

JU6H-UFADMG  
JU6H-UFAD58  
JU6H-UFADNG  
JU6H-UFADN0

JU6H-UFADP0  
JU6H-UFADP8  
JU6H-UFADQ0  
JU6H-UFAD88

JU6H-UFADR0  
JU6H-UFADR8  
JU6H-UFADS8  
JU6H-UFADS0

JU6H-UFADT0  
JU6H-UFADW8  
JU6H-UFADX8  
JU6H-UFAD98

### FM-UL-cUL APPROVED RATINGS BHP/KW

JU6H MODEL	RATED SPEED								US-EPA (NSPS) Available Until
	1760		2100		2350		2400		
UFADMG			175	131	175	131			No Expiration
UFAD58	183	137							No Expiration
UFADNG	190	142	181	135	183	137	183	137	No Expiration
UFADN0	197	147	197	147	200	149	200	149	No Expiration
UFADP0			209	156	211	157	211	157	No Expiration
UFADP8	220	164							No Expiration
UFADQ0			224	167	226	169	226	169	No Expiration
UFAD88	237	177							No Expiration
UFADR0			238	177.5	240	179	240	179	No Expiration
UFADR8	250	187							No Expiration
UFADS8	260	194							No Expiration
UFADS0			260	194	268	200	268	200	No Expiration
UFADT0			274	204	275	205	275	205	No Expiration
UFADW8	282	211							No Expiration
UFADX8	305	227.5							No Expiration
UFAD98	315	235							No Expiration



Picture represents JU6H-TRWA Power Tech Plus Engine Series

● USA EPA (NSPS) Tier 3 Emissions Certified Off-Road (40 CFR Part 89) and NSPS Stationary (40 CFR Part 60 Sub Part III). Meet EU Stage IIIA emission levels.

◆ All Models available for Export

### SPECIFICATIONS

ITEM	JU6H MODELS															
	MG	58	NG	N0	P8	88	P0	Q0	R0	S0	T0	R8	S8	W8	X8	98
Number of Cylinders	6															
Aspiration	TRWA															
Rotation*	CW															
Overall Dimensions – in. (mm)	59.8 (1519) H x 56.7 (1414) L x 36.7 (933) W								60.9 (1547) H x 58.6 (1488) L x 40.0 (1015) W							
Crankshaft Centerline Height – in. (mm)	14 (356)															
Weight – lb (kg)	1747 (791)															
Compression Ratio	19.0:1								17.0:1							
Displacement – cu. in. (L)	415 (6.8)															
Engine Type	4 Stroke Cycle – Inline Construction															
Bore & Stroke – in. (mm)	4.19 x 5.00 (106 x 127)															
Installation Drawing	D628															
Wiring Diagram AC	C07651															
Wiring Diagram DC	C071367, C072146, C071361								C071368, C072146, C071761							
Engine Series	John Deere 6068 Series Power Tech E								John Deere 6068 Series Power Tech Plus							
Speed Interpolation	N/A															

Abbreviations: CW – Clockwise TRWA – Turbocharged with Raw Water Aftercooling N/A - Not Available L – Length W – Width H – Height

\*Rotation viewed from Heat Exchanger / Front of engine

#### CERTIFIED POWER RATING

- Each engine is factory tested to verify power and performance.
- FM-UL power ratings are shown at specific speeds, Clarke engines can be applied at a single rated RPM setting ± 50 RPM.

#### ENGINE RATINGS BASELINES

- Engines are to be used for stationary emergency standby fire pump service only. Engines are to be tested in accordance with NFPA 25.
- Engines are rated at standard SAE conditions of 29.61 in. (752.1 mm) Hg barometer and 77°F (25°C) inlet air temperature [approximates 300 ft. (91.4 m) above sea level] by the testing laboratory (see SAE Standard J 1349).
- A deduction of 3 percent from engine horsepower rating at standard SAE conditions shall be made for diesel engines for each 1000 ft. (305 m) altitude above 300 ft. (91.4 m)
- A deduction of 1 percent from engine horsepower rating as corrected to standard SAE conditions shall be made for diesel engines for every 10°F (5.6°C) above 77°F (25°C) ambient temperature.



