RV F.G. Walton Smith Engine Replacement Project





July 6th



Cummins QSK-19 M engines (2)

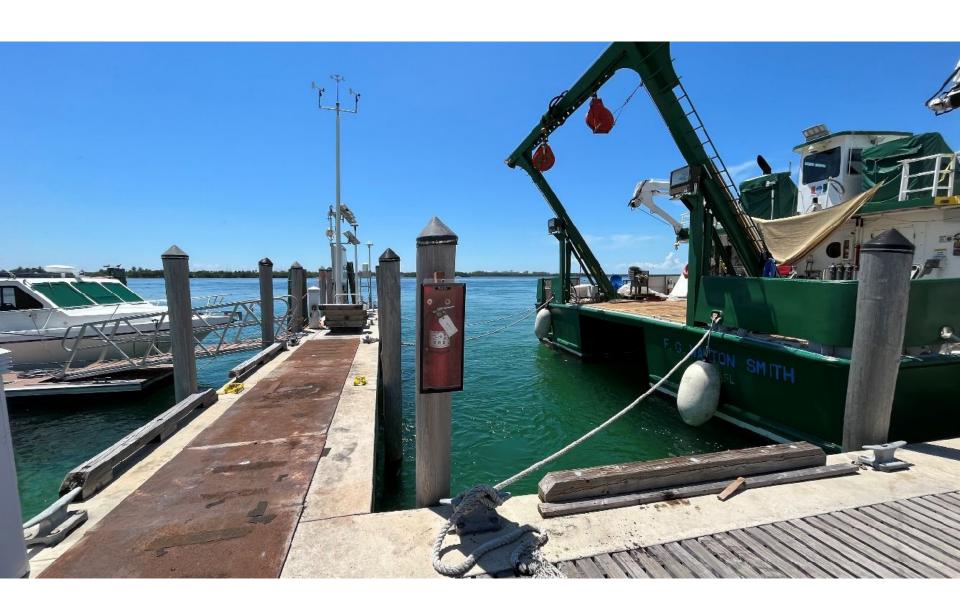
July 15th

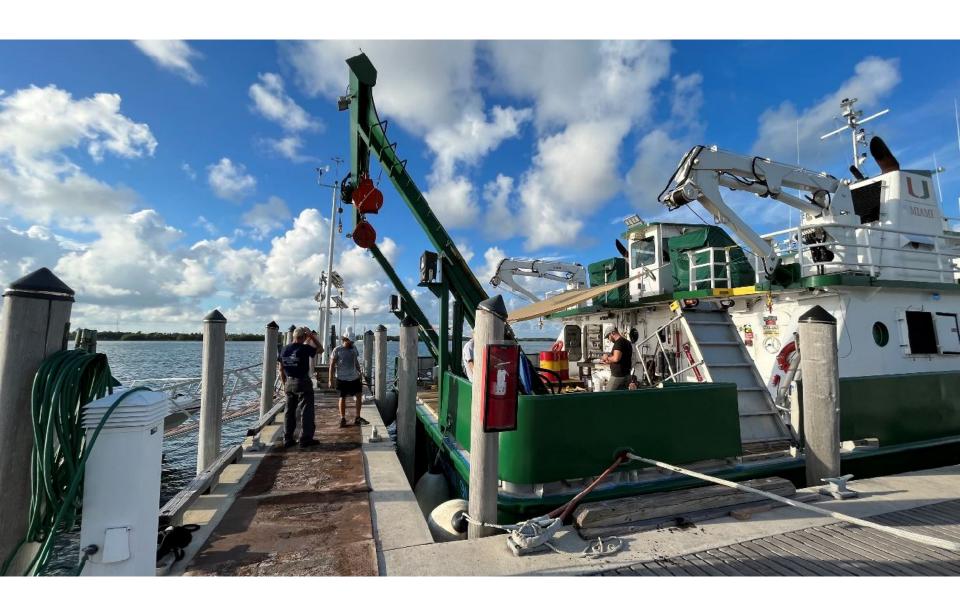




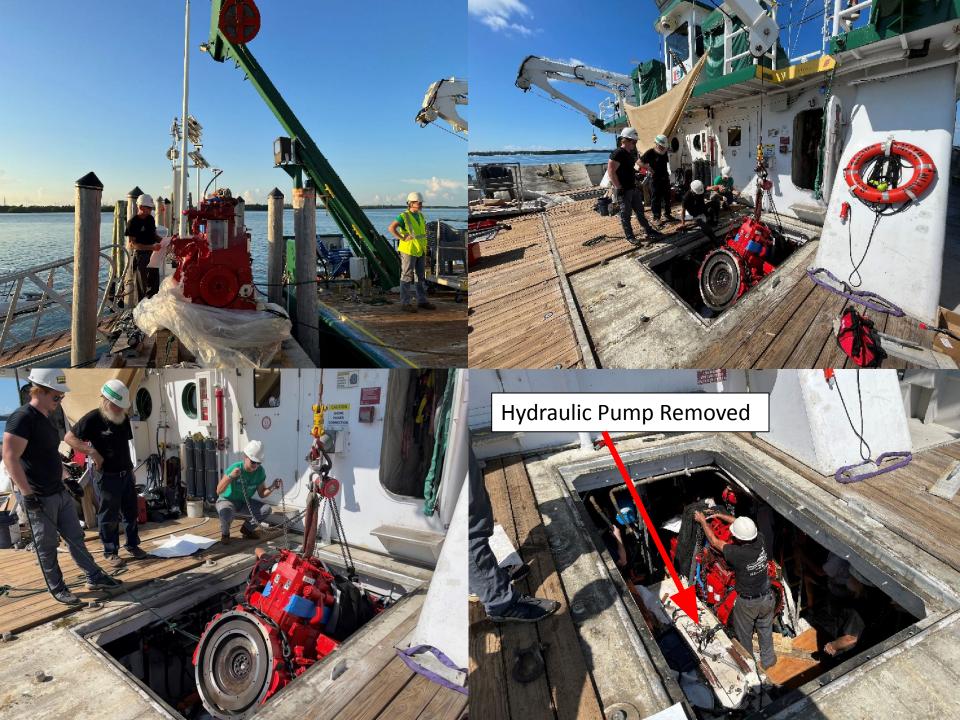
July 19th





















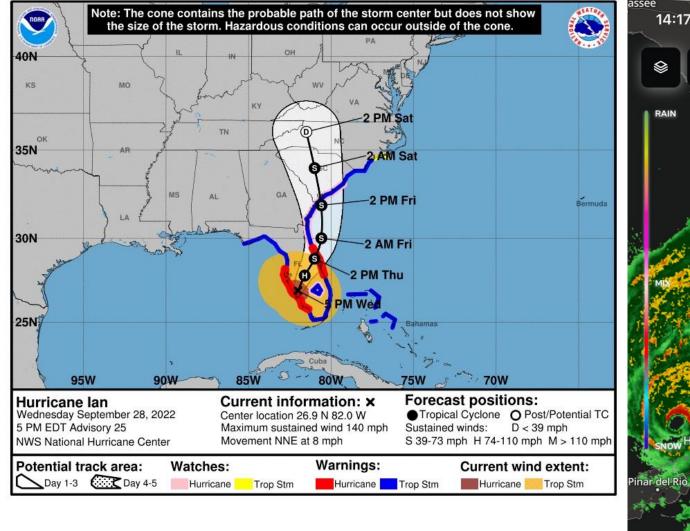
Engine exhaust blankets installed











Slight delay last week in Sept. due to Hurricane Ian

Had plan to have ship towed up Miami River to our emergency Hurricane dockage location, if needed.





Sept. 30th First time RV F.G. moved off the dock under new power



Oct. 5th Official Sea Trial Cummins Application Engineer was on board to certify the engines. Engines passed and were certified!

Post-vibration analysis was also done during sea trial.
All passed!

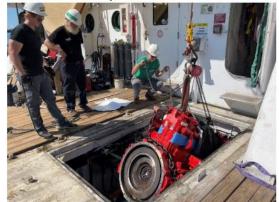


A very happy Bridge Crew We have working new engines!!!



