a handkerchief and fan
- You can second-line behind tank as far as the Saturn Blvd & Mercury Drive intersection
- But remember it's July; trust your body, know your limits



Graphic depicting where ET -138 Delivery Ceremony will take place

## CONTENTS (Click on icon to view story)



ET-138 Delivery Ceremony



Key highlights during ET history



ET-137 mates with SRBs



STS-134 crew sees both ET-122 & ET-138



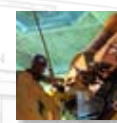
STS-132 crew visit picks up the pace



Geyer thanks Orion employees for Crew Module work



"Doing It Safely" winners



ET Incentive Plan milestones



Space Shuttle schedule



Milestones Employee anniversaries



# Some key highlights during Michoud's 37-year ET history

**September 10, 1973** – first employees arrive at MAF after LM wins ET contract

**1977** – LM delivers first ET test articles to Stennis for testing

**April 13, 1979** – Astronauts John Young & Bob Crippen visit Michoud to see ET-1

**June 29, 1979** – ET-1 Rollout

**September 8, 1979** – 1st Family Day at Pontchartrain Beach

**November 15, 1980** – 35,000 attend Space Day at Michoud

**April 12, 1981** – Young & Crippen launch on STS-1/ET-1

**September 10, 1982** – 1st Lightweight Tank (ET-8) rolls out

**January 28, 1986** – *Challenger* accident

**May 1988** – Taca Flight glides to emergency landing on batture at Michoud – no injuries to 41 aboard

**September 29, 1988** – *Discovery's* Return to Flight on STS-26

**April 24, 1990** – Shuttle launches Hubble Space Telescope on STS-31

**November 1991** – 75,000 attend Space Day

**February 1994** – NASA approves development of aluminum-lithium Super Lightweight Tank

**July 1996** – NASA selects LM to build X-33 *VentureStar* prototype

**June 2, 1998** – 1st Super Lightweight Tank (ET-96) flies on STS-91

**December 4, 1998** – 1st shuttle launch of International Space Station hardware – *Unity* module, which mates with *Zarya* module

**October 31, 2000** – 1st crew of three to live aboard space station launches on a *Soyuz*

**February 1, 2003** – *Columbia* accident

**July 26, 2005** – Eileen Collins commands *Discovery's* Return to Flight

**August 29, 2005** – Hurricane Katrina

**October 1, 2005** – Michoud reopens to limited production

**November 2005** – House Busters volunteers begin gutting employee homes

**January 5, 2006** – NASA Administrator Michael Griffin presents Exceptional Bravery Medals to Ride-Out Crew

**August 2006** – LM wins *Orion*

**April 2008** – 1st Friction Stir Welded Liquid Hydrogen Tank, ET-134

**May 2010** – Final weld completed on *Orion* Crew Module Ground Test Article

**June 25, 2010** – Final production tank (ET-138) delivered to NASA



STS-1/ET-1 launch on April 12, 1981

Most recent launch – STS-132/ET-136 on May 14, 2010

## CONTENTS (Click on icon to view story)



ET-138 Delivery Ceremony



Key highlights during ET history



ET-137 mates with SRBs



STS-134 crew sees both ET-122 & ET-138



STS-132 crew visit picks up the pace



Geyer thanks Orion employees for Crew Module work



"Doing It Safely" winners



ET Incentive Plan milestones



Space Shuttle schedule



Milestones Employee anniversaries



# ET-137 mates with Solid Rocket Boosters

External Tank-137 is a step closer to flying. The tank arrived at Kennedy Space Center in early May, and on June 15 mated with its twin set of Solid Rocket Boosters.

NASA had targeted ET-137 to fly with *Discovery* on its last mission on September 16. But now NASA has indicated that both the STS-133 and STS-134 launches may slide to the right. NASA managers have recommended that *Discovery*/ET-137 fly on October 29 and that the STS-134 mission move from November to February 28, 2011.



Workers at KSC go through the delicate process of aligning shuttle elements during the mating of ET-137 with the Solid Rocket Boosters.



