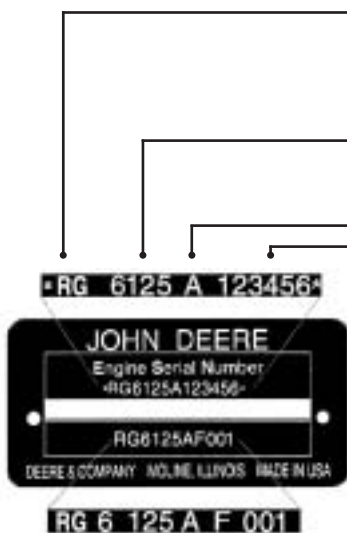


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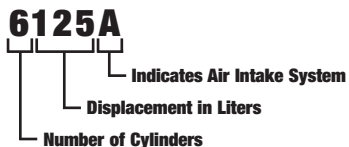
- **RG** **Factory Produced by:**
 RG Waterloo, Iowa
 TO Dubuque, Iowa
 CD Saran, France
 PE Torreon, Mexico
- **6125** **Number of Cylinders and Total Displacement**
 6125 6 Cylinders,
 12.5 Liters
- **A** **Air Intake System**
 D Naturally Aspirated
 T Turbocharged
 A Turbocharged and
 Aftercooled, Air to Water
 H Turbocharged and
 Aftercooled, Air to Air
- **123456** **Engine Serial Number**

- **001** **Engine Application Version**
- **F** **User**
 F0 OEM (John Deere Power Systems)
 XX Other letters are used to
 identify John Deere Equipment
 Manufacturing Locations

PowerTech™ Model Designation Key

Below is a key for the engine models shown in this guide.

A model designated as 6125A is a 6 cylinder, 12.5 liter turbocharged and aftercooled, air to water engine.
 A model designated as 4045T is a 4 cylinder, 4.5 liter turbocharged engine.



- Air Intake System**
- D Naturally Aspirated
 - T Turbocharged
 - A Turbocharged and
Aftercooled, Air to Water
 - H Turbocharged and
Aftercooled, Air to Air

Meets EPA Off-road Emission Regulations

- Developed to meet the off-road emission requirements without degradation in performance or power level

Cylinder Head

- One-piece, high-strength cylinder head designed for high compression ratios
- Chrome valve stems provide durability and resistance to wear

Fuel Systems

- 0.9L indirect injection: 1.2L, 1.5L and 2.0L direct injection
- High-pressure fuel pump improves power, torque and emissions
- Energized-to-run shut-off solenoid cuts fuel supply when the key switch is turned off

World-class Performance

- Compact, quiet and light — a perfect choice for low horsepower applications
- Specially designed flywheel and front pulley provides smooth operation
- Turbocharging (4020T) provides high performance and economy with low emissions and noise
- Plate-type oil cooler (4020T) for simple, efficient means of removing heat

Engine Model	Tier	No. Cylinders	Displacement		Rated RPM	Intermittent Rating		Continuous Rating		BSFC*		Peak Torque		Peak Torque		Torque Rise %
			L	cu.in.		kW	hp	kW	hp	g/kWh	lb/hp-hr	RPM	Nm	lb-ft		
3009D	1	3	0.9	53.7	3000	14	19	13	17	268	0.441	2200	52	38	15	
3012D	1	3	1.2	73.5	3000	20	27	18	24	219	0.360	1800	76	56	20	
3015D	1	3	1.5	91.3	3000	25	33	22	30	237	0.390	1800	96	71	22	
4020D	1	4	2.0	122	3000	33	44	30	40	231	0.380	1800	124	91	18	
4020T	1	4	2.0	122	3000	41	55	37	50	243	0.400	1800	162	120	24	

*BSFC at rated speed

PowerTech™ 0.9-2.0L Gen Set Engine Ratings

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Engine Model	Tier	Rated RPM	Engine Power				Engine Power			
			Prime		Prime Ratings		Standby		Standby Ratings	
			kW	hp	kVA	kWe	kW	hp	kVA	kWe
3012D	1	1800	10.8	14.5	10.6	8.5	11.9	16.0	11.5	9.2
3015D	1	1800	13.5	18.1	13.8	11.0	14.8	19.8	13.8	11.0
4020D	1	1800	17.7	23.7	17.5	14.0	19.5	26.1	18.8	15.0
4020T	1	1800	24.3	32.6	26.3	21.0	26.9	36.1	27.5	22.0

*kVA is determined by 0.8 power factor

PowerTech™ 0.9-2.0L Engine Dimensions

7

Engine Model	Length		Width		Height		Weight	
	mm	in	mm	in	mm	in	kg	lb
3009D	640	25.2	534	21.0	708	27.9	120	265
3012D	669.5	26.4	556	21.9	750	29.5	160	352.7
3015D	728	28.7	615	24.2	792	31.2	198	436
4020D	819	32.2	615	24.2	787	31.0	228	502
4020T	819	32.2	621	24.5	837	33.0	233	513

Dimensions are based on engine with “standard configuration” including flywheel, flywheel housing, and electronics. Actual numbers may vary depending on selected options.