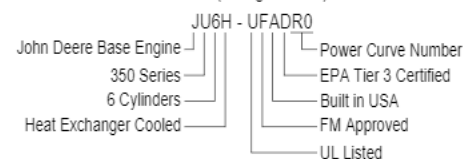
JU6H-UFADMG	JU6H-UFADP0	JU6H-UFADR0	JU6H-UFADT0
JU6H-UFAD58	JU6H-UFADP8	JU6H-UFADR8	JU6H-UFADW8
JU6H-UFADNG	JU6H-UFADQ0	JU6H-UFADS8	JU6H-UFADX8
JU6H-UFADN0	JU6H-UFAD88	JU6H-UFADS0	JU6H-UFAD98

### ENGINE EQUIPMENT

EQUIPMENT	STANDARD	OPTIONAL
Air Cleaner	Direct Mounted, Washable, Indoor Service with Drip Shield	Disposable, Drip Proof, Indoor Service Outdoor Type, Single or Two Stage (Cyclonic)
Alarms	Overspeed Alarm & Shutdown, Low Oil Pressure, Low & High Coolant Temperature, Low Raw Water Flow, High Raw Water Temperature, Alternate ECM Warning, Fuel Injection Malfunction, ECM Warning and Failure with Automatic Switching	Low Coolant Level, Low Oil Level, Oil Filter Differential Pressure, Fuel Filter Differential Pressure, Air Filter Restriction
Alternator	12V-DC, 42 Amps with Poly-Vee Belt and Guard	24V-DC, 40 Amps with Poly-Vee Belt and Guard
Coupling	Bare Flywheel	UL Listed Driveshaft and Guard, JU6H-UFAD58/NG/ADMG/ADM8/K0/N0/Q0/R0-CDS30-S1; JU6H-UFADP8/P0/T0/88/R8/S8/S0/W8/X8/98- CDS50-SC at 1760/2100 RPM only
Electronic Control Module	12V-DC, Energized to Stop, Primary ECM always Powered on	24V-DC, Energized to Stop, Primary ECM always Powered on
Engine Heater	115V-AC, 1360 Watt	230V-AC, 1360 Watt
Exhaust Flex Connection	SS Flex, 150# ANSI Flanged Connection, 5" for JU6H-UFAD58/MG/NG/N0/P8/88; SS Flex, 150# ANSI Flanged Connection, 6" for JU6H-UFADP0/Q0/R0/S0/T0/R8/S8/W8/X8/98 (w/ orifice plate)	SS Flex, 150# ANSI Flanged Connection, 6" for JU6H-UFAD58/MG/NG/N0/P8/88; SS Flex, 150# ANSI Flanged Connection, 8" for JU6H-UFADP0/Q0/R0/S0/T0/R8/S8/W8/X8/98 (w/ orifice plate)
Exhaust Protection	Metal Guards on Manifolds and Turbocharger	
Flywheel Housing	SAE #3	
Flywheel Power Take Off	11.5" SAE Industrial Flywheel Connection	
Fuel Connections	Fire Resistant, Flexible, USA Coast Guard Approved, Supply and Return Lines	SS, Braided, cUL Listed, Supply and Return Lines
Fuel Filter	Primary Filter with Priming Pump	
Fuel Injection System	High Pressure Common Rail	
Governor, Speed	Dual Electronic Control Modules	
Heat Exchanger	Tube and Shell Type, 60 PSI (4 BAR), NPT(F) Connections – Sea Water Compatible	
Instrument Panel	Multimeter to Display English and Metric, Tachometer, Hourmeter, Water Temperature, Oil Pressure and One (1) Voltmeter with Toggle Switch, Front Opening	
Junction Box	Integral with Instrument Panel; For DC Wiring Interconnection to Engine Controller	
Lube Oil Cooler	Engine Water Cooled, Plate Type	
Lube Oil Filter	Full Flow with By-Pass Valve	
Lube Oil Pump	Gear Driven, Gear Type	
Manual Start Control	On Instrument Panel with Control Position Warning Light	
Overspeed Control	Electronic, Factory Set, Not Field Adjustable	
Raw Water Cooling Loop w/Alarms	Galvanized	Seawater, All 316SS, High Pressure
Raw Water Cooling Loop Solenoid Operation	Automatic from Fire Pump Controller and from Engine Instrument Panel (for Horizontal Fire Pump Applications)	Not Supplied (for Vertical Turbine Fire Pump Applications)
Run – Stop Control	On Instrument Panel with Control Position Warning Light	
Starters	Two (2) 12V-DC	Two (2) 24V-DC
Throttle Control	Adjustable Speed Control by Increase/Decrease Button, Tamper Proof in Instrument Panel	
Water Pump	Centrifugal Type, Poly-Vee Belt Drive with Guard	