Oct. 8th
First oceanographic research trip
7 day NOAA trip – SFER; South Florida Ecosystem Restoration Research

New Life for the R/V F. G. WALTON SMITH



New starboard engine, QSK-19 M, going through the soft patch on F.G. WALTON SMITH. Pictured: Captain Clay Dundas, Engine Installer Technician Ron Cheeseman (Maintenance Marine Plus), and Mate Alesha Gregorie: Photo Credit: Don Cucchiara

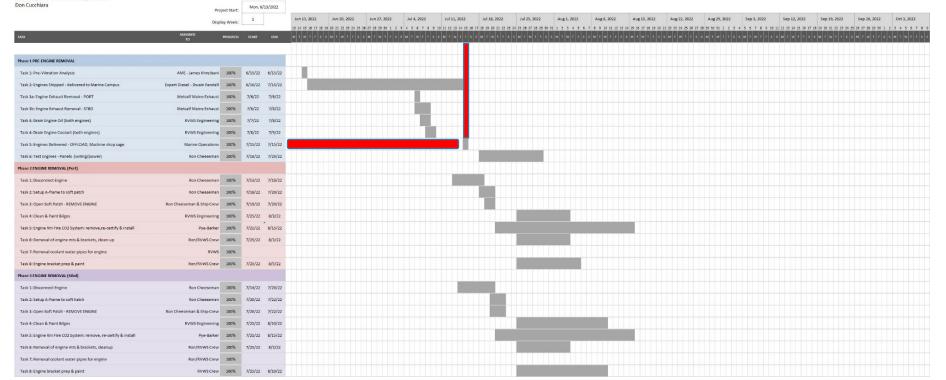
The research vessel F.G. WALTON SMITH, operated by University of Miami, has had new life breathed into it with a full re-power. The 22 year old engines were replaced in kind with two Cummins QSK-19 M (IMO Tier II, EPA Tier 3 compliant), each producing 760 horsepower. The 96-foot vessel also replaced engine controls, winch controls, the entire exhaust system, and upgraded the POS-MV. The decision was made to conduct the work alongside at their facility versus going into a shipyard.

It was a huge success overall, but as with all maintenance periods, it did not go without challenges. Due to the onset of hurricane season in the Southeast, the delivery of the engines was scheduled for April, which would have given U of Miami ample time to complete the repower. However, the two engines did not arrive until mid-July (over a month into hurricane season). This meant a "Plan B" had to be devised which included tugging the R/V SMITH upriver in the case of a storm. Fortunately, luck was on their side and they were able to stick with their original plan.

Additional challenges arose between loading the engines aboard, like lowering the engines into place, however the crew were able to find creative solutions which allowed them to stay on track. The engines were officially certified by Cummins on October 5th, which was just in time for R/V SMITH's first cruise post-repower with NOAA on October 8th. A huge Bravo Zulu to the crew and shoreside team of the R/V F.G. WALTON SMITH for their exemplary teamwork and ability to overcome challenges.

RV Walton Smith Engine Replacement





Phase 6 POST ENGINE INSTALLATION

Task 3: Sea Trial Test

Task 4: Post Vibration Analysis

Task 1: Install Winch Control Plate, toggle switches, LCI-90 Task 2: Test Engine Ctrls - Throttle, Pitch; Test Winch/Aframe Ctrls RVWS 100% 9/14/22 9/22/22

MECI - Dustin & Crew 100% 9/21/22 9/23/22

Ron Cheeseman & Ship Crew 100% 9/26/22 10/5/22 AME - James Khreibani 100% 10/5/22 10/6/22

