



GILLETTE GENERATORS

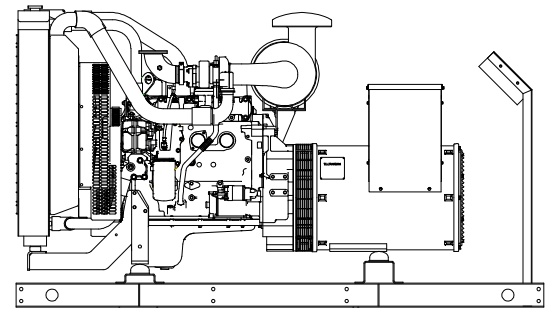
LIQUID COOLED DIESEL ENGINE GENERATOR SET

MODEL
PJD-640
60 HERTZ

Model	HZ	STANDBY 150°C RISE
PJD-640-60 HERTZ	60	64

STANDARD FEATURES

- All generator sets are USA prototype built and thoroughly tested. Production models are USA factory built and 100% load tested.
- All generator sets meet NFPA-110, Level 1, when equipped with the necessary accessories and installed per NFPA standards.
- All generators are UL-1446 certified.
- Solid state, frequency compensated voltage regulation is standard on all gen-sets.
- Electronic governor for precise frequency regulation.
- Deep Sea "7420" digital controller allows programming to basic engine functions in the field. Controller has stop-manual-auto mode and engine shutdowns, signaled by LCD indicators.
- All generator set control systems components and accessories provide a 1-year limited warranty at time of initial start-up. Generators and engines are governed by separate warranties.
- PJD Generator Sets: There is no enclosure, so gen-set must be placed within a weather protected area, un-inhabited by humans or animals, with proper ventilation. Silencer not supplied, as installation requirements are not known. However, this item is available as optional equipment.
- PJD Frame: The frame is designed to be as wide as the gen-sets radiator, so that the gen-set can fit within a standard 30" wide doorway.



"PJD" GEN-SET

GENERATOR RATINGS

GENERATOR MODEL	VOLTAGE		PH	HZ	150°C RISE STANDBY RATING		POWER LEAD CONNECTIONS
	L-N	L-L			KW/KVA	AMP	
PJD-640-1-1	120	240	1	60	64/64	267	4 LEAD DEDICATED 1 PH
PJD-640-3-2	120	208	3	60	64/80	222	12 LEAD LOW WYE
PJD-640-3-3	120	240	3	60	64/80	193	12 LEAD HIGH DELTA
PJD-640-3-4	277	480	3	60	64/80	96	12 LEAD HIGH WYE

RATINGS: All single phase gen-sets are dedicated 4 lead windings, rated at unity (1.0) power factor. All three phase gen-sets are 12 lead windings, rated at .8 power factor. 150° C "STANDBY RATINGS" are strictly for gen-sets that are used for back-up emergency power to a failed normal utility power source. This standby rating allows varying loads, with no overload capability, for the entire duration of utility power outage. All gen-set power ratings are based on temperature rise measured by resistance method as defined by MIL-STD 705C and IEEE STD 115, METHOD 6.4.4. All generators have class H (180°C) insulation system on both rotor and stator windings. All factory tests and KW/KVA charts shown above are based 150°C (standby) R/R winding temperature, within a maximum 40°C ambient condition. Generators operated at standby power ratings must not exceed the temperature rise limitation for class H insulation system, as specified in NEMA MG1-22.40. Specifications & ratings are subject to change without prior notice.

APPLICATION AND ENGINEERING DATA FOR MODEL PJD-640-60 HZ

GENERATOR SPECIFICATIONS

Manufacturer.....Stamford Electric Generators
Model & Type.....UCI224F-06, 4 Pole, 4 Lead, Single Phase
..... UCI224F-311, 4 Pole, 12 Lead re-connectable, Three Phase
Exciter.....Brushless, shunt excited
Voltage Regulator.....Solid State, HZ/Volts
Voltage Regulation.....½%, No load to full load
Frequency.....60 HZ
Frequency Regulation.....± ½% (½ cycle, no load to full load)
Unbalanced Load Capability.....100% of standby amps
Total Stator and Load Insulation.....Class H, 180°C
Temperature Rise.....150°C R/R, standby rating @ 40°C amb.
1 Ø Motor Starting @ 30% Voltage Dip (240V).....135 kVA
3 Ø Motor Starting @ 30% Voltage Dip (208-240V).....165 kVA
3 Ø Motor Starting @ 30% Voltage Dip (480V).....225 kVA
Bearing.....1, Pre-lubed and sealed
Coupling.....Direct flexible disc.
Total Harmonic Distortion.....Max 3½% (MIL-STD705B)
Telephone Interference Factor.....Max 50 (NEMA MG1-22)
Deviation Factor.....Max 5% (MIL-STD 405B)
Ltd. Warranty Period.....24 Months from date of start-up or
.....1000 hours use, first to occur.