Abbreviations: DC – Direct Current, AC – Alternating Current, SAE – Society of Automotive Engineers, NPT(F) – National Pipe Tapered Thread (Female), ANSI – American National Standards Institute, SS – Stainless Steel

#### MODEL NOMENCLATURE: (10 Digit Models)



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# CLARKE®

## JU4H, JU4R & JU6H, JU6R ENGINE MODELS ENGINE MATERIALS AND CONSTRUCTION

### Air Cleaner

Type..... Indoor Usage Only  
Oiled Fabric Pleats  
Material..... Surgical Cotton  
Aluminum Mesh

### Air Cleaner - Optional

Type..... Canister  
Material..... Pleated Paper  
Housing..... Enclosed

### Camshaft

Material..... Cast Iron  
Chill Hardened  
Location..... In Block  
Drive..... Gear, Spur  
Type of Cam..... Ground

### Charge Air Cooler (JU6H-60,62,68,74,84, ADK0, AD58, ADNG, ADN0, ADQ0, ADR0, AAQ8, AARG, ADP8, ADP0, ADT0, AD88, ADR8, AD98, ADS0, ADW8, ADX8, AD98 only)

Type..... Raw Water Cooled  
Materials (in contact with raw water)  
Tubes..... 90/10 CU/NI  
Headers..... 36500 Muntz  
Covers..... 83600 Red Brass  
Plumbing..... 316 Stainless Steel/ Brass  
90/10 Silicone

### Charge Air Cooler (JU6R-AA67, 59, 61, PF, Q7, RF, S9, 83 only)

Type..... Air to Air Cooled  
Materials  
Core..... Aluminum

### Coolant Pump

Type..... Centrifugal  
Drive..... Poly Vee Belt

### Coolant Thermostat

Type..... Non Blocking  
Qty..... 1

### Cooling Loop (Galvanized)

Tees, Elbows, Pipe..... Galvanized Steel  
Ball Valves..... Brass ASTM B 124,  
Solenoid Valve..... Brass  
Pressure Regulator..... Bronze  
Strainer..... Cast Iron (1/2" - 1" loops) or  
Bronze (1.25" - 2" loops)

### Cooling Loop (Sea Water)

Tees, Elbows, Pipe..... 316 Stainless Steel  
Ball Valves..... 316 Stainless Steel  
Solenoid Valve..... 316 Stainless Steel  
Pressure Regulator/Strainer Cast Brass ASTM B176  
C87800

### Cooling Loop (316SS)

Tees, Elbows, Pipe..... 316 Stainless Steel  
Ball Valves..... 316 Stainless Steel  
Solenoid Valve..... 316 Stainless Steel  
Pressure Regulator/Strainer 316 Stainless Steel

### Connecting Rod

Type..... I-Beam Taper  
Material..... Forged Steel Alloy

### Crank Pin Bearings

Type..... Precision Half Shell  
Number..... 1 Pair Per Cylinder  
Material..... Wear-Guard

### Crankshaft

Material..... Forged Steel  
Type of Balance..... Dynamic

### Cylinder Block

Type..... One Piece with  
Non-Siamese Cylinders  
Material..... Annealed Gray Iron

### Cylinder Head

Type..... Slab 2 Valve  
Material..... Annealed Gray Iron

### Cylinder Liners

Type..... Centrifugal Cast, Wet Liner  
Material..... Alloy Iron Plateau, Honed

### Fuel Pump

Type..... Diaphragm  
Drive..... Cam Lobe

### Heat Exchanger (USA) - JU4H & JU6H Only

Type..... Tube & Shell

#### Materials

Tube & Headers..... Copper  
Shell..... Copper  
Electrode..... Zinc

### Heat Exchanger (UK) - JU4H & JU6H Only

Type..... Tube & Bundle

#### Materials

Tube & Headers..... Copper  
Shell..... Aluminum

### Injection Pump

Type..... Rotary  
Drive..... Gear

### Lubrication Cooler

Type..... Plate

### Lubrication Pump

Type..... Gear  
Drive..... Gear

### Main Bearings

Type..... Precision Half Shells  
Material..... Steel Backed-Aluminum  
Lined

### Piston

Type and Material..... Aluminum Alloy with  
Reinforced Top Ring Groove  
Cooling..... Oil Jet Spray

