



TAW POWER SYSTEMS, INC.

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Submittal Package

Job Name: Regency Apartments

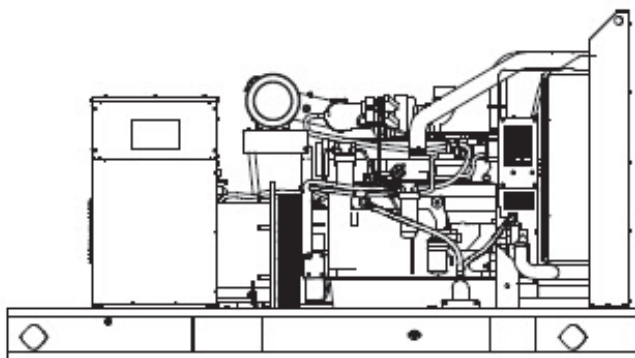
Quote: 0026352914

We are pleased to offer the following submittal for your consideration.

Thank you, Luis Robles, Tampa Armature Works

KOHLER.Power Systems

Spec Sheets



Standard Features

- Kohler Co. provides one-source responsibility for the generating system and accessories.
- The generator set and its components are prototype-tested, factory-built, and production-tested.
- The 60 Hz generator set offers a UL 2200 listing.
- The generator set accepts rated load in one step.
- The 60 Hz generator set meets NFPA 110, Level 1, when equipped with the necessary accessories and installed per NFPA standards.
- A one-year limited warranty covers all systems and components. Two- and five-year extended warranties are also available.
- Tier 3 EPA-certified for Stationary Emergency Applications

Alternator Features

- The unique Fast-Response X excitation system delivers excellent voltage response and short circuit capability using a rare-earth, permanent magnet (PM)-excited alternator.
- The brushless, rotating-field alternator has broad range reconnectability.

Other Features

- Kohler designed controllers for guaranteed system integration and remote communication.
- The low coolant level shutdown prevents overheating (standard on radiator models only). Integral vibration isolation eliminates the need for under-unit vibration spring isolators.
- Multiple circuit breaker configurations.

Generator Set Ratings

Alternator	Voltage	Ph	Hz	Standby 130C Ratings	
				kW/kVA	Amps
4S13X	120/208	3	60	180 / 225	625

RATINGS: All three-phase units are rated at 0.8 power factor. All single-phase units are rated at 1.0 power factor.

Standby Ratings: The standby rating is applicable to varying loads for the duration of a power outage. There is no overload capability for this rating.

Prime Power Ratings: At varying load, the number of generator set operating hours is unlimited.

A 10% overload capacity is available for one hour in twelve. Ratings are in accordance with ISO-8528-1 and ISO-3046-1. For limited running time and continuous ratings, consult the factory.

Obtain technical information bulletin (TIB-101) for ratings guidelines, complete ratings definitions, and site condition derates.

The generator set manufacturer reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever.

Model: 180REOZJG, continued

Alternator Specifications

Specifications	Alternator
Alternator manufacturer	Kohler
Type	4-Pole, Rotating-Field
Exciter type	Brushless, Rare-Earth Permanent-Magnet
Leads, quantity	12, Reconnectable
Voltage regulator	Solid State, Volts/Hz
Insulation	NEMA MG1
Insulation: Material	Class H
Insulation: Temperature Rise	130°C, Standby
Bearing: quantity, type	1, Sealed
Coupling	Flexible Disc
Amortisseur windings	Full
Voltage regulation, no-load to full-load RMS	Controller Dependent
One-Step Load Acceptance	100% of rating
Unbalanced load capability	100% of Rated Standby Current
• NEMA MG1, IEEE, and ANSI standards compliance for temperature rise and motor starting. • Sustained short-circuit current of up to 300% of the rated current for up to 10 seconds. • Sustained short-circuit current enabling down stream circuit breakers to trip without collapsing the alternator field. • Self-ventilated and dripproof construction. • Vacuum-impregnated windings with fungus-resistant epoxy varnish for dependability and long life. • Superior voltage waveform from a two-thirds pitch stator and skewed rotor.	

