



**JOHN DEERE**



**JOHN DEERE**

*Generator Drive  
Applications*

***Diesel Engine Ratings***

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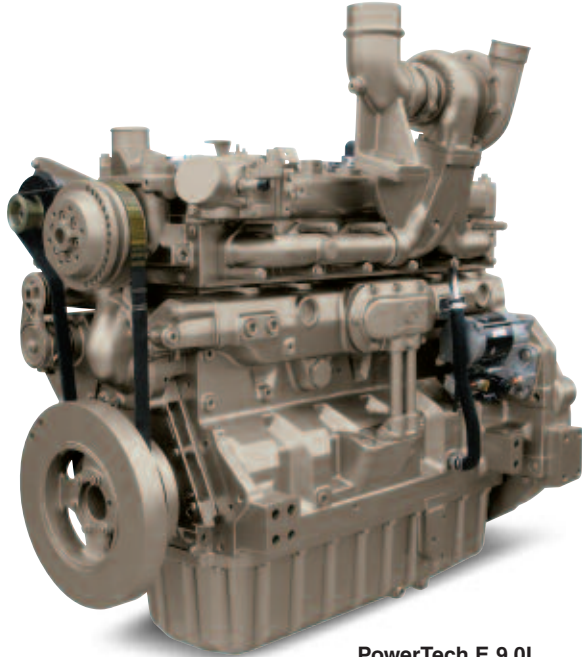
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**BEYOND THE BOUNDARIES**

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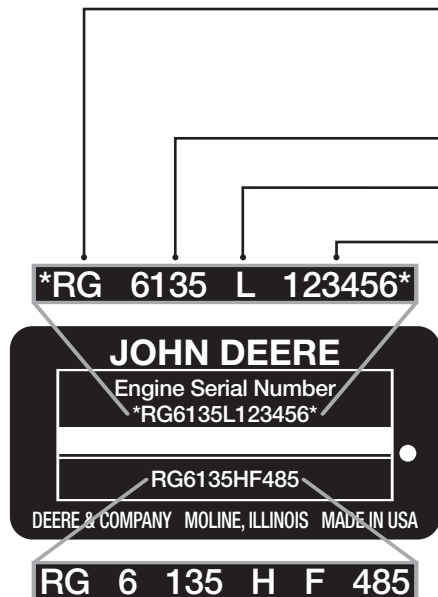


PowerTech E 9.0L

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# Identification plate



### Factory manufactured by

RG	Waterloo, Iowa, USA
CD	Saran, France
PE	Torreón, Mexico
PY	Pune, India

### Number of cylinders and total displacement

6135	6 cylinders, 13.5 liters
6125	6 cylinders, 12.5 liters
6090	6 cylinders, 9.0 liters
6081	6 cylinders, 8.1 liters
6068	6 cylinders, 6.8 liters
4045	4 cylinders, 4.5 liters
4039	4 cylinders, 3.9 liters
5030	5 cylinders, 3.0 liters
3029	3 cylinders, 2.9 liters
4024	4 cylinders, 2.4 liters

### Emissions certificate

A, B, D, H, T	Non-emissions regulated
C, D, E, F, H, T	Tier 1/Stage I
G, J, H, K, S	Tier 2/Stage II
L, M, N, P	Tier 3/Stage III A
R, U, V, W, X, Y, Z	Tier 4/Stage IV

### Engine serial number

### Emissions certification

120, 160, 220, 425	Non-emissions regulated
001, 150, 180, 250	Tier 1/Stage I
270, 275, 070, 475	Tier 2/Stage II
280, 285, 485	Tier 3/Stage III A
281, 290, 295, 495	Interim Tier 4/Stage III B

### Engine controls (starting with some Tier 2/Stage II engines)

0 or 1	Mechanical controls
4 or 5	Electronic controls

### Valves per cylinder (starting with some Tier 2/Stage II engines)

2	2 valves
4	4 valves

### User type

F	OEM (John Deere Power Systems)
XX	Other letters are used to identify John Deere equipment manufacturing locations

### Air intake system

D	Naturally aspirated
T	Turbocharged
A	Turbocharged and aftercooled, air-to-water
H	Turbocharged and aftercooled, air-to-air

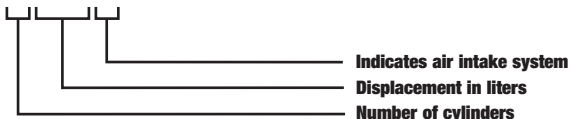
EPA Tier 1/EU Stage I	PowerTech technology
EPA Tier 2/EU Stage II	PowerTech technology
EPA Tier 3/EU Stage III A	PowerTech M, PowerTech E, or PowerTech Plus technology

## Model designation key

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

A model designated as 6135H is a 6-cylinder, 13.5-liter turbocharged and aftercooled, air-to-air engine. A model designated as a 4045T is a 4-cylinder, 4.5-liter turbocharged engine.