### Piston Pin

Type..... Full Floating - Offset

### Piston Rings

Number/Piston..... 3  
Top..... Keystone Barrel Faced -  
Plasma Coated  
Second..... Tapered Cast Iron  
Third..... Double Rail Type  
w/Expander Spring

### Radiator - JU4R & JU6R Only

Type..... Plate Fin

#### Materials

Core..... Copper & Brass  
Tank & Structure..... Steel

#### Optional

Marine Coating..... Baked Phenolic

### Valves

Type..... Poppet  
Arrangement..... Overhead Valve  
Number/Cylinder..... 1 intake  
1 exhaust  
Operating Mechanism..... Mechanical Rocker Arm  
Type of Lifter..... Large Head  
Valve Seat Insert..... Replaceable

**DATUMS:**

- A- - MOUNTING FACE OF FLYWHEEL
- B- - ENGINE CRANKSHAFT HORIZONTAL CENTERLINE
- C- - ENGINE CRANKSHAFT VERTICAL CENTERLINE
- CENTER OF GRAVITY OF ENGINE
- CLOCKWISE ROTATION WHEN VIEWED FROM FRONT OF ENGINE

NOTE:  
THE LOOP SHOWN IS BASED ON STANDARD LOOP CONSTRUCTION AND FM SIZING CONDITIONS  
FOR ALTERNATE LOOP CONSTRUCTION (STAINLESS STEEL, SEA WATER, AND HIGH PRESSURE) SIZES MAY VARY

**DRAWING SUBJECT TO CHANGE WITHOUT NOTICE**

**CAUTION:**  
ALL PLUMBING MUST BE SUPPORTED AND/OR ISOLATED SO THAT NO WEIGHT OR STRESS IS APPLIED TO ANY ENGINE COMPONENT

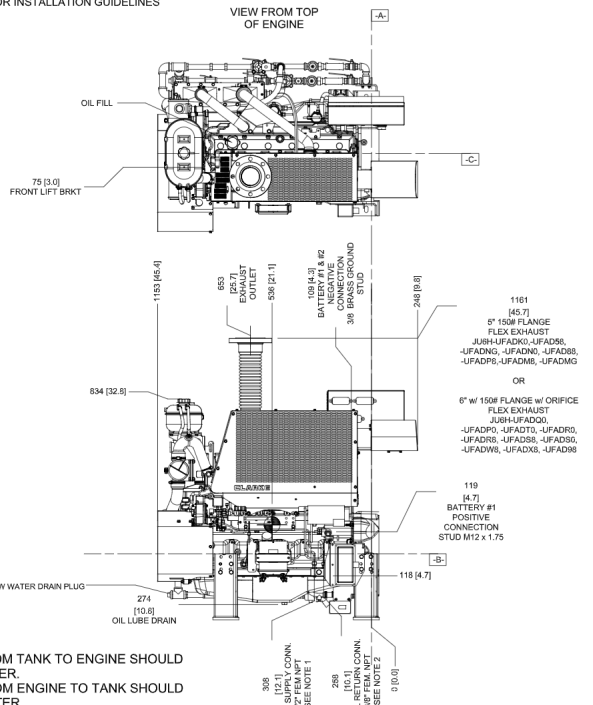
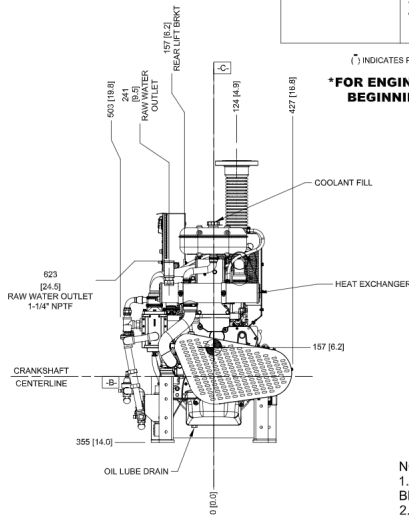
**ATTENTION**  
REFER TO THE SPECIFIC MODEL "INSTALLATION AND OPERATION DATA" FOR INSTALLATION GUIDELINES

