TOWN OF GLASTONBURY

INVITATION TO BID

BID #	ITEM	DATE & TIME REQUIRED
GL-2018-10	Trailer Mounted Generators	November 09, 2017 at 11:00 A.M.

The Town of Glastonbury is currently seeking bids to purchase one (1) 150kW and one (1) 275kW Cummins/Onan Trailer Mounted Generator.

Bid Forms may be obtained from the Town's website at www.glastonbury-ct.gov or at the Office of the Purchasing Agent, Town Hall, 2155 Main Street, Glastonbury, Connecticut 06033, (second level).

The Town reserves the right to waive informalities or reject any part of, or the entire bid, when said action is deemed to be in the best interests of the Town. All Sealed bids must be submitted to the Office of the Purchasing Agent no later than the time and date indicated. All bids will be publicly opened and read.

The Town of Glastonbury is an Affirmative Action/Equal Opportunity Employer. Minority / Women / Disadvantaged Business Enterprises are encouraged to bid.

Mary F. Visone
Purchasing Agent

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1. Sealed bids **(one original and one copy)** on the attached Bid Forms will be received at the Office of the Purchasing Agent, Town Hall, 2155 Main Street, Glastonbury, Connecticut 06033 (second level). At the designated time of opening, they will be publicly opened, read, recorded and placed on file. **Bidders are advised that the Town Hall complex is currently under construction and the main entrance driveway is closed. Signs will direct all vehicle traffic to enter at the Academy Building entrance, 2143 Main Street. Continue to follow signs to the northerly parking lot. The main Town Hall entrance to the building remains OPEN follow pedestrian walkway. Bidders shall allow extra time when delivering bids. No late bids shall be accepted.**

2. Whenever it is deemed to be in the best interest of the Town, The Town Manager, Purchasing Agent or designated representative shall waive informalities in any and all bids. The right is reserved to reject any bid, or any part of any bid, when such action is deemed to be in the best interest of the Town of Glastonbury.

3. The basis for the award will be based on the lowest unit price per generator, including any delivery charges, from a qualified, responsible and responsive Bidder. The Town reserves the right to consider vendor lead time in the basis of award and reserves the right to split the bid award if deemed in the Town's best interest.

4. Bids will be carefully evaluated as to conformance with stated specifications.

5. **The envelope enclosing your bid should be clearly marked by bid number, time of bid, opening and date.**

6. Specifications must be submitted complete in every detail, and when requested, Manufacturer's product data shall be provided. If a bid involves any exception from stated specifications, they must be clearly noted as exceptions, underlined, and attached to the bid.

7. The Bid Documents contain the provisions required for the requested item. Information obtained form an officer, agent, or employee of the Town or any other person shall not affect the risks or obligations assumed by the Bidder or relieve him/her from fulfilling any of the conditions of the bid.

8. Each Bidder is held responsible for the examination and/or to have acquainted themselves with any conditions at the job site which would affect their work before submitting a bid. Failure to meet this criteria shall not relieve the Bidder of the responsibility of completing the Bid without extra cost to the Town of Glastonbury.

9. Any bid may be withdrawn prior to the above scheduled time for the opening of bids or authorized postponement thereof. Any bid received after the time and date specified shall not be considered. No Bidder may withdraw a bid within sixty (60) days after the actual date of the opening thereof. Should there be reasons why a Bid cannot be awarded within the specified period, the time may be extended by mutual agreement between the Town and the Bidder.

10. Each bid must be accompanied by a bid bond payable to the Town form ten percent (10%) of the total amount of the bid. The bid bond of the successful Bidder will be retained until the

payment bond and performance bond have been executed and approved, after which it will be returned. A certified check may be used in lieu of a bid bond. The Town of Glastonbury will not be liable for the accrual of any interest on any certified check submitted. Cashier's checks will not be accepted.

11. **THIS ITEM WAIVED:** A 100% Performance and Payment bonds are required of the successful Bidder. This bond shall cover all aspects of the specification and shall be delivered to the Purchasing Agent prior to the issuance of a purchase order. The Performance and Payment Bonds will be returned upon the delivery and acceptance of the bid items.

12. The Bidder agrees and warrants that in the submission of this sealed bid, they will not discriminate or permit discrimination against any person or group of persons on the grounds of race, color, religion, national origin, sex, or physical disability including, but not limited to blindness, unless it is shown by such Bidder that such disability prevents performance of that which must be done to successfully fulfill the terms of this sealed bid or in any manner which is prohibited by the laws of the Untied Stated or the State of Connecticut: and further agrees to provide the Human Relations Commission with such information requested by the Commission concerning the employment practices and procedures of the Bidder. An Affirmative Action Statement will be required by the successful Bidder.

13. Bidder agrees to comply with all of the latest Federal and State Safety Standards and Regulations and certifies that all work required in this bid will conform to and comply with said standards and regulations. Bidder further agrees to indemnify and hold harmless the Town for all damages assessed against the Town as a result of Bidder's failure to comply with said standards and/or regulations.

14. All correspondence regarding any purchase made by the Town of Glastonbury shall reference the Town's purchase order number. Each shipping container shall clearly indicate both Town purchase order number and item number.

15. Bidder is required to review the Town of Glastonbury Code of Ethics adopted July 8th, 2003 and effective August 1, 2003 and revised October 29, 2013 and effective November 8, 2013. Bidder shall acknowledge that they have reviewed the document in the area provided on the bid/proposal response page (BP). The selected Bidder will also be required to complete and sign an Acknowledgement Form prior to award. The Code of Ethics and the Consultant Acknowledgement Form can be accessed at the Town of Glastonbury website at **www.glastonbury-ct.gov**. Upon entering the website scroll down to click on **Bids & Proposals** Icon which will bring you to the links for the **Code of Ethics** and the **Acknowledgement Form**. If the Bidder does not have access to the internet, a copy of these documents can be obtained through the Purchasing Department at the address listed within this bid/proposal.

16. **Non Resident Contractors (IF APPLICABLE)**

Upon award the Town is required to report names of Non-Residents (out of state) Contractors to the State of Connecticut, Department of Revenue Services (DRS) to ensure that Employment

Taxes and other applicable taxes are being paid by Contractors. A single surety bond for 5% of the entire contract price is required to be filed with DRS by any unverified nonresident prime or general contractor (if awarded) where the contract price for the project is $250,000 or more. The contractor will be required to promptly furnish to the Town a copy of the Form AU-968 – Certificate of Compliance issued by the State of Connecticut, DRS. See State of Connecticut Notice SN 2012 (2).

17. Bidder shall include on a sheet(s) attached to its proposal a complete disclosure of all past and pending mediation, arbitration and litigation cases that the Bidder or its principals (regardless of their place of employment) have been involved in for the most recent five years. Please include a statement of the issues in dispute and their resolution. Acceptability of Bidder based upon this disclosure shall lie solely with the Town.

18. Bidder or it principals, regardless of their place of employment, shall not have been convicted of, nor entered any plea of guilty, or nolo contendere, or otherwise have been found civilly liable or criminally responsible for any criminal offense or civil action. Bidder shall not be in violation of any State or local ethics standards or other offenses arising out of the submission of bids or proposals, or performance of work on public works projects or contracts.

19. **It is the responsibility of the Bidder to check the Town's website before submitting bid for any addendums posted prior to bid opening.**

20. The Town of Glastonbury is dedicated to waste reduction and the practice of using and promoting the use of recycled and environmentally preferable products. Bidders are encouraged to submit bid responses that are printed double-sided (except for the signed proposal page) on recycled paper, and to use paper dividers to organize the bid for review. All bid pages should be secured with a binder clip, staple or elastic band, and shall not be submitted in plastic binder or covers, nor shall the bid contain any plastic inserts or pages. We appreciate your efforts towards a greener environment.