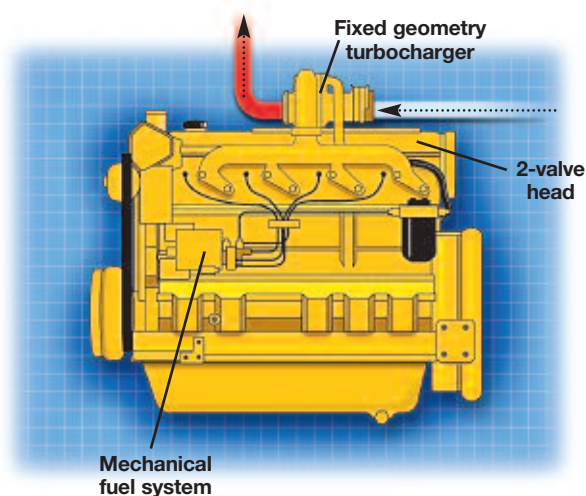
## 6135H



Indicates air intake system  
 Displacement in liters  
 Number of cylinders

# PowerTech M

## 2.4L and 4.5L engines



### 2-valve cylinder head

Cross-flow head design provides excellent breathing from a lower-cost 2-valve cylinder head.

### Mechanical rotary fuel pump

The timing and fuel injection pressures are optimized to maximize performance and fuel economy at a given rated speed (4.5L).

### Mechanical unit fuel pump

This system uses a camshaft-driven pump, connected to the injector by a short fuel line. This short fuel line between the unit pump and the injector helps to alleviate after-injection, secondary injection, and other injection abnormalities (2.4L).

### Fixed geometry turbocharger

Fixed geometry turbochargers are precisely matched to the power level and application.

### Turbocharged

In turbocharged engines, the air is pre-compressed. Due to the higher pressure, more air is supplied into the combustion chamber allowing a corresponding increase in fuel injection, which results in greater engine output (2.4L and 4.5L).

### Air-to-air intercooling

This is the most efficient method of cooling intake air to help reduce engine emissions while maintaining low-speed torque, transient response time, and peak torque. It enables an engine to meet emissions regulations with better fuel economy and the lowest installed costs (4.5L).

### Compact size

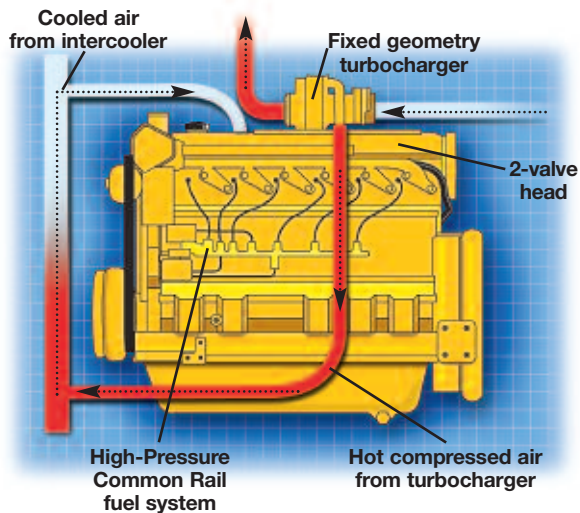
Mounting points are the same as Tier 2/Stage II engine models.

### Additional features

- Self-adjusting poly-vee fan drive
- Forged-steel connecting rods
- Replaceable wet-type cylinder liners (4.5L)
- Either-side service
- Optional final fuel filter with water separator and water-in-fuel sensor (4.5L)
- Optional balancer shafts

# PowerTech E

## 2.4L, 3.0L, 4.5L, 6.8L, and 9.0L engines



### 2-valve cylinder head

Cross-flow head design provides excellent breathing from a lower-cost 2-valve cylinder head (2.4L, 3.0L, 4.5L, and 6.8L).

### 4-valve cylinder head

The 4-valve cylinder head provides excellent airflow resulting in greater low-speed torque and better transient response time (9.0L).

### High Pressure Common Rail (HPCR) and Engine Control Unit (ECU)

The HPCR fuel system provides variable common rail pressure, multiple injections, and higher injection pressures, up to 1600 bar (23,000 psi). It also controls fuel injection timing and provides precise control for the start, duration, and end of injection (4.5L, 6.8L, and 9.0L).

### Electronic Unit Pump (EUP) fuel system

Regulated rated speed flexibility and improved cold-start and warm-up control (2.4L and 3.0L).

### Fixed geometry turbocharger

Fixed geometry turbochargers are precisely matched to the power level and application.

### Turbocharged

In turbocharged engines, the air is pre-compressed. Due to the higher pressure, more air is supplied into the combustion chamber, allowing a corresponding increase in fuel injection, which results in greater engine output.