**DO NOT SCALE**

"TRWA" (TURBOCHARGED w/ RAW WATER AFTERCOOLING) MODELS	JU6H-UFAD58, -UFAD88 JU6H-UFADK0 -UFADNG JU6H-UFADP8, -UFADN0 JU6H-UFADMB, -UFADMG JU6H-UFADP8 (MODELS SHOWN)
	JU6H-UFAD98 -UFADP0 JU6H-UFADQ0, -UFADR0 JU6H-UFADR8, -UFADS0 JU6H-UFADSS, -UFADT0 JU6H-UFADW8, -UFADX8 SEE PG. 3 FOR RAW WATER INLET DIMENSIONS

( ) INDICATES PLD ENNGE MODEL ONLY

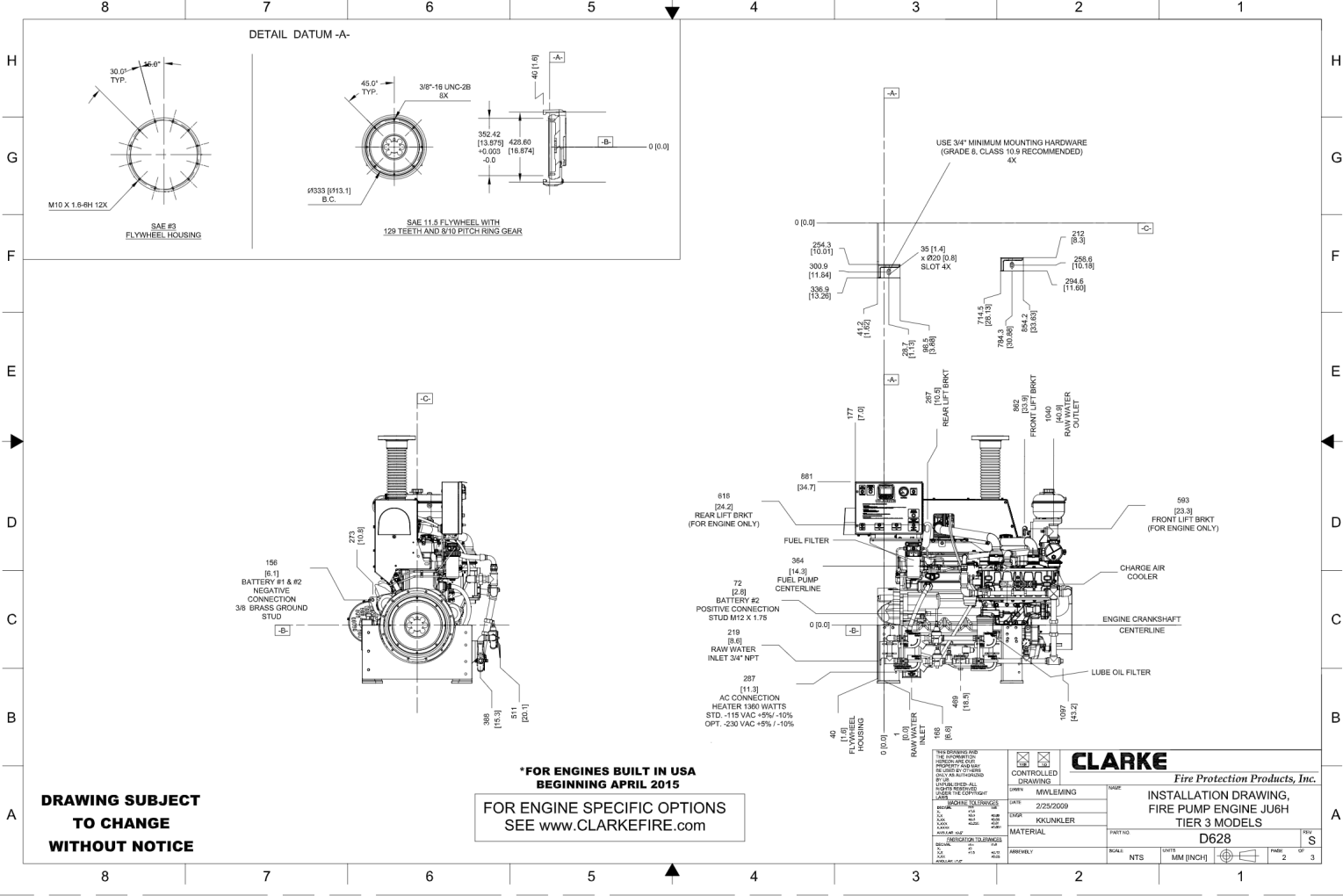
**\*FOR ENGINES BUILT IN USA BEGINNING APRIL 2015**