GENERATOR FEATURES

- World Renown Stamford Electric Generator having UL-1446 certification.
- Full generator protection with **Deep Sea “7420”** controller, having UL-508 certification.
- Automatic voltage regulator with over-excitation, under-frequency compensation, under-speed protection, and EMI filtering. Entire solid-state board is encapsulated for moisture protection.
- Generator power ratings are based on temperature rise, measured by resistance method, as defined in MIL-STD 705C and IEEE STD 115, Method 6.4.4.
- Power ratings will not exceed temperature rise limitation for class H insulation as per NEMA MG1-22.40.
- Insulation resistance to ground, exceeds 1.5 meg-ohm.
- Stator receives 2000 V. hi-potential test on main windings, and rotor windings receive a 1500 V. hi-potential test, as per MIL-STD 705B.
- Full amortisseur windings with UL-1446 certification.
- Complete engine-generator torsional acceptance, confirmed during initial prototype testing.
- Full load testing on all engine-generator sets, before shipping.
- Self ventilating and drip-proof & revolving field design

ENGINE SPECIFICATIONS AND APPLICATIONS DATA

ENGINE

Manufacturer.....John Deere
Model and Type.....4045TF285, 4 cycle, liquid Cooled
Aspiration.....Turbocharged
Cylinder Arrangement.....4 Cylinders, In-Line
Displacement Cu. In. (Liters).....275(4.5)
Bore & Stroke In. (Cm.).....4.9 x 5.0 (10.6 x 12.7)
Compression Ratio.....19.0:1
Main Bearings & Style.....6, Replaceable Inserts
Cylinder Head.....Cast Iron
Pistons.....4, Aluminum Alloy
Crankshaft.....Ductile Iron
Exhaust Valve.....Stainless Steel
Governor.....JDEC, Electronic Level, EUP
Frequency Regulation.....± 1/4%
Air Cleaner.....Dry, Replaceable Cartridge
Engine Speed.....1800 rpm
Max Power, bhp (kwm) Standby.....99 (74)
BMEP: psi (kpa) Standby.....159 (1096)
Ltd. Warranty Period.....24 months or 2000 hrs, first to occur

FUEL SYSTEM

Type.....Diesel Fuel Oil (ASTM No. 2-D)
Combustion System.....Direct Injection
Fuel Injection Pump.....Stanadyne Rotary Type
12 VDC GLO_PLUGS.....Standard Equipment
Fuel Filter and Water Separator.....Yes

FUEL CONSUMPTION

GAL/HR (LITER/HR)	STANDBY
100% LOAD	5.0(18.9)
75% LOAD	3.6(13.6)
50% LOAD	2.4(9.1)

OIL SYSTEM

Type.....Full Pressure
Oil Pan Capacity qt. (L).....11.0 (10.4)
Oil Pan Cap. W/ filter qt. (L).....11.9 (11.3)
Oil Filter.....1, Replaceable Spin-On

ELECTRICAL SYSTEM

Ignition System.....Electronic
Eng. Alternator and Starter:
Ground.....Negative
Volts DC.....12
Max. Amp Output of Alternator.....55
Recommended Battery to -18°C (0°F):..12 VDC, Size BCI# 24F
Max Dimensions: ..10 3/4" lg X 6 3/4" wi X 9" hi, with standard round posts. Min. output at 600 CCA. Battery tray (max. dim. at 12"lg x 7"wi), hold down straps, battery cables, and battery charger, is furnished. Installation of (1) starting battery is required, with possible higher AMP/HR rating, as described above, if normal environment averages -13°F (-25°C) or cooler.

CERTIFICATIONS

All engines are EPA emergency stationary emissions certified.
All stationary diesel engines are Tier III compliant.

APPLICATION AND ENGINEERING DATA FOR MODEL PJD-640-60 HZ

COOLING SYSTEM (CHARGE AIR COOLED)

Type of System Pressurized, closed recovery
 Coolant Pump Pre-lubricated, self-sealing
 Cooling Fan Type (no. of blades) Pusher (10)
 Fan Diameter inches (cm) 21" (533)
 Ambient Capacity of Radiator °F (°C)..... 125 (52)
 Engine Jacket Coolant Capacity Qt. (L) 3.1(2.9)
 Radiator Coolant Capacity Qt. (L)..... 10.0 (9.48)
 Engine Heat Reject. Btu/min. (Kw)..... 2789 (49)
 Water Pump Capacity gpm (L/min)..... 48 (180)
 Heat Reject Coolant: Btu/min (kw) 2789 (49)
 Low Coolant Level Shutdown..... Standard
 Note: Coolant temp., shut-down switch setting at 220°F (104°C) with 50/50 (water/antifreeze) mix.

