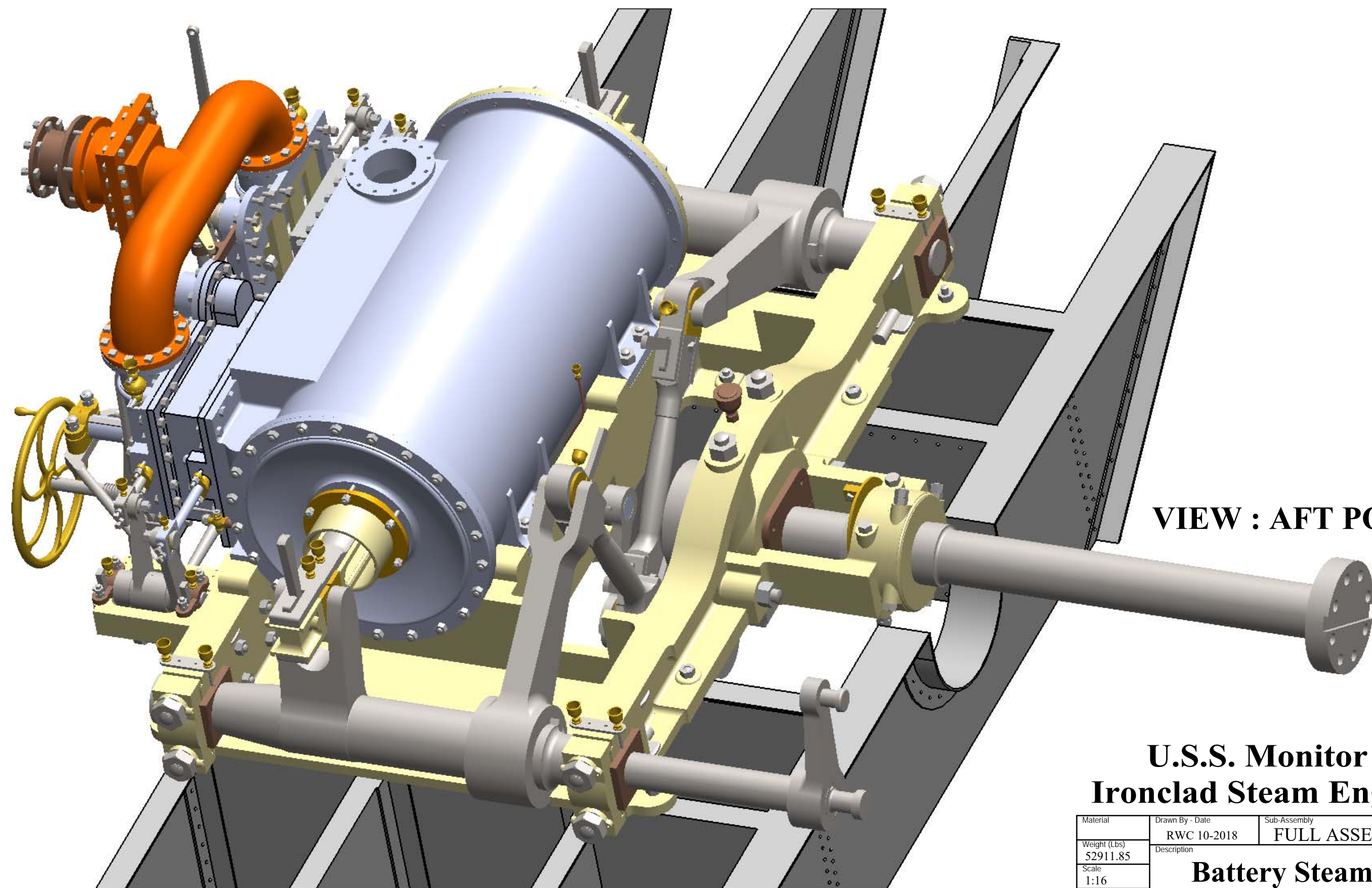


VIEW: FORWARD PORT SIDE

**U.S.S. Monitor
Ironclad Steam Engine**