Optimized Gear Train

- Front gear train of two high-contact-ratio gears mounted to the block
- Impressive low noise characteristics

Poly-vee Front Drive

- Automatic belt-tensioner and six rib poly-vee drive belt minimize maintenance and increases belt durability

Independent Fan Drive

- Fan drive operates independently of water pump and is available in two heights to adapt to enclosures
- Fan drive ratios above and below 1:1 are available to match specific application requirements

Hydraulic Valve Lifters

- Automatic adjustment eliminates the need for valve-lash adjustment, contributes to lower noise levels in the valve train
- Lowers operating costs

Independent Water Pump

- Durable cast-iron water pump resists corrosion and pitting for increased wear life

Multiple-function Component Integration

- Timing gear cover includes water pump housing, oil pump housing, governor housing and sensors
- Rocker arm cover includes intake manifold
- Integration results in higher quality, easier service, and reliability

Smooth Engine Operation

- 2.4L – Optional balancer shafts located inside the engine block with two bearings per shaft
- 3.0L – Offers smooth engine operation without balancers
- Decreased vibration reduces operator fatigue and need for instrument and control isolation

Starting Aids

- Quick acting glow plugs are standard equipment and provide exceptional cold weather starting at temperatures as low as –15 degrees Fahrenheit
- Optional block heater is available

Innovative Fuel Systems

- Contributes to cost effectiveness and clean design
- Mechanically governed unit pumps mounted inside the block eliminate external high-pressure lines, minimize leak paths and reduce noise level

PowerTech™ 2.4-3.0L Performance Data

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Engine Model	Tier	No. Cylinders	Displacement		Rated RPM	Intermittent Rating		Continuous Rating		BSFC*		Peak Torque		Peak Torque		Torque Rise %
			L	cu.in.		kW	hp	kW	hp	g/kWh	lb/hp-hr	RPM	Nm	lb-ft		
			4024T	2		4	2.44	149	2800	36.7	49	31.2	42	269	0.442	
4024T	2	4	2.44	149	2800	44.9	60	38.1	51	260	0.427	1680	204	150	33	
4024T	2	4	2.44	149	2800	49.3	66	41.9	56	255	0.419	1680	219	162	31	
5030T	2	5	3.05	186	2800	56	75	47.6	64	269	0.442	1680	261	193	37	
5030T	2	5	3.05	186	2800	62.8	84	53.3	72	266	0.437	1680	281	207	31	
5030H	2	5	3.05	186	2800	74	99	62.9	84	237	0.390	1680	328	242	29	

*BSFC at rated speed

PowerTech™ 2.4-3.0L Gen Set Engine Ratings

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Engine Model	Tier	Rated RPM	Engine Power				Engine Power			
			Prime		Prime Ratings		Standby		Standby Ratings	
			kW	hp	kVA	kWe	kW	hp	kVA	kWe
4024T	2	1800	32	43	33.8	27	36	48	37.5	30
5030T	2	1800	54	72	56.3	45	60	80	62.5	50
5030H	2	1800	65	87	68.8	55	72	96	75	60
4024T	-	1500	19	25	20	16	21	28	22	17.6
4024T	-	1500	28	38	30	24	31	42	33	26.4
5030T	-	1500	37	50	40	32	41	56	44	35.2
5030H	-	1500	56	75	60	48	62	84	66	52.8

*kVA is determined by 0.8 power factor

Meets EPA, CARB, and EU Off-road Emission Regulations

- Engine developed to meet off-road emission requirements without degradation in performance or power level

Dynamically Balanced Crankshaft

- Journal surfaces induction-hardened for significantly increased wear life

Forged-steel Connecting Rods

- 45-degree connecting-rod/cap-joint design allows the use of larger crankshaft-connecting-rod bearings for increased durability

Replaceable Wet-type Cylinder Liners

- Provide excellent heat dissipation
- Precision machined for long life

Strong Cylinder Block

- Weight of cylinder block reduced, while maintaining overall strength
- Crankshaft supported by four main bearings

Easy To Apply

- Mounting points for new engine have not changed, making it easy to replace the previous model
- Additional front engine mounts are available for application ease

Compact Size

- Compact, in-line 3-cylinder configuration allows model to be used in applications where length is critical

Optional Gear Auxiliary Drive

- Optional drive, with an SAE "A" flange, increases application flexibility of the 3-cylinder engine

World-class Performance

- Higher torque rise, excellent fuel economy, and low oil consumption result in superior engine performance

PowerTech™ 2.9L Performance Data

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Engine Model	Tier	No. Cylinders	Displacement		Rated RPM	Intermittent Rating		Continuous Rating		BSFC*		Peak Torque		Peak Torque		Torque Rise %
			L	cu.in.		kW	hp	kW	hp	g/kWh	lb/hp-hr	RPM	Nm	lb-ft		
3029T	2	3	2.9	179	2500	48	64	43	58	255	0.419	1500	225	166	23	
3029T	2	3	2.9	179	2500	53	71	48	64	249	0.409	1600	245	181	21	
3029D	1	3	2.9	179	2500	36	48	32	43	240	0.395	1000	189	139	36	
3029D	1	3	2.9	179	2500	43	58	39	52	240	0.395	1600	191	141	17	
3029T	1	3	2.9	179	2500	52	70	47	63	236	0.388	1600	239	176	20	
3029T	1	3	2.9	179	2500	59	79	53	71	238	0.391	1800	271	200	20	

*BSFC at rated speed

PowerTech™ 2.9L Gen Set Engine Ratings

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Engine Model	Tier	Rated RPM	Engine Power Prime		Prime Ratings		Engine Power Standby		Standby Ratings	
			kW	hp	kVA	kW	kW	hp	kVA	kW
3029T	2	1800	44	59	46-48	37-38	48	64	50-52	40-42
3029T	1	1800	43	58	44-46	35-37	48	64	49-51	39-41
3029D	-	1500	27	36	28-29	22-23	31	41	32-34	26-27
3029D	-	1800	31	42	31-33	25-26	35	47	35-37	28-30
3029T	-	1500	38	51	40-41	32-33	42	56	44-46	35-37

Dynamically Balanced Crankshaft

- 4.5L – Crankshafts are formed from heat-treated ductile
- 6.8L – Crankshafts are machined from a heat-treated, high carbon steel forging