IMPORTANT:

- Failure to comply with general rules may result in disqualification of the Bidder.

- Municipal projects are exempt from Federal Excise Taxes, as well as, State of Connecticut Sales, Use and Service Taxes and should not be include in the Bidder's proposal.

PART 1 - GENERAL

1.1 The purpose of these specifications is to purchase two (2) Trailer Mounted Generators for the Town of Glastonbury. It is the intention of the Town to use this bid for the following purchases: One (1) 150kW Trailer Mounted Generator & one (1) 275kW Cummins/Onan Trailer Mounted Generator. The Town reserves the right to split to the bid award if deemed in the best interest of the Town.

1.2 For technical questions regarding this bid shall be made in writing and directed to Dave Sacchitella, Building Superintendent dave.sacchitella@glastonbury-ct.gov. For administrative questions regarding the bidding procedures, please contact Mary Visone, Purchasing Agent at purchasing@glastonbury-ct.gov . All questions, answers, and/or addenda, as applicable will be posted on the Town's website at www.glastonbury-ct.gov . (Upon entering the website scroll down to click on Bids & Proposals Icon, then scroll down page to see the active bid table. You must click the Bid Title to view all bid details and document links). The request must be received at least three (3) days prior to the advertised response deadline. **It is the responsibility of the Bidder to check the Town's website before submitting bid for any addendums posted prior to bid opening.**

1.3 The Trailer Mounted Generators shall meet the specifications outlined in Attachments A and B.

1.4 The Bidder shall submit, with the bid proposal, the following documentation:

- Manufacturer's Product Data.
- Warranty Information: Bidders shall indicate whether or not they would be willing to extend the original warranty.
- Product liability insurance certificate (upon award from the selected vendor).

1.5 All Bidders shall propose a unit price for the total delivered cost of each Trailer Mounted Generator to the Town of Glastonbury.

1.6 Payment Terms shall be Net 30 to the vendor for product(s) delivered, received and accepted by the Town.

INSURANCE

The Bidder shall, at its own expense and cost, obtain and keep in force during the entire duration of the Project or Work the following insurance coverage covering the Bidder and all of its agents, employees and sub-contractors and other providers of services and shall name the **Town of Glastonbury and its employees and agents as an Additional Insured** on a primary and non-contributory basis to the Bidders Commercial General Liability and Automobile Liability policies. All policies shall contain a waiver of subrogation. **These requirements shall be clearly stated in the remarks section on the Bidder's Certificate of Insurance**. Insurance shall be written with insurance carriers approved in the State of Connecticut and with a minimum Best's Rating of A-VIII. In addition, all carriers are subject to approval by the Town. Minimum Limits and requirements are stated below:

1) Worker's Compensation Insurance:
- Statutory Coverage
- Employer's Liability
- $500,000 each accident/$500,000 disease-policy limit/$500,000 disease each employee
- A Waiver of Subrogation shall be provided in favor of the Town of Glastonbury and its employees and agents.

2) Commercial General Liability:
- Including Premises & Operations, Products and Completed Operations, Personal and Advertising Injury, Contractual Liability and Independent Contractors.
- Limits of Liability for Bodily Injury and Property Damage
  Each Occurrence $1,000,000
  Aggregate $2,000,000 (The Aggregate Limit shall apply separately to each job.)
- A Waiver of Subrogation shall be provided in favor of the Town of Glastonbury and its employees and agents.

3) Automobile Insurance:
- Including all owned, hired, borrowed and non-owned vehicles
- Evidence a Combined Single Limit of Liability for Bodily Injury and Property Damage: Per Accident $1,000,000
- A Waiver of Subrogation shall be provided in favor of the Town of Glastonbury and its employees and agents.

4) Product Liability Insurance

The Bidder shall direct its Insurer to provide a Certificate of Insurance to the Town before any work is performed. The Contractor shall be responsible to notify the Town 60 days in advance with written notice of cancellation or non-renewal. The Certificate shall evidence all required coverage including the Additional Insured on the General Liability and Auto Liability policies. The Bidder shall provide the Town copies of any such insurance policies upon request.

INDEMNIFICATION

To the fullest extent permitted by law, the Bidder shall indemnify and hold harmless the Town of Glastonbury and its consultants, agents, and employees from and against all claims, damages, losses and expenses, direct, indirect or consequential (including but not limited to fees and charges of engineers, attorneys and other professionals and court and arbitration costs) to the extent arising out of or resulting from the performance of the Bidder's work, provided that such claim, damage, loss or expense is caused in whole or in part by any negligent act or omission by the Bidder, or breach of its obligations herein or by any person or organization directly or indirectly employed or engaged by the Bidder to perform or furnish either of the services, or anyone for whose acts the Bidder may be liable.

TOWN OF GLASTONBURY * 2155 MAIN STREET * GLASTONURY * CT

BID / PROPOSAL NO: GL-2018-10 **DATE DUE:** 11-09-17

DATE ADVERTISED: 10-27-17 **TIME DUE:** 11:00 AM

NAME OF PROJECT: TRAILER MOUNTED GENERATORS

In compliance with this Invitation to Bid, the Bidder hereby proposes to provide goods and/or services as per this solicitation in strict accordance with the Bid Documents, within the time set forth therein, and at the prices submitted with their bid response.

It is the responsibility of the Bidder to clearly mark the outside of the bid envelope with the Bid Number, Date and Time of Bid Opening, and it also **THE RESPONSIBILITY OF THE BIDDER TO CHECK THE TOWN'S WEBSITE BEFORE SUBMITTING BID FOR ADDENDA POSTED PRIOR TO BID OPENING.**

THE BIDDER ACKNOWLEDGES RECEIPT OF THE FOLLOWING ADDENDA AS REQUIRED:

Addendum 1 _____(Initial/Date) Addendum 2 _____(Initial/Date) Addendum 3 _____(Initial/Date)

OTHER ITEMS REQUIRED WITH SUBMISSION OF BID PROPOSAL:

The following bid checklist describes items required for inclusion with the above-referenced bid proposal package. It is provided for the convenience of the bidders and, therefore, should not be assumed to be a complete list.

_____ 1. Included Bid Bond as per Section 10 of the Information for Bidders.

_____ 2. Included Disclosure of Past and Pending Mediation, Arbitration, and Litigation cases against the Bidder or its Principals as per Section 17 of the Information for Bidders.

_____ 3. Checked Town web site for Addenda and acknowledged Addenda on page BP-1.

_____ 4. Acknowledged Non-Collusion Affidavit on page BP-2.

_____ 5. Acknowledged Code of Ethics on page BP-2.

_____ 6. Clearly marked envelope with Bid Number, Date, Time of opening, Bidder's Company Name and address.

_____ 7. Warranty including any warranty extension manufacturer's product data.

Bidder's Name:_____

Item	Description	Manufacturer	Unit Cost
1.	**150kW Trailer Mounted Generator delivered to the Town as per Attachment A:**	_____	$_____ **Numeric Amount**

$_____
Written Amount

2.	**275kW Trailer Mounted Generator delivered to the Town as per Attachment B:**	_____	$_____ **Numeric Amount**

$_____
Written Amount

3. Delivery Days Upon Receipt of Order _____

4. Detail Extended Warranty if any _____

NON-COLLUSION AFFIDAVIT:
By submission of this bid, the Bidder certifies, and in the case of a joint bid each party thereto certifies as to their own organization that this bid has been arrived at independently without consultation, communication, or agreement as to any matter relating to this bid with any other Bidder or with any competitor.