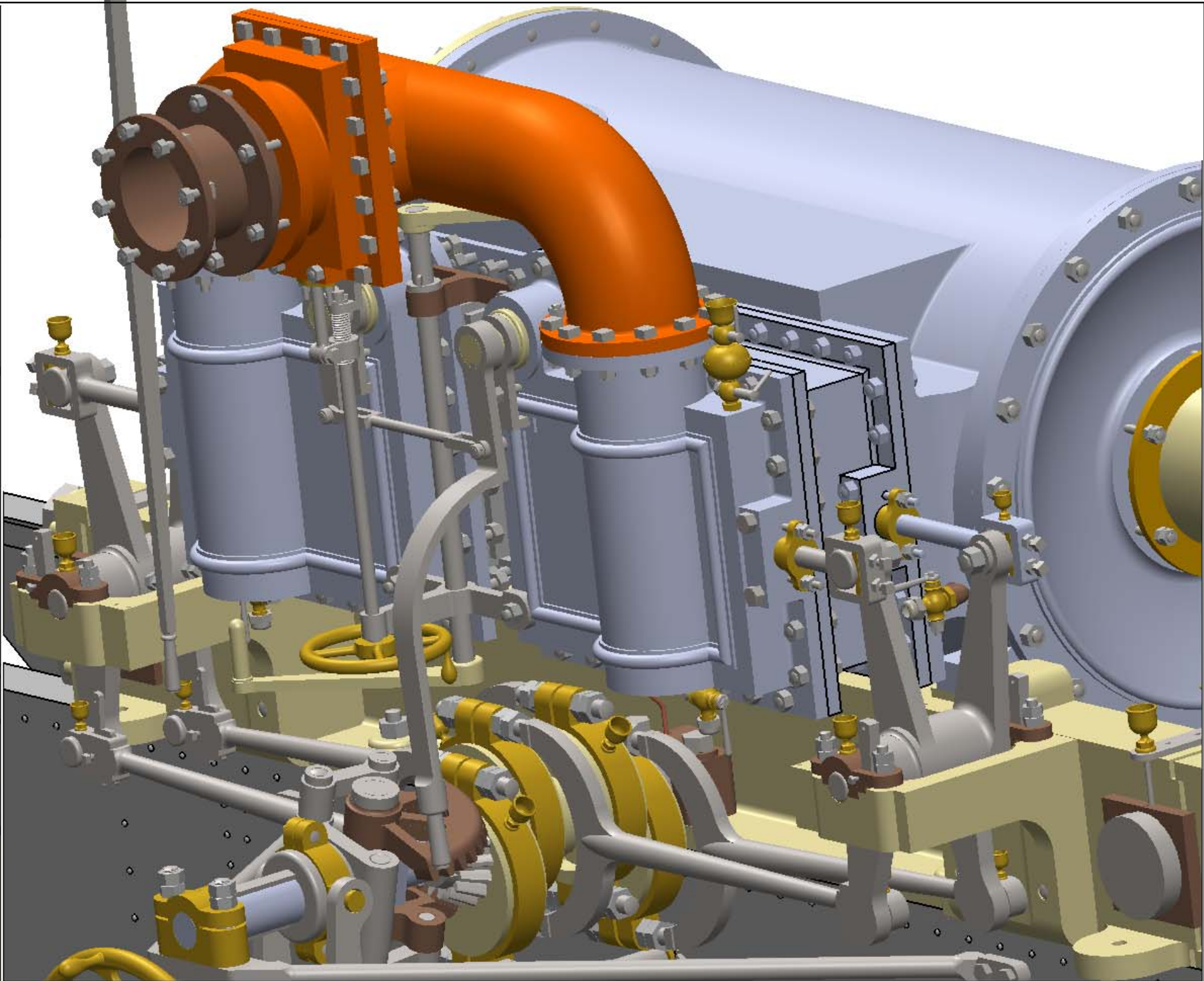
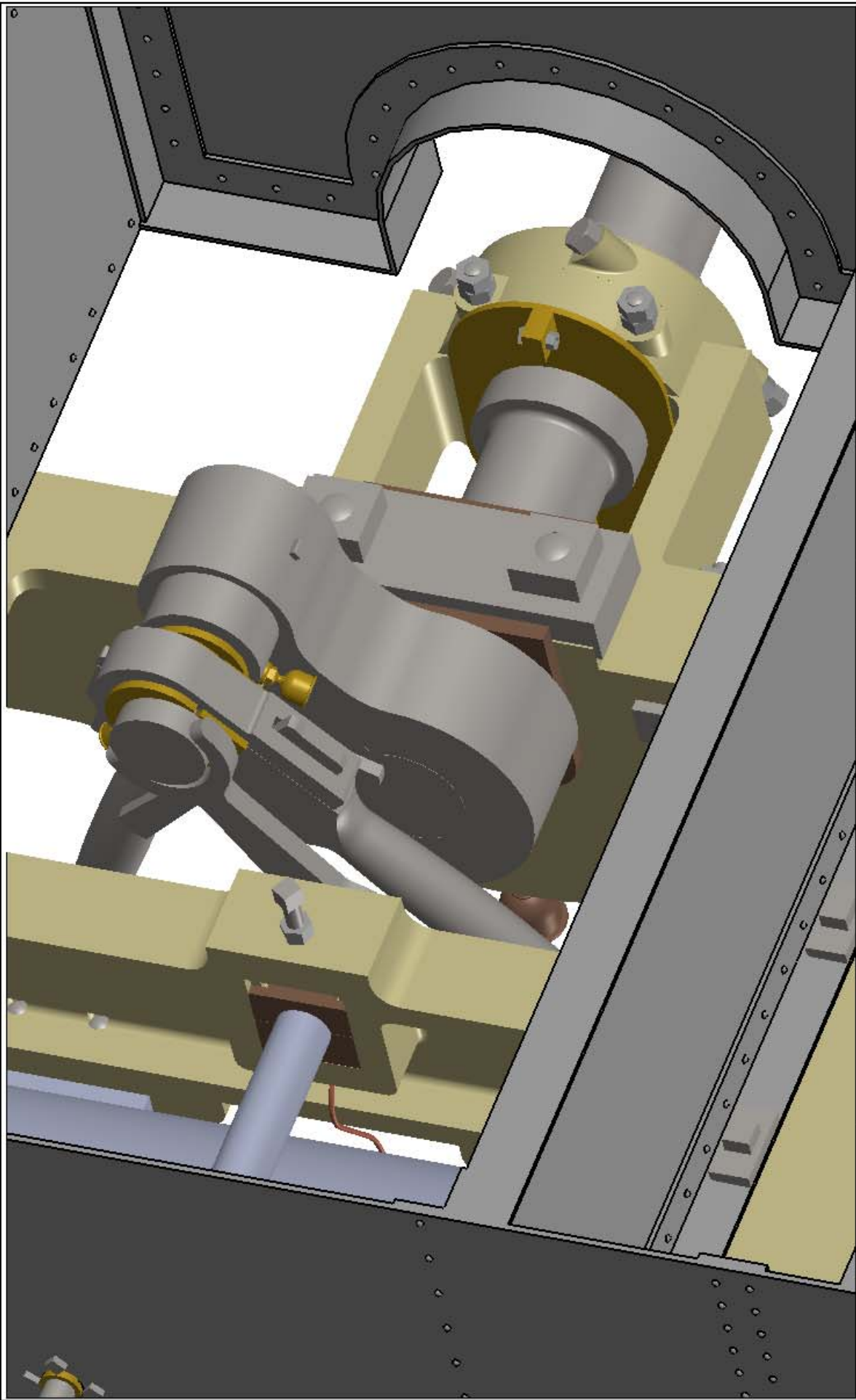
Material	Drawn By - Date	Sub-Assembly
Weight (Lbs)	RWC 10-2018	FULL ASSEMBLY
Scale	Description	
1:16		
Part #	Battery Steam Engines	