### Air-to-air intercooling

This is the most efficient method of cooling intake air to help reduce engine emissions while maintaining low-speed torque, transient response time, and peak torque. It enables an engine to meet emissions regulations with better fuel economy and the lowest installed costs.

**Compact size**

Mounting points are the same as Tier 2/Stage II engine models (2.4L, 3.0L, 4.5L, and 6.8L).

**Multiple injection strategy**

The new HPCR fuel system and ECU allow for multiple fuel injections. The number of fuel injections, based on speed and load, help contribute to lower combustion temperatures, which reduce the formation of NOx and particulates. The multiple injection strategy also provides the added benefit of noise reduction (4.5L, 6.8L, and 9.0L).

**John Deere electronic engine controls**

Electronic engine controls monitor critical engine functions, providing warning and/or shutdown to prevent costly engine repairs and eliminate the need for add-on governing components, thus lowering total installed costs. Snapshot diagnostic data can be retrieved using commonly available diagnostic service tools.

Controls utilize new common wiring interface connector for vehicles or available OEM instrumentation packages; new solid conduit and “T” connectors reduce wiring stress, providing greater durability and improving appearance.

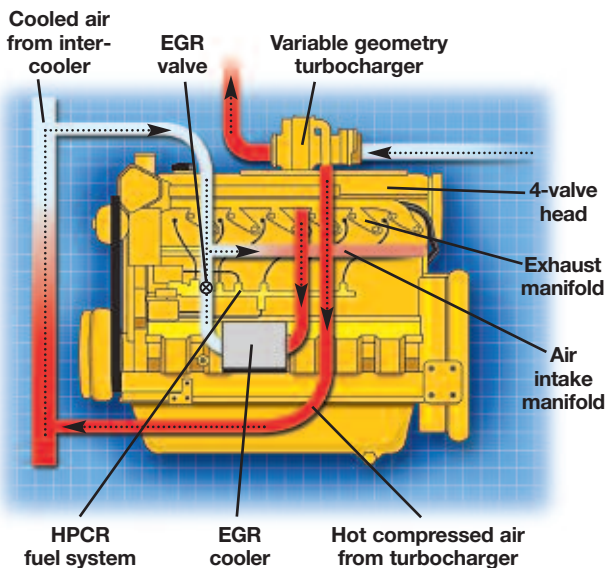
Factory-installed, engine-mounted ECU comes with wiring harness and associated components. Industry standard SAE J1939 interface communicates with other vehicle systems, eliminating redundant sensors and reducing vehicle total installed cost.

**Additional features**

- Self-adjusting poly-vee fan drive
- Forged-steel connecting rods
- Replaceable wet-type cylinder liners (4.5L and 6.8L)
- Either-side service

## PowerTech Plus

### 4.5L, 6.8L, 9.0L, and 13.5L engines



#### High Pressure Common Rail (HPCR) and Engine Control Unit (ECU)

The HPCR fuel system provides variable common rail pressure, multiple injections, and higher injection pressures, up to 1600 bar (23,000 psi). It also controls fuel injection timing and provides precise control for the start, duration, and end of injection (4.5L, 6.8L, and 9.0L).

#### Electronic Unit Injector (EUI) and Engine Control Unit (ECU)

The EUI fuel system provides variable common rail pressure, multiple injections, and higher injection pressures up to 2000 bar (29,000 psi). It also controls fuel injection timing and provides precise control for start, duration, and end of injection (13.5L).

#### 4-valve cylinder head

The 4-valve cylinder head provides excellent airflow resulting in greater low-speed torque and better transient response time. There are the cross-flow design (4.5L, 6.8L, and 13.5L) and the new 4-valve U-flow head design (9.0L).

#### Cooled Exhaust Gas Recirculation (EGR)

EGR cools and mixes measured amounts of cooled exhaust gas with incoming fresh air to lower peak combustion temperatures, thereby reducing NO<sub>x</sub>.

#### Variable Geometry Turbocharger (VGT)

Varies exhaust pressure based on load and speed to ensure proper EGR flow; greater low-speed torque, quicker transient response, higher-peak torque, and best-in-class fuel economy.

#### Air-to-air intercooling

This is the most efficient method of cooling intake air to help reduce engine emissions while maintaining low-speed torque, transient response time, and peak torque. It enables an engine to meet emissions regulations with better fuel economy and the lowest installed costs.



### **Compact size**

- Horsepower/displacement ratio is best-in-class
- Lower installed cost
- Mounting points for Tier 3 engine models same as Tier 2/Stage II engine models

### **John Deere electronic engine controls**

Electronic engine controls monitor critical engine functions, providing warning and/or shutdown to prevent costly engine repairs and eliminate the need for add-on governing components, thus lowering total installed costs. Snapshot diagnostic data can be retrieved using commonly available diagnostic service tools.