Forged-steel Connecting Rods

- Unique 45-degree design permits use of larger crankshaft connecting-rod bearings for increased durability

Self-adjusting Poly-vee Fan Drive

- Self-adjusting, eight-groove, poly-vee fan drive provides multiple fan drive ratios and fan heights that can be matched to specific application requirements
- Poly-vee design provides more than twice the drive capacity of comparable vee-belts

Replaceable Wet-type Cylinder Liners

- Provide excellent heat dissipation
- Precision machined for long life

Either-side Service

- Engine installation and maintenance simplified and convenient by providing dipstick and oil filter options on both sides of the engine

500-Hour Oil Change (Tier 2 only)

- Customers save significant costs on oil, filters and labor with a 500-hour oil change interval

Standard Gear Auxiliary Drive

- Standard gear auxiliary drive produces up to 50 hp (37 kW) for gear-driven accessories

Mounting Points

- Standard front and side mounting points provide easy installation and application flexibility

Electronic-controlled Rotary Injection Pump (Tier 2, Above 100 hp Only)

- Electronic-controlled rotary injection pump distributes the precise amount of fuel required by each cylinder at exactly the right time
- Electronic controls monitor engine speed and load to determine fuel timing

SAE J1939 Standard Communication Link (Tier 2, Above 100 hp Only)

- Industry standard, which provides an interface with vehicle systems, like the transmission, hydraulics and various accessory drives minimizing machine complexity and reducing the installed cost

Optional Engine-balancer Shafts (4.5L Only)

- Provides smooth engine operation

High Power Density

- High power density allows an OEM to use engines of a smaller displacement, reducing total install costs

Glow Plugs

- Glow plugs provide superior cold weather starting

4-Valve Cylinder Head

- New cylinder head with 4-valve design provides increased air flow resulting in higher low speed torque and better transient response time

Exhaust Port Liners

- Exhaust port liners provide best-in-class heat rejection allowing for a smaller cooling package and a lower total installed cost

Improved Fuel Economy

- Up to 5% better than two-valve engines or larger displacement engines

Noise Reduction

- Up to 2dB(A) reduction

High-Pressure Common Rail Fuel System

- Higher (33%) injection pressures, up to 1600 bar (23,000 psi)
- Variable injection pressure and timing control

John Deere Electronic Controls

- John Deere electronically controlled fuel systems monitor critical engine functions and either derates or shuts down (override capability provided) an engine to prevent costly engine repairs
- Built in controls eliminate the need for costly add-on engine warning/shutdown systems and associated components
- Service diagnostics and error codes automatically stored for later retrieval, increasing machine uptime
- Performance connector part of the engine wiring harness which allows for programming of multiple power curves and droop or isochronous governor regulation

Centered, Vertical Injectors

- Engines burn cleaner, resulting in lower emission and improved fuel economy with the aid of vertical injectors

500-Hour Oil Change

- Customers save significant costs on oil, filters and labor with a 500-hour oil change interval

Engine Model	Tier	No. Cylinders	Displacement		Rated RPM	Intermittent Rating		Continuous Rating		BSFC*		Peak Torque		Peak Torque		Torque Rise %
			L	cu.in.		kW	hp	kW	hp	g/kWh	lb/hp-hr	RPM	Nm	lb-ft		
			2 Valve Engines													
4045D	2	4	4.5	276	2500	55	74	50	67	249	0.409	1200	283	209	34	
4045D	2	4	4.5	276	2500	60	80	54	72	254	0.417	1400	296	218	29	
4045T	2	4	4.5	276	2500	63	84	57	76	240	0.394	1200	333	246	37	
4045T	2	4	4.5	276	2200	74	99	67	90	235	0.386	1400	389	287	21	
4045T	2	4	4.5	276	2500	74	99	67	90	240	0.394	1400	369	272	30	
4045T	2	4	4.5	276	2400	82	110	74	99	246	0.404	1400	392	289	20	
4045T	2	4	4.5	276	2500	86	115	77	103	246	0.404	1400	394	291	20	
4045H	2	4	4.5	276	2000	86	115	77	103	225	0.370	1400	498	367	21	
4045H	2	4	4.5	276	2200	93	125	84	113	229	0.376	1400	498	367	23	
4045H	2	4	4.5	276	2400	93	125	84	113	231	0.380	1400	463	341	25	
4045H	2	4	4.5	276	2200	104	140	94	126	225	0.370	1400	540	398	20	
4045H	2	4	4.5	276	2400	104	140	94	126	230	0.378	1400	498	367	20	

*BSFC at rated speed

Engine Model	Tier	No. Cylinders	Displacement		Rated RPM	Intermittent Rating		Continuous Rating		BSFC*		Peak Torque		Peak Torque		Torque Rise %
			L	cu.in.		kW	hp	kW	hp	g/kWh	lb/hp-hr	RPM	Nm	lb-ft		
			2 Valve Engines													
4045D	1	4	4.5	276	2250	36	48	32	43	239	0.393	1000	290	214	89	
4045D	1	4	4.5	276	2500	52	70	47	63	236	0.388	1000	281	207	41	
4045D	1	4	4.5	276	2200	58	78			224	0.368	1200	310	229	23	
4045D	1	4	4.5	276	2500	60	80	54	72	237	0.390	1200	292	215	28	
4045D	1	4	4.5	276	2400	61	82			229	0.376	1200	310	229	28	
4045D	1	4	4.5	276	2500	63	84	57	76	241	0.395	1200	302	223	25	
4045T	1	4	4.5	276	2200	66	89			220	0.362	1200	374	276	30	
4045T	1	4	4.5	276	2200	73	98			218	0.358	1200	406	299	28	
4045T	1	4	4.5	276	2500	74	99	67	90	226	0.372	1400	372	274	31	