NV VValcon Similir Engine Replacement																			
University of Miami - Marine Operations																			
Don Cucchiara	Project Start	Mon,	6/13/2022		_														
	Display Week	1		Jun 13, 2022	Jun 20, 2022	Jun 27, 2022		Jul 11, 2022	Jul 18, 2022	Jul 25, 20	1, 2022	Aug 8, 2022	Aug 15, 20		Sep 5, 2022	Sep 12, 2022	Sep 19, 2022	Sep 26, 2022	Oct 3, 2022
TASK ASS	IGNED PROGRES	is START	END															24 25 26 27 28 29 30 1 5 S M T W T F S	2 3 4 5 6 7 8 9 S M T W T F S S
Phase 4 ENGINE INSTALLATION (Port)																			
	1 Welding - Alvaro 100%	8/19/22	2 8/30/22																
Task 3b: Engine Intake Piping - order, receive, install	RVWS Crew 100%																		
Task 3c: Engine Coolant Plumbing - order, receive, install	RVWS Crew 100%	8/25/22	9/8/22																
Task 3d: Engine Coolant - order, receive, add to engine	RVWS Crew 100%	9/1/22	9/9/22																
Task 3e: Engine Fuel Lines - order, receive, install	RVWS Crew 100%	9/6/22	9/19/22																
Task 3f: Engine Oil Drain	RVWS Crew 100%	9/6/22	9/19/22																
Task 4: Engine Alignment - Junel AME	- James Khreibani 100%	8/15/22	8/17/22																
Task 5: Engine Exhaust: Measure - Bjorn Metc	alf Maine Exhaust 100%	8/19/22	8/19/22																
Task Sa: Engine Exhaust Test Fit Meto	alf Maine Exhaust 100%	8/22/22	9/8/22																
Task Sb: Engine Exhaust Install Meto	alf Maine Exhaust 100%	9/8/22	9/20/22																
Task 5c: Engine Air Intake duct - Install	RVWS Crew 100%		9/19/22																
Task 6: Install Engine Panel & Wiring	RVWS 100%																		
Task 6a: Engine Battery Cable: order & install	RVWS 100%		9/15/22																
Task 6b: Power UP Engines & Fire UP Engines	RVWS 100%																		
	heeseman/RVWS 100%																		
Task 6d: Change Engine Panel power connection	RVWS 100%																_		
Task 6e: New engine plate & gasket for coolant - slight leak	Ron Cheeseman 100%	-																	
Task 7: Run New POSMV Antenna Cable / terminate connectors	MTG Tech 100%																		
Task 8: Engine Controls - Removal	MECI - Dustin 100%																		
Task 9: Engine Controls - Installation & wiring	MECI - Dustin 100%	_																	
Task 9a: Engine Controls - finish Installation & wiring Phase 5 ENGINE INSTALLATION (5tbd)	MECI - Dustin 100%	9/13/22	2 9/23/22																
III. The second	Welding - Alvaro 100%	8/19/22	8/26/22																
Task 3b: Engine Intake Piping - order, receive, install	RVWS 100%																		
Task 3c: Engine Coolant Plumbing - order, receive, install	RVWS 100%																		
Task 3d: Engine Coolant - order, receive, add to engine	RVWS 100%																		
Task 3e: Engine Fuel Lines - order, receive, install	RVWS Crew 100%																		
Task 3f: Paint Engine Mounts - Stbd side	RVWS Crew 100%																		
	- James Khreibani 100%	8/19/22	2 8/23/22																
Task 5: Engine Exhaust: Measure - Bjorn Meto	alf Maine Exhaust 100%	8/19/22	8/19/22																
Task Sa: Engine Exhaust Test Fit Metc	alf Maine Exhaust 100%	8/22/22	9/8/22																
Task 5b: Engine Exhaust Install Mete	alf Maine Exhaust 100%	9/8/22	9/20/22																
Task 5c: Engine Air Intake duct - Install	RVWS Crew 100%	9/6/22	9/19/22																
Task 6: Install Engine Panel & Wiring	RVWS 100%	8/15/22	9/19/22																
Task 6a: Engine Battery Cable: order & install	RVWS 100%	8/18/22	9/7/22											 					
Task 6b: Power UP Engines & Fire UP Engines	RVWS 100%	9/19/22	9/20/22																
Task 6c: Cable & Wiring - secure in track run (proper support) Ron C	heeseman/RVWS 100%	9/12/22	9/28/22																
Task 6d: Change Engine Panel power connection	RVWS 100%	9/12/22	9/28/22																
Task 6e: New engine plate & gasket for coolant - slight leak	Ron Cheeseman 100%	9/19/22	9/30/22																
Task 8: Engine Controls - Removal	MECI - Dustin 100%	8/11/22	8/12/22																

MECI - Dustin 100% 8/29/22 9/14/22 Task 9: Engine Controls - Installation & wiring MECI - Dustin 100% 9/13/22 9/23/22 Task 9a: Engine Controls - continue Installation & wiring RVWS Crew 100% 9/6/22 9/16/22 Task 10: Hydraulic Pump: reinstall & make connections Task 11: Gear Cooler Plumbing (port) RVWS Crew 100% 9/6/22 9/16/22