



Lexington-Fayette Urban County Government

Lexington, Kentucky
Horse Capital of the World

Division of Central Purchasing

Date of Issue: January 21, 2015

INVITATION TO BID #12-2015 Emergency Generators & Accessories

Bid Opening Date: February 11, 2015

Bid Opening Time: 2:00 PM

Address: 200 East Main Street, 3rd Floor, Room 338, Lexington, Kentucky 40507

Type of Bid: Price Contract

Pre Bid Meeting: N/A

Pre Bid Time: N/A

Address: N/A

Sealed bids will be received in the office of the Division of Central Purchasing, 200 East Main Street, Lexington, Kentucky, until **2:00 PM**, prevailing local time on **02/11/2015**. Bids must be received by the above-mentioned date and time. Mailed bids should be sent to:

**Division of Central Purchasing
200 East Main Street, Room 338
Lexington, KY 40507, (859) 258-3320**

The Lexington-Fayette Urban County Government assumes no responsibility for bids that are not addressed and delivered as indicated above. **Bids that are not delivered to the Division of Central Purchasing by the stated time and date will be rejected.** All bids must be signed and have the company name and address, bid invitation number, and the name of the bid on the outside of the envelope.

Bids are to include all shipping costs to the point of delivery located at: 301 Lisle Industrial Ave., Lexington, KY

Bid Security Required: ___ Yes X No *Cashier Check, Certified Check, Bid Bond (Personal checks and company checks will not be acceptable).*

Performance Bond Required: ___ Yes X No

Bid Specifications Met <u>X</u> Check One: Exceptions to Bid Specifications. <i>Exceptions shall be itemized and attached to bid proposal submitted.</i>	Proposed Delivery: <u>90</u> days after acceptance of bid.
Procurement Card Usage —The Lexington-Fayette Urban County Government may be using Procurement Cards to purchase goods and services and also to make payments. Will you accept Procurement Cards? ___ Yes ___ No	

Submitted by: Whayne Supply Company

Firm Name

195 Lisle Industrial Ave

Address

Lexington KY 40511

City, State & Zip

Bid must be signed:
(original signature)

David Hovekamp *V.P. Central Operations*
Signature of Authorized Company Representative - Title

DAVID HOVEKAMP

Representative's Name (Typed or printed)

859 254 2756

Area Code - Phone - Extension

Fax #

E-Mail Address

The Affidavit in this bid must be completed before your firm can be considered for award of this contract.

AFFIDAVIT

Comes the Affiant, David Hovekamp, and after being first duly sworn under penalty of perjury as follows:

1. His/her name is David Hovekamp and he/she is the individual submitting the bid or is the authorized representative of Whayne Supply Company the entity submitting the bid (hereinafter referred to as "Bidder")
2. Bidder will pay all taxes and fees, which are owed to the Lexington-Fayette Urban County Government at the time the bid is submitted, prior to award of the contract and will maintain a "current" status in regard to those taxes and fees during the life of the contract.
3. Bidder will obtain a Lexington-Fayette Urban County Government business license, if applicable, prior to award of the contract.
4. Bidder has authorized the Division of Central Purchasing to verify the above-mentioned information with the Division of Revenue and to disclose to the Urban County Council that taxes and/or fees are delinquent or that a business license has not been obtained.
5. Bidder has not knowingly violated any provision of the campaign finance laws of the Commonwealth of Kentucky within the past five (5) years and the award of a contract to the Bidder will not violate any provision of the campaign finance laws of the Commonwealth.
6. Bidder has not knowingly violated any provision of Chapter 25 of the Lexington-Fayette Urban County Government Code of Ordinances, known as "Ethics Act."
7. Bidder acknowledges that "knowingly" for purposes of this Affidavit means, with respect to conduct or to circumstances described by a statute or ordinance defining an offense, that a person is aware or should have been aware that his conduct is of that nature or that the circumstance exists.

Further, Affiant sayeth naught. _____

STATE OF Kentucky

COUNTY OF Clark

The foregoing instrument was subscribed, sworn to and acknowledged before me by David Hovekamp on this the 11 day of February, 2015.

My Commission expires: 7/31/2018

Jerril L. Bryant #514622
NOTARY PUBLIC, STATE AT LARGE

Please refer to Section II. Bid Conditions, Item "U" prior to completing this form.

I. GREEN PROCUREMENT

A. ENERGY

The Lexington-Fayette Urban County Government is committed to protecting our environment and being fiscally responsible to our citizens.

The Lexington-Fayette Urban County Government mandates the use of Energy Star compliant products if they are available in the marketplace (go to www.Energystar.gov). If these products are available, but not submitted in your pricing, your bid will be rejected as non-compliant.

ENERGY STAR is a government program that offers businesses and consumers energy-efficient solutions, making it easy to save money while protecting the environment for future generations.

Key Benefits

These products use 25 to 50% less energy
Reduced energy costs without compromising quality or performance
Reduced air pollution because fewer fossil fuels are burned
Significant return on investment
Extended product life and decreased maintenance

B. GREEN SEAL CERTIFIED PRODUCTS

The Lexington-Fayette Urban County Government is also committed to using other environmentally friendly products that do not negatively impact our environment. Green Seal is a non-profit organization devoted to environmental standard setting, product certification, and public education.

Go to www.Greenseal.org to find available certified products. These products will have a reduced impact on the environment and on human health. The products to be used must be pre-approved by the LFUCG prior to commencement of any work in any LFUCG facility. If a Green Seal product is not available, the LFUCG must provide a signed waiver to use an alternate product. Please provide information on the Green Seal products being used with your bid response.

C. GREEN COMMUNITY

The Lexington-Fayette Urban County Government (LFUCG) serves as a principal, along with the University of Kentucky and Fayette County Public Schools, in the Bluegrass Partnership for a Green Community. The Purchasing Team component of the Partnership collaborates on economy of scale purchasing that promotes and enhances environmental initiatives. Specifically, when applicable, each principal is interested in obtaining best value products and/or services which promote environment initiatives via solicitations and awards from the other principals.

If your company is the successful bidder on this Invitation For Bid, do you agree to extend the same product/service pricing to the other principals of the Bluegrass Partnership for a Green Community (i.e. University of Kentucky and Fayette County Schools) if requested?

Yes X No

II. Bid Conditions

- A. No bid may be withdrawn for a period of sixty (60) days after the date and time set for opening.
- B. No bid may be altered after the date and time set for opening. In the case of obvious errors, the Division of Central Purchasing may permit the withdrawal of a bid. The decision as to whether a bid may be withdrawn shall be that of the Division of Central Purchasing.
- C. Acceptance of this proposal shall be enactment of an Ordinance by the Urban County Council.
- D. The bidder agrees that the Urban County Government reserves the right to reject any and all bids for either fiscal or technical reasons, and to award each part of the bid separately or all parts to one vendor.
- E. Minor exceptions may not eliminate the bidder. The decision as to whether any exception is minor shall be entirely that of the head of the requisitioning Department or Division and the Director of the Division of Central Purchasing. The Urban County Government may waive technicalities and informallties where such waiver would best serve the interests of the Urban County Government.
- F. Manufacturer's catalogue numbers, trade names, etc., where shown herein are for descriptive purposes and are to guide the bidder in interpreting the standard of quality, design, and performance desired, and shall not be construed to exclude proposals based on furnishing other types of materials and/or services. However, any substitution or departure proposed by the bidder must be clearly noted and described; otherwise, it will be assumed that the bidder intends to supply items specifically mentioned In this Invitation for Bids.
- G. The Urban County Government may require demonstrations of the materials proposed herein prior to acceptance of this proposal.
- H. Bids must be submitted on this form and must be signed by the bidder or his authorized representative. Unsigned bids will not be considered.
- I. Bids must be submitted prior to the date and time indicated for opening. Bids submitted after this time will not be considered.
- J. All bids mailed must be marked on the face of the envelope:

"Bid on #12-2015 Emergency Generators & Accessories"

and addressed to: Division of Central Purchasing
 200 East Main Street, Room 338
 Lexington, Kentucky 40507

The Lexington-Fayette Urban County Government assumes no responsibility for bids that are not addressed and delivered as indicated above. Bids that are not delivered to the Division of Central Purchasing by the stated time and date will be rejected.