- NOTES:**
- FUEL SUPPLY PIPING FROM TANK TO ENGINE SHOULD BE 1/2" MINIMUM PIPE DIAMETER.
  - FUEL RETURN PIPING FROM ENGINE TO TANK SHOULD BE 3/8" MINIMUM PIPE DIAMETER.

REV	DESCRIPTION	ECN#	DWN	AP/D	DATE
J	UPDATED MOUNTING FEET AND HEATER SETUP	2063	AMC	<i>MD</i>	19JUL12
K	RAW WATER OUTLET WAS 1" NPTF	2649	MDH	<i>MC</i>	04DEC12
L	ADDED PIPING KIT/COOLING LOOP	3631	BKK	<i>MC</i>	25NOV14
M	ADDED FLYWHEEL INFORMATION	4071	JGV	<i>ML</i>	04AUG15
N	REVISED ENGINE FOOT MOUNTING HOLE LOCATIONS PAGE 2	4275	CLM	<i>MC</i>	01OCT15
P	ADDED GROUND STUD LOCATION	4359	DKP	<i>MC</i>	11OCT15
Q	ADDED RAW WATER INLET DIMENSION TO PAGE 2, UPDATED COOLING LOOP GEOMETRY ON PAGE 3	4741	MJM	JCA	03FEB16
R	PAGE 3 DATUM A & B WERE INCORRECTLY POSITIONED	4788	RDR	<i>ML</i>	11NOV16
S	ADDED DIMS TO ENGINE LIFTING BRACKETS	5061	MDM	<i>ML</i>	21JUN17