Engine

Engine Specification

Engine Manufacturer	John Deere
Engine Model	6068HFG82
Engine: type	4-Cycle, Turbocharged, Charge Air-Cooled
Cylinder arrangement	6 Inline
Displacement, L (cu. in.)	6.8 (415)
Bore and stroke, mm (in.)	106 x 127 (4.19 x 5.00)
Compression ratio	17.0:1
Piston speed, m/min. (ft./min.)	457 (1500)
Main bearings: quantity, type	7, Replaceable Insert
Rated rpm	1800
Max. power at rated rpm, kWm (BHP)	212 (284)
Cylinder head material	Cast Iron
Crankshaft material	Forged Steel
Valve (exhaust) material Intake	Chromium-Silicon Steel
Valve (exhaust) material Exhaust	Stainless Steel
Governor: type, make/model	JDEC Electronic L14 Denso HP3
Frequency regulation, no-load to-full load	Isochronous
Frequency regulation, steady state	±0.25%
Frequency	Field-Convertible
Air cleaner type, all models	Dry

Model: 180REOZJG, continued

Exhaust

Exhaust System

Exhaust Manifold Type	Dry
Exhaust flow at rated kW, m3/min. (cfm)	29.9 (1056)
Exhaust temperature at rated kW, dry exhaust, °C (°F)	483 (901)
Maximum allowable back pressure, kPa (in. Hg)	Min 3 (1.13) Max 7.5 (2.2)
Exh. outlet size at eng. hookup, mm (in.)	98 (3.86)

Engine Electrical

Engine Electrical System

Battery charging alternator	24 Volt
Battery charging alternator: Ground (negative/positive)	Negative
Battery charging alternator: Volts (DC)	24
Battery charging alternator: Ampere rating	45
Starter motor rated voltage (DC)	24
Battery, recommended cold cranking amps (CCA): Qty., CCA rating each	Two, 950
Battery voltage (DC)	12

Fuel

Fuel System

Fuel type	Diesel
Fuel supply line, min. ID, mm (in.)	11.0 (0.44)
Fuel return line, min. ID, mm (in.)	6.0 (0.25)
Max. lift, fuel pump: type, m (ft.)	Electronic, 1.8 (6.0)
Max. fuel flow, Lph (gph)	92.7 (24.5)
Max. fuel pump restriction, kPa (in. Hg)	20 (5.9)
Fuel prime pump	Manual
Fuel Filter Secondary	2 Microns @ 98% Efficiency
Fuel Filter Primary	30 Microns
Fuel Filter Water Separator	Yes
Recommended fuel	#2 Diesel

Lubrication

Lubrication System

Type	Full Pressure
Oil pan capacity, L (qt.)	32.5 (34.4)
Oil pan capacity with filter, L (qt.)	33.4 (35.3)
Oil filter: quantity, type	1, Cartridge
Oil cooler	Water-cooled

Model: 180REOZJG, continued

Cooling

Radiator System

Ambient temperature, °C (°F)	50 (122)
Engine jacket water capacity, L (gal.)	11.9 (3.2)
Radiator system capacity, including engine, L (gal.)	27.6 (7.3)
Engine jacket water flow, Lpm (gpm)	180 (48)
Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.)	85.2 (4850)
Heat rejected to air charge cooler at rated kW, dry exhaust, kW (Btu/min.)	47.3 (2692)
Water pump type	Centrifugal
Fan diameter, including blades, mm (in.)	787 (31)
Fan, kWm (HP)	10.1 (13.5)
Max. restriction of cooling air, intake and discharge side of radiator, kPA (in. H2O)	0.125 (0.5)

* Enclosure with enclosed silencer reduces ambient temperature capability by 5°C (9°F).

Operation Requirements

Air Requirements

Radiator-cooled cooling air, m3/min. (scfm) *	368.1 (13000)
Combustion air, m3/min. (cfm)	16.4 (579)
Heat rejected to ambient air: Engine, kW (Btu/min.)	37.7 (2152)
Heat rejected to ambient air: Alternator, kW (Btu/min.)	14.4 (820)
Radiator-cooled cooling air, m3/min. (scfm) *	368.1 (13000)
Combustion air, m3/min. (cfm)	16.4 (579)
Heat rejected to ambient air: Engine, kW (Btu/min.)	37.7 (2152)
Heat rejected to ambient air: Alternator, kW (Btu/min.)	14.4 (820)

*Air density = 1.20 kg/m3 (0.075 lbm/ft3)