VIEW : AFT PORT

**U.S.S. Monitor
Ironclad Steam Engine**

Material	Drawn By - Date	Sub-Assembly
Weight (Lbs)	RWC 10-2018	FULL ASSEMBLY
Scale	Battery Steam Engines	
Part #		



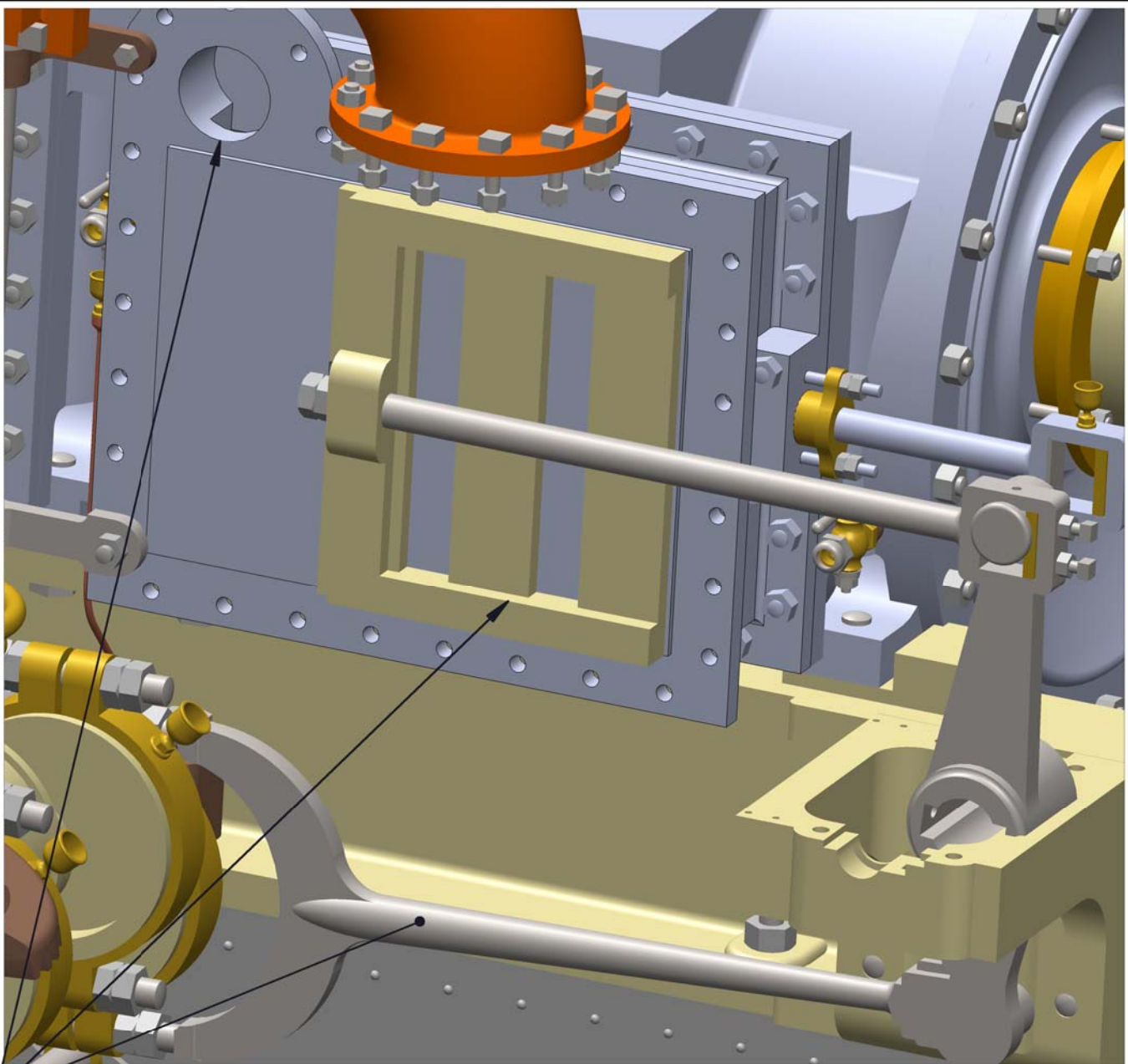
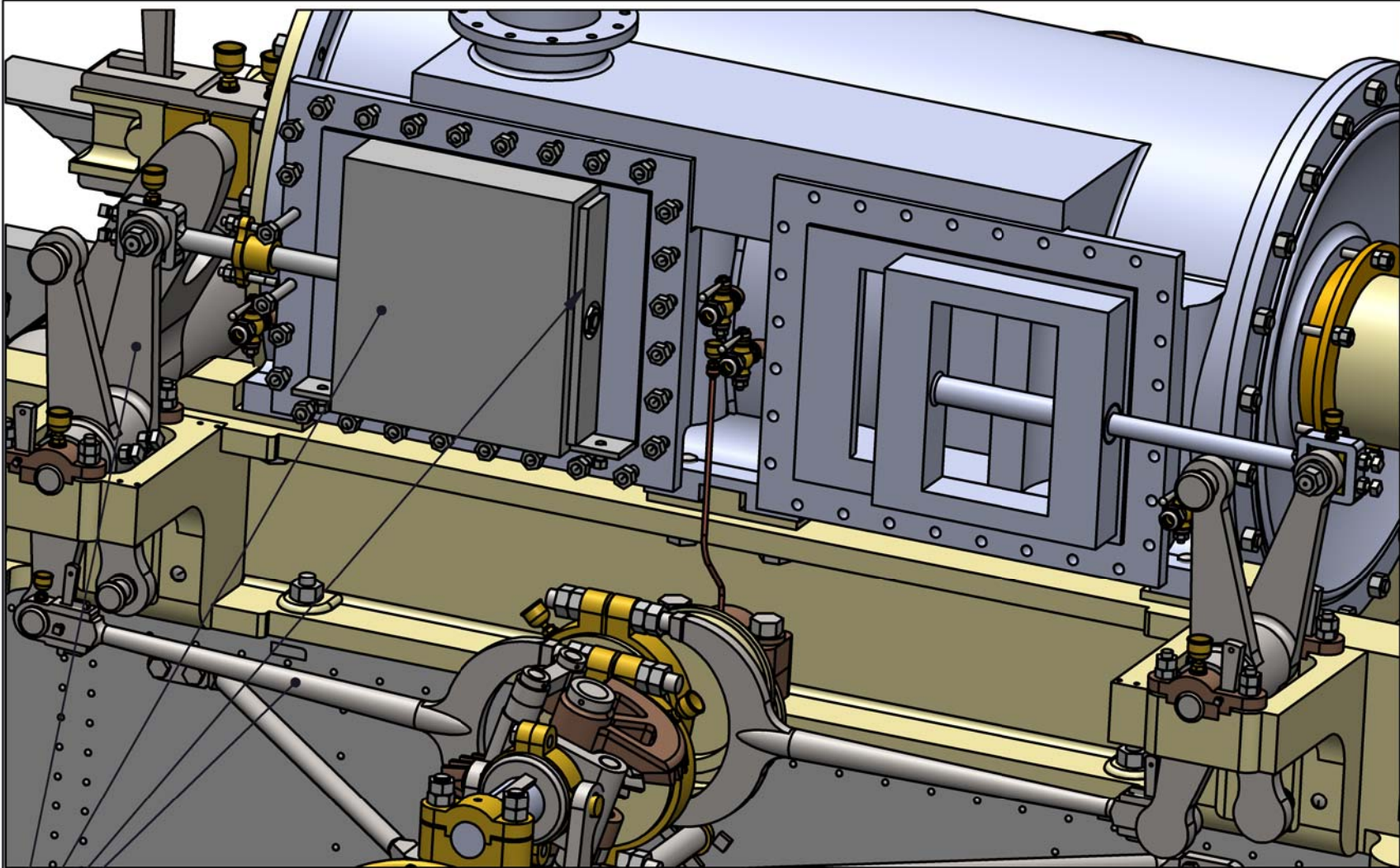
VIEW OF REVERSING GEAR - VALVE GEAR-
STEAM CHESTS - CUTOFF AND INJECTION GEAR