- K. Bidder is requested to show both unit prices and lot prices. In the event of error, the unit price shall prevail.
- L. A certified check or Bid Bond in the amount of XX percent of the bid price must be attached hereto. This check must be made payable to the Lexington-Fayette Urban County Government, and will be returned when the material and/or services specified herein have been delivered in accordance with specifications. In the event of failure to perform within the time period set forth in this bid, it is agreed the certified check may be cashed and the funds retained by the Lexington-Fayette Urban County Government as liquidated damages. Checks of unsuccessful bidders will be returned when the bid has been awarded.
- M. The delivery dates specified by bidder may be a factor in the determination of the successful bidder.
- N. Tabulations of bids received may be mailed to bidders. Bidders requesting tabulations must enclose a stamped, self-addressed envelope with the bid.
- O. The Lexington-Fayette Urban County Government is exempt from Kentucky Sales Tax and Federal Excise Tax on materials purchased from this bid invitation. Materials purchased by the bidder for construction projects are not tax exempt and are the sole responsibility of the bidder.

- P. All material furnished hereunder must be in full compliance with OSHA regulations.
- Q. If more than one bid is offered by one party, or by any person or persons representing a party, all such bids shall be rejected.
- R. Signature on the face of this bid by the Bidder or his authorized representative shall be construed as acceptance of and compliance with all terms and conditions contained herein.
- S. The Entity (regardless of whether construction contractor, non-construction contractor or supplier) agrees to provide equal opportunity in employment for all qualified persons, to prohibit discrimination in employment because of race, color, creed, national origin, sex or age, and to promote equal employment through a positive, continuing program from itself and each of its sub-contracting agents. This program of equal employment opportunity shall apply to every aspect of its employment policies and practices.
- T. The Kentucky Equal Employment Opportunity Act of 1978 (KRS 45.560-45.640) requires that any county, city, town, school district, water district, hospital district, or other political subdivision of the state shall include in directly or indirectly publicly funded contracts for supplies, materials, services, or equipment hereinafter entered into the following provisions:

During the performance of this contract, the contractor agrees as follows:

- (1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, age or national origin;*
- (2) The contractor will state in all solicitations or advertisements for employees placed by or on behalf of the contractors that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, age or national origin;*
- (3) The contractor will post notices in conspicuous places, available to employees and applicants for employment, setting forth the provisions of the non-discrimination clauses required by this section; and*
- (4) The contractor will send a notice to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding advising the labor union or workers' representative of the contractor's commitments under the nondiscrimination clauses.*

The Act further provides:

KRS 45.610. Hiring minorities - Information required

- (1) For the length of the contract, each contractor shall hire minorities from other sources within the drawing area, should the union with which he has collective bargaining agreements be unwilling to supply sufficient minorities to satisfy the agreed upon goals and timetable.*
- (2) Each contractor shall, for the length of the contract, furnish such information as required by KRS 45.560 to KRS 45.640 and by such rules, regulations and orders issued pursuant thereto and will permit access to all books and records pertaining to his employment practices and work sites by the contracting agency and the department for purposes of investigation to ascertain compliance with KRS 45.560 to 45.640 and such rules, regulations and orders issued pursuant thereto.*

KRS 45.620. Action against contractor - Hiring of minority contractor or subcontractor

- (1) If any contractor is found by the department to have engaged in an unlawful practice under this chapter during the course of performing under a contract or subcontract covered under KRS 45.560 to 45.640, the department shall so certify to the contracting agency and such certification shall be binding upon the contracting agency unless it is reversed in the course of judicial review.*
- (2) If the contractor is found to have committed an unlawful practice under KRS 45.560 to 45.640, the contracting agency may cancel or terminate the contract, conditioned upon a program for future compliance approved by the contracting agency and the department. The contracting agency may declare such a contractor ineligible to bid on further contracts with that agency until such time as the contractor complies in full with the requirements of KRS 45.560 to 45.640.*

- (3) *The equal employment provisions of KRS 45.560 to 45.640 may be met in part by a contractor by subcontracting to a minority contractor or subcontractor. For the provisions of KRS 45.560 to 45.640, a minority contractor or subcontractor shall mean a business that is owned and controlled by one or more persons disadvantaged by racial or ethnic circumstances.*

KRS 45.630 Termination of existing employee not required, when

Any provision of KRS 45.560 to 45.640 notwithstanding, no contractor shall be required to terminate an existing employee upon proof that that employee was employed prior to the date of the contract.

KRS 45.640 Minimum skills

Nothing in KRS 45.560 to 45.640 shall require a contractor to hire anyone who fails to demonstrate the minimum skills required to perform a particular job.

It is recommended that all of the provisions above quoted to be included as special conditions in each contract. In the case of a contract exceeding \$250,000, the contractor is required to furnish evidence that his work-force in Kentucky is representative of the available work-force in the area from which he draws employees, or to supply an Affirmative Action plan which will achieve such representation during the life of the contract.

- U. Any party, firm or individual submitting a proposal pursuant to this invitation must be in compliance with the requirements of the Lexington-Fayette Urban County Government regarding taxes and fees before they can be considered for award of this invitation and must maintain a "current" status with regard to those taxes and fees throughout the term of the contract. The contractor must be in compliance with Chapter 13 from the Code of Ordinances of the Lexington-Fayette Urban County Government. The contractor must be in compliance with Ordinance 35-2000 pursuant to contractor registration with the Division of Building Inspection. If applicable, said business must have a Fayette County business license.

Pursuant to KRS 45A.343 and KRS 45A.345, the contractor shall

- (1) *Reveal any final determination of a violation by the contractor within the previous five year period pursuant to KRS Chapters 136 (corporation and utility taxes), 139 (sales and use taxes), 141 (income taxes), 337 (wages and hours), 338 (occupational safety and health of employees), 341 (unemployment and compensation) and 342 (labor and human rights) that apply to the contractor; and*
- (2) *Be in continuous compliance with the above-mentioned KRS provisions that apply to the contractor for the duration of the contract.*

A contractor's failure to reveal the above or to comply with such provisions for the duration of the contract shall be grounds for cancellation of the contract and disqualification of the contractor from eligibility for future contracts for a period of two (2) years.

- V. Vendors who respond to this invitation have the right to file a notice of contention associated with the bid process or to file a notice of appeal of the recommendation made by the Director of Central Purchasing resulting from this invitation.

Notice of contention with the bid process must be filed within 3 business days of the bid/proposal opening by (1) sending a written notice, including sufficient documentation to support contention, to the Director of the Division of Central Purchasing or (2) submitting a written request for a meeting with the Director of Central Purchasing to explain his/her contention with the bid process. After consulting with the Commissioner of Finance the Chief Administrative Officer and reviewing the documentation and/or hearing the vendor, the Director of Central Purchasing shall promptly respond in writing findings as to the compliance with bid processes. If, based on this review, a bid process irregularity is deemed to have occurred the Director of Central Purchasing will consult with the Commissioner of Finance, the Chief Administrative Officer and the Department of Law as to the appropriate remedy.

Notice of appeal of a bid recommendation must be filed within 3 business days of the bid recommendation by (1) sending a written notice, including sufficient documentation to support appeal, to the Director, Division of Central Purchasing or (2) submitting a written request for a meeting with the Director of Central Purchasing to explain his appeal. After reviewing the documentation and/or hearing the vendor and consulting with the Commissioner of Finance and the Chief Administrative Officer, the Director of Central Purchasing shall in writing, affirm or withdraw the recommendation.