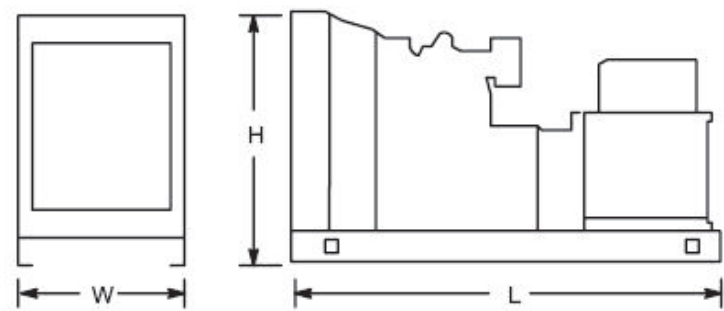
Fuel Consumption

Diesel, Lph (gph), at % load	Rating
Standby Fuel Consumption at 100% load	51.8 Lph (13.7 gph)
Standby Fuel Consumption at 75% load	42.7 Lph (11.3 gph)
Standby Fuel Consumption at 50% load	28.9 Lph (7.6 gph)
Standby Fuel Consumption at 25% load	16.6 Lph (4.4 gph)
Prime Fuel Consumption at 100% load	48.4 Lph (12.8 gph)
Prime Fuel Consumption at 75% load	39.9 Lph (10.6 gph)
Prime Fuel Consumption at 50% load	26.7 Lph (7.0 gph)
Prime Fuel Consumption at 25% load	15.3 Lph (4.1 gph)

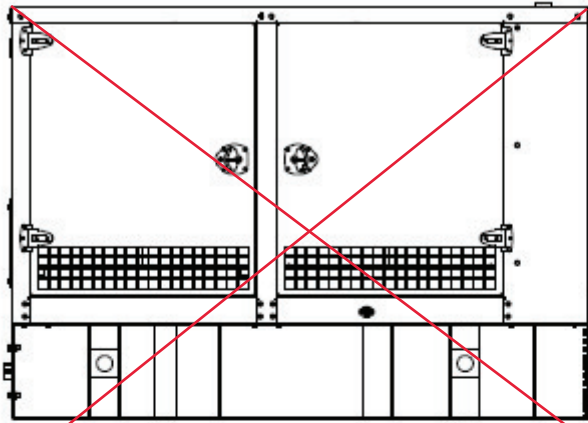
Dimensions and Weights

Dim Weight Spec	Dim Weight Value
Overall Size, L x W x H, mm (in.):	3000 x 1300 x 1668 (118.1 x 51.2 x 65.7)
Weight (radiator model), wet, kg (lb.):	1147 (3190)

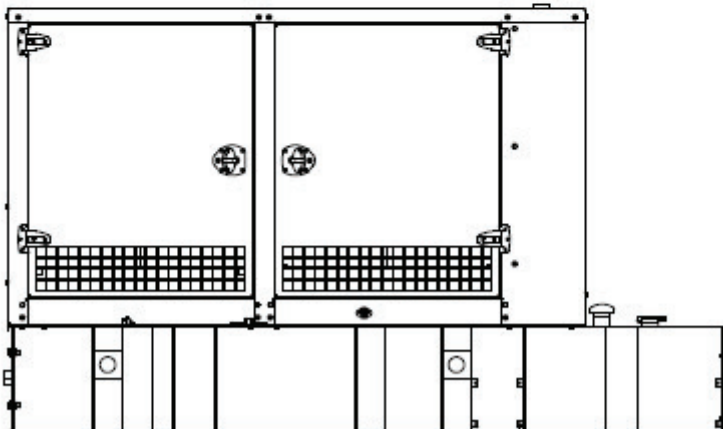
Model: 180REOZJG, continued



NOTE: This drawing is provided for reference only and should not be used for planning installation. Contact your local distributor for more detailed information.