## CONTENTS (Click on icon to view story)



ET-138 Delivery Ceremony



Key highlights during ET history



ET-137 mates with SRBs



STS-134 crew sees both ET-122 & ET-138



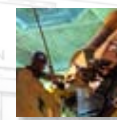
STS-132 crew visit picks up the pace



Geyer thanks Orion employees for Crew Module work



"Doing It Safely" winners



ET Incentive Plan milestones



Space Shuttle schedule



Milestones Employee anniversaries



# STS-134 crew sees both ET-122 & ET-138

Earlier this month, the six-man STS-134 crew visited Michoud on June 10 to see the tank that will take them to space. Officially, Commander **Mark Kelly**; pilot **Greg H. Johnson**; and mission specialists **Greg Chamitoff**, **Drew Feustel**, **Mike Fincke**, and **Roberto Vittori** (Italy) are assigned to fly the final production tank, ET-138, in November – although NASA currently is deciding whether to move the flight to February 28 of next year.

If it receives funding, NASA will consider an additional resupply mission to the space station in June 2011 since an extra ET and Solid Rocket Boosters will be available. That decision to be announced in August could impact which tank Kelly and his five mates will fly – ET-122 or ET-138.

So just in case, the crew visited both tanks – ET-122 in Final Assembly and ET-138 in Test & Checkout (Building 420).



Commander Mark Kelly (bottom) and his crew talk with John DesForges (right), ET-122 missile mother, about the tank in Final Assembly.



The crew poses on the deck of ET-138 in Test & Checkout. From left are Commander Mark Kelly, Drew Feustel, Greg H. Johnson, Lockheed Martin employees James Dillon and Theresa Rivera, Roberto Vittori (Italy), Greg Chamitoff, and Mike Fincke.

**CONTENTS** (Click on icon to view story)



ET-138 Delivery Ceremony



Key highlights during ET history



ET-137 tests with SRBs



STS-134 crew sees both ET-122 & ET-138



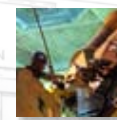
STS-132 crew visit picks up the pace



Geyer thanks Orion employees for Crew Module work



"Doing It Safely" winners



ET Incentive Plan milestones



Space Shuttle schedule



Milestones Employee anniversaries



# STS-132 crew visit picks up the pace

The June 17th General Assembly featuring the STS-132 crew differed significantly from previous crew visits. First, some of the astronauts brought their families with them to Michoud, the first stop on the crew's tour of sites. Second, following his stint supporting ET Return to Flight efforts, pilot **Tony Antonelli** considers Michoud his adopted home. Third, the crew had a full-time comedian on board in mission specialist **Garrett Reisman**, who at one point led the crowd of 400 in cheers.



**STS-132 mission specialist Garrett Reisman takes over the General Assembly as Tony Antonelli raises his hands and Mark Bryant (right) claps.**

Finally, this crew brought with them a pulsating, booming music video of their mission that even they had not seen before. And after watching the video, many employees wanted a copy but will have to wait due to music copyright issues.

ET Program Manager **Mark Bryant** began the General Assembly by saying, "This is an emotional time for us. There are fewer employees here for each General Assembly now."

Turning to the astronauts and their families, Bryant said, "We labor long and hard to make a safe tank for you."

Commander **Ken Ham** answered for the astronauts by describing how the crew had inspected *Atlantis* after the Orbiter rolled to a stop on May 26. "When we landed at KSC and looked at the Orbiter, that was by far the fewest number of hits we had seen. A clean *Atlantis*. What you pulled off was awesome."

Later in his comments to employees, Ham lobbed a jab at Antonelli. "We hear that Tony is one of your own. Well, you can have him. We're done with him."

Then funnyman Reisman took the stage, narrating photos of his spacewalking exploits on the big screen. Reisman who stands 5'4" quipped, "Our main payload was the Mini Research Module 1. They needed a mini-astronaut to install a mini-module so I got to do that."

He also described the thrill of riding six stories high at the top of the 60-ft-long robotic arm. In the end, he simply said, "We had the best ET ever," to the crowd's applause.

When it was his turn, Tony Antonelli acknowledged the challenges of *Columbia*, Return to Flight 1 & 2, Katrina and now the oil spill. "Times are tough, but this might be the golden age of space travel. We've been making history."