III. Procurement Contract Bid Conditions

- A. The terms of this agreement shall be for 2 year(s) from the date of acceptance of this contract by the Lexington-Fayette Urban County Government. This agreement may be automatically extended for an additional 1 year(s) renewal. This contract may be canceled by either party thirty (30) days after delivery by canceling party of written notice of intent to cancel to the other contracting party.
- B. Price Changes **(Space Checked Applies)**
 - () 1. Prices quoted in response to the Invitation shall be firm prices for the first 90 days of the Procurement Contract. After 90 days, prices may be subject to revision and such changes shall be based on general industry changes. Revision may be either increases or decreases and may be requested by either party. There will be no more than one (1) price adjustment per quarter. Requests for price changes shall be received in writing at least twenty (20) days prior to the effective date and are subject to written acceptance before becoming effective. Proof of the validity of a request for revision shall be responsibility of the requesting party. The Lexington-Fayette Urban County Government shall receive the benefit of any decline that the seller shall offer his other accounts.
 - (XXX) 2. No provision for price change is made herein. Prices are to be firm for the term of this contract.
 - () 3. Procurement Level Contract
- C. If any contract item is not available from the vendor, the Lexington-Fayette Urban County Government, at its option, may permit the item to be back-ordered or may procure the item on the open market.
- D. All invoices must bear reference to the Lexington-Fayette Urban County Government Purchasing document numbers which are being billed.
- E. This contract may be canceled by the Lexington-Fayette Urban County Government if it is determined that the Bidder has failed to perform under the terms of this agreement, such cancellation to be effective upon receipt of written notice of cancellation by the Bidder.
- F. No substitutions for articles specified herein may be made without prior approval of the Division of Central Purchasing.

EQUAL OPPORTUNITY AGREEMENT

The Law

- Title VII of the Civil Rights Act of 1964 (amended 1972) states that it is unlawful for an employer to discriminate in employment because of race, color, religion, sex, age (40-70 years) or national origin.
- Executive Order No. 11246 on Nondiscrimination under Federal contract prohibits employment discrimination by contractor and sub-contractor doing business with the Federal Government or recipients of Federal funds. This order was later amended by Executive Order No. 11375 to prohibit discrimination on the basis of sex.
- Section 503 of the Rehabilitation Act of 1973 states:

The Contractor will not discriminate against any employee or applicant for employment because of physical or mental handicap.

- Section 2012 of the Vietnam Era Veterans Readjustment Act of 1973 requires Affirmative Action on behalf of disabled veterans and veterans of the Vietnam Era by contractors having Federal contracts.
- Section 206(A) of Executive Order 12086, Consolidation of Contract Compliance Functions for Equal Employment Opportunity, states:


The Secretary of Labor may investigate the employment practices of any Government contractor or sub-contractor to determine whether or not the contractual provisions specified in Section 202 of this order have been violated.

The Lexington-Fayette Urban County Government practices Equal Opportunity in recruiting, hiring and promoting. It is the Government's intent to affirmatively provide employment opportunities for those individuals who have previously not been allowed to enter into the mainstream of society. Because of its importance to the local Government, this policy carries the full endorsement of the Mayor, Commissioners, Directors and all supervisory personnel. In following this commitment to Equal Employment Opportunity and because the Government is the benefactor of the Federal funds, it is both against the Urban County Government policy and illegal for the Government to let contracts to companies which knowingly or unknowingly practice discrimination in their employment practices. Violation of the above mentioned ordinances may cause a contract to be canceled and the contractors may be declared ineligible for future consideration.

Please sign this statement in the appropriate space acknowledging that you have read and understand the provisions contained herein. Return this document as part of your application packet.

Bidders

I/We agree to comply with the Civil Rights Laws listed above that govern employment rights of minorities, women, Vietnam veterans, handicapped and aged persons.


Signature


Name of Business

GENERAL PROVISIONS OF BID CONTRACT

By signing the below, bidder acknowledges that it understands and agrees with the following provisions related to its bid response and the provision of any goods or services to LFUCG upon selection by LFUCG pursuant to the bid request:

1. Bidder shall comply with all Federal, State & Local regulations concerning this type of service or good.
2. Failure to submit ALL forms and information required by LFUCG may be grounds for disqualification.
3. Addenda: All addenda, if any, must be considered by the bidder in making its response, and such addenda shall be made a part of the requirements of the bid contract. Before submitting a bid response, it is incumbent upon bidder to be informed as to whether any addenda have been issued, and the failure of the bidder to cover any such addenda may result in disqualification of that response.
4. Bid Reservations: LFUCG reserves the right to reject any or all bid responses, to award in whole or part, and to waive minor immaterial defects in proposals. LFUCG may consider any alternative proposal that meets its basic needs.
5. Liability: LFUCG is not responsible for any cost incurred by bidder in the preparation of its response.
6. Changes/Alterations: Bidder may change or withdraw a proposal at any time prior to the opening; however, no oral modifications will be allowed. Only letters, or other formal written requests for modifications or corrections of a previously submitted proposal which is addressed in the same manner as the bid response, and received by LFUCG prior to the scheduled closing time for receipt of bids, will be accepted. The bid response when opened, will then be corrected in accordance with such written request(s), provided that the written request is contained in a sealed envelope which is plainly marked "modifications of bid response".
7. Clarification of Submittal: LFUCG reserves the right to obtain clarification of any point in a bid or to obtain additional information from any bidder.
8. Bribery Clause: By his/her signature on its response, bidder certifies that no employee of his/hers, any affiliate or subcontractor, has bribed or attempted to bribe an officer or employee of the LFUCG.
9. Additional Information: While not necessary, the bidder may include any product brochures, software documentation, sample reports, or other documentation that may assist LFUCG in better understanding and evaluating the bid response. Additional documentation shall not serve as a substitute for other documentation which is required by the LFUCG to be submitted with the bid response.
10. Ambiguity, Conflict or other Errors: If a bidder discovers any ambiguity, conflict, discrepancy, omission or other error in the bid request of LFUCG, it shall immediately notify LFUCG of such error in writing and request modification or clarification of the document if allowable by the LFUCG.
11. Agreement to Bid Terms: In submitting its bid response, the bidder agrees that it has carefully examined the specifications and all provisions relating to LFUCG's bid request, including but not limited to the bid contract. By submission of its bid response, bidder states that it understands the meaning, intent and requirements of LFUCG's bid request and agrees to the same. The successful bidder shall warrant that it is familiar with and understands all provisions herein and shall warrant that it can comply with them. No additional compensation to bidder shall be authorized for services, expenses, or goods reasonably covered under these provisions that the bidder omits from its bid response.
12. Cancellation: LFUCG may unilaterally terminate the bid contract with the selected bidder(s) at any time, with or without cause, by providing at least thirty (30) days advance written notice unless a different advance written notice period is negotiated prior to contract approval. Payment for services or goods received prior to termination shall be made by the LFUCG provided these goods or services were provided in a manner acceptable to the

LFUCG. Payment for those goods and services shall not be unreasonably withheld.