Enclosure with Standard Subbase Fuel Tank



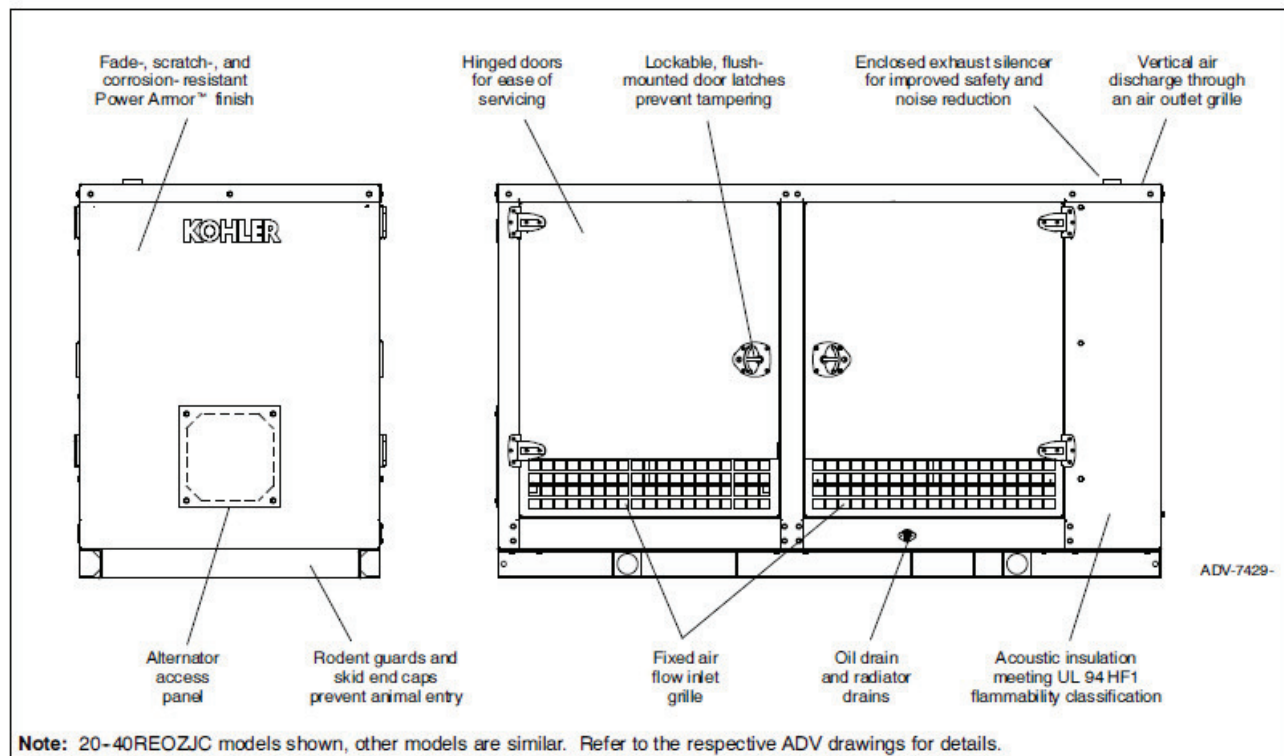
Enclosure with State Code Subbase Fuel Tank

Sound Enclosure Standard Features

- Internal-mounted critical silencer and flexible exhaust connector.
- Lift base-mounted or tank mounted aluminum construction with hinged doors. Aluminum enclosures are recommended for high humidity and/or high salt/coastal regions
- Fade-, scratch-, and corrosion-resistant Kohler® Power Armor automotive-grade textured finish.
- Enclosure has four large access doors which allow for easy maintenance.
- Lockable, flush-mounted door latches.
- Vertical air inlet and outlet discharge to redirect air and reduce noise.
- Sound-attenuated enclosure that uses up to 51 mm (2in.) of acoustic insulation.