Controls utilize new common wiring interface connector for vehicles or available OEM instrumentation packages; new solid conduit and “T” connectors reduce wiring stress and provide greater durability and improved appearance.

Factory-installed, engine-mounted ECU or remote-mounted ECU comes with wiring harness and associated components. Industry-standard SAE J1939 interface communicates with other vehicle systems, eliminating redundant sensors and reducing vehicle installed cost.

### **Additional features**

- Self-adjusting poly-vee fan drive (4.5L, 6.8L, 9.0L, and 13.5L)
- R.H. and L.H. engine-mounted fuel filters (6.8L)
- Single-piece low friction piston (9.0L and 13.5L)
- Low-pressure fuel system with “auto-prime” feature (9.0L and 13.5L)
- Directed top-liner cooling (9.0L and 13.5L)

# Emissions information

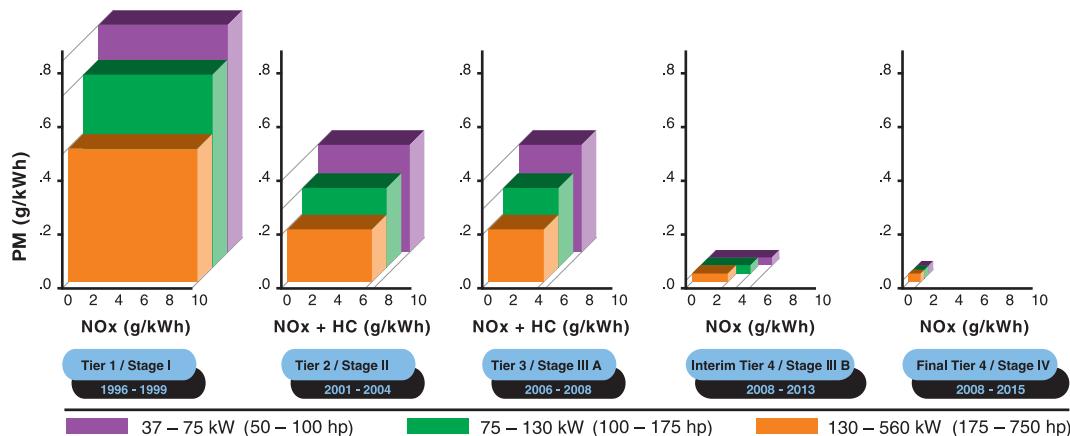
The ultimate in performance, fuel economy, and emissions compliance is available with John Deere engines.

To meet Tier 3 standards, John Deere worked closely with equipment manufacturers to identify engine technologies that best suited their needs. We quickly recognized that no single technology would satisfy the diverse needs of our off-highway customers. This is why we created three engine solutions: PowerTech M, PowerTech E, and PowerTech Plus.

John Deere engines comply with non-road emissions regulations for the U.S. Environmental Protection Agency (EPA), the European Union (EU), and the California Area Resources Board (CARB). John Deere also provides Tier 1/Stage I and Tier 2/Stage II engines for non-regulated countries.



## EPA AND EU NONROAD EMISSIONS REGULATIONS: 37 – 560 kW (50 – 750 hp)



# Non-emissions certified PowerTech

## 50 Hz

Engine model	Rated speed	Engine power standby		Standby ratings	
	rpm	kW	hp	kVA	kWe
3029DF120	1500	31	41	32-34	26-27
3029TF120	1500	42	56	44-46	35-37
4039D <sup>1</sup>	1500	40	54	42-44	34-35
4039T <sup>1</sup>	1500	63	84	67-70	54-56
4045DF150	1500	44	59	46-49	37-39
4045TF120	1500	70	94	73-76	58-61
4045TF250	1500	70	94	74-78	59-62
4045TF220	1500	83	111	88-92	70-74
4045HF120	1500	102	137	108-113	86-90
4045HF475	1500	120	161	125-131	100-104
6068TF150	1500	94	126	100-104	80-83
6068TF250	1500	104	139	110-116	88-93
6068TF120	1500	105	141	111-116	89-93
6068TF220	1500	121	162	129-135	103-108
6068HF250	1500	123	165	130-136	104-109
6068HF120	1500	155	208	165-172	132-138
6068HF120	1500	183	245	194-202	155-162
6068HF475	1500	207	278	216-226	173-181
6081TF001	1500	131	175	142-149	114-119
6081TF001	1500	169	227	183-192	147-153
6081AF001	1500	157	210	170-178	136-142
6081AF001	1500	187	250	203-212	162-170
6081AF001	1500	225	302	244-255	195-204
6081HF001	1500	200	268	217-227	174-181
6081HF001	1500	268	359	291-304	233-243
6125HF070	1500	300	402	326-340	261-272
6125HF070	1500	350	469	380-397	304-317
6125HF070	1500	387	519	420-439	336-351