As Mark Bryant tried to close out the assembly, Antonelli interrupted by presenting him with the NASA Leadership Award:

*"You have demonstrated outstanding leadership under very demanding circumstances. With the ramp-up in ET deliveries and a very aggressive shuttle launch schedule, the ET Team, under your guidance, has delivered eight External Tanks and supported nine successful shuttle launches in the last 20 months. As the Shuttle Program comes to a successful close, you have been able to maintain your team's focus on both schedule and quality. Post-launch analysis of the Space Shuttle has proven that the ET Team is at the 'top of its game.'"*

Bryant accepted on behalf of all Michoud employees, "I'll always cherish this award, and the time I have spent at Michoud."

**CONTENTS** (Click on icon to view story)



ET-138 Delivery Ceremony



Key highlights during ET history



ET-137 tests with SRBs



STS-134 crew sees both ET-122 & ET-138



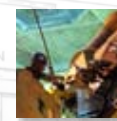
STS-132 crew visit picks up the pace



Geyer thanks Orion employees for Crew Module work



"Doing It Safely" winners



ET Incentive Plan milestones



Space Shuttle schedule



Milestones Employee anniversaries



# Geyer thanks *Orion* employees for Crew Module work



In the wake of the hugely successful Pad Abort-1 Flight Test at White Sands Missile Range in May, **Mark Geyer**, NASA's manager of the *Orion* Project Office at Johnson Space Center, visited *Orion* employees at Michoud on June 8.

Geyer expressed his appreciation to all employees for their part in completing the final weld on the Crew Module Ground Test Article. He described the weld as a complicated 440-inch weld – the longest for a Friction Stir Weld. He also toured the *Orion* production area to look at the progress of the Crew Module.

At an All Hands meeting, Geyer briefed employees on the status of *Orion* and discussed the concept of *Orion* becoming a crew return rescue vehicle at the space station and said next year's Critical Design Review will slip several months. He said the president and Congress are still discussing *Orion's* future.

During the meeting, the NASA manager presented Space Flight Awareness awards to **Carlos Ramirez** for his leadership of the Ground Test Article production team, and **Tim Knowles** for his contributions in keeping the GTA on schedule for shipment to Denver.

NASA Orion Manager Mark Geyer scopes out the Crew Module Ground Test Article.

**CONTENTS** (Click on icon to view story)



ET-138 Delivery Ceremony



Key highlights during ET history



ET-137 mates with SRBs



STS-134 crew sees both ET-122 & ET-138



STS-132 crew visit picks up the pace



Geyer thanks Orion employees for Crew Module work



"Doing It Safely" winners



ET Incentive Plan milestones



Space Shuttle schedule



Milestones Employee anniversaries

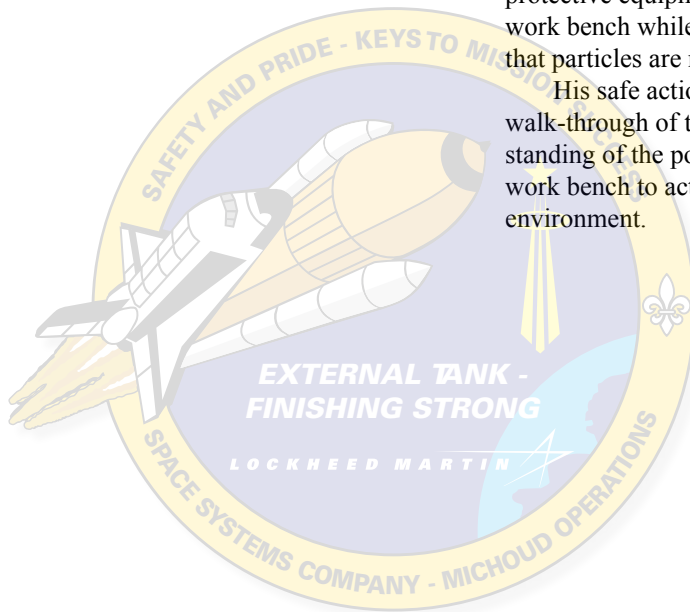


## Philip is “Doing It Safely” winner

**Keith Philip**, a Thermal Protection Systems (TPS) equipment repairman who works in the gunroom in the Large Acreage TPS group, is the “Doing It Safely” winner for the month.