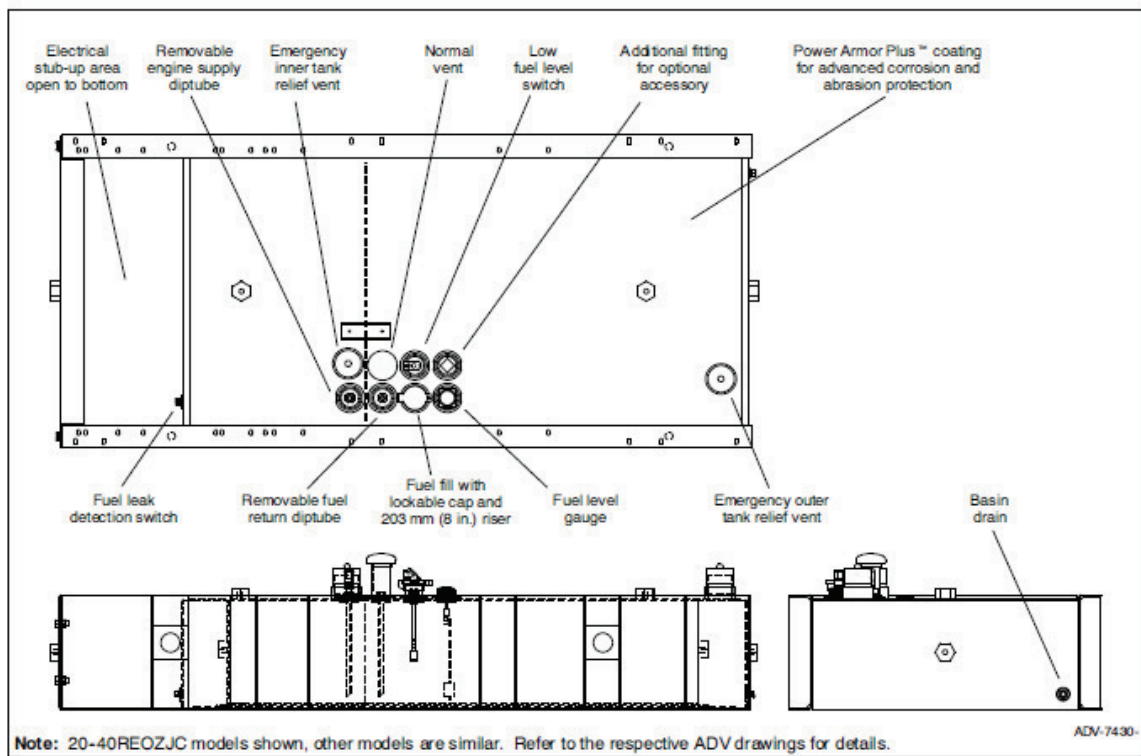
Subbase Fuel Tank Features

- The fuel tank has a Power Armor Plus textured epoxy-based rubberized coating.
- The above-ground rectangular secondary containment tank mounts directly to the generator set, below the generator set skid (subbase).
- Both the inner and outer tanks have emergency relief vents.
- Flexible fuel lines are provided with subbase fuel tank selection.
- The secondary containment generator set base tank meets UL 142 tank requirements. The inner (primary) tank is sealed inside the outer (secondary) tank. The outer tank contains the fuel if the inner tank leaks or ruptures.
- State tanks with varying capacities are an available option. Florida Dept. of Environmental Protection (FDEP) File No. EQ-634 approved.



Sound Enclosure Features

- Available in aluminum 3.2mm (0.125 in.) formed panel, solid construction. Preassembled package offering corrosion resistant, dent resilient structure mounting directly to lift base or fuel tank.
- Power Armor automotive-grade finish resulting in advanced corrosion and abrasion protection as well as enhanced edge coverage and color retention.
- Internal exhaust silencer offering maximum component life and operator safety.
- Interchangeable modular panel construction. Allows complete serviceability or replacement without compromising enclosure design.
- Cooling/combustion air intake with a horizontal air inlet. Sized for maximum cooling airflow.
- Service access. Multi-personnel doors for easy access to generator set control and servicing of the fuel fill, fuel gauge, oil fill and battery.
- Cooling air discharge. Weather protective design featuring vertical air discharge. Redirects cooling air up and above the enclosure to reduce ambient noise.
- Attenuated design. Acoustic insulation UL 94 HF1 listed for flame resistance offering up to 51 mm (2 in.) mechanically restrained acoustic insulation.
- Cooling air discharge. The sound enclosures include acoustic insulation with urethane film.
- Note: Installing an additional length of exhaust tail pipe may increase backpressure levels. Please refer to the generator set spec sheet for the maximum backpressure value.