DETAIL VIEWS

BOTTOM VIEW (!) OF REVERSING GEAR
SHAFT YOKE AND CRANK PIN WITH CONNECTING
RODS - MAIN BEARING - REVERSE BEARING PLATES
AND CENTER BEARING DETAIL

**U.S.S. Monitor
Ironclad Steam Engine**

Material	Drawn By - Date	Sub-Assembly
Weight (Lbs)	RWC 10-2018	FULL ASSEMBLY
Scale	Description	
1: 9.6	BATTERY STEAM	
Part #	ENGINES	
© 2018 R.W.Carlstedt		SHEET 7 of 9



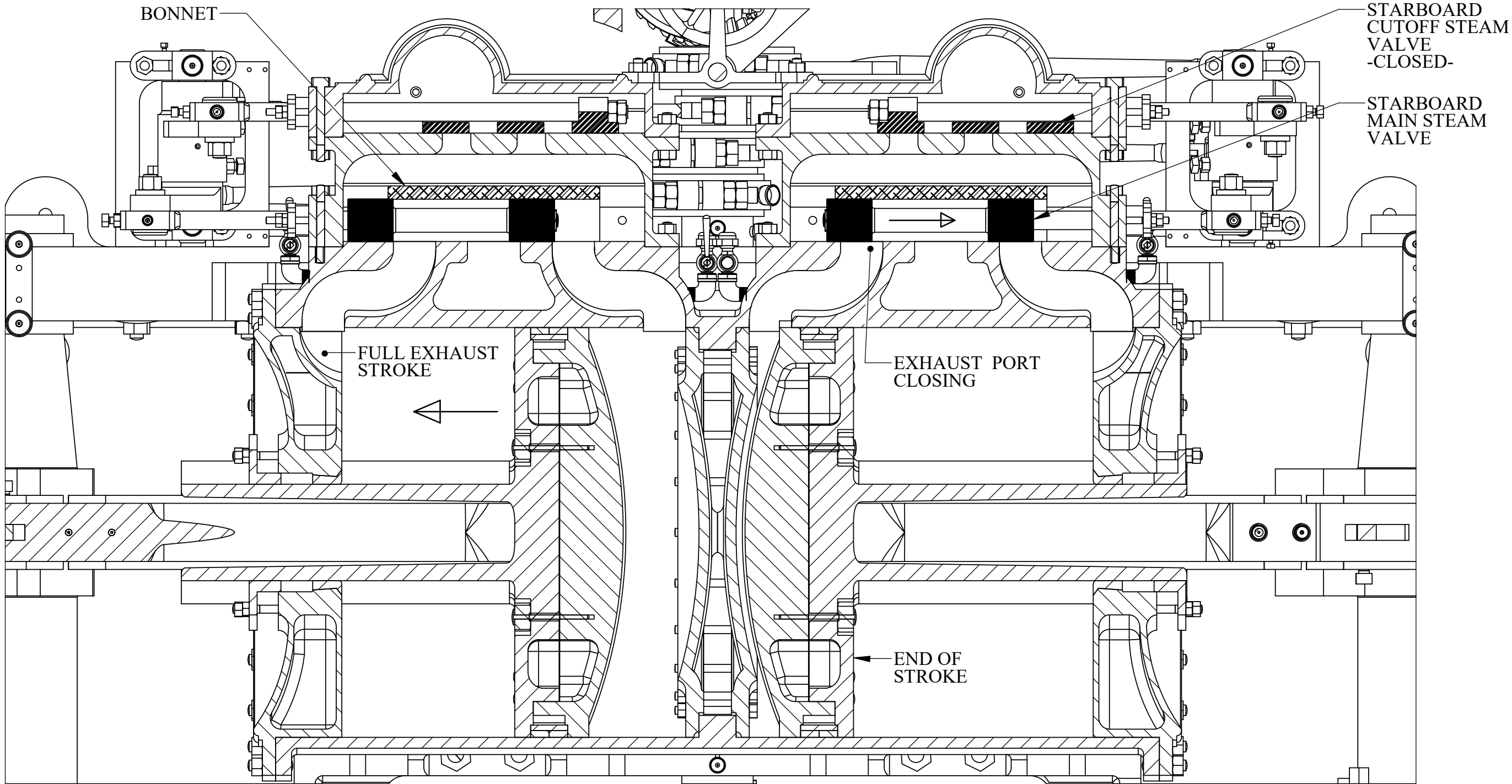
NOTE : THE MAIN VALVES ARE DRIVEN BY THE FRONT ECCENTRICS IN ORDER TO ALLOW THE QUADRANT REVERSING MECHANISM TO FUNCTION. THE MOTION OF THE ECCENTRIC RODS IS TRANSLATED TO THE REAR FOR MAIN STEAM CHEST FUNCTION.
NOTE IN THE ABOVE RENDERING , THE MAIN VALVE IS COVERED WITH A BONNET (LEFT SIDE- STARBOARD) TO PREVENT STEAM PRESSURE IN THE STEAM CHEST FROM EXERTING A FORCE ON THE MAIN VALVE. THIS IS COMMONLY KNOWN AS A "BALANCED" VALVE MOTION AND IS VERY EFFICIENT IN REDUCING WEAR ON THE VALVE, AS WELL AS INDUCING SMOOTHER AND LOWER ECCENTRIC LOADS