COOLING AIR REQUIREMENTS

Combustion Air cfm (m³/min) 191 (5.4)
 Max. Air Intake restriction:
 Clean Air Cleaner, H₂O (kpa)..... 15 (3.75)
 Intake manifold pressure, psi (kpa)..... 20 (189)
 Max. Allowable Temp. Rise Amb,
 Air to Eng. Inlet, ° F (° C) 15 (8)
 Radiator Cooling Air, SCFM (m³/min)..... 3400 (96)

EXHAUST SYSTEM

Exhaust Outlet Size 2.5"
 Max. Back Pressure in H₂O (kpa)..... 30 (7.5)
 Exhaust Flow, at rated KW, cfm (m³/min) 501 (14.2)
 Exhaust Temp, at rated KW, °F (°C)..... 1155 (624)

SOUND LEVELS MEASURED IN dB(A)

	Open Set
Level 1, Residential Silencer.....	79
Level 2, Critical Silencer	77

Note: Open sets (no enclosure) has (3) optional silencer system choices due to unknown job-site applications. Sound tests are averaged from several test points and taken at 23 ft. (7 m) from source of noise at normal operation.

DERATE GENERATOR FOR ALTITUDE

3% per 1000 ft. (305m) above 3000 ft. (914m) from sea level

DERATE GENERATOR FOR TEMPERATURE

2% per 10°F (5.6°C) above 85°F (29.4°C)

DIMENSIONS AND WEIGHTS

	Open Set
Length in (cm).....	88 (223)
Width in (cm).....	28 (71)
Height in (cm).....	52 (132)
1 Ø Net Weight lbs (kg).....	1465 (664)
1 Ø Ship Weight lbs (kg)	1565 (709)
3Ø Net Weight lbs (kg).....	1415 (641)
3Ø Ship Weight lbs (kg)	1515 (687)

DEEP SEA 7420 MICROPROCESSOR CONTROLLER

Deep Sea 7420



The “7420” controller is an auto start mains (utility) failure module for single gen-set applications. This controller includes a backlit LCD display which continuously displays the status of the engine and generator at all times.

The “7420” controller will also monitor speed, frequency, voltage, current, oil pressure, coolant temp., and fuel levels. These modules have been designed to display warning and shut down status. It also includes: (11) configurable inputs • (8) configurable outputs • voltage monitoring • mains (utility) failure detection • (250) event logs • configurable timers • automatic shutdown or warning during fault detection • remote start (on load) • engine preheat • advanced metering capability • hour meter • text LCD displays • protected solid state outputs • test buttons for: stop/reset • manual mode • auto mode • lamp test • start button • power monitoring (kWh, kVAr, kVAh, kVArh)

This controller includes expansion features including RS232, RS484 (using MODBUS-RTU/TCP), direct USB connection with PC, expansion optioned using DSENet for remote annunciation and remote relay interfacing for a distance of up to 3300FT. The controller software is freely downloadable from the internet and allows monitoring with direct USB cable, LAN, or by internet via the built in web interface.

STANDARD FEATURES OF PJD SERIES ARE:

Solid State Digital Microprocessor providing automatic engine start-stop; auto shutdown for low oil, high temperature, over speed, under speed, engine fail, engine crank failure (after 3 failed crank attempts); battery charge fail; a “automatic mode off” warning indicator and a built-in (10) second engine start delay and (2) minute engine cool down delay. Timer cycles can be disabled in the field if application requirements so dictate.

STANDARD FEATURES FOR MODEL PJD-640-60 HZ

STANDARD FEATURES

CONTROL PANEL:

- Deep Sea "7420" digital microprocessor with logic allows programming in the field. Controller has:
- STOP-MANUAL-AUTO modes and automatic engine shutdowns, signaled by full text LCD indicators:
 - Low oil pressure
 - High engine temp
 - Low Radiator Level
 - Three auxiliary alarms
 - Battery fail alarm
 - Engine fail to start
 - Engine over speed
 - Engine under speed
 - Over & under voltage
- Also included is tamper-proof engine hour meter

ENGINE:

- Full flow oil filter • Air filter • Oil pump • Solenoid type starter motor • Hi-temp radiator • Jacket water pump
- Thermostat • Pusher fan and guard • Exhaust manifold
 - 12 VDC battery charging alternator • "Isochronous" duty, electronic governor • Vibration isolators • Closed coolant recovery system with 50/50 water to anti-freeze mixture

AC GENERATOR SYSTEM:

- AC generator • Shunt excited • Brushless design • Direct connection to engine with flex disc • Class H, 180°C insulation • Self ventilated • Drip proof construction

VOLTAGE REGULATOR:

- ½% Voltage regulation • EMI filter • Under-speed protection • Over-excitation protection • total encapsulation

DC ELECTRICAL SYSTEM:

- Battery tray • Battery cables • Battery hold down straps
- 2-stage battery float charger with maintaining & recharging automatic charge stages

Design & specifications subject to change without prior notice. Dimensions shown are approximate. Contact Gillette for certified drawings. DO NOT USE DIMENSIONS FOR INSTALLATION PURPOSES.