- Extended operation. Usable tank capacities offers full load standby operation of up to 72 hours.
- Power Armor Plus textured epoxy-based rubberized coating that creates an ultra-thick barrier between the tank and harsh environmental conditions like humidity, saltwater, and extreme temperatures, and provides advanced corrosion and abrasion protection.
- UL listed. Secondary containment generator set base tank meeting UL 142 tank requirements.
- NFPA compliant. Designed to comply with the installation standards of NFPA 30 and NFPA 37.
- Integral external lift lugs. Enables crane with spreader-bar lifting of the complete package (empty tank, mounted generator set, and enclosure) to ensure safety.
- Emergency pressure relief vents. Meets UL requirements; ensures adequate venting of inner and outer tank under extreme pressure and/or emergency conditions.
- Normal vent with cap. Vent is raised above lockable fuel fill.
- Low fuel level switch. Annunciates a 50% low fuel level condition at generator set control.
- Leak detection switch. Annunciates a contained primary tank fuel leak condition at generator set control.
- Electrical stub-up.
- State tank designed to comply with the installation standards of the Florida Dept. of Environmental Protection (FDEP) File No. EQ-634.

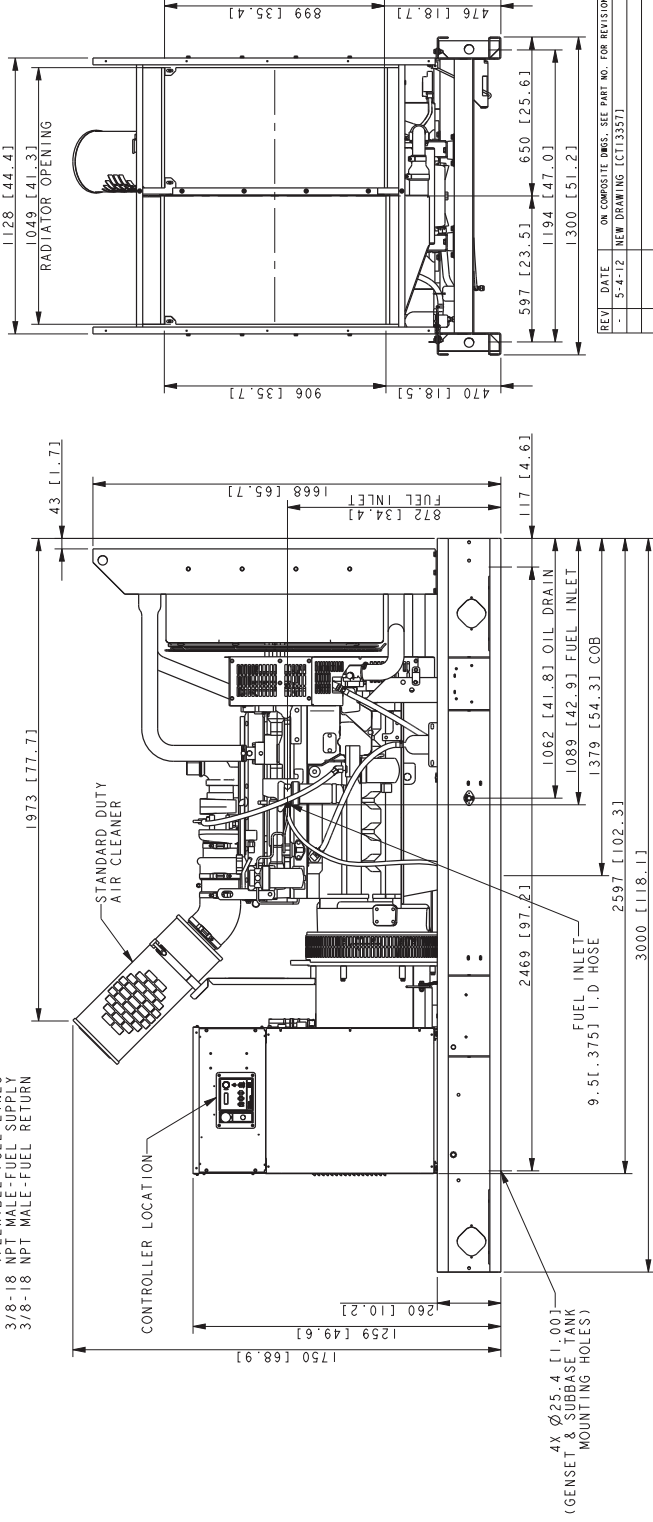
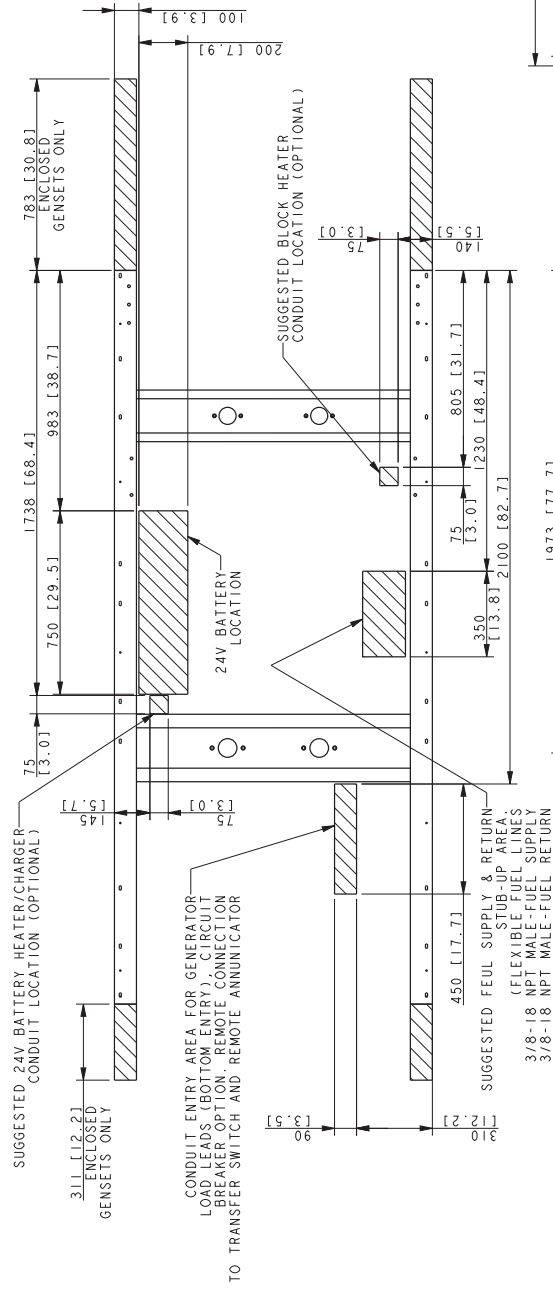
Fuel Tank Capacity, L (gal.)	Est. Fuel Supply Hours at 60 Hz with Full Load	Enclosure and Fuel Tank Length, mm (in.)	Enclosure and Fuel Tank Width, mm (in.)	Enclosure and Fuel Tank Weight, kg (lb.)	Enclosure and Fuel Tank Height, mm (in.)	Fuel Tank Height (H), mm (in.)	Sound Pressure Level, dB(A)
Lift base	0	4094 (161.2)	1338 (52.7)	1780 (3925)	2038 (80.2)	0 (0)	72
1556 (416)	24/32	5008 (197.2)	1338 (52.7)	3014 (6646)	2601 (102.4)	457 (18)	72