Philip cleans spray gun parts, which requires him to use plant air to remove particulates from the part surfaces. In addition to wearing the proper personal protective equipment, Philip places the parts under the work bench while using the plant air to further ensure that particles are not directed toward him.

His safe actions were observed during a safety walk-through of the gunroom. Because of his understanding of the potential hazard, Philip adapted the work bench to act as a barrier and created a safer work environment.



### CONTENTS *(Click on icon to view story)*



*ET-138 Delivery Ceremony*



*Key highlights during ET history*



*ET-137 mates with SRBs*



*STS-134 crew sees both ET-122 & ET-138*



*STS-132 crew visit picks up the pace*



*Geyer thanks Orion employees for Crew Module work*



*“Doing It Safely” winners*



*ET Incentive Plan milestones*



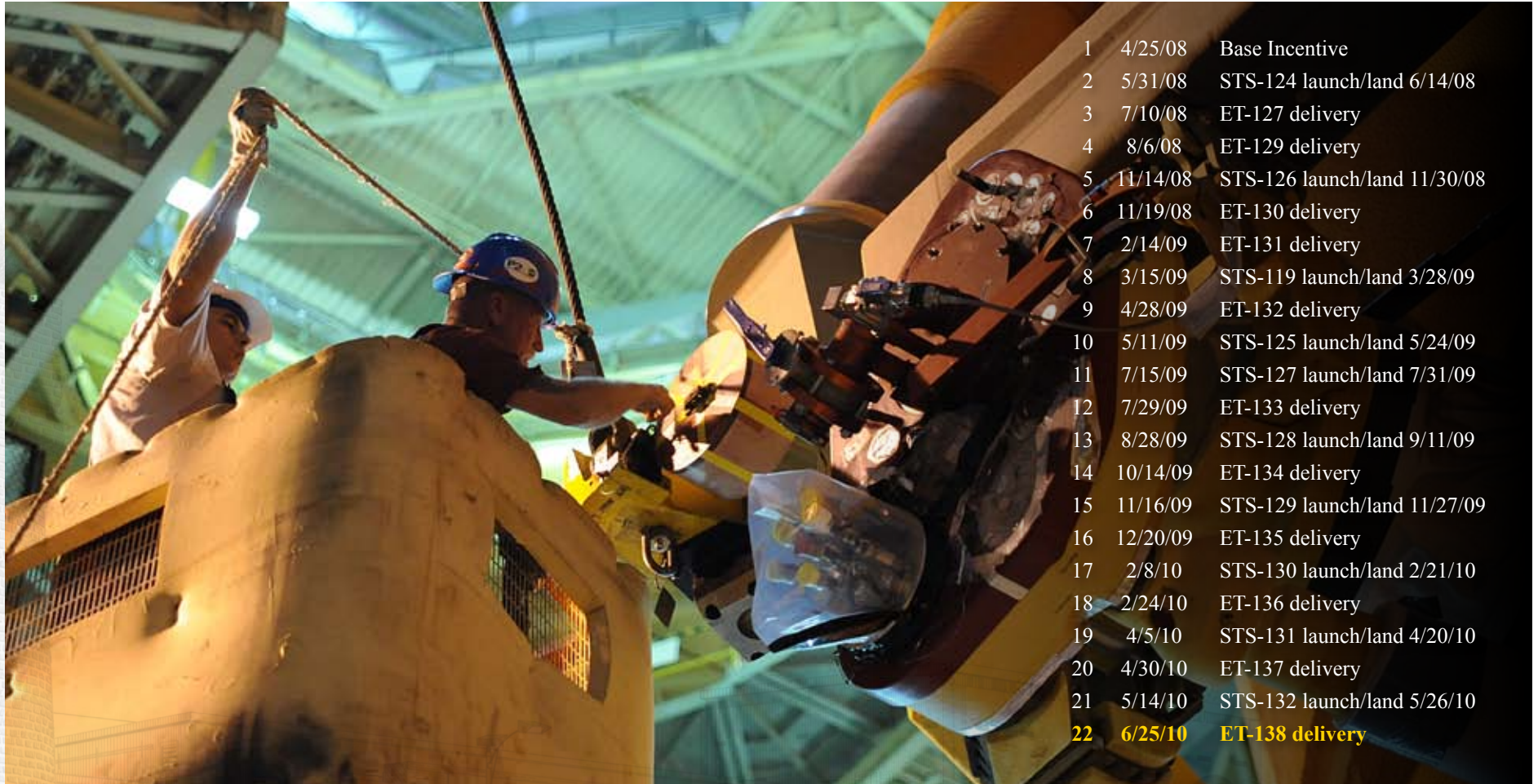
*Space Shuttle schedule*



*Milestones Employee anniversaries*



# ET Incentive Plan milestones



1	4/25/08	Base Incentive
2	5/31/08	STS-124 launch/land 6/14/08
3	7/10/08	ET-127 delivery
4	8/6/08	ET-129 delivery
5	11/14/08	STS-126 launch/land 11/30/08
6	11/19/08	ET-130 delivery
7	2/14/09	ET-131 delivery
8	3/15/09	STS-119 launch/land 3/28/09
9	4/28/09	ET-132 delivery
10	5/11/09	STS-125 launch/land 5/24/09
11	7/15/09	STS-127 launch/land 7/31/09
12	7/29/09	ET-133 delivery
13	8/28/09	STS-128 launch/land 9/11/09
14	10/14/09	ET-134 delivery
15	11/16/09	STS-129 launch/land 11/27/09
16	12/20/09	ET-135 delivery
17	2/8/10	STS-130 launch/land 2/21/10
18	2/24/10	ET-136 delivery
19	4/5/10	STS-131 launch/land 4/20/10
20	4/30/10	ET-137 delivery
21	5/14/10	STS-132 launch/land 5/26/10
22	6/25/10	<b>ET-138 delivery</b>

**CONTENTS** *(Click on icon to view story)*



ET-138 Delivery Ceremony