4 Valve Engines															
4045H	2	4	4.5	276	2200	119	160	107	143	213	0.350	1400	645	476	25
4045H	2	4	4.5	276	2200	129	173	116	156	216	0.355	1400	700	516	25
4045H	2	4	4.5	276	2400	129	173	116	156	216	0.355	1400	645	476	26

*BSFC at rated speed

Engine Model	Tier	No. Cylinders	Displacement		Rated RPM	Intermittent Rating		Continuous Rating		BSFC*		Peak Torque		Peak Torque		Torque Rise %
			L	cu.in.		kW	hp	kW	hp	g/kWh	lb/hp-hr	RPM	Nm	lb-ft		
			2 Valve Engines													
6068T	2	6	6.8	414	2200	101	135	91	122	236	0.388	1400	554	409	27	
6068T	2	6	6.8	414	2000	104	140	94	126	227	0.373	1400	596	439	20	
6068T	2	6	6.8	414	2200	112	150	101	135	237	0.390	1400	609	449	25	
6068T	2	6	6.8	414	2500	116	156	104	140	249	0.409	1400	554	409	25	
6068T	2	6	6.8	414	2400	123	165	111	149	250	0.411	1400	587	433	20	
6068T	2	6	6.8	414	2500	127	170	114	153	250	0.411	1400	582	429	20	
6068H	2	6	6.8	414	2000	129	173	116	156	221	0.363	1400	740	546	20	
6068H	2	6	6.8	414	2400	138	185	124	166	221	0.363	1400	714	527	30	
6068H	2	6	6.8	414	2200	149	200	134	180	217	0.357	1400	809	597	25	
6068H	2	6	6.8	414	2400	149	200	134	180	221	0.363	1400	771	569	30	
6068H	2	6	6.8	414	2000	157	211	141	189	216	0.355	1400	900	664	20	
6068H	2	6	6.8	414	2200	168	225	151	203	217	0.357	1400	911	672	25	
6068H	2	6	6.8	414	2400	168	225	151	203	223	0.367	1400	835	616	25	
6068H	2	6	6.8	414	2400	187	250	168	225	219	0.360	1400	930	686	25	

Engine Model	Tier	No. Cylinders	Displacement		Rated RPM	Intermittent Rating		Continuous Rating		BSFC*		Peak Torque		Peak Torque		Torque Rise %
			L	cu.in.		kW	hp	kW	hp	g/kWh	lb/hp-hr	RPM	Nm	lb-ft		
			4 Valve Engines													
6068H	2	6	6.8	414	2200	187	250	168	225	209	0.343	1400	1025	756	26	
6068H	2	6	6.8	414	2400	205	275	185	248	212	0.348	1400	1025	756	26	

*BSFC at rated speed

Engine Model	Tier	Rated RPM	Engine Power Prime		Prime Ratings		Engine Power Standby		Standby Ratings	
			kW	hp	kVA	kW	kW	hp	kVA	kW
			4045D	2	1800	46	62	48-50	38-40	50
4045T	2	1800	67	90	70-73	56-58	74	99	77-81	62-65
4045T	2	1800	76	102	79-83	64-66	84	113	88-92	70-73
4045H	2	1800	98	131	102-107	82-85	108	145	113-118	90-94
4045H	2	1800	106	142	109-115	87-92	117	157	121-128	97-102
4045H	2	1800	130	174	134-141	107-112	143	192	148-156	119-124
4045D	1	1800	48	64	50-52	40-42	53	71	55-58	44-46
4045T	1	1800	67	90	70-73	56-58	74	99	78-81	62-65
4045T	1	1800	74	99	76-80	61-64	82	110	85-90	68-72
4045T	1	1800	76	102	79-82	63-66	84	113	88-92	70-74
4045T	1	1800	82	110	85-89	68-71	91	122	95-100	76-80
4045T	1	1800	90	121	94-98	75-78	100	134	105-109	84-87
4045H	1	1800	86	115	89-93	71-74	95	127	99-104	79-83
4045H	1	1800	111	149	115-120	92-96	123	165	129-134	103-107
4045D	-	1500	40	54	41-44	33-35	44	59	46-49	37-39
4045T	-	1500	56	75	59-62	47-50	62	83	66-69	53-55
4045T	-	1500	63	84	65-68	52-54	70	94	73-76	58-61
4045T	-	1500	75	101	79-83	63-66	83	111	88-92	70-74
4045H	-	1500	72	96	76-80	61-64	80	107	85-89	68-71
4045H	-	1500	91	122	96-100	77-80	102	137	108-113	86-90
4045H	-	1500	109	146	112-118	90-94	120	161	125-131	100-104

Engine Model	Tier	Rated RPM	Engine Power Prime		Prime Ratings		Engine Power Standby		Standby Ratings	
			kW	hp	kVA	kW	kW	hp	kVA	kW
			6068T	2	1800	112	150	116-122	93-97	123
6068H	2	1800	149	200	155-162	124-130	164	220	171-179	137-143
6068H	2	1800	170	228	177-185	141-148	187	250	195-204	156-163
6068H	2	1800	191	256	198-207	159-166	210	282	219-229	176-184
6068H	2	1800	213	286	221-231	177-185	234	314	245-256	196-205
6068T	1	1800	101	135	105-110	84-88	112	150	116-122	93-98
6068T	1	1800	111	149	115-120	92-96	123	165	129-134	103-107
6068T	1	1800	112	150	116-121	93-97	124	166	129-135	103-108
6068T	1	1800	128	172	132-139	106-111	142	190	148-155	118-124
6068H	1	1800	133	178	137-144	110-115	148	198	154-161	123-129
6068H	1	1800	168	225	174-182	139-146	187	251	195-204	156-163
6068H	1	1800	189	253	196-205	157-164	210	282	220-230	176-184
6068T	-	1500	85	114	90-94	72-75	94	126	100-104	80-83
6068T	-	1500	94	126	100-104	80-83	104	139	110-116	88-93
6068T	-	1500	95	127	100-105	80-84	105	141	111-116	89-93
6068T	-	1500	109	146	115-121	92-97	121	162	129-135	103-108
6068H	-	1500	111	149	117-123	94-98	123	165	130-136	104-109
6068H	-	1500	140	188	148-155	118-124	155	208	165-172	132-138
6068H	-	1500	188	252	195-204	156-163	207	278	216-226	173-181