Note: Refer to the respective ADV drawings for details.

Note: Refer to TIB-114 for generator sound data.

Max. weight includes the generator set (wet), enclosure, silencer, and tank (no fuel). The generator set weight represents using the largest alternator option. The enclosure weight is with acoustic insulation added.

Dimensional Drawings



INSTALLATION NOTE

IF SUBBASE FUEL TANK AND/OR SOUND HOUSING IS USED, REFER TO SUBBASE FUEL TANK DRAWING TO DETERMINE MOUNTING LOCATION

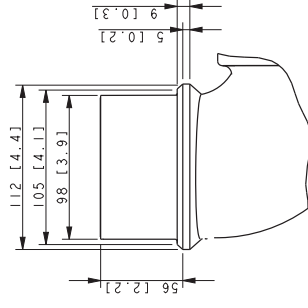
NOTES

- 1) WHEN SUBBASE TANK IS USED, CONDUIT MUST BE LOCATED AND TAPPED TO BE USED FOR SUBBASE TANK. REFER TO SUBBASE ADV.
- 2) DIMENSIONS IN [] ARE ENGLISH EQUIVALENTS.
- 3) IF AN ENCLOSURE IS USED, THE FUEL LINE MUST BE STUBBED UP FROM DIRECTLY UNDER THE UNIT OR BROUGHT IN FROM THE REAR OF THE UNIT. REFER TO ENCLOSURE ADV.
- 4) MAXIMUM WET WEIGHT OF GENSET: 1495 KG (3295 LBS)