CODE OF ETHICS:
I/We have reviewed a copy of the Town of Glastonbury's Code of Ethics and agree to submit a Consultant Acknowledgement Form if I/We are selected. Yes__ No_____**

***Bidder is advised that effective August 1, 2003, the Town of Glastonbury cannot consider any bid or proposal where the Bidder has not agreed to the above statement.**

Respectfully submitted:

Type or Print Name of Individual	**Doing Business as (Trade Name)**
Signature of Individual	**Street Address**
Title	**City, State, Zip Code**
Date	**Telephone Number/Fax Number**
E-Mail Address	**SS# or TIN#**

(Seal – If bid is by a Corporation)
Attest

One (1) new Cummins/Onan model C150D2RE rated at 150kW/188kVA, selectable low voltage, 1 & 3 phase, 50 or 60 hertz selectable, 1800 RPM, for operation on diesel fuel. Includes the PowerCommand with our standard features and the following:

- EPA Emission Tier 4 Final Certified Engine
- Alternator: 12L reconnectable 125C temp rise, 40C amb.
- Dual speed engine for operation at 50 or 60 Hz
- PMG excitation
- Isochronous electronic governor
- Battery charging alternator
- 4-position voltage selector switch
- PCC 3.3 digital paralleling controller with masterless load demand
- Engine starting motor
- Mainline Generator Circuit Breaker
- Cam Lock Distribution Panel
- Enclosure: Weather protective house with sound attenuation
- Sub-base diesel fuel tank, 24 hour run time with fuel gauge
- Heavy Duty Trailer with pintle hitch, light package, jack stand, and electric brakes
- Structural steel base rails
- Critical exhaust silencer, Internally mounted
- Stainless steel exhaust flex
- Engine mounted radiator and fan
- High pressure common rail fuel system
- 2 stage fuel filtration system
- 15A/120Vac shore power
- Battery racks and cables
- Battery Disconnect Switch
- External 7A battery charger, installed
- Flexible fuel line
- Warranty: 3 years comprehensive
- Lube oil and antifreeze
- Factory and field testing
- Startup

Onan UL 508 listed PowerCommand Control Panel featuring a microprocessor based digital control system with the following:

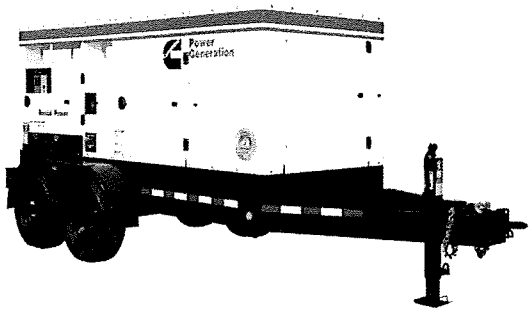
- Graphic LCD digital display with LED backlight
- Multiple language support

- AmpSentry Protective Relay – UL Listed alternator protection
- Cyclic cranking control, adjustable
- Self-diagnostics with LED's for self-test
- Run-off-auto switch
- Emergency stop switch
- Digital AC voltage line to line
- Digital AC current by phase
- Digital AC kilowatts
- Digital AC kilowatt hours
- Digital AC power factor
- Digital engine oil pressure
- Digital engine coolant temperature
- Digital engine RPM (tachometer)
- Digital DC battery voltage
- Digital engine starts counter
- Digital engine running hours
- Low oil pressure shutdown and pre-alarm
- High engine temperature shutdown and pre-alarm
- Low coolant level shutdown
- Overspeed shutdown
- Fail to crank shutdown
- Overcrank shutdown
- Oil pressure sender failure warning
- Water temperature sender failure warning
- Alternator overcurrent warning
- Low engine temperature warning
- Engine overload warning with load shed
- Low fuel level warning
- Low battery voltage warning
- High battery voltage warning
- Weak battery warning
- Four (4) customer selected shutdowns or warnings
- Over and under AC voltage shutdown
- Under frequency shutdown

Specification sheet

Rental Power 150 kW

U.S EPA Tier IV Emissions



Description

This Cummins Power Generation rental package is a fully integrated mobile power generation system, providing optimum performance, reliability, and versatility for standby and prime power applications.

Features

Cummins diesel engines

- U.S. Tier IV Final and EU SIIIa certified Cummins QSB7-G9 engines which meet emissions limits without the use of a diesel particulate filter (DPF)
- Dual speed engine for operation at 50 or 60 Hz
- Advanced electronic engine controls with integrated aftertreatment system provide superior fuel efficiency while reducing emissions
- High-pressure common rail fuel system reduces engine noise and smoke
- Cummins Direct Flow™ air filtration offering improved air management, longer service life, and easier serviceability
- 2-stage fuel filtration with optimum particle and water separation

Control features

- The most advanced, reliable and capable generator set control system on the market today
- PowerCommand 3.3© with Masterless Load Demand (MLD) technology enables smartly adapting power to match varying load demand. MLD capable generators allow sharing of information among paralleled generator sets.
- Controls provide precise frequency and voltage regulation, alarm and status message display in one easy to operate customer interface

Engine controls

- Oil pressure and coolant temperature gauge

Fuel level gauge, Diesel Exhaust Fluid (DEF) level gauge and battery voltage gauge

- Hour meter
- Engine control module includes remote start capability

Stamford alternators

- 12-lead reconnectable alternators fitted with voltage selection switch
- Permanent magnet excitation for improved performance in non-linear load applications

Rental package enclosure

- Camlock distribution panel
- Sound attenuated, white powder coated lockable enclosure
- 24 hour fuel tank (75% prime) with gauge
- Roof mounted, single point lift
- Cooling system rated for 122 °F (50 °C) at 100% standby ambient
- Complete engine fluid containment reservoir
- 4 position voltage selector switch (277/480 or 139/240 or 120/208 VAC 3 phase or 120/240 VAC 1 phase)
- Shore power (15A/120V) – for coolant heater and battery charger
- Conveniently located analog gauges and heated Human Machine Interface (HMI) display

Rental package options

- Optional Auxiliary Fuel and DEF connections
- DOT approved electric brake trailer with heavy duty center mounted jack, ball or pintle hitch
- DOT approved hydraulic brake trailer with heavy duty center mounted jack, ball or pintle hitch

		Standby Rating		Prime Rating			
Model	Voltages (V)	60 Hz kW (kVA)	50 Hz kW (kVA)	60 Hz kW (kVA)	50 Hz kW (kVA)	Sound level Full load @ 7m	Alternator model
C150D2RE	208/240/480	150 (188)	128 (160)	135 (169)	116 (145)	73 dBA	UCI274F

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power.cummins.com

Engine specifications

Engine model	QSB7-G9
Alternator data sheet	UCI274F (208/240/480)
Tier rating	Tier IV
Design	4 cycle, In-Line, turbocharged and after-cooled
Bore	107 mm (4.21 in.)
Stroke	124.0 mm (4.88 in.)
Displacement	6.69 liters (408 in^3)
Cylinder block	Cast iron, In-Line 6 cylinder
Battery capacity	2 x 760 cca
Battery charging alternator	70 amps
Starting voltage	24 volt, negative ground
Fuel system	Direct injection HPCR system
Fuel filter	Dual Spin on fuel filter with water separator
Air cleaner type	2-stage, dry replaceable element with dust ejector
Lube oil filter type(s)	Single spin-on, full flow
Standard cooling system	122 °F (50 °C) ambient radiator