Directed Top-liner Cooling

- Directing coolant to upper end of the liner reduces liner temperatures by up to 100 degrees Fahrenheit or 54 degrees Celsius, improving power cylinder durability and head gasket life, and reducing oil consumption and emissions

SAE J1939 Standard Communication Link

- Industry standard, which provides an interface with vehicle systems, like the transmission, hydraulics and various accessory drives minimizing machine complexity and reducing vehicle total installed cost

John Deere Electronic Controls

- John Deere electronically controlled fuel systems monitor critical engine functions and either derates or shuts down (override capability provided) an engine to prevent costly engine repairs
- Built-in controls eliminate need for costly add-on engine warning/shutdown systems and associated components
- Service diagnostics and error codes automatically stored for later retrieval, increasing machine uptime
- Performance connector part of engine wiring harness which allows for programming of multiple power curves and droop or isochronous governor regulation

Either-side Service

- Combination oil fill/dipstick available on either side of the engine, greatly simplifying engine installation

Gear Auxiliary Drive

- Left hand gear auxiliary drive available which provides up to 60 hp (45 kW), intermittent

Self-adjusting Poly-vee Fan Drive

- Self-adjusting, eight-groove, poly-vee fan drive provides multiple fan drive ratios and fan heights that can be matched to specific application requirements
- Poly-vee design provides more than twice the drive capacity of comparable vee-belts

Additional Features

- 8.1L engine includes gear-driven water pump, improved accessory mounting, air compressors, and high-mount A/C compressor options

Optional Rear PTO

- Rear PTO is an integral part of the flywheel housing and provides a means for driving medium/large hydraulic pump(s), and air compressors
- Available in SAE #1 or SAE #2 flywheel-housing configuration for dry applications
- 1.3:1 output ratio allows the use of smaller, higher speed hydraulic pumps
- Gear train, pump drives, and flanged output drive are capable of up to 300 hp/224 kW (750 ft-lbs/1017 N.m torque)
- Right-hand side pad standard with optional left-hand side pad
- SAE "C" pad standard with optional "B," "D" mounting pads and flange output drives

PowerTech™ 8.1L Performance Data

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Engine Model	Tier	No. Cylinders	Displacement		Rated RPM	Intermittent Rating		Continuous Rating		BSFC*		Peak Torque		Peak Torque	Torque Rise %
			L	cu.in.		kW	hp	kW	hp	g/kWh	lb/hp-hr	RPM	Nm		
6081H	2	8	8.1	496	2200	149	200	149	200	221	0.363	1500	873	644	35
6081H	2	8	8.1	496	2200	168	225	168	225	216	0.355	1500	984	726	35
6081H	2	8	8.1	496	2200	187	250	187	250	216	0.355	1500	1095	808	35
6081H	2	8	8.1	496	2200	205	275	205	275	217	0.357	1500	1200	885	35
6081H	2	8	8.1	496	2200	224	300	205	275	216	0.355	1500	1312	968	35
6081H	2	8	8.1	496	2200	242	325	205	275	212	0.348	1600	1425	1051	35
6081H	2	8	8.1	496	2200	261	350	205	275	210	0.345	1500	1424	1050	26

*BSFC at rated speed

PowerTech™ 8.1L Gen Set Engine Ratings

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Engine Model	Tier	Rated RPM	Engine Power Prime		Prime Ratings		Engine Power Standby		Standby Ratings	
			kW	hp	kVA	kW	kW	hp	kVA	kW
6081H	2	1800	210	282	226-236	181-189	231	310	249-261	200-208
6081H	2	1800	236	317	254-266	203-212	260	349	281-293	225-235
6081H	2	1800	263	352	283-295	226-236	289	388	312-326	250-261
6081H	2	1800	289	388	311-325	249-260	318	426	343-359	275-287
6081T	1	1800	142	190	147-154	118-123	157	211	164-172	131-138
6081T	1	1800	166	223	172-180	138-144	194	260	202-211	162-169
6081A	1	1800	168	225	174-182	139-146	187	250	195-204	156-163
6081A	1	1800	201	270	209-219	167-175	224	300	234-244	187-195
6081A	1	1800	220	295	228-238	182-190	259	347	270-282	216-226
6081H	1	1800	218	292	226-236	181-189	240	322	251-262	201-210
6081T	-	1500	119	160	125-131	100-105	131	175	139-145	111-116
6081T	-	1500	144	193	152-159	121-127	169	227	179-187	143-150
6081A	-	1500	142	190	150-157	120-126	157	210	166-174	133-139
6081A	-	1500	168	225	178-186	142-149	187	250	199-207	159-166
6081A	-	1500	192	257	202-212	162-169	225	302	239-250	191-200
6081H	-	1500	182	244	192-201	154-161	200	268	212-222	170-178
6081H	-	1500	231	310	244-255	195-204	268	359	284-297	227-238

Articulated Two-piece Piston

- Articulated two-piece piston uses high-strength steel crown to handle higher horsepower