Engine power prime		Prime ratings		Typical generator efficiency	Typical fan power	GSPU
kW	hp	kVA	kWe	%	kW	
27	36	28-29	22-23	88-92	2.0	X
38	51	40-41	32-33	88-92	2.0	X
36	48	38-40	30-32	88-92	1.5	X
58	77	60-63	48-50	88-92	2.0	X
40	54	41-44	33-35	88-92	2.0	X
63	84	65-68	52-54	88-92	3.5	X
63	84	66-70	53-55	88-92	2.5	X
75	101	79-83	63-66	88-92	4.8	X
91	122	96-100	77-80	88-92	4.0	X
109	146	112-118	90-94	88-92	6.0	
85	114	90-94	72-75	88-92	3.5	
94	126	100-104	80-83	88-92	3.5	
95	127	100-105	80-84	88-92	3.5	X
109	146	115-121	92-97	88-92	4.0	X
111	149	117-123	94-98	88-92	4.5	
140	188	148-155	118-124	88-92	5.5	X
166	223	175-183	140-147	88-92	6.5	X
188	252	195-204	156-163	88-92	10.4	
119	160	129-135	103-108	90-94	4.5	
144	193	155-162	124-130	90-94	6.0	
142	190	154-160	123-128	90-94	5.5	
168	225	182-190	145-152	90-94	6.5	
192	257	207-216	166-173	90-94	8.0	
182	244	197-206	158-165	90-94	7.0	
231	310	249-260	199-208	90-94	9.5	
273	366	295-308	236-247	90-94	10.5	
318	427	344-359	275-287	90-94	12.3	
350	469	379-395	303-316	90-94	13.5	

Non-emissions certified PowerTech

# EU Stage II PowerTech

## 50 Hz

Engine model	Rated speed	Engine power standby		Standby ratings	
	rpm	kW	hp	kVA	kWe
3029TF270	1500	32	42	33-34	26-27
3029HF270	1500	41	55	43-45	34-36
4045TF270	1500	61	81	64-68	51-54
4045HF275	1500	83	111	86-90	69-72
4045HF279	1500	103	138	106-111	85-89
6068HF275	1500	123	165	132-138	105-110
6068HF279	1500	153	205	159-165	127-132
6068HF475	1500	184	245	196-205	157-164
6068HF475	1500	207	278	219-229	175-183
6090HF475	1500	253	339	270-279	216-224
6090HF475	1500	304	408	325-336	260-269
6135HF475	1500	355	476	379-392	304-317
6135HF475	1500	405	543	433-447	346-358
6135HF475	1500	456	612	487-504	390-403

Engine power prime		Prime ratings		Typical generator efficiency	Typical fan power
kW	hp	kVA	kWe	%	kW
29	38	29-30	23-24	88-92	1.9
37	50	39-40	31-32	88-92	2.6
55	74	58-61	47-49	88-92	3.6
75	101	77-81	62-65	88-92	5
94	126	94-99	75-79	88-92	6.2
111	149	118-124	95-99	89-93	4.5
139	186	143-150	114-120	88-92	9.2
166	223	177-185	142-148	89-93	6.5
188	252	198-206	158-165	89-93	10.4
230	308	243-255	196-204	90-93	12.65
274	367	292-302	234-243	90-93	15.2
323	433	345-357	276-285	90-93	17.8
369	494	394-407	315-326	90-93	20.25
415	556	443-458	355-367	90-93	22.8

# Non-emissions certified PowerTech

## 60 Hz

Engine model	Rated speed	Engine power standby		Standby ratings	
	rpm	kW	hp	kVA	kWe
3029DF120	1800	35	47	35-37	28-30
4039DF <sup>1</sup>	1800	49	66	52-54	41-43
4039TF <sup>1</sup>	1800	76	102	81-85	65-68
6068HF475	1800	210	282	223-233	178-186

<sup>1</sup> GSPU only. Not available as bare engine.

Engine power prime		Prime ratings		Typical generator efficiency	Typical fan power
kW	hp	kVA	kWe	%	kW
31	42	31-33	25-26	88-92	3.0
43	58	46-48	37-39	88-92	2.0
69	93	72-76	58-61	88-92	2.5
191	256	201-210	161-168	89-93	10.5