13. Assignment of Contract: The selected bidder(s) shall not assign or subcontract any portion of the bid contract with LFUCG without the express written consent of LFUCG. Any purported assignment or subcontract in violation hereof shall be void. It is expressly acknowledged that LFUCG shall never be required or obligated to consent to any request for assignment or subcontract; and further that such refusal to consent can be for any or no reason, fully within the sole discretion of LFUCG.
14. No Waiver: No failure or delay by LFUCG in exercising any right, remedy, power or privilege hereunder, nor any single or partial exercise thereof, nor the exercise of any other right, remedy, power or privilege shall operate as a waiver hereof or thereof. No failure or delay by LFUCG in exercising any right, remedy, power or privilege under or in respect of this bid proposal or bid contract shall affect the rights, remedies, powers or privileges of LFUCG hereunder or shall operate as a waiver thereof.
15. Authority to do Business: Each bidder must be authorized to do business under the laws of the Commonwealth of Kentucky and must be in good standing and have full legal capacity to provide the goods or services specified in the bid proposal. Each bidder must have all necessary right and lawful authority to submit the bid response and enter into the bid contract for the full term hereof including any necessary corporate or other action authorizing the bidder to submit the bid response and enter into this bid contract. If requested, the bidder will provide LFUCG with a copy of a corporate resolution authorizing this action and/or a letter from an attorney confirming that the proposer is authorized to do business in the Commonwealth of Kentucky. All bid responses must be signed by a duly authorized officer, agent or employee of the bidder.
16. Governing Law: This bid request and bid contract shall be governed by and construed in accordance with the laws of the Commonwealth of Kentucky. In the event of any proceedings regarding this matter, the bidder agrees that the venue shall be the Fayette County Circuit Court or the U.S. District Court for the Eastern District of Kentucky, Lexington Division and that the bidder expressly consents to personal jurisdiction and venue in such Court for the limited and sole purpose of proceedings relating to these matters or any rights or obligations arising thereunder.
17. Ability to Meet Obligations: Bidder affirmatively states that there are no actions, suits or proceedings of any kind pending against bidder or, to the knowledge of the bidder, threatened against the bidder before or by any court, governmental body or agency or other tribunal or authority which would, if adversely determined, have a materially adverse effect on the authority or ability of bidder to perform its obligations under this bid response or bid contract, or which question the legality, validity or enforceability hereof or thereof.
18. Bidder understands and agrees that its employees, agents, or subcontractors are not employees of LFUCG for any purpose whatsoever. Bidder is an independent contractor at all times related to the bid response or bid contract.
19. If any term or provision of this bid contract shall be found to be illegal or unenforceable, the remainder of the contract shall remain in full force and such term or provision shall be deemed stricken.


Signature

2/10/15
Date

BID SCHEDULE

Bid #12-2015

The LFUCG is requesting bids to establish a **Unit Price Contract** for **Emergency Generators and Accessories** for the Division of Water Quality as per the attached specifications and documents with the time set forth therein, and at the unit prices stated below. The bidder hereby proposes to furnish all equipment, materials, supplies, and labor at the unit prices stated hereinafter in accordance with the Contract Documents. Additionally, unit prices stated hereinafter shall include all expenses incurred in successfully performing the work required in the Contract documents including (but not limited to) delivery, vehicle usage, services, all items of cost, overhead, taxes (federal, state, local), and profit for the Equipment Supplier involved. Unit prices shall include all items and directions as stated in the Specifications including the delivery of the generators and appurtenances to 301 Lisle Industrial Avenue, Lexington, KY 40511.

The Bidder shall provide a bid for three (3) trailer mounted standby generator systems for fiscal year 2015 (FY2015), and four (4) systems for fiscal year 2016 (FY16) pending budget approval. The winning Bidder must provide delivery of the unit(s) within 60 days of receipt of purchase order. Terms of this contract shall be for two (2) years.

Bidder must complete all items in the following schedule, including the column titled "Item total" and the "Total Bid Amount (Items 1 - 2)" to be considered. Bid will be awarded to one (1) bidder ONLY.

Item	Estimated Quantity	Description	Size	Unit Price	Item Total
1	3	Packaged Engine Generator Systems and Accessories (FY15)	100 kW	\$58,965	\$ 176,895
2	4	Packaged Engine Generator Systems and Accessories (FY16)	100 kW	\$62,208	\$ 248,832
Total Bid Amount (Items 1 - 2)				\$121,173	\$ 425,727

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Lexington-Fayette Urban County Government
DEPARTMENT OF FINANCE & ADMINISTRATION

Jim Gray
Mayor

William O'Mara
Commissioner

ADDENDUM #1

Bid Number: **#12-2015**

Date: February 5, 2015

Subject: Emergency Generators and Accessories

Address inquiries to:
Brian Marcum
(859) 258-3320

TO ALL PROSPECTIVE SUBMITTERS:

Please be advised of the following clarifications to the above referenced Bid:

Title: Sizing - Motor Starting Type & Quantity

Sizing is to be based on "two (2) 30 HP, 480V, 3-phase submersible pumps."

1) Please provide the motor starter type for these pumps: across the line, VFD, soft start, etc. The starter type may significantly impact the sizing. The worst case (most difficult to start) would be across the line and that should be the default if the starter types are not defined.

Please confirm whether or not both pumps may actually start at the same time. Sizing will allow for both to run at the same time; if they physically can start at the same instant that will again impact sizing.

1. The only sizing requirements we are concerned with is that the generator have a minimum power output of 100 KW. Additional information on the pumps will not be provided.
2. Any deviations from the specifications must be listed in the bid submittal.

2) If the engine in not branded Caterpillar, it does not carry the Caterpillar name is it acceptable?

- 1. Brand or manufacturer names are listed for comparisons; equivalents are acceptable if equal, which burden of proof is the responsibility of the bidder with documentation. This will then be validated or not by the owner.

3) When would the 2016 Sets be delivered?

Between July 1, 2016 and June 30, 2017.

4) Can we put in an option for freight reduction based on multiple delivery?

Shipping the most economical way for the LFUCG should be offered in the price.

5) For the Installation of Hitch, Break Controls, Wiring for City Truck what kind of Truck will this be? Also this will need to be added to cost so would it be better to provide as a separate line item?

Eliminate above pricing to outfit a LFUCG truck from bid pricing. Provide trailer as specified.

6) It is in spec for tanks to be full, for next year equipment delivery are we able to adjust pricing fuel cost) it is time for delivery?

No fuel adjustments will be allowed.

7) Will City unload units when delivered - off of flat bed truck?

The selected bidder shall be prepared to offload any equipment during delivery.



Todd Slatin, Director
Division of Central Purchasing

All other terms and conditions of the Bid and specifications are unchanged.

This letter should be signed, attached to and become a part of your Bid.

COMPANY NAME: Whayne Supply Company

ADDRESS: 195 Lisle Industrial Ave, Lexington 40511

SIGNATURE OF BIDDER: 



195 Lisle Industrial Ave.
Lexington, Kentucky 40511
Phone 859-254-2756

February 11, 2015

Lexington Fayette Urban County Government
200 East Main Street
Lexington, KY 40507

Subject: Invitation To Bid# 12-2015 Notes, Exceptions, and Deviations

- Per bid schedule and clarified in Addendum 1: Whayne will only honor the pricing provided for the fiscal year 2016 generator sets if the order is released prior to October 1st of 2016. There is a significant change in the EPA regulations pertaining to portable generator sets that will drive pricing up significantly for any machine where the engine is produced after January 1st of 2017. It will be necessary to receive an order by October 1st to assure availability of engines under current EPA regulations and as quoted.
- The bid schedule calls for delivery of equipment within 60-days of PO issuance. Current production lead times on the quoted generator sets are 10 to 12 weeks (70 to 84 days) for completion at the factory. We anticipate a 90-day delivery schedule. Actual delivery to be determined at time of release.

Thank you very much for allowing us an opportunity to quote on Whayne Power Systems equipment and we look forward to receipt of your valuable order.

Very truly yours,

Scott Schafer
Power Systems Sales Engineer
859-285-8742 cell
scott_schafer@whayne.com

Bill of Materials
Bid Invitation #12-2015
100kW Portable Generator Sets

Whayne Power Systems Model SP-100-III Generator Set; Flex Portable

100 KW (125 KVA) Standby, 90 KW (112 KVA) Prime Power
120/208 Volts [reconnectable 12 lead], 60 Hz, Three Phase, 0.8Power Factor
Amp Load Capacity: 346; Load Bank tested.