Directed Top-liner Cooling

- Directing coolant to upper end of liner reduces liner temperatures by up to 130 degrees Fahrenheit or 72 degrees Celsius, improving power cylinder durability and head gasket life, and reducing oil consumption and emissions

Air Compressors and AC Compressors

- Factory installed air compressors and AC compressors mean a lower installed cost

Gear-driven Auxiliary Drive

- Provides up to 80 hp (60 kW) to run optional equipment such as hydraulic pumps, air compressors, or steering pumps

Self-adjusting, Poly-vee Accessory and Fan Drives

- Self-adjusting, twelve-groove, poly-vee fan drive provides multiple fan drive ratios and fan heights that can be matched to specific application requirements
- Self-adjusting, eight-groove, poly-vee accessory drive for alternator and air conditioning compressor
- Poly-vee design provides more than twice the drive capacity of comparable vee-belts

John Deere Electronic Controls

- John Deere electronically controlled fuel systems monitor critical engine functions and either derates or shuts down (override capability provided) an engine to prevent costly engine repairs
- Built in controls eliminate the need for costly add-on engine warning/shutdown systems and associated components
- Service diagnostics and error codes automatically stored for later retrieval, increasing machine uptime
- Performance connector part of engine wiring harness which allows for programming of multiple power curves and droop or isochronous governor regulation

SAE J1939 Standard Communication Link

- Industry standard, which provides an interface with vehicle systems, like the transmission, hydraulics and various accessory drives minimizing machine complexity and reducing vehicle total installed cost

Optional Rear PTO

- Rear PTO is an integral part of the flywheel housing and provides a means for driving medium/large hydraulic pump(s), and air compressors
- Available in SAE #1 or SAE #2 flywheel-housing configuration for dry applications
- 1.3:1 output ratio allows the use of smaller, higher speed hydraulic pumps
- Gear train, pump drives, and flanged output drive are capable of up to 300 hp/224 kW (750 ft-lbs/1017 N.m torque)
- Right-hand side pad standard with optional left-hand side pad
- SAE "C" pad standard with optional "B," "D" mounting pads and flange output drives

PowerTech™ 12.5L Performance Data

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Engine Model	Tier	No. Cylinders	Displacement		Rated RPM	Intermittent Rating		Continuous Rating		BSFC*		Peak Torque		Torque Rise %	
			L	cu.in.		kW	hp	kW	hp	g/kWh	lb/hp-hr	RPM	Nm		lb-ft
			6125H	2		6	12.5	766	2100	224	300	224	300		206
6125H	2	6	12.5	766	2100	242	325	242	325	208	0.342	1500	1489	1098	35
6125H	2	6	12.5	766	2100	261	350	261	350	207	0.340	1500	1607	1185	35
6125H	2	6	12.5	766	2100	280	375	280	375	206	0.339	1500	1720	1268	35
6125H	2	6	12.5	766	2100	298	400	298	400	206	0.340	1500	1834	1352	35
6125H	2	6	12.5	766	2100	317	425	317	425	207	0.340	1500	1947	1436	35
6125H	2	6	12.5	766	2100	336	450	317	425	207	0.340	1500	2065	1523	35
6125H	2	6	12.5	766	2100	354	475	317	425	207	0.340	1500	2176	1605	35
6125H	2	6	12.5	766	2100	373	500	373	500	208	0.342	1500	2292	1690	35
6125H	2	6	12.5	766	2100	392	525	373	500	210	0.345	1500	2406	1775	35
6125H	2	6	12.5	766	2100	410	550	373	500	211	0.346	1500	2517	1856	25
6125H	2	6	12.5	766	2100	448	600	373	500	212	0.348	1600	2546	1878	25

*BSFC at rated speed

PowerTech™ 12.5L Gen Set Engine Ratings

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Engine Model	Tier	Rated RPM	Engine Power Prime		Prime Ratings		Engine Power Standby		Standby Ratings	
			kW	hp	kVA	kW	kW	hp	kVA	kW
			6125H	2	1800	300	402	312-326	249-261	330
6125H	2	1800	327	439	340-356	272-285	360	483	376-394	301-315
6125H	2	1800	382	512	397-415	318-332	420	563	439-459	351-367
6125H	2	1800	382	512	397-415	318-332	460	617	481-503	385-402
6125A	1	1800	254	341	264-276	211-221	280	375	291-305	233-244
6125A	1	1800	273	366	284-296	227-237	300	402	314-327	251-262
6125A	1	1800	300	402	311-326	249-261	330	442	344-360	275-288
6125A	-	1500	213	285	225-235	180-188	234	314	249-260	199-208
6125A	-	1500	231	310	244-255	195-204	254	340	269-281	215-225
6125A	-	1500	252	338	266-279	213-223	277	371	294-307	235-246
6125H	-	1500	273	366	288-302	231-241	300	402	318-333	255-266
6125H	-	1500	318	427	337-352	269-281	350	469	372-388	297-311
6125H	-	1500	350	469	370-388	296-310	387	519	411-429	329-344

*kVA is determined by 0.8 power factor

Watercooled Turbocharger and Exhaust Manifold

- Cooler and quieter environment for vessel and crew
- Reduced external connections eliminate hoses and fittings that can leak or break

Directed Top-liner Cooling (8.1L and 12.5L)

- Reduces upper liner temperature by as much as 100 degrees Fahrenheit (38 degrees Celsius)
- Durable and reliable power cylinder components

Replaceable Wet-type Cylinder Liners

- Excellent heat dissipation
- Hardened and precision machined for long life
- Rebuild to original specifications

Internal Balancers (4.5L)

- Low noise and vibration for crew comfort

Corrosion Resistant Components

- Provides engine protection from the effects of seawater

Gear Auxiliary Drive (8.1L and 12.5L)