## EPA Tier 1 PowerTech 60 Hz

Engine model	Rated speed	Engine power standby		Standby ratings	
	rpm	kW	hp	kVA	kWe
3029DF120	1800	35	47	35-37	28-30
4045DF150	1800	53	71	55-58	44-46
4045TF150	1800	74	99	78-81	62-65
4045TF150	1800	82	110	85-90	68-72
4045TF250	1800	84	113	88-92	70-74
4045TF250	1800	91	122	95-100	76-80
4045HF150	1800	95	127	99-104	79-83
4045TF250	1800	100	134	105-109	84-87
4045HF150	1800	123	165	129-134	103-107
6068TF150	1800	112	150	116-122	93-98
6068TF150	1800	123	165	129-134	103-107
6068TF250	1800	124	166	129-135	103-108
6068T250	1800	142	190	148-155	118-124
6068H250	1800	148	198	154-161	123-129
6068HF150	1800	187	251	195-204	156-163
6068HF150	1800	210	282	220-230	176-184
6081TF001	1800	157	211	168-175	134-140
6081AF001	1800	187	250	200-209	160-167
6081TF001	1800	194	260	208-217	166-173
6081AF001	1800	224	300	239-250	191-200
6081HF001	1800	240	322	257-268	205-214
6081AF001	1800	259	347	277-289	221-231
6081HF001	1800	308	413	329-344	263-275
6125AF001	1800	280	375	291-305	233-244
6125AF001	1800	300	402	314-327	251-262
6125AF001	1800	330	442	353-368	282-295
6125HF001	1800	360	483	385-402	308-402
6125HF001	1800	420	563	449-469	359-375
6125HF001	1800	460	617	491-514	393-411

Ratings are subject to change.

Engine power prime		Prime ratings		Typical generator efficiency	Typical fan power
kW	hp	kVA	kWe	%	kW
31	42	31-33	25-26	88-92	3.0
48	64	50-52	40-42	88-92	2.6
67	90	70-73	56-58	88-92	3.7
74	99	76-80	61-64	88-92	4.1
76	102	79-82	63-66	88-92	4.1
82	110	85-89	68-71	88-92	4.5
86	115	89-93	71-74	88-92	4.8
90	121	94-98	75-78	88-92	5.0
111	149	115-120	92-96	88-92	6.0
101	135	105-110	84-88	88-92	5.6
111	149	115-120	92-96	88-92	6.3
112	150	116-121	93-97	88-92	6.3
128	172	132-139	106-111	88-92	7.1
133	178	137-144	110-115	88-92	7.5
168	225	174-182	139-146	88-92	9.3
189	253	196-205	157-164	88-92	10.4
142	190	151-158	121-126	90-94	7.8
168	225	178-186	143-149	90-94	9.3
166	223	176-184	141-147	90-94	9.5
201	270	213-223	171-178	90-94	11.2
218	292	232-242	185-194	90-94	11.9
220	295	233-243	186-194	90-94	13.0
263	353	279-291	223-233	90-94	15.3
254	341	264-276	211-221	88-92	14.2
273	366	284-296	227-237	88-92	14.9
300	402	319-333	255-267	90-94	16.4
327	439	348-363	278-291	90-94	17.9
382	512	406-424	325-339	90-94	20.9
418	561	404-421	323-337	90-94	23.1

# EPA Tier 2 PowerTech

## 60 Hz

Engine model	Rated speed	Engine power standby		Standby ratings	
	rpm	kW	hp	kVA	kWe
4024TF270	1800	36	48	38-39	30-31
3029TF270	1800	48	64	50-52	40-42
5030TF270	1800	60	80	63-65	50-52
5030HF270	1800	72	96	75-78	60-63
4045DF270	1800	50	67	52-55	42-44
4045TF270	1800	74	99	77-81	62-65
4045TF275	1800	84	113	88-92	70-73
4045HF275	1800	108	145	113-118	90-94
4045HF275	1800	117	157	121-128	97-102
4045HF475	1800	143	192	148-156	119-124
6068TF275	1800	123	165	129-134	103-108
6068HF275	1800	164	220	171-179	137-143
6068HF275	1800	187	250	195-204	156-163
6068HF275	1800	210	282	219-229	176-184
6068HF475	1800	234	314	245-256	196-205
6081HF070	1800	231	310	249-261	200-208
6081HF070	1800	260	349	281-293	225-235
6081HF070	1800	289	388	312-326	250-261
6081HF070	1800	318	426	343-359	275-287
6125HF070	1800	330	442	353-368	282-295
6125HF070	1800	360	483	385-402	308-322
6125HF070	1800	420	563	449-469	359-375
6125HF070	1800	460	617	492-513	393-411