Alternator specifications

Design	Brushless, 4 pole, drip proof revolving field
Stator	Double layer concentric, 2/3 winding pitch
Rotor	Singe bearing, flexible disc
Insulation system	Class H per NEMA MG1-1.65 (208/240/480 VAC)
Standard temperature rise	125/40 °C prime (208/480 VAC)
Exciter type	PMG (permanent magnet generator)
Phase rotation	A (U), B (V), C (W)
Alternator cooling	Direct drive centrifugal blower fan
AC waveform total harmonic distortion	< 1.5% no load, < 5% non-distorting balance linear load
Telephone influence factor (TIF)	< 50 per NEMA MG1-22.43
Telephone harmonic factor (THF)	< 2%

Power capability specifications (Assume power factor = 0.80 for 3 phase amps)

	Standby rating				
	240 V, 1 phase Amps 60Hz	**208 V, 3 phase Amps 60Hz**	**480 V, 3 phase Amps 60Hz**	**240 V, 3 phase Amps 60Hz**	**400 V, 3 phase Amps 50Hz**
C150D2RE	419	520	226	451	233

Electrical power panel specifications

Model voltage	**120 V duplex receptacles**	**240 V twist**	**Load lug connection (stud diameter)**	**Load lug circuit breakers**
120/480 Volt	2 - 20 Amp GFCI	3 - 50 Amp	1/2 inch	600 Amp

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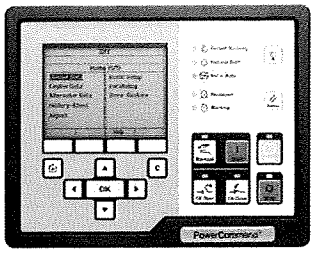
PowerCommand 3.3 Control System



An integrated microprocessor based generator set control system providing voltage regulation, engine protection, alternator protection, operator interface and isochronous governing. Refer to document S-1570 for more detailed information on the control.

Simplified display for rental operators - simplified display tailored for rental equipment operations for ease of use.
Masterless Load Demand (MLD) - The controller is capable of smartly managing power from paralleled generators to match varying load patterns.
Power management – Control function provides battery monitoring and testing features and smart starting control system.
Advanced control methodology – Three phase sensing, full wave rectified voltage regulation, with a PWM output for stable operation with all load types.
Regulation compliant – Prototype tested: UL, CSA and CE compliant.
Service - InPower™ PC-based service tool available for detailed diagnostics, setup, data logging and fault simulation.
Easily upgradeable – PowerCommand controls are designed with common control interfaces.
Reliable design – The control system is designed for reliable operation in harsh environment.

Operator panel features

Operator/display functions
- Displays paralleling breaker status
- Provides direct control of the paralleling breaker
- 320 x 240 pixels graphic LED backlight LCD
- Auto, manual, start, stop, fault reset and lamp test/panel lamp switches
- Alpha-numeric display with pushbuttons
- Heated HMI
- LED lamps indicating genset running, remote start, not in auto, common shutdown, common warning, manual run mode, auto mode and stop

Paralleling control functions
- First Start Sensor System selects first genset to close to bus

Phase Lock Loop Synchronizer with voltage matching
- Sync check relay
- Isochronous kW and kVar load sharing
- Enhanced safety features for paralleling generators

Alternator data
- Line-to-neutral and line-to-line AC volts
- 3-phase AC current
- Frequency
- kW, kvar, power factor kVA (three phase and total)

Engine data
- DC voltage
- Lube oil pressure
- Coolant temperature
- Comprehensive FAE data (where applicable)

Other data
- Fault history
- Data logging and fault simulation (requires InPower)

Standard control functions

Digital governing
- Integrated digital electronic isochronous governor
- Temperature dynamic governing

Digital voltage regulation
- Integrated digital electronic voltage regulator
- 3-phase, 4-wire line-to-line sensing
- Configurable torque matching

AmpSentry AC protection
- AmpSentry protective relay
- Over current and short circuit shutdown
- Over current warning
- Single and three phase fault regulation
- Over and under voltage shutdown
- Over and under frequency shutdown
- Overload warning with alarm contact
- Reverse power and reverse var shutdown
- Field overload shutdown

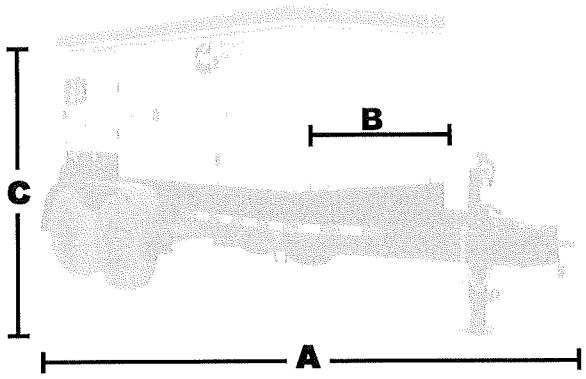
Engine protection
- Battery voltage monitoring, protection and testing
- Overspeed shutdown
- Low oil pressure warning and shutdown
- High coolant temperature warning and shutdown
- Low coolant level warning or shutdown
- Low coolant temperature warning
- Fail to start (overcrank) shutdown
- Fail to crank shutdown
- Cranking lockout
- Sensor failure indication
- Full authority electronic engine protection

Control functions
- Time delay start and cool down
- Real time clock for fault and event time stamping
- Cycle cranking
- Load shed
- Remote emergency stop

Ratings definitions

Standby:
Applicable for supplying emergency power for the duration of normal power interruption. No sustained overload capability is available for this rating. (Equivalent to Fuel Stop Power in accordance with ISO3046, AS2789, DIN6271 and BS5514). Nominally rated.

Prime (unlimited running time):
Applicable for supplying power in lieu of commercially purchased power. Prime power is the maximum power available at a variable load for an unlimited number of hours. A 10% overload capability is available for limited time. (Equivalent to Prime Power in accordance with ISO8528 and Overload Power in accordance with ISO3046, AS2789, DIN6271, and BS5514).



Dimensions

Model	Dim "A" mm (in.)	Dim "B" mm (in.)	Dim "C" mm (in.)	Weight w/o fuel kg (lbs)	Weight with fuel kg (lbs)	Fuel capacity liters (gal)*
C150D2RE	3700 (146)	1450 (57)	1700 (67)	3020 (6600)	3800 (8390)	965 (255)
With trailer	5740 (226)	2140 (84)	2309 (91)	3750 (8270)	4530 (10000)	965 (255)

* Onboard DEF capacity is sized for 24 hours of operation at 15 gallons

Fuel consumption

		Standby				Prime				
60 Hz Ratings, kW (kVA)		150 (187)				135 (168)				Hours of operation
	Load	¼	½	¾	Full	¼	½	¾	Full	75% load
	US Gal/hr	4.2	6.6	8.9	11.3	4.1	6.2	8.4	10.6	24
	L/hr	15.9	25.0	33.7	42.8	15.5	23.5	31.8	40.1	24

Note: DEF consumption less than 4% of fuel consumption

Trailer information

Model	Tire size	Tire type	Load range	Number of tires per trailer	Lug pattern
C150D2RE	235/85-R16	Radial	2755 lbs - each	4	8 hole

Certifications

These generator sets are certified to following standards:

CAN/CSA STD C22.2 NO. 100
CAN/CSA STD C22.2 NO. 14

North America
1400 73rd Avenue N.E.
Minneapolis, MN 55432
USA

Phone 763 574 5000
Fax 763 574 5298

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NAS-5886b-EN (3/16)

power.cummins.com

One (1) new Cummins portable trailer mounted generator model C275D2RE rated at 275 kW multi-voltage, 1 & 3 phase, 4 wire, 50/60 hertz selectable, 1800 RPM, for operation on diesel fuel. Includes the PowerCommand Controller with our standard features and the following:

- EPA Emission Tier 4 Final Certified Engine
- Alternator 50/60Hz: 125C temp rise / 40C Ambient
- PMG excitation
- Isochronous electronic governor
- 4 position voltage selector switch
- Mainline Generator Circuit Breaker
- Engine starting motor
- Battery charging alternator
- Water jacked heater
- Enclosure: Cummins-white weather protective and sound attenuated
- Sub-base diesel fuel tank, 24 hour run time
- Heavy duty trailer with pintle hitch, light package, jack stand, and electric brakes
- Critical exhaust silencer, Internally mounted
- Stainless steel exhaust flex
- Engine mounted radiator and fan
- Structural steel base rails
- Fuel Strainer
- Flexible fuel line
- Auxiliary Fuel and DEF connections
- Lube oil and antifreeze
- Factory and field testing
- Battery racks and cables
- Engine starting batteries
- External 7A battery charger, factory installed
- Warranty: 3 years
- Startup during normal business hours

Onan UL 508 listed PowerCommand Control Panel featuring a microprocessor based digital control system with the following:

- Graphic LCD digital display with LED backlight
- Multiple language support
- AmpSentry Protective Relay – UL Listed alternator protection
- Cyclic cranking control, adjustable
- Self-diagnostics with LED's for self-test
- Run-off-auto switch

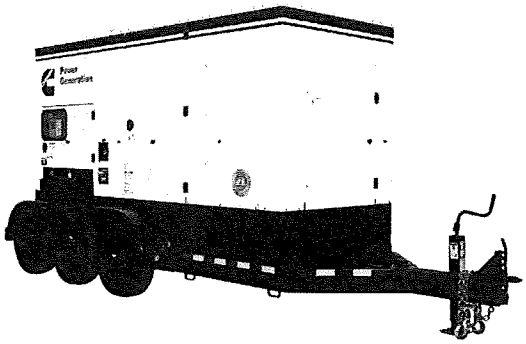
- Emergency stop switch
- Digital AC voltage line to line
- Digital AC current by phase
- Digital AC kilowatts
- Digital AC kilowatt hours
- Digital AC power factor
- Digital engine oil pressure
- Digital engine coolant temperature
- Digital engine RPM (tachometer)
- Digital DC battery voltage
- Digital engine starts counter
- Digital engine running hours
- Low oil pressure shutdown and pre-alarm
- High engine temperature shutdown and pre-alarm
- Low coolant level shutdown
- Overspeed shutdown
- Fail to crank shutdown
- Overcrank shutdown
- Oil pressure sender failure warning
- Water temperature sender failure warning
- Alternator overcurrent warning
- Low engine temperature warning
- Engine overload warning with load shed
- Low fuel level warning
- Low battery voltage warning
- High battery voltage warning
- Weak battery warning
- Four (4) customer selected shutdowns or warnings
- Over and under AC voltage shutdown
- Under frequency shutdown

Specification sheet

Power Generation

Rental Power 275 kW

U.S. EPA Tier IV Emissions



Description

This Cummins Power Generation rental package is a fully integrated mobile power generation system, providing optimum performance, reliability, and versatility for standby and prime power applications.

Features

Cummins diesel engines

- U.S. Tier IV Final and EU SIIIa certified Cummins QSL9-G9 engines which meet emissions limits without the use of a diesel particulate filter (DPF)
- Dual speed engine for operation at 50 or 60 Hz
- Advanced electronic engine controls with integrated aftertreatment system provide superior fuel efficiency while reducing emissions
- High-pressure common rail fuel system reduces engine noise and smoke
- Cummins Direct Flow™ air filtration offering improved air management, longer service life, and easier serviceability
- 2-stage fuel filtration with optimum particle and water separation

Control features

- The most advanced, reliable and capable generator set control system on the market today
- PowerCommand 3.3© with Masterless Load Demand (MLD) technology enables smartly adapting power to match varying load demand. MLD capable generators allow sharing of information among paralleled generator sets.
- Controls provide precise frequency and voltage regulation, alarm and status message display in one easy to operate customer interface

Engine controls

- Oil pressure and coolant temp gauge
- Fuel level gauge, Diesel Exhaust Fluid (DEF) level gauge and battery voltage gauge
- Hour meter
- Engine control module includes remote start capability

Stamford alternators

- 12-lead reconnectable alternators fitted with voltage selection switch
- Permanent magnet excitation for improved performance in non-linear load applications

Rental package enclosure

- Camlock distribution panel
- Sound attenuated, white powder coated lockable enclosure
- 24 hour fuel tank (75% prime) with gauge
- Roof mounted, single point lift
- Cooling system rated for 122° F (50° C) at 100% standby ambient
- Complete engine fluid containment reservoir
- 4 position voltage selector switch (277/480 or 139/240 or 120/208 VAC 3 phase or 120/240 VAC 1 phase)
- Shore power (15A/120V) – for coolant heater and battery charger
- Conveniently located analog gauges and heated Human Machine Interface (HMI) display

Rental package options

- Optional Auxiliary Fuel and DEF connections
- DOT approved electric brake trailer with heavy duty center mounted jack, ball or pintle hitch
- DOT approved hydraulic brake trailer with heavy duty center mounted jack, ball or pintle hitch

		Standby Rating		Prime Rating			
Model	Voltages (V)	60 Hz kW (kVA)	50 Hz kW (kVA)	60 Hz kW (kVA)	50 Hz kW (kVA)	Sound level Full load @ 7m	Alternator model
C275D2RE	208/240/480	275 (344)	235 (294)	250 (313)	227 (284)	77 dBA	HCI434E

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Engine specifications

Engine model	QSL9-G9
Alternator data sheet	HCI434E (208/240/480)
Tier rating	Tier IV
Design	4 cycle, In-Line, turbocharged and after-cooled
Bore	114 mm (4.5 in.)
Stroke	145 mm (5.7 in.)
Displacement	8.9 liters (543 in3)
Cylinder block	Cast iron, In-Line 6 cylinder
Battery capacity	2 x 760 cca
Battery charging alternator	70 amps
Starting voltage	24 volt, negative ground
Fuel system	Direct injection HPCR system
Fuel filter	Spin on fuel filter with water separator
Air cleaner type	2-stage, dry replaceable element with dust ejector
Lube oil filter type(s)	Single spin-on, full flow
Standard cooling system	122 °F (50 °C) ambient radiator

Alternator specifications

Design	Brushless, 4 pole, drip proof revolving field
Stator	Double layer concentric, 2/3 winding pitch
Rotor	Singe bearing, flexible disc
Insulation system	Class H per NEMA MG1-1.65 (208/240/480 VAC)
Standard temperature rise	125/40 °C prime (208/480 VAC)
Exciter type	PMG (permanent magnet generator)
Phase rotation	A (U), B (V), C (W)
Alternator cooling	Direct drive centrifugal blower fan
AC waveform total harmonic distortion	< 1.5% no load, < 5% non-distorting balance linear load
Telephone influence factor (TIF)	< 50 per NEMA MG1-22.43
Telephone harmonic factor (THF)	< 2%