- Optional auxiliary drive for wash-down pumps, hydraulic oil pumps, and air compressors

Either-side Service

- Oil fill and dipstick combinations
- 4.5L & 6.8L - Remote oil filter for easier service access
- Application and service flexibility to provide installation convenience, plus fast and easy maintenance

Heat Exchanger or Keel Cooled

- High-capacity heat exchanger designed for reliable operation in adverse conditions
- Keel cooler option provides application flexibility

High Torque and Low Rated Rpm

- Enables the engine to turn larger propellers at lower speed for best efficiency
- Excellent vessel control and maneuvering
- Lower rated rpm limits vibration and noise for better crew comfort

- **M1:** For propulsion applications that operate up to 24 hours a day at uninterrupted full power. These applications typically operate over 3,000 hours per year. The M1 rating includes ISO 8665 “standard power” and SAEJ1228 “crankshaft power.”
- **M2:** For propulsion applications that utilize full power up to 16 hours out of each 24-hour period of operation. These applications typically operate at full power as much as 65 percent of the time, and accumulate up to 3,000 hours per year.
- **M3:** For propulsion applications that utilize full power in up to 4 hours out of each 24-hour period of operation. These applications typically operate at full power as much as 35 percent of the time, and accumulate up to 2,000 hours per year.
- **M4:** For propulsion applications that utilize full power for no more than an hour of each 24-hour period of operation. These applications typically operate at full power only 15 percent of the time, and accumulate up to 800 hours per year.
- **M5:** For propulsion applications that utilize full power up to 30 minutes of each 6-hour period of operation. These applications typically operate at full power only 8 percent of the time, and accumulate up to 300 hours per year.

PowerTech™ Marine Propulsion Performance Data

Engine Model	Tier	No. Cylinders	Displacement		Marine Rating	Power Rating		Rated RPM	Peak Torque		Fuel Use		
			L	cu.in.		kW	hp		RPM	Peak Torque		Fuel Use	
										Nm	lb-ft	L/hr	Gal/hr
4045DFM	2	4	4.5	276	M1	60	80.4	2500	1400	296	218	17.9	4.7
4045TFM	2	4	4.5	276	M1	79	106	2400	1600	420	310	21.4	5.7
4045TFM	2	4	4.5	276	M2	90.0	121	2500	1700	448	330	25.4	6.7
4045TFM	2	4	4.5	276	M3	101	135	2600	1800	478	353	29.4	7.8
6068TFM	2	6	6.8	414	M1	118	158	2400	1700	596	440	33.9	9.0
6068TFM	2	6	6.8	414	M2	133	178	2500	1900	637	470	38.3	10.3
6068TFM	2	6	6.8	414	M3	150	201	2600	2000	681	502	44.1	11.7
6068SFM	2	6	6.8	414	M1	136	182	2200	1500	830	612	36.4	9.6
6068SFM	2	6	6.8	414	M2	155	208	2300	1600	853	629	40.1	10.6
6068SFM	2	6	6.8	414	M3	176	236	2400	1600	914	674	45.5	12.0
6068SFM	2	6	6.8	414	M4	199	267	2500	1800	975	719	51.6	13.6
6068SFM	2	6	6.8	414	M5	224	300	2600	2000	1005	741	59.1	15.6
6081AFM	2	6	8.1	496	M1	175	235	2100	1500	1058	780	47.1	12.4
6081AFM	2	6	8.1	496	M2	224	300	2200	1700	1200	885	59.3	15.7
6081AFM	2	6	8.1	496	M3	246	330	2300	1800	1250	922	65.0	17.2
6081AFM	2	6	8.1	496	M4	280	375	2400	1900	1320	973	75.6	20.0
6125AFM	2	6	12.5	766	M1	254	340	1800	1200	1850	1364	69.7	18.4
6125AFM	2	6	12.5	766	M2	290	389	1900	1300	1890	1394	77.1	20.4
6125AFM	2	6	12.5	766	M3	339	454	2000	1300	1890	1394	90.5	23.9
6125AFM	2	6	12.5	766	M4	392	525	2100	1400	2055	1515	109.3	28.9
4045DFM	-	4	4.5	276	M1	56	75	2400	1400	244	180	15	4
4045DFM	-	4	4.5	276	M2	63	85	2500	1400	273	201	17.3	4.6

Engine Model	Tier	No. Cylinders	Displacement		Marine Rating	Power Rating		Rated RPM	Peak Torque		Fuel Use		
			L	cu.in.		kW	hp		Nm	lb-ft	L/hr	Gal/hr	
									RPM				
4045TFM	-	4	4.5	276	M1	78	105	2300	1500	372	274	19.5	5.2
4045TFM	-	4	4.5	276	M2	90	120	2400	1500	412	304	22.7	6
4045TFM	-	4	4.5	276	M3	101	135	2500	1500	460	339	26.3	6.9
4045TFM	-	4	4.5	276	M4	112	150	2600	1800	508	375	29.7	7.8
6068TFM	-	6	6.8	414	M1	115	154	2300	1600	682	503	29.6	7.8
6068TFM	-	6	6.8	414	M2	131	175	2400	1800	688	503	34.7	9.2
6068TFM	-	6	6.8	414	M3	149	200	2500	1800	784	578	38.8	10.3
6068TFM	-	6	6.8	414	M4	168	225	2600	1800	784	578	44.3	11.7
6068SFM	-	6	6.8	414	M1	136	182	2200	1500	830	612	36.4	9.6
6068SFM	-	6	6.8	414	M2	155	208	2300	1600	853	629	40.1	10.6
6068SFM	-	6	6.8	414	M3	176	236	2400	1600	914	674	45.5	12
6068SFM	-	6	6.8	414	M4	199	267	2500	1800	975	719	51.6	13.6
6068SFM	-	6	6.8	414	M5	224	300	2600	2000	1005	741	59.1	15.6
6081AFM	-	6	8.1	496	M1	175	235	2100	1600	1046	772	43.9	11.6
6081AFM	-	6	8.1	496	M2	224	300	2200	1700	1199	884	56.6	15
6081AFM	-	6	8.1	496	M3	246	330	2300	1900	1219	899	62.3	16.5
6081AFM	-	6	8.1	496	M4	280	375	2400	2000	1312	968	72.5	19.2
6125AFM	-	6	12.5	766	M1	254	340	1800	1200	1878	1385	59.2	15.6
6125AFM	-	6	12.5	766	M2	280	375	1900	1200	1878	1385	65.4	17.3
6125AFM	-	6	12.5	766	M3	298	400	2000	1200	1878	1385	69.9	18.5
6125AFM	-	6	12.5	766	M4	336	450	2100	1200	1878	1385	80.4	21.2