Engine power prime		Prime ratings		Typical generator efficiency	Typical fan power
kW	hp	kVA	kWe	%	kW
32	43	34-35	27-28	88-92	1.8
44	59	46-48	37-38	88-92	2.4
54	72	56-58	45-47	88-92	3.0
65	87	68-70	54-56	88-92	3.6
46	62	48-50	38-40	88-92	2.5
67	90	70-73	56-58	88-92	3.7
76	102	79-83	64-66	88-92	4.2
98	131	102-107	82-85	88-92	5.4
106	142	109-115	87-92	88-92	5.9
130	174	134-141	107-112	88-92	7.2
112	150	116-122	93-97	88-92	6.2
149	200	155-162	124-130	88-92	8.2
170	228	177-185	141-148	88-92	9.4
191	256	198-207	159-166	88-92	10.5
213	286	221-231	177-185	88-92	11.7
210	282	226-236	181-189	90-94	11.6
236	317	254-266	203-212	90-94	13.0
263	352	283-295	226-236	90-94	14.5
289	388	311-325	249-260	90-94	15.9
300	402	319-333	255-267	90-94	16.4
327	439	348-363	278-291	90-94	17.9
382	512	406-424	325-339	90-94	20.9
418	561	444-464	355-371	90-94	23.0

# EPA Tier 3 PowerTech M

## 60 Hz

Engine model	Rated speed	Engine power standby		Standby ratings	
	rpm	kW	hp	kVA	kWe
4045TF280	1800	56	75	60-63	48-50
4045TF280	1800	63	85	68-70	54-56
4045HF280	1800	74	99	79-83	63-66

Engine power prime		Prime ratings		Typical generator efficiency	Typical fan power
kW	hp	kVA	kWe	%	kW
51	68	54-56	43-45	88-92	1.9
57	76	60-64	48-51	88-92	1.9
67	90	71-75	57-60	88-92	2.2

# EPA Tier 3 PowerTech E

## 60 Hz

Engine model	Rated speed	Engine power standby		Standby ratings	
	rpm	kW	hp	kVA	kWe
4024HF285	1800	60	80	62-65	50-52
5030HF285	1800	72	96	75-79	60-63
4045TF285	1800	74	99	76-79	61-63
4045HF285	1800	94	126	98-103	78-82
4045HF285	1800	99	133	104-108	83-86
4045HF285	1800	118	158	123-129	98-103
4045HF285 <sup>2</sup>	1800	147	197	155-161	124-129
6068HF285	1800	147	197	153-160	122-128
6068HF285	1800	177	237	184-193	147-154
6090HF484 <sup>2</sup>	1800	229	307	242-253	194-202
6090HF484 <sup>2</sup>	1800	258	346	273-285	219-228
6090HF484 <sup>2</sup>	1800	287	285	304-317	243-254
6090HF484 <sup>2</sup>	1800	315	422	333-348	266-278

Engine power prime		Prime ratings		Typical generator efficiency	Typical fan power
kW	hp	kVA	kWe	%	kW
55	74	57-59	45-47	88-92	3.6
65	87	68-70	54-56	88-92	3.6
67	90	68-71	54-57	88-92	5.2
86	115	89-93	71-74	88-92	5.2
90	121	94-98	75-78	88-92	5.2
107	144	111-116	89-93	88-92	6.5
NA	NA	NA	NA	88-92	6.5
134	180	139-145	111-116	88-92	8.1
161	237	166-174	133-139	88-92	9.8
208	279	218-228	175-183	90-94	13.7
235	315	247-258	197-206	90-94	15.5
261	350	274-286	219-229	90-94	18.9
287	284	302-315	241-252	90-94	18.9

<sup>2</sup>Preliminary data, ratings are subject to change.

Ratings are subject to change.

# EPA Tier 3 PowerTech Plus

## 60 Hz

Engine model	Rated speed	Engine power standby		Standby ratings	
	rpm	kW	hp	kVA	kWe
4045HF485	1800	147	197	155-161	124-129
6068HF485	1800	212	284	226-236	181-189
6068HF485	1800	235	315	243-254	194-203
6090HF485	1800	229	307	242-253	194-202
6090HF485	1800	258	346	273-285	219-228
6090HF485	1800	287	385	304-317	243-254
6090HF485	1800	315	422	333-348	266-278
6135HF485	1800	345	463	367-383	293-306
6135HF485	1800	401	538	426-445	341-356
6135HF485	1800	460	617	500-511	400-409

Engine power prime		Prime ratings		Typical generator efficiency	Typical fan power
kW	hp	kVA	kWe	%	kW
134	179	140-146	112-117	88-92	6.5
193	258	205-214	164-171	88-92	6.5
214	286	220-230	176-184	88-92	14.1
208	279	218-228	175-183	90-94	13.7
235	315	247-258	197-206	90-94	15.5
261	350	274-286	219-229	90-94	17.2
287	384	302-315	241-252	90-94	18.9
311	416	330-345	264-276	90-94	19.9
365	489	388-405	310-324	90-94	22.0
419	561	455-465	364-372	92-94	25.3

# EPA Interim Tier 4 PowerTech M

## 60 Hz

Engine model	Rated speed	Engine power standby		Standby ratings	
	rpm	kW	hp	kVA	kWe
4024TF281	1800	36	48	38	30