Power capability specifications (Assume power factor = 0.80 for 3 phase amps)

	Standby rating				
	240 V, 1 phase Amps 60Hz	**208 V, 3 phase Amps 60Hz**	**480 V, 3 phase Amps 60Hz**	**240 V, 3 phase Amps 60Hz**	**400 V, 3 phase Amps 50Hz**
C275D2RE	770	954	413	826	424

Electrical power panel specifications

Model voltage	**120 V duplex receptacles**	**240 V twist**	**Load lug connection (stud diameter)**	**Load lug circuit breakers**
120/480 Volt	2 - 20 Amp GFCI	3 - 50 Amp	1/2 inch	1200 Amp

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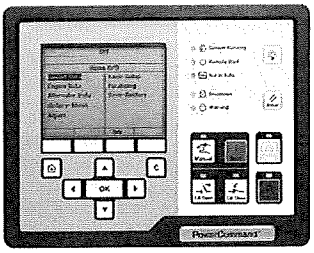
PowerCommand 3.3 Control System



An integrated microprocessor based generator set control system providing voltage regulation, engine protection, alternator protection, operator interface and isochronous governing. Refer to document S-1570 for more detailed information on the control.

Simplified display for rental operators - simplified display tailored for rental equipment operations for ease of use.
Masterless Load Demand (MLD) - The controller is capable of smartly managing power from paralleled generators to match varying load patterns.
Power management – Control function provides battery monitoring and testing features and smart starting control system.
Advanced control methodology – Three phase sensing, full wave rectified voltage regulation, with a PWM output for stable operation with all load types.
Regulation compliant – Prototype tested: UL, CSA and CE compliant.
Service - InPower™ PC-based service tool available for detailed diagnostics, setup, data logging and fault simulation.
Easily upgradeable – PowerCommand controls are designed with common control interfaces.
Reliable design – The control system is designed for reliable operation in harsh environment.

Operator panel features

Operator/display functions
- Displays paralleling breaker status
- Provides direct control of the paralleling breaker
- 320 x 240 pixels graphic LED backlight LCD
- Auto, manual, start, stop, fault reset and lamp test/panel lamp switches
- Alpha-numeric display with pushbuttons
- Heated HMI
- LED lamps indicating genset running, remote start, not in auto, common shutdown, common warning, manual run mode, auto mode and stop

Paralleling control functions
- First Start Sensor System selects first genset to close to bus
- Phase Lock Loop Synchronizer with voltage matching
- Sync check relay
- Isochronous kW and kVar load sharing
- Enhanced safety features for paralleling generators

Alternator data
- Line-to-neutral and line-to-line AC volts
- 3-phase AC current
- Frequency
- kW, kvar, power factor kVA (three phase and total)

Engine data
- DC voltage
- Lube oil pressure
- Coolant temperature
- Comprehensive FAE data (where applicable)

Other data
- Fault history
- Data logging and fault simulation (requires InPower)

Standard control functions

Digital governing
- Integrated digital electronic isochronous governor
- Temperature dynamic governing

Digital voltage regulation
- Integrated digital electronic voltage regulator
- 3-phase, 4-wire line-to-line sensing
- Configurable torque matching

AmpSentry AC protection
- AmpSentry protective relay
- Over current and short circuit shutdown
- Over current warning
- Single and three phase fault regulation
- Over and under voltage shutdown
- Over and under frequency shutdown
- Overload warning with alarm contact
- Reverse power and reverse var shutdown
- Field overload shutdown

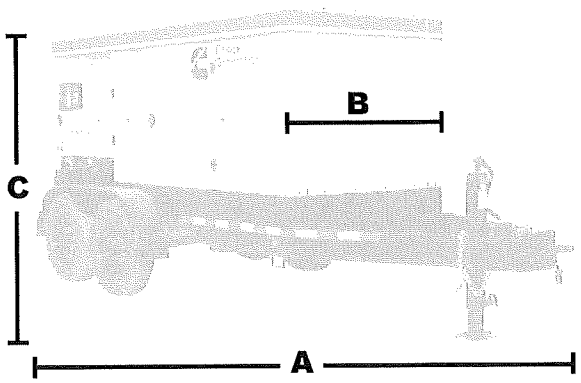
Engine protection
- Battery voltage monitoring, protection and testing
- Overspeed shutdown
- Low oil pressure warning and shutdown
- High coolant temperature warning and shutdown
- Low coolant level warning or shutdown
- Low coolant temperature warning
- Fail to start (overcrank) shutdown
- Fail to crank shutdown
- Cranking lockout
- Sensor failure indication
- Full authority electronic engine protection

Control functions
- Time delay start and cool down
- Real time clock for fault and event time stamping
- Cycle cranking
- Load shed
- Remote emergency stop

Ratings definitions

Standby:
Applicable for supplying emergency power for the duration of normal power interruption. No sustained overload capability is available for this rating. (Equivalent to Fuel Stop Power in accordance with ISO3046, AS2789, DIN6271 and BS5514). Nominally rated.

Prime (unlimited running time):
Applicable for supplying power in lieu of commercially purchased power. Prime power is the maximum power available at a variable load for an unlimited number of hours. A 10% overload capability is available for limited time. (Equivalent to Prime Power in accordance with ISO8528 and Overload Power in accordance with ISO3046, AS2789, DIN6271, and BS5514).



Dimensions

Model	Dim "A" mm (in.)	Dim "B" mm (in.)	Dim "C" mm (in.)	Weight w/o fuel kg (lbs)	Weight with fuel kg (lbs)	Fuel capacity liters (gal)*
C275D2RE	4162 (164)	1575 (62)	2405 (95)	4766 (10485)	5954 (13100)	1400 (370)
With Trailer	6124 (241)	2130 (84)	2910 (115)	6039 (13285)	7336 (16140)	1400 (370)

* Onboard DEF capacity is sized for 24 hours of operation at 15 gallons

Fuel consumption

	Standby				Prime				
	275 (344)				250 (313)				Hours of operation
Load	¼	½	¾	Full	¼	½	¾	Full	75% load
US Gal/hr	6.5	10.8	15.5	19.7	6.4	10.3	14.1	17.9	24
L/hr	24.6	40.9	58.6	74.5	24.2	39	53.4	67.7	24

Note: DEF consumption ~4% of fuel consumption

Trailer information

Model	Tire size	Tire type	Load range	Number of tires per trailer	Lug pattern
C275D2RE	ST235/85R16	Radial	E	6	8x6.5

Certifications

These generator sets are certified to following standards:

CAN/CSA STD C22.2 NO. 100
CAN/CSA STD C22.2 NO. 14

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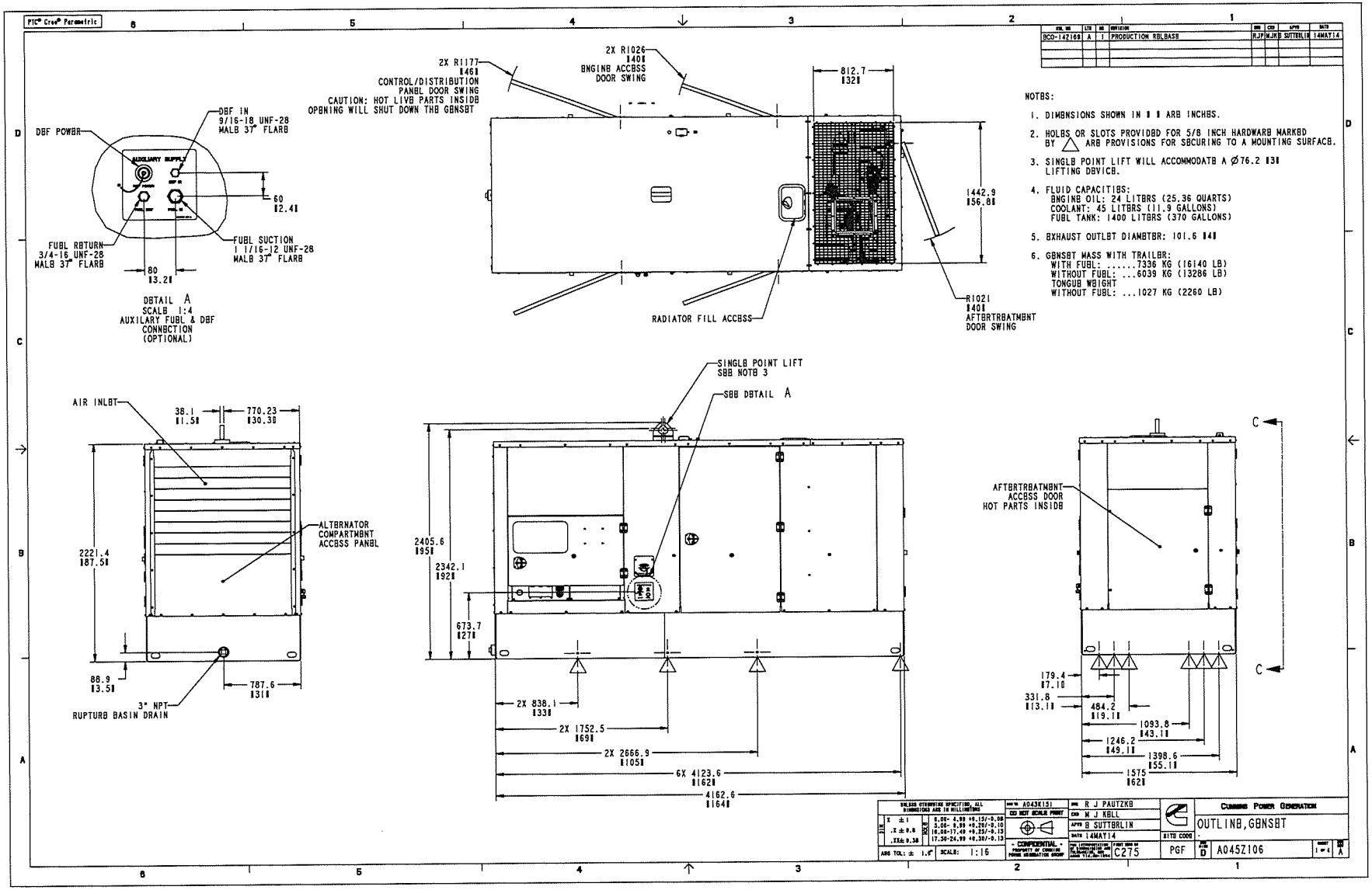

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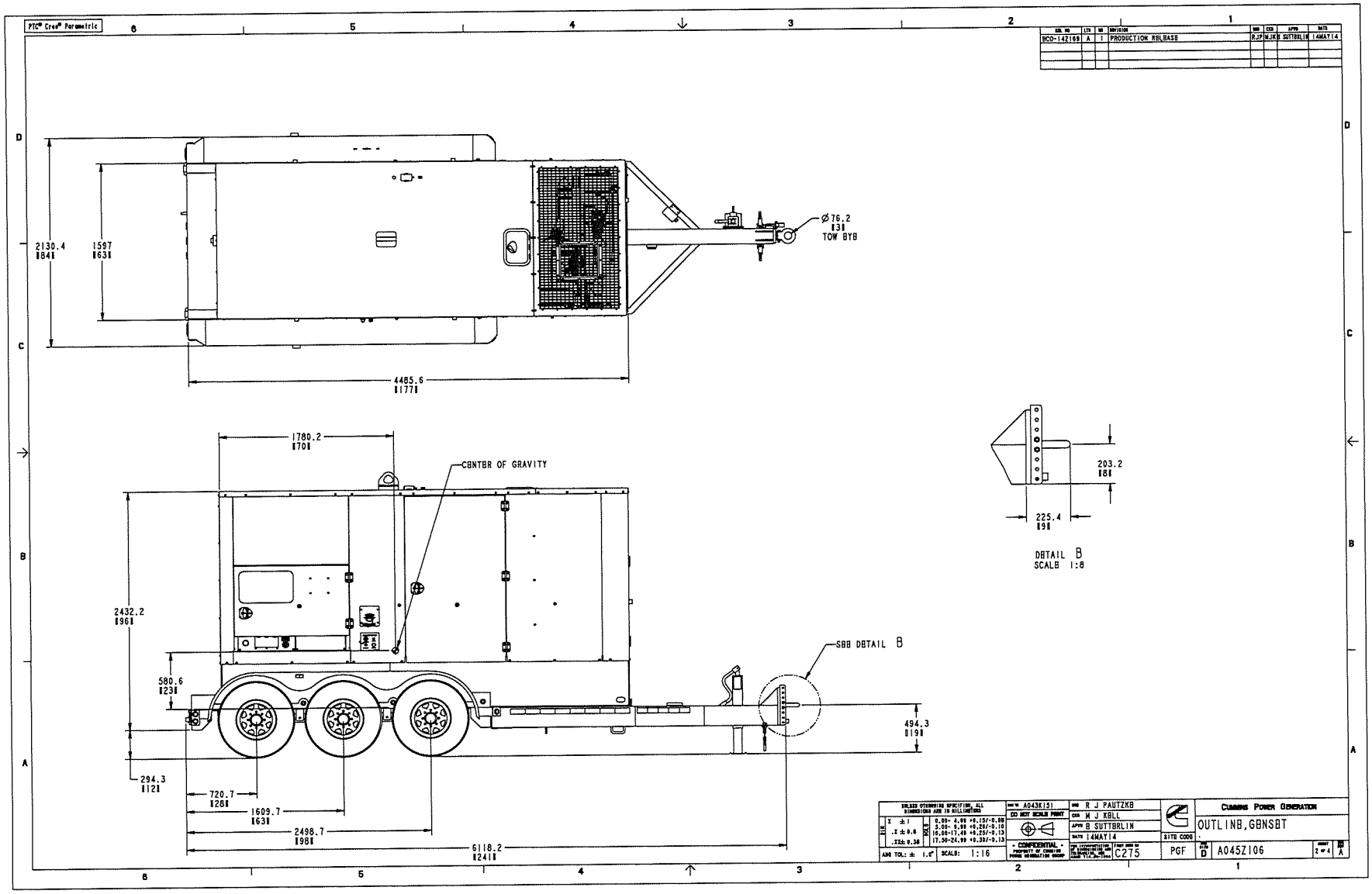