NOTE: THE CUTOFF VALVE IS AT FULL STROKE AND CUTS OFF THE PORTS IN THE CUTOFF CHEST. NOTE THAT THE REAR ECCENTRIC IS DRIVING THE LOWER TRANSLATOR ARM WHICH TRANSLATES THE MOTION TO THE FRONT OF THE ENGINE THRU THE CUOFF VALVE TRANSLATOR LEVER. ALSO NOTE THE CUTOFF PORT WHERE THE CUTOFF BYPASS COCK ALLOWS STEAM TO BYPASS THE VALVE MOVEMENT.

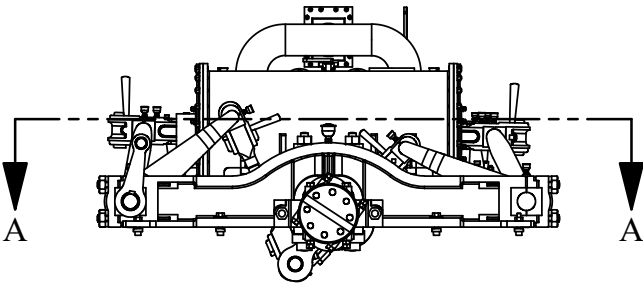
STEAM VALVE OPERATIONS ON THE MONITOR'S ENGINE
MAIN VALVES SHOWN ON THE LEFT
CUTOFF VALVES ON THE RIGHT
(SOME COMPONENTS REMOVED FOR CLARITY)

U.S.S. Monitor
Ironclad Steam Engine

Material	Drawn By - Date	Sub-Assembly
Weight (Lbs)	RWC 10-2018	FULL ASSEMBLY
Scale	Description	
NONE		
Part #	Battery Steam Engines	



**CROSS-SECTION OF MONITOR'S CYLINDER
AND VALVE EVENTS**



SECTION A-A
SCALE 1 : 10

**U.S.S. Monitor
Ironclad Steam Engine**

Material	Drawn By - Date RWC 10-2018	Sub-Assembly FULL ASSEMBLY
Weight (Lbs)	Battery Steam Engines	
Scale VARIOUS		
Part #		

SHEET
9 OF 9