Perkins Diesel engine, Model 1104-44TAG2 @ 1800 RPM complete with
12 Volt Electrics, Radiator & Guard

Marathon Brushless Single Bearing Alternator with Adjustable Rheostat,
Automatic Voltage Regulator & Vibration Isolation Mounts, Strip Heater
Extra Fungus Coating, PMG/PM-300

Basler 2020 Digital Control with all digital read out
And Safety Shut Downs, Mounted 4'8" Center to ground

Optional Equipment included in above pricing:

- Battery Cables
- Battery Rack
- Battery Charger (6 Amp)
- Critical Silencer
- Electronic Governor
- Auto Start Control with Over speed & Overdrank Shutdowns
- Heavy Duty Canister Type Air Cleaner
- Racor Fuel / Water Separator Mounted
- Jacket Water Heater, Shore Plug For Heater & Battery Charger
- 3 Position Voltage Selector Switch With 3 outputs**
- 350 Amp 208 Volt Mainline Circuit Breaker Mounted
- 300 Amp 240 Volt Mainline Circuit Breaker Mounted
- 150 Amp 480 Volt Mainline Circuit Breaker Mounted
- 3 sets of Posi-Lok Connectors (1 set per Breaker)
- Deluxe Aluminum Sound Attenuated Weather Enclosure w/ Fluid Drains
- 200gal UL142 Double Wall Sub Base Fuel Tank (24 Hour Run@Full Load)
- Hi-Low Switch, Sender Level, Fuel Port ALL Outside Enclosure,
- DOT Approved Trailer with: Elect. Brakes, Lights,4-Leveling Jacks, Tool Box
- 6 Way Round Plug, 3" Pintle Ring, Spare Tire, Heavy Tongue Jack
- Spare Tire and Rack

Other:

- Quantity 5, 50 ft. power cables with male/female 200A POSI-LOK fittings
- 25 foot common cord for 120VAC shore power
- Full set of spare engine filters; fuel, oil, and air
- Load bank testing - customer witnessed 4-hour
- Pump station testing - 30 minute load test
- 235 Gallons of diesel fuel (full tank plus fuel for 4 hour witness load bank test and 30 minute on site test
- Training per specification

Fidelity and Deposit Company

Home Office

OF MARYLAND

Baltimore, MD. 21203

BID BOND

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

CONTRACTOR:

(Name, legal status and address)

Wayne Supply Company
1400 Cecil Avenue
Louisville, KY 40211

SURETY:

(Name, legal status and principal place of business):

Fidelity and Deposit Company of Maryland
The Precedent Office Park
9229 Delegates Row, Suite 300
Indianapolis, IN 46240

OWNER:

(Name, legal status and address)

Lexington Fayette Urban County Government
Division of Central Purchasing
200 East Main Street, Room 338
Lexington, KY 40507

BOND AMOUNT: \$ one hundred percent (100%) of the amount bid

PROJECT:

(Name, location or address, and Project number, if any)

Bid #12-2015 Emergency Generators & Accessories

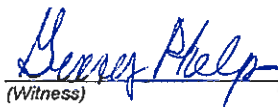
The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a Surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirements shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

Signed and sealed this 11th day of February, 2015.

(Witness)


(Witness)

Wayne Supply Company

(Principal)

(Seal)

(Title)

Fidelity and Deposit Company of Maryland

(Surety)

(Seal)


(Attorney-in-Fact) Tammy L. Masterson, Attorney-In-Fact

**ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND
POWER OF ATTORNEY**

KNOW ALL MEN BY THESE PRESENTS: That the ZURICH AMERICAN INSURANCE COMPANY, a corporation of the State of New York, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, a corporation of the State of Maryland, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND a corporation of the State of Maryland (herein collectively called the "Companies"), by JAMES M. CARROLL, Vice President, in pursuance of authority granted by Article V, Section 8, of the By-Laws of said Companies, which are set forth on the reverse side hereof and are hereby certified to be in full force and effect on the date hereof, do hereby nominate, constitute, and appoint Douglas A. STOUGH, John A. STOUGH, John F. NEACE, Tammy L. MASTERSON, Kyle SHREWSBURY, Shirley A. SAGUN and Jennifer K. WILLIAMS, all of Louisville, Kentucky, EACH its true and lawful agent and Attorney-in-Fact, to make, execute, seal and deliver, for, and on its behalf as surety, and as its act and deed: any and all bonds and undertakings, and the execution of such bonds or undertakings in pursuance of these presents, shall be as binding upon said Companies, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the ZURICH AMERICAN INSURANCE COMPANY at its office in New York, New York., the regularly elected officers of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at its office in Owings Mills, Maryland., and the regularly elected officers of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at its office in Owings Mills, Maryland., in their own proper persons.

The said Vice President does hereby certify that the extract set forth on the reverse side hereof is a true copy of Article V, Section 8, of the By-Laws of said Companies, and is now in force.

IN WITNESS WHEREOF, the said Vice-President has hereunto subscribed his/her names and affixed the Corporate Seals of the said ZURICH AMERICAN INSURANCE COMPANY, COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and FIDELITY AND DEPOSIT COMPANY OF MARYLAND, this 14th day of June, A.D. 2012.

ATTEST:

**ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND**



By: *Eric D. Barnes*
Assistant Secretary
Eric D. Barnes

James M. Carroll
Vice President
James M. Carroll

State of Maryland
City of Baltimore

On this 14th day of June, A.D. 2012, before the subscriber, a Notary Public of the State of Maryland, duly commissioned and qualified, JAMES M. CARROLL, Vice President, and ERIC D. BARNES, Assistant Secretary, of the Companies, to me personally known to be the individuals and officers described in and who executed the preceding instrument, and acknowledged the execution of same, and being by me duly sworn, deposeth and saith, that he/she is the said officer of the Company aforesaid, and that the seals affixed to the preceding instrument are the Corporate Seals of said Companies, and that the said Corporate Seals and the signature as such officer were duly affixed and subscribed to the said instrument by the authority and direction of the said Corporations.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my Official Seal the day and year first above written.

Constance A. Dunn



Constance A. Dunn, Notary Public
My Commission Expires: July 14, 2015

EXTRACT FROM BY-LAWS OF THE COMPANIES

"Article V, Section 8, Attorneys-in-Fact. The Chief Executive Officer, the President, or any Executive Vice President or Vice President may, by written instrument under the attested corporate seal, appoint attorneys-in-fact with authority to execute bonds, policies, recognizances, stipulations, undertakings, or other like instruments on behalf of the Company, and may authorize any officer or any such attorney-in-fact to affix the corporate seal thereto; and may with or without cause modify or revoke any such appointment or authority at any time."

CERTIFICATE

I, the undersigned, Vice President of the ZURICH AMERICAN INSURANCE COMPANY, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, do hereby certify that the foregoing Power of Attorney is still in full force and effect on the date of this certificate; and I do further certify that Article V, Section 8, of the By-Laws of the Companies is still in force.

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the ZURICH AMERICAN INSURANCE COMPANY at a meeting duly called and held on the 15th day of December 1998.

RESOLVED: "That the signature of the President or a Vice President and the attesting signature of a Secretary or an Assistant Secretary and the Seal of the Company may be affixed by facsimile on any Power of Attorney...Any such Power or any certificate thereof bearing such facsimile signature and seal shall be valid and binding on the Company."

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at a meeting duly called and held on the 5th day of May, 1994, and the following resolution of the Board of Directors of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at a meeting duly called and held on the 10th day of May, 1990.

RESOLVED: "That the facsimile or mechanically reproduced seal of the company and facsimile or mechanically reproduced signature of any Vice-President, Secretary, or Assistant Secretary of the Company, whether made heretofore or hereafter, wherever appearing upon a certified copy of any power of attorney issued by the Company, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seals of the said Companies, this 11th day of February, 2015.