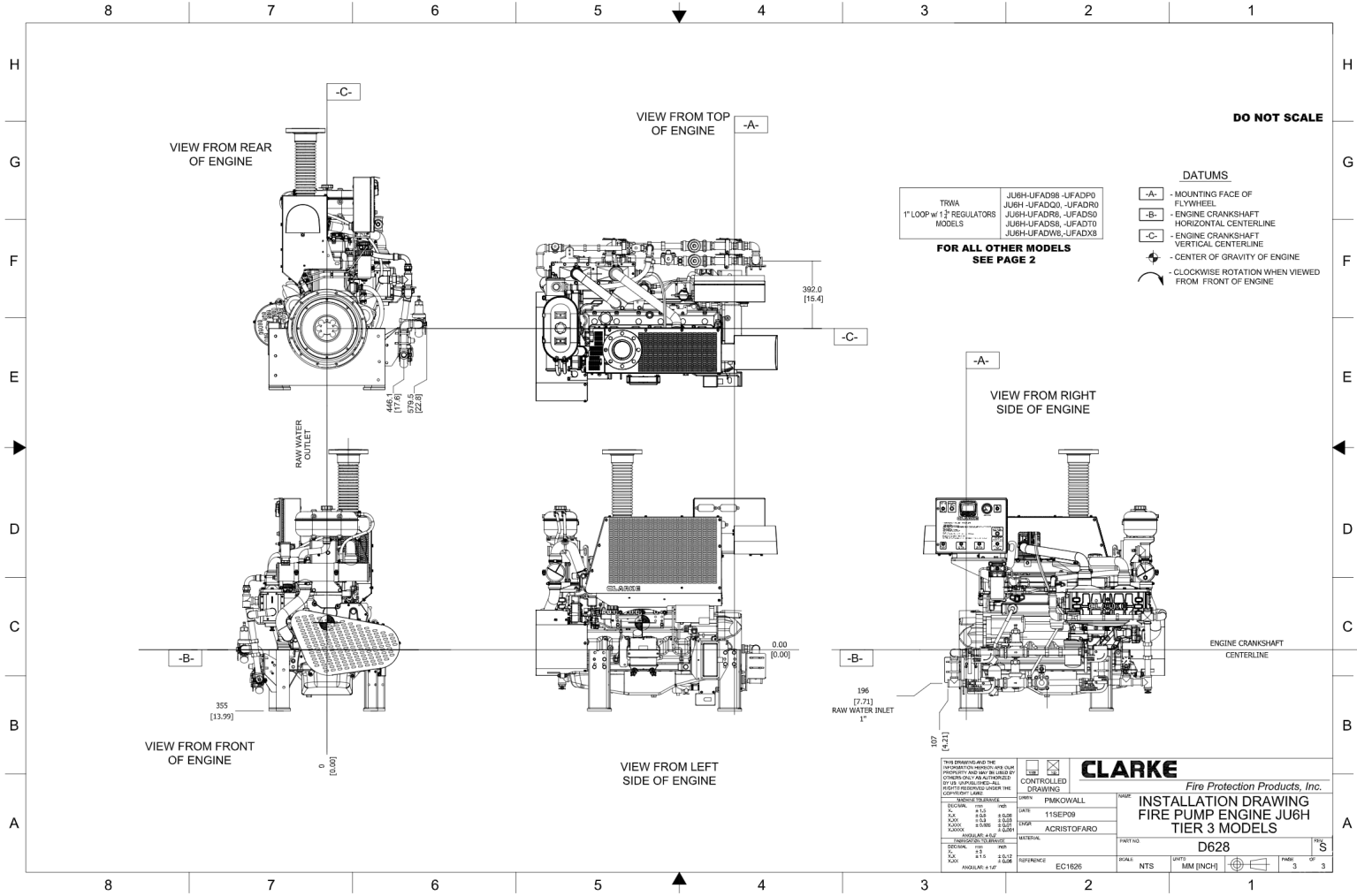
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<p><b>CLARKE</b> Fire Protection Products, Inc.</p>		<p>INSTALLATION DRAWING, FIRE PUMP ENGINE JU6H TIER 3 MODELS D628</p>



**DRAWING SUBJECT  
TO CHANGE  
WITHOUT NOTICE**

**\*FOR ENGINES BUILT IN USA  
BEGINNING APRIL 2015**  
FOR ENGINE SPECIFIC OPTIONS  
SEE [www.CLARKEFIRE.com](http://www.CLARKEFIRE.com)

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CONTROLLED DRAWINGS <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	DATE: 2/25/2009 DRAWN: KWINKLER	INSTALLATION DRAWING, FIRE PUMP ENGINE JU6H TIER 3 MODELS	
MATERIAL:	PART NO: D628	SCALE: NTS	SHEET: 2 OF 3



TRWA 1" LOOP w/ 12 REGULATORS MODELS	JU6H-UFAD08 -UFAD10 JU6H-UFAD00 -UFADR0 JU6H-UFADR6 -UFAD50 JU6H-UFAD38 -UFADT0 JU6H-UFADW5 -UFADK8
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**FOR ALL OTHER MODELS  
SEE PAGE 2**

- DATUMS**
- A- MOUNTING FACE OF FLYWHEEL
  - B- ENGINE CRANKSHAFT HORIZONTAL CENTERLINE
  - C- ENGINE CRANKSHAFT VERTICAL CENTERLINE
  - ☉ CENTER OF GRAVITY OF ENGINE
  - ⌚ CLOCKWISE ROTATION WHEN VIEWED FROM FRONT OF ENGINE

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DRAWN BY: J.W. HARRIS DATE: 11SEP08 CHECKED BY: J.W. HARRIS DATE: 11SEP08	DESIGNED BY: J.W. HARRIS DATE: 11SEP08 CHECKED BY: J.W. HARRIS DATE: 11SEP08	ENGINEER: PINKOWALL DATE: 11SEP08 CHECKED BY: ACRISTOFARO DATE: 11SEP08
MATERIAL: <b>D628</b>	PART NO:	REV: <b>S</b>
REFERENCE: EC1026	SCALE: NTS	SHEETS: 3 OF 3

**INSTALLATION DRAWING  
FIRE PUMP ENGINE JU6H  
TIER 3 MODELS**