Engine Model	Tier	Length		Width		Height		Weight	
		mm	in	mm	in	mm	in	kg	lb
4045DFM	2	903	35.5	712	28.0	903	35.5	437	961
4045DFM	-	885	34.8	712	28.0	903	35.5	437	961
4045TFM	2	1026	40.4	712	28.0	912	35.9	462	1019
4045TFM	-	885	34.8	712	28.0	912	35.9	462	1017
6068TFM	2	1282	50.5	712	28.0	881	34.7	590	1298
6068TFM	-	1141	44.9	712	28.0	881	34.7	590	1298
6068SFM	2	1325	52.2	721	28.4	926	36.5	636	1399
6068SFM	-	1183	46.6	721	28.4	926	36.5	636	1399
6081AFM	2	1299	51.1	856	33.7	1022	40.2	853	1876
6081AFM	-	1300	51.2	787	31.0	1022	40.2	853	1876
6125AFM	2	1731	68.1	849	33.4	1145	45.0	1225	2695
6125AFM	-	1337	52.6	839	33.0	1225	48.2	1225	2695

Dimensions are based on engine with "standard configuration" including flywheel, flywheel housing, and electronics. Actual numbers may vary depending on selected options.

Smooth Operation

- Internal balancers (4.5L), mounting legs, and engine isolators used for low vibration, low noise operation
- Provides comfort for crew and passengers

Reliability and Performance

- Provides the reliability and durability recognized worldwide in John Deere products
- Chosen by the top marine gen-set packages for yacht and commercial on-board power
- Recognized for long hours of reliable service requiring only scheduled maintenance

Economy and Value

- High-pressure fuel systems contribute to excellent fuel economy
- Smoke-free operation
- Totally rebuildable with replaceable wet liners

PowerTech™ Marine Gen Set Engine Ratings

Engine Model	Tier	Rated RPM	Engine Power Prime		Prime Ratings	
			kW	hp	kVA*	kW
4045DFM	2	1800	45.4	60.9	50-52	40-42
4045TFM	2	1800	73	97	80-84	64-67
6068TFM	2	1800	110	147	121-127	97-101
6081AFM	2	1800	194	260	213-223	170-178
6125AFM	2	1800	300	402	300-345	264-276
4045DFM	-	1800	48	64	52-55	42-44
4045TFM	-	1800	71	95	78-81	62-65
6068TFM	-	1800	115	154	124-132	99-106
6081AFM	-	1800	168	225	185-192	148-154

Engine Model	Tier	Rated RPM	Engine Power Prime		Prime Ratings	
			kW	hp	kVA*	kW
6125AFM	-	1800	300	402	330-345	264-276
4045DFM	-	1500	40	54	44-46	35-37
4045TFM	-	1500	55	74	61-64	49-51
4045TFM	-	1500	57	76	62-65	50-52
6068TFM	-	1500	89	119	98-102	78-82
6081AFM	-	1500	139	186	152-160	122-128
6081AFM	-	1500	168	225	185-193	148-155
6125AFM	-	1500	252	338	277-290	222-232

*kVA is determined by 0.8 power factor

NOTE: For detailed information refer to engine performance curves.

With more than 4,000 service locations worldwide, you're never far from the expert service and support you deserve. You'll find an authorized John Deere dealer or engine distributor almost anywhere in the world your John Deere-powered equipment goes to work.

Centralized parts warehouses in the United States and Europe, plus numerous worldwide depots, employ our FLASH overnight parts shipping to ensure you'll never wait long for parts. If the part you need isn't in stock, our state-of-the-art computerized system promptly ships the part to you.

John Deere service personnel are highly-trained technicians. Factory schools keep them on top of changing engine technologies and service techniques. Thousands of technicians attend hands-on training sessions each year.

PowerTech™ Conversions

Brake Horsepower (Bhp)

$$BHP = \frac{RPM \times Torque}{5252}$$

Torque

$$Torque = \frac{BHP \times 5252}{RPM}$$

Fuel Consumption

$$Gal/hr = \frac{BHP \times BSFC}{7.2 \text{ lbs/gal}}$$

Hydraulic Power

$$HP = \frac{PSI \times GPM}{1714}$$

Metric to English

Newton-meter = lb-ft x 1.356

Newton = lb force x 4.448

Meter = ft x 0.3048

Millimeter = in x 25.4

Kilogram = lb x 0.454

Kilopascal = psi x 6.894

Liter = gal x 3.785

Liter = cu in x 0.01639

Kilowatt = hp x 0.746

Celsius = (deg F-32) x 0.556

% Torque Rise=

$\frac{\text{Peak Torque}-\text{Rated Torque}}{\text{Rated Torque}}$