Geoffrey Delisio

Geoffrey Delisio, Vice President



TRADEWINDS

POWER CORP

5820 NW 84th Avenue - Miami, Florida 33166
Tel 305-592-9745 Fax 305-592-7461
www.tradewindspower.com

Filters
Pump Sets
Power Units
Generator Sets
Automatic Engine Controls

Quote # : TP20,688 2/9/2015

Model TP100E-60T3FGT
Application Mobile
Approval Non-UL Unit
Power Rating 100kW/125kVA Standby, 90kW/112.5kVA Prime
120/240V 3Ph 100KW, 301 Amps
120/208V 3Ph 100KW, 348 Amps
277/480V 3Ph 100KW, 150 Amps
120/240V 1Ph 100KW, 400 Amps
Hertz 60 Hz @ 1800 RPM

Description

Tradewinds fully integrated Mobile power generator set, providing optimum performance, reliability and versatility. Efficiency matched heavy duty, liquid cooled, 4 cycle, diesel engine, with an AC Synchronous, brushless, single bearing alternator. Mounted on vibration isolators, factory tested at rated load, transient load, block load, and load rejection, Voltage and Frequency fluctuation, Safety shutdowns for high coolant temperature and low oil pressure, under/over frequency. **FOR UNITS WITH FLEX ENGINE ONLY: Equipment Engine complies with EPA regulation pursuant to authority contained in 40CFR part 1039 Section 625 and 40CFR part 1068 Section 101, along with requirements of CCR2423(d).**

The complete generator set assembly is rated at an ambient temperature of 40 °C.

Rating

Standby Power rated, to supply emergency power for the duration of normal power interruption.

Engine

Perkins 1104D-E44TAG2, U.S. EPA non road (or off road) source emission standard Tier 3 compliant diesel engine, 4 cylinder in-line; turbocharged, after cooled, heavy duty air cleaner; high pressure common rail fuel system, electronically controlled, fuel injection pump, fuel filter, oil filler and dipstick, oil filter; thermostatically controlled cooling system, gear driven circulation pump, belt driven pusher fan, radiator sized for 120°F ambient clearance; 12 VDC system, battery charging alternator; flywheel and housing SAE J620.

AC Alternator

Marathon Electric , 4 Pole, Brushless exciter, 2/3 pitch winding to minimize harmonic distortion, unirotor construction. Double shielded and pre -lubricated single bearing. Class 'H' insulation UL1446, and epoxy overcoat. NEMA MG-32, BS5000, IEC 34-1. Marathon Model 431CSL6206, unit is capable of 423SkA @20% Permanent Magnet Generator (PMG) Excitation with PM500 voltage regulator.

Single output Voltage Change Switch, 120/240V, 120/208V, 277/480V

Qty 3 200 amp Posi-lock cam locks one for each breaker Part number E0200

QTY 3 200A, 3P, 600V, 250Vdc, Circuit Breaker, 80% rated ", Thermal Magnetic , UL 489 Listed, providing circuit protection with low magnetic pick-up range from two to five times the continuous rating and closer low level short circuit protection. 600Vac rated, 250 Vdc. Flush mounted on a NEMA 1 box to the generator set. Connected with single insulated copper conductor rated from 0 to 2000V, per line. Neutral standoff insulator, grounding , neutral lugs, and neutral to bonding conductor are rated 600V.

AC Alternator Space Heater, 250Watts, 240/120V, for 430 Magna Plus Frame Magna. SPECIAL ORDER.

Digital Control Panel 2020 Series, 4 output ready; manual or remote start, AC voltmeter, hourmeter. All standard generator shutdowns; programmable for pre-alarm or alarm, USB Port; ECU communication via SAE J1939. MODBUS communication via RS485 Port. NO interface panel included.

Emergency Stop ONLY FOR 2020 panels.

Audible Alarm. 2020 Panel Series ONLY.

170 gal., STEEL sub base fuel tank, UL-142 double wall , with baffles, fuel filler neck with cap, mechanical

fuel gauge, 1 1/4 in. normal vent, emergency vent per NFPA 30, leak detector, suction and return fittings, drain fitting and plug, enamel black paint, removable panel for conduit access.
Tank textured Urethane coating for protection against rust, corrosion, salt and damp conditions. UV resistant, waterproof.

Weather protective marine grade aluminum enclosure, in compliance to UL2200 standard; white powder coating finish on both sides, sound insulated. Wind load certified in compliance to ASCE 7-08 Florida Building Code. The Enclosure attaches to a steel sub base or base fuel tank. Designed with removable doors, for easy maintenance, hinged and key alike. Control panel door access with key alike lock. Weather protective seals around all doors. The sound insulation material is an ether based urethane foam, for maximum sound absorption, resistant to heat, moisture, chemicals and it is hydrolytically stable, UL94-HF-1 Listed. Air intake and air discharge ducts are sized accordingly to the air flow requirement, and hot air removal. 25dBA reduction silencer, enclosed in the front side air discharge compartment. Flexible connector with exhaust insulating ceramic wrap, to reduce temperature inside the enclosure. Aluminized exhaust stack and raincap. All exhaust system is already installed. External drain ports for coolant and oil, with shut off valves. All stainless steel hardware.

Exhaust Compartment Insulation, to enhance noise reduction and heat dissipation. Elastomeric closed cell compound sound insulating material, installed at the air discharge/exhaust compartment. Resistant to low flame spread and smoke propagation, Temperature range -297 to + 220 ° F ASTM C 411 , UL94.

Battery, WET type, group 31.

Metal rack for battery, with security bolts and hold down.

Battery Charger, 10 Amp, 12 or 24 VDC, 110-120/208-240VAC, 60Hz; digital meter displays Volts, Amps, NFPA110 "C" Alarms. Aluminum Housing. UL1236

STEEL Heavy duty Trailer, Electric brakes, 10000 lb. cap., 4ft.x 11ft. Bed, 2 spring axle, 7 way RV style Plug. Semi Gloss Black Paint.

Adjustable channel 6 Hole 5 position , Pintle hitch coupler, 15" height Side Wind jack

Trailer texture Urethane coating for protection against rust, corrosion, salt and damp conditions. UV resistant, waterproof.

Aluminum tool box 48" x 18" x 12", black color; locking system, reinforced beveled edge lid.

Coolant block heater, 1500W, 120V, 1 Ph, 100 degrees Fahrenheit On - 120 degrees Fahrenheit Off. IP41 protection rating to IEC 529.

Shut off valves for coolant block heater

Low coolant level switch.

GFI duplex receptacle, 20A, 120V, with clear cover, for battery charger and coolant block heater. NEMA 3R.

Engine coolant, to inhibit rust and corrosion. Freezing protection to -34 degrees Fahrenheit (-37 degrees Celsius) and boiling protection to 256 degrees Fahrenheit (129 degrees Celsius).

UL warning labels.

Aluminum cover Cambox. Gas spring lid with 10A snap action limit switch, strip brushes, SS padlock latches.

5 / 50 foot 2/0 flexible cables with cam lock connectors

316 Stainless steel exhaust adder

Spare Filters

Engine Operator Manual

Alternator Operator Manual

Generator Set Manual

Full Load Factory Tested

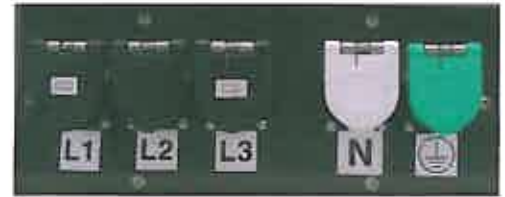
Standby Limited Warranty, Two (2) Years/ 1500 hrs.

Start Up and training included

Delivery and startup included in the price.