Key highlights during ET history



ET-137 mates with SRBs



STS-134 crew sees both ET-122 & ET-138



STS-132 crew visit picks up the pace



Geyer thanks Orion employees for Crew Module work



"Doing It Safely" winners



ET Incentive Plan milestones



Space Shuttle schedule



Milestones Employee anniversaries



# Space Shuttle schedule



Mission	Launch Date	Tank	Tank Delivery Date
STS-133	September 16, 2010	ET-137	April 30, 2010
STS-134	Mid-November 2010	ET-138	June 25, 2010
		ET-122*	September 30, 2010

\* *Launch-on-need tank for STS-134/ET-138*

# Milestones

*Employees celebrating anniversaries with Lockheed Martin in July 2010*

### 35 Years

Henry Brandow  
Marie Cousin  
Richard Harris

**20 Years**  
Christian Labat  
Mike Morgan  
Son Nguyen

### 30 Years

Kevin Aldrich  
Mike Campbell  
Robert Dossett  
Claude Hutchinson

**5 Years**  
David Shackelford

### 25 Years

Steve Ehrlicher  
Carl Exline  
Karen France  
Brian Larsen  
Phillip Martin  
Elliot Perret

## CONTENTS *(Click on icon to view story)*



*ET-138 Delivery Ceremony*



*Key highlights during ET history*



*ET-137 mates with SRBs*



*STS-134 crew sees both ET-122 & ET-138*



*STS-132 crew visit with ET-122 & ET-138*



*Geyer thanks Orion employees for Crew Module work*



*"Doing It Safely" winners*



*ET Incentive Plan milestones*



*Space Shuttle schedule*



*Milestones Employee anniversaries*

*Published by the Communications Department*

Lockheed Martin Space Systems Company – Michoud Operations

**Director of Communications:** Marion LaNasa **Editor:** Harry Wadsworth

**Graphics, Photography:** Kevin Barré, Eric Bordelon, André Bourdier, Jon Irving, Brian Peterson, Jack Pfaller (NASA), Ryan Martin (Johnson Service Group), Steve Seipel (Jacobs)

**Contributors:** Earl Bonin