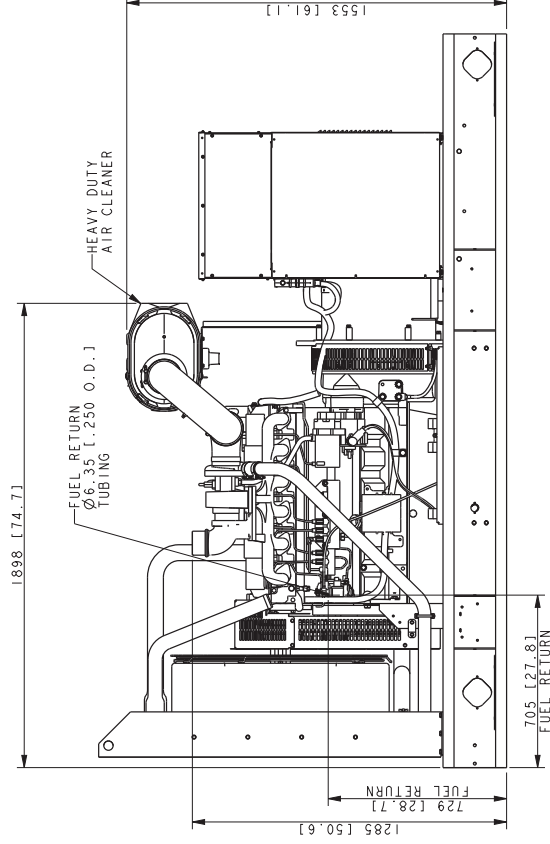
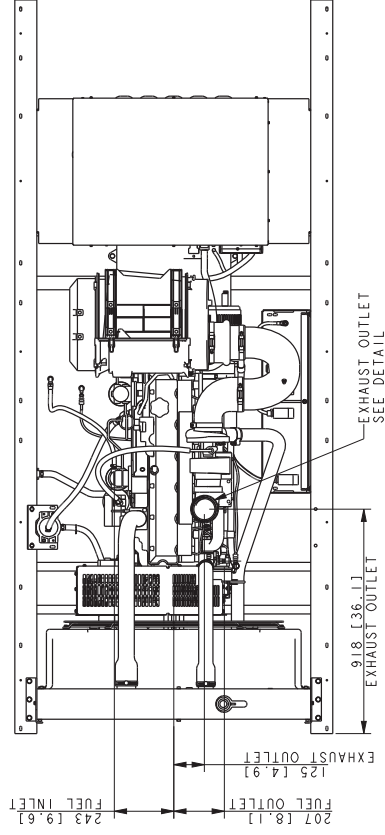
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180-200 MODEL, 4512X, 4513X
IMPROVE MOTOR STARTING (IMS) RECONNECTABLE
AND 600V ALTERNATOR
JOHN DEERE 6068HFG82, TIER II

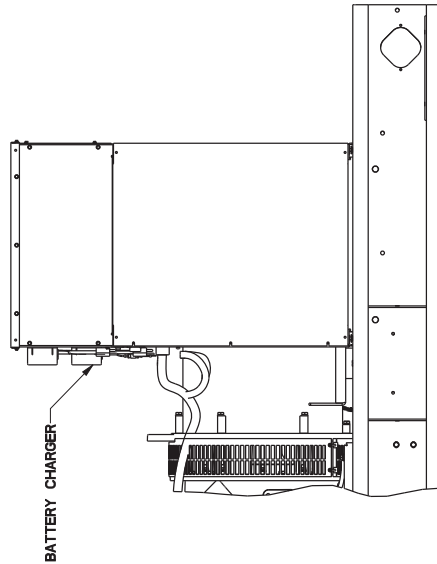
ADV-8473



EXHAUST OUTLET DETAIL
SCALE 0.60

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180-200 MODEL, 4512X, 4513X
IMPROVE MOTOR STARTING (IMS) RECONNECTABLE
AND 600V ALTERNATORS
JOHN DEERE 6068HFG82, TIER III



NOTE: DIMENSIONS IN [] ARE ENGLISH EQUIVALENTS

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180-200 MODEL, 4512X, 4513X
IMPROVE MOTOR STARTING (IMS) RECONNECTABLE
AND 600V ALTERNATORS
JOHN DEERE 6068HF082 TIER III

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