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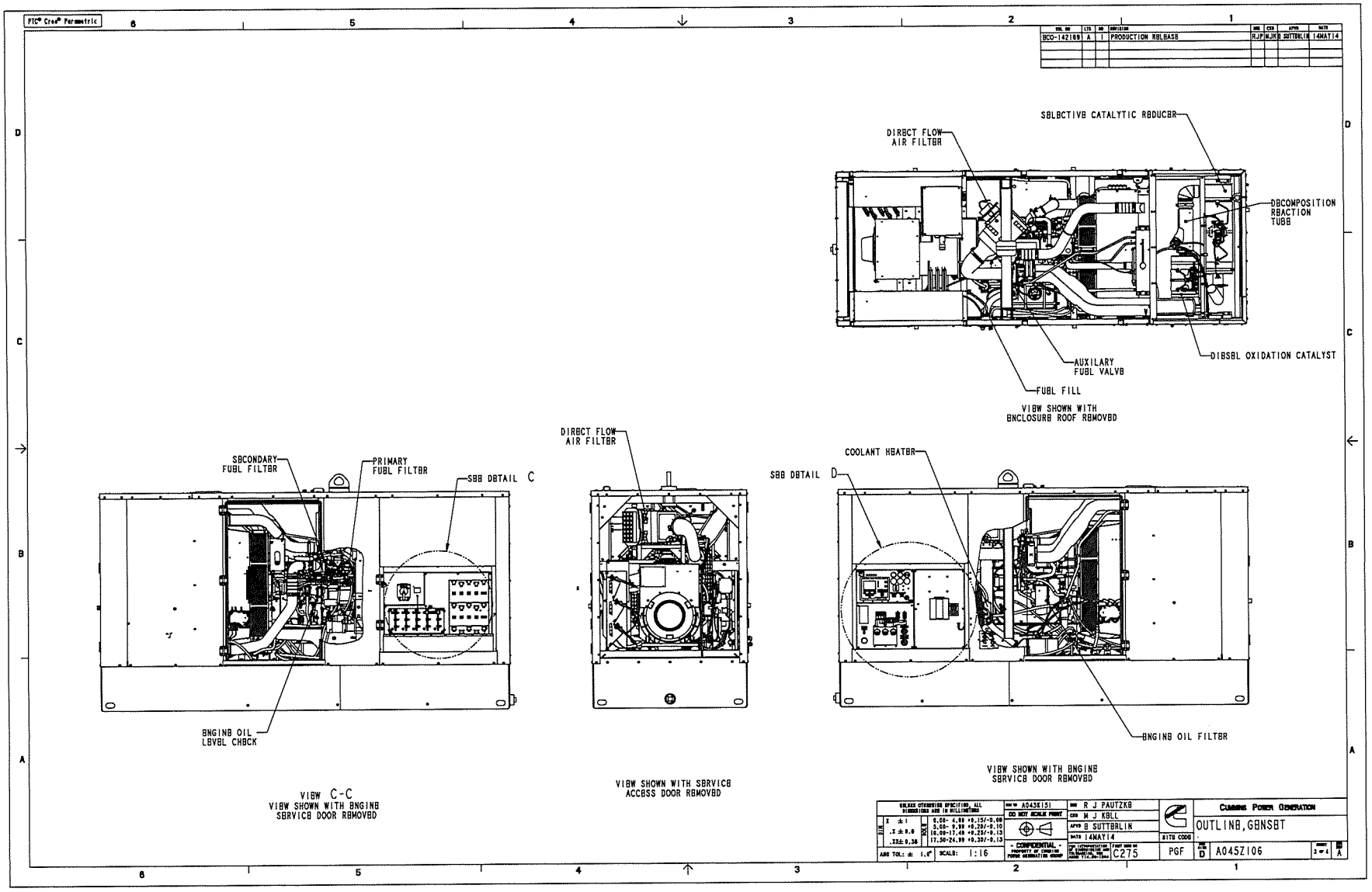
Sheet 2 of 5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FUEL FILL
VIEW SHOWN WITH ENCLOSURE ROOF REMOVED
SECONDARY FUEL FILTER
PRIMARY FUEL FILTER
SEE DETAIL C
ENGINE OIL LEVEL CHECK
VIEW C-C
VIEW SHOWN WITH ENGINE SERVICE DOOR REMOVED
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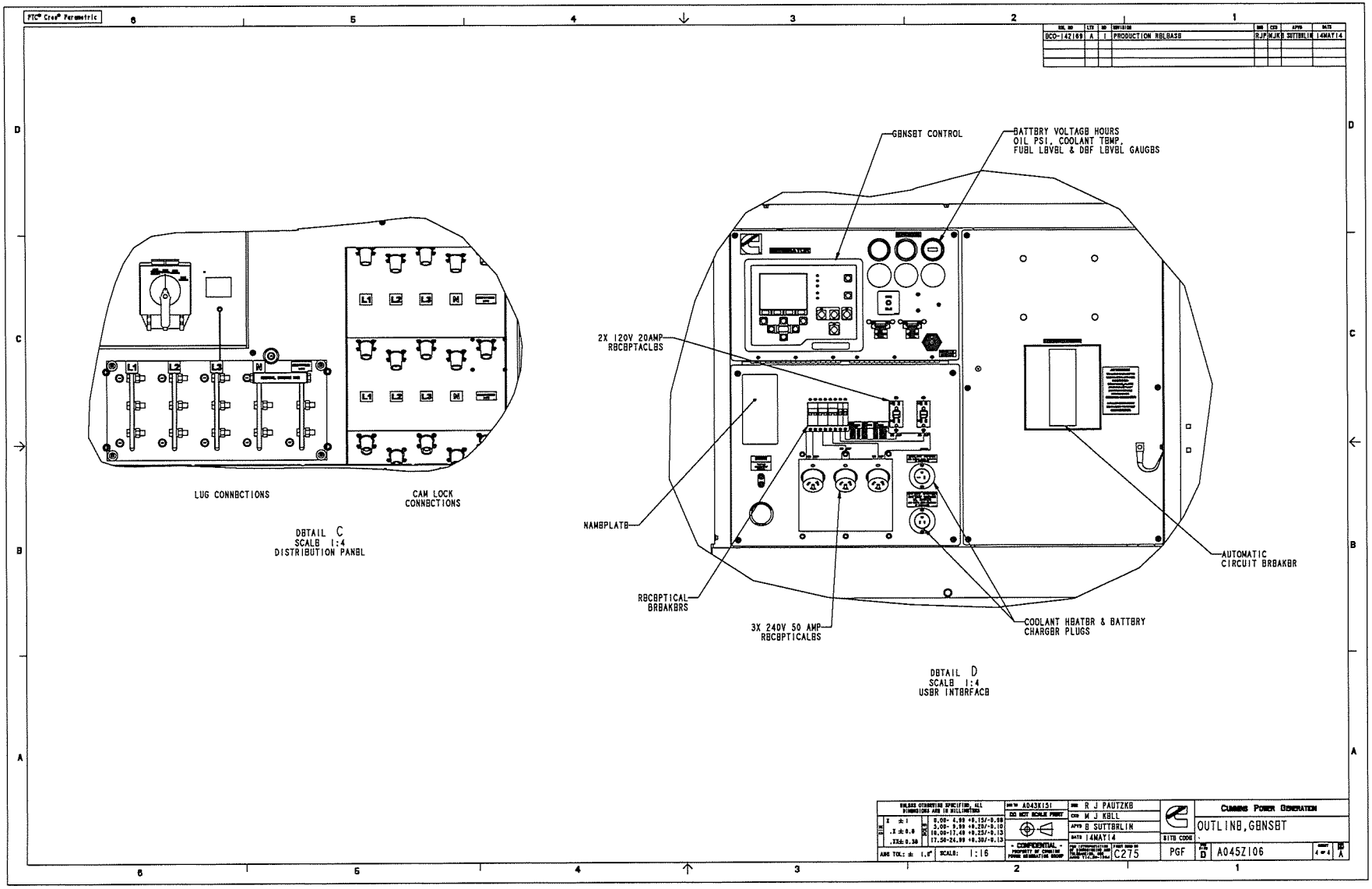

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