Generator shown includes optional equipment



Generator Ratings* @ 1800 RPM

Voltage	Ph	Hz	Standby Output kW (kVA)	Prime Output kW (kVA)	Standby Max Amp Output	Number of Wires
120/240	1	60	100 (100)	90 (90)	417	4
120/208	1	60	100 (125)	90 (113)	347	12
120/240	1	60	100 (125)	90 (113)	301	12
277/480	1	60	100 (125)	90 (113)	150	12

Standard Generator Set Features

- Perkins Diesel Engine Model 1104D.E44TAG2 Tier 3
- AC, Single Bearing direct coupled Alternator with Class 'H' insulation, Sized for 130°C Temperature Rise.
- Control Panel with Auto-Start -Stop with access door to allow exterior viewing.
- Emergency Stop Push Button
- Voltage Selector Switch
 - 120/240 V Single Phase
 - 120/240 V Three Phase
 - 120/208 V Three Phase
 - 277/480 V Three Phase
- Mainline Circuit Breaker
- Engine and Alternator mounted to Aluminum sub base on vibration Isolators.
- Radiator sized for 120°F ambient clearance
- High Coolant Temp., Low Oil pressure safety shutdowns.
- Dry Type Air Cleaner.
- 12-VDC Starter, Engine mounted Battery Charging Alternator, Battery Cables and Rack along with Grounding Strap.
- Weather Protective Enclosure constructed of Marine Grade Aluminum 0.090 thickness, SS Hardware White Powder Coat Paint Finish on both sides Sound Insulation resistant to high temperatures, fuel and oil.
- Hinged / Removable / Keyed Alike Doors
- Residential rated interior mounted exhaust silencer kit
- Vertical radiator and exhaust discharge
- Oil & Coolant Drain Lines with Brass Ball Check Valves
- Thermostatically Controlled Jacket Water Heater
- Starting Batteries
- Automatic Battery Charger 6 Amp 12V Output 115VAC
- Cam locks Connection Box or lug connection box
- 120V Receptacle for Battery Charger and / or Coolant heater.
- Dual Axle 7,000lb rated dot approved trailer with built in 150 gallon tank. Manual fuel gauge and lockable fuel fill. Ball or penal hitch. Led brake lights. Steel deck and steel deck fenders.

*Stand by ratings are applicable for the duration of any power outage. No overload is available at these ratings. Prime ratings are continuous per BS 5514, DIN 6271, ISO3046 & IEC 34-1. Overload capacity on prime-power ratings is 10% for one hour in each twelve hours of operation. All single phase ratings are based on a 1.0 power factor, three (3) phase ratings based on a 0.8 power factor. Ratings are established based on 85°F (29°C) and an elevation of 1,000 feet (305 meters). Please consult your Tradewinds representative for information concerning derates for temperature, altitude & humidity.

Engine Specifications

Model: Perkins 1104D-E44TAG2 Tier 3
Max. power: 122 bhp / 91 kWm @ 1800 rpm
Cubic capacity: 269 in³ / 4.41 L
Bore & stroke: 4.13" x 5" (105mm x 127mm)
Turbocharged, 4 cylinder vertical in-line, 4 stroke direct injection
Governor type: Electronic
Frequency regulation: Isochronous, steady-state
Fluids: Oil capacity total system - 8.45 quarts (8 liters)
 Coolant capacity w/ radiator - 4.49 gallons (17 liters)

Fuel Consumption: US gallon (liters) /hr @ 1800 rpm
 50% load - 4.23 (16.0)
 75% load - 5.81 (22.0)
 100% load - 7.32 (27.7)
General: Oil filter - spin-on type.
 Air filter- Dry element type
Electrical system: 12v Starter, 65 amps alternator DC output
Minimum recommended battery size: 1190 CCA
Fuel type: BS 2869: Part 2 1998 Class A2 or ASTM D975 D2

Alternator Specifications

Marathon Electric :
Type: Brushless,
Pole: 4Pole Rotating Field,
Voltage regulation: +/- 1%, Volts/Hertz, Electronic, EMI filtered
Class Insulation: 'H' to NEMA MG-1-1.66
Rated Temp. Standby : 130 C° Rise / 40 C° Ambient
Coupling: SAE Adapter, Flexible Disc, Direct.
Load acceptance: One Step, 100% per NFPA 110

Features: Self ventilated drip-proof construction.
 Superior voltage waveform achieved by a 2/3 pitch and skewed rotor.
 Vacuum-impregnated windings with fungus-resistant epoxy for dependability and long-life.
 Compliance with NEMA, IEEE and ANSI standards for temp. rise.
 Sustained short-circuit capability enabling down-line circuit breakers to trip without collapsing the generator field.
 No load to full-load regulation of +/- 2%.

Control Panel Specifications

MRS4
 Microprocessor Based, Navigation key with large LCD display
 Event Recording
 Transfer Switch Control (main failures)
 SAE J1939 CANBUS Communication
 Multilingual Capability
 Suitable for Rental application

Operational features

- Engine Protection: Low oil pressure, High coolant temperature, Over speed & over crank, Sender Unit failure, Fuel sender Failure
- All protections are programmable as Alarms or Pre-alarms
- Operating Power: Nominal 12 Vdc

Consumption 14.2W run Mode
Metering (ample range):
 Volts, Current, Hz, Watts, VA, Pf
 Oil Pressure, Coolant Temperature, RPM, DC Volts, Engine running time.

- Engine Control with Timers
- External remote start input (on or off load)
- 4 programmable contact inputs.
- 1 Contact output

Agency Approvals : UL 508 R CSA C22.2 No 14 NFPA 110
CE Compliance : EC LVD-73/23/EEC EN 61000-6-4:2001 EMC EN 50178:1997 EMC- 89/336/EEC EN 610000 6-2:2001 EMC Immunity

One complete set Owners/Operators, Engine, Alternator and Accessory manuals

Dimensional and Mounting Specifications

Specifications are subject to change without notice



Authorized Dealer:

Technical Data

1100 Series

1104D-E44TAG2

111 kWm @ 1800 rev/min

Diesel Engine Electropak

Basic technical data

Number of cylinders	4
Cylinder arrangement	vertical in-line
Cycle	four stroke
Induction system	turbocharged, air to air charge cooled
Compression ratio	16,2 : 1
Bore.....	105 mm
Stroke	127 mm
Cubic capacity.....	4,4 litres
Direction of rotation.....	anti-clockwise when viewed from flywheel
Firing order	1, 3, 4, 2
Estimated total weight (fan to flywheel)	
-dry	465 kg
-wet	474 kg

Overall dimensions (Electropak)

-height	1086 mm
-length.....	1358 mm
-width (includes mounting brackets).....	749 mm

Moments of inertia (mk²)

-engine rotational components.....	0,124 kgm ²
-flywheel	1,31 kgm ²

Centre of gravity (fan to flywheel)

-forward from rear of block	237,0 mm
-above centre line of block	167,0 mm
-offset to RHS of centre line.....	-1,5 mm

Performance

Note: All data based on operation to ISO/TR14396, BS5514, ISO3046/1 and DIN 6271 standard reference conditions.

-all ratings certified to within.....±3%
Cyclic irregularity at rated power with 1,31 kgm² flywheel.....TBA

Test conditions

-air temperature.....25 °C
-barometric pressure.....100 kPa
-relative humidity.....30%
-air inlet restriction at rated speed.....5 kPa
-exhaust back pressure at rated speed (nominal).....15 kPa

Sound level

Estimated Electropak sound power level @ 1 metre without inlet and exhaust.....105,5 dB(A)
If the engine is to operate in ambient conditions other than those of the test conditions, suitable adjustments must be made for these changes. For full details, contact Perkins Technical Service Department.