Engine power prime		Prime ratings		Typical generator efficiency	Typical fan power
kW	hp	kVA	kWe	%	kW
32	43	33-35	27-28	88	1.8

# Marine PowerTech

## generator drive engines

### Non-emissions certified - 50 Hz

Engine model	Rated speed	Engine power prime		Prime ratings	
	rpm	kW	hp	kVA	kWe
4045DFM50	1500	40	54	44-46	35-37
4045DFM70	1500	40	54	44-46	35-37
4045TFM50	1500	57	76	62-65	50-52
4045TFM75	1500	55	74	60-64	48-51
6068TFM50	1500	89	119	98-103	78-82
6068TFM76	1500	89	119	98-103	78-82
6081AFM75	1500	162	217	178-186	142-149

Engine 10% overload power		10% overload ratings		Typical generator efficiency
kW	hp	kVA	kWe	%
44	59	48-51	39-40	88-92
44	59	48-51	39-41	88-92
63	84	68-71	55-57	88-92
61	82	66-70	53-56	88-92
98	131	108-113	86-90	88-92
98	131	108-113	86-90	88-92
178	239	196-205	156-164	88-92

### Non-emissions certified - 60 Hz

Engine model	Rated speed	Engine power prime		Prime ratings	
	rpm	kW	hp	kVA	kWe
4045DFM50	1800	48	64	52-55	42-44
4045TFM50	1800	71	95	78-81	62-65
6068TFM50	1800	115	154	124-132	99-106

Engine 10% overload power		10% overload ratings		Typical generator efficiency
kW	hp	kVA	kWe	%
53	71	58-61	47-49	88-92
78	105	86-89	68-71	88-92
125	168	136-145	108-116	88-92

Ratings are subject to change.

### Emissions certified - 50 Hz

Engine model	Rated speed	Engine power prime		Prime ratings	
	rpm	kW	hp	kVA	kWe
6068SFM75	1500	146	196	160-168	128-134
6125SFM75	1500	307	412	338-353	270-282

Engine 10% overload power		10% overload ratings		Typical generator efficiency
kW	hp	kVA	kWe	%
160	215	176-184	141-147	88-92
338	453	372-388	297-310	88-92

### Emissions certified - 60 Hz

Engine model	Rated speed	Engine power prime		Prime ratings	
	rpm	kW	hp	kVA	kWe
4045DFM70	1800	46	62	50-53	40-42
4045TFM75	1800	73	98	80-84	64-67
6068TFM76	1800	110	147	121-126	97-101
6068SFM75	1800	174	233	191-200	153-160
6081AFM75	1800	195	261	214-224	171-179
6125AFM75	1800	300	402	330-345	264-276
6125SFM75	1800	364	488	400-419	320-335

Engine 10% overload power		10% overload ratings		Typical generator efficiency
kW	hp	kVA	kWe	%
50	67	55-58	44-46	88-92
80	107	88-92	70-74	88-92
121	162	133-138	106-111	88-92
191	256	210-220	168-176	88-92
214	287	235-246	188-197	88-92
330	442	363-378	290-304	88-92
400	536	440-461	352-369	88-92

Ratings are subject to change.

### Generator drive rating (kWe)

$$\begin{aligned} \text{kWe} = & [\text{Engine power (kW)} - \\ & \text{Fan power loss (kW)}] \\ & \times \text{Generator efficiency} \end{aligned}$$

Note: Marine generator sets do not have fan power loss

### Power factor (PF)

$$\begin{aligned} \text{PF} = \text{kWe/kVA} = & \frac{\text{Real power}}{\text{Apparent power}} \\ \text{PF constant} = & 0.80 \end{aligned}$$

### Formulas

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

Liter = gallon x 3.785

Liter = cu in x 0.01639

Horsepower = kW x 1.34

Kilowatt = hp x 0.746

(Kilowatt =  $\frac{\text{volts} \times \text{amps}}{1000}$ )

Celsius = (32° F) x 0.556

**Prime power** is the nominal power an engine is capable of delivering with a variable load for an unlimited number of hours per year. This rating conforms to ISO 3046 and SAE J1995.

**Standby power** is the nominal engine power available at varying load factors for up to 500 hours per year. This rating conforms to ISO 3046 and SAE J1995. The calculated generator set rating range for standby applications is based on minimum engine power (nominal -5%) to provide 100% meet-or-exceed performance for assembled standby generator sets.

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We have centralized parts warehouses in the United States and Europe, plus numerous worldwide depots that employ overnight parts shipping — so you'll never have to wait long for parts. In addition, John Deere service personnel are highly trained technicians who stay on top of changing engine technologies and service techniques.

John Deere dealers and distributors are your best source for service, knowledge, and engine accessories. They're one of the many reasons to specify John Deere engines in your generator sets.