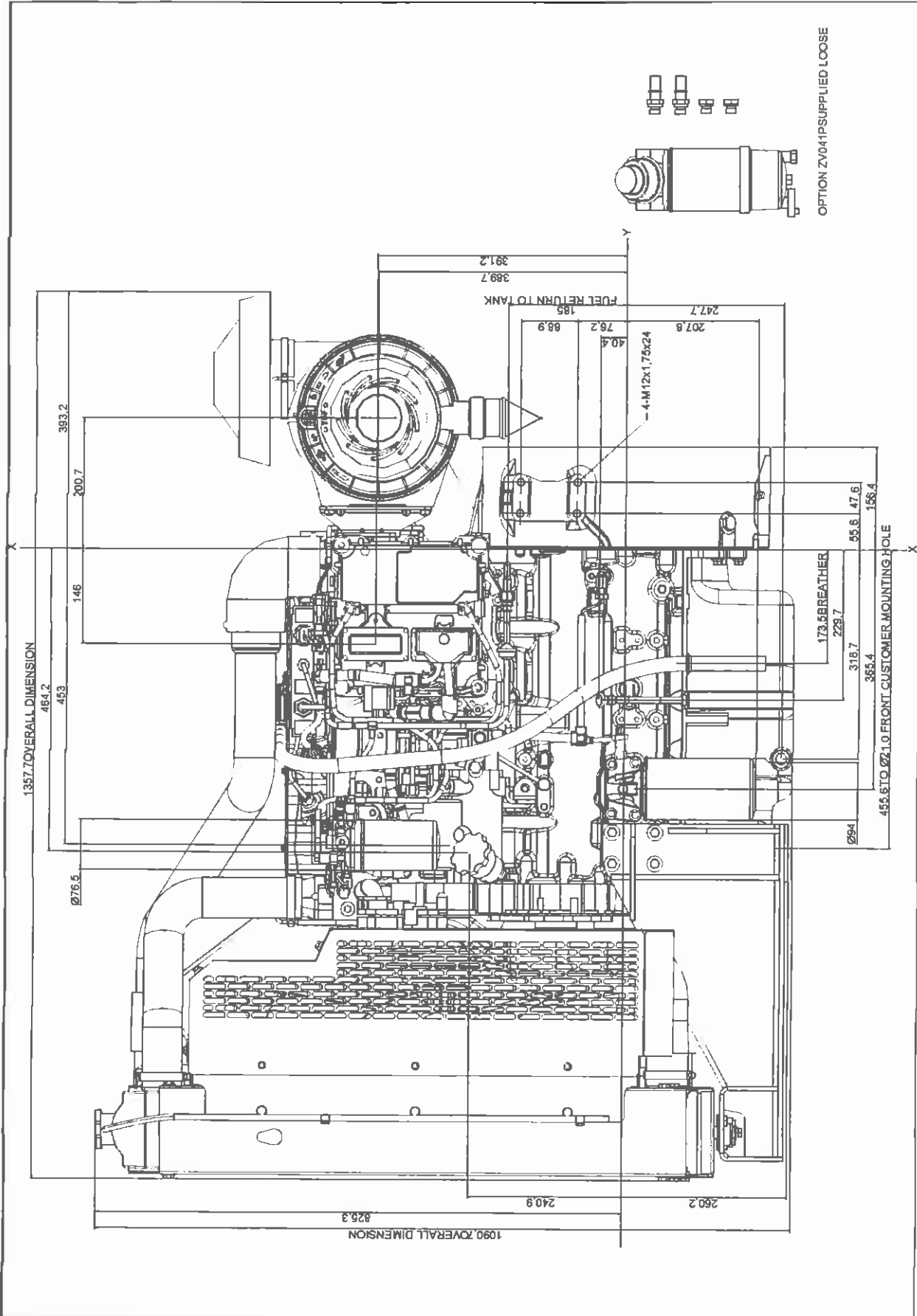
For details of load acceptance values, refer to page 8 of this publication.

Emissions capability: Certified against the requirements of Tier 3 legislation for non-road mobile machinery, powered by constant speed engines (EPA 40 CFR Part 89 Tier 3).

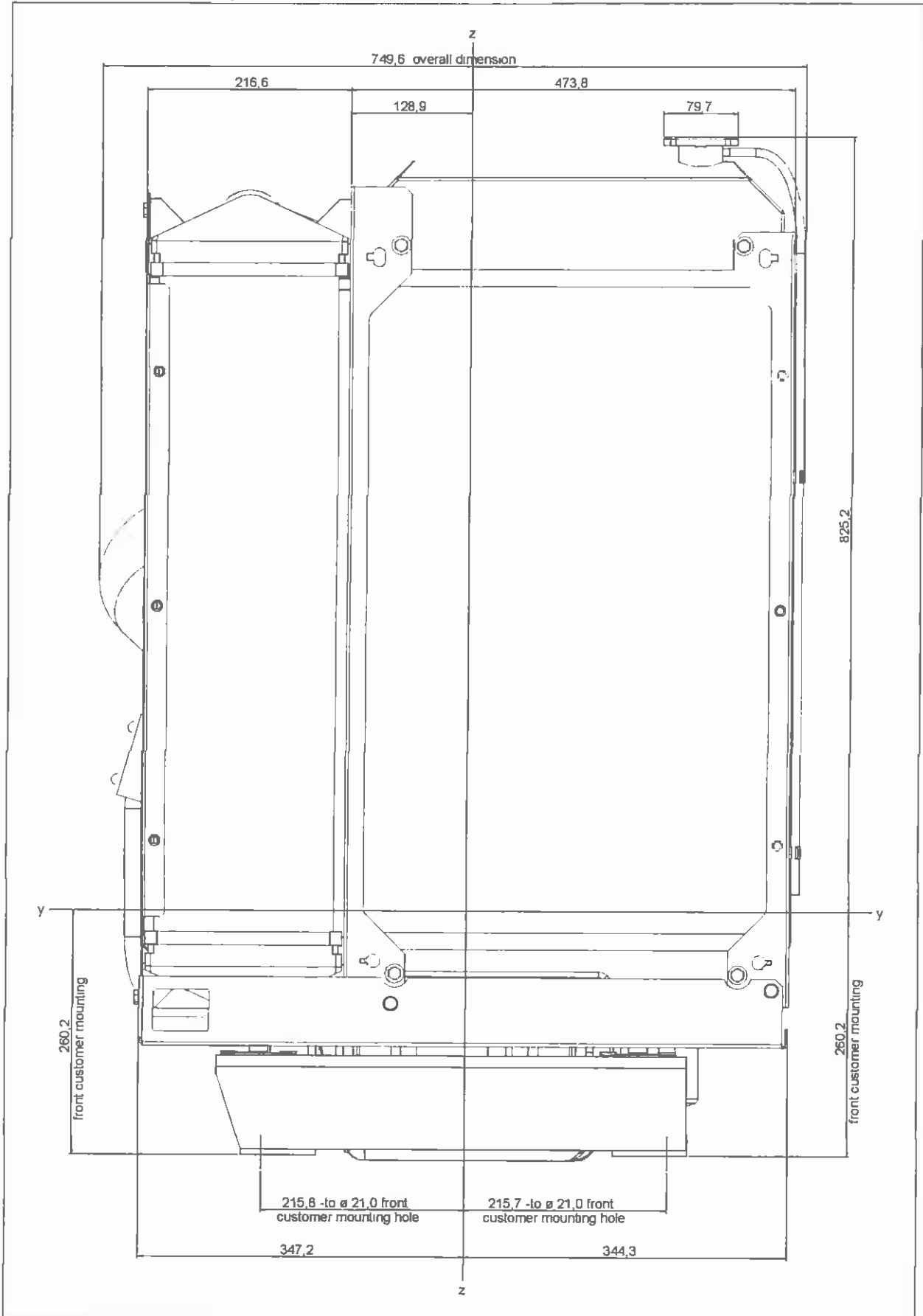
General installation

Designation	Units	Prime	Standby
Gross engine power	kWb	106,0	117,0
Electropak nett engine power	kWm	100,0	111,0
Brake mean effective pressure	kPa	1612,0	1771,0
Engine coolant flow (against 35 kPa restriction)	l/min	169,0	169,0
Cooling fan air flow (200 kPa external restriction)	m ³ /min	224,4	224,4
Combustion air flow (at rated speed)	m ³ /min	8,4	8,5
Exhaust gas flow (max.)	m ³ /min	19,2	20,0
Exhaust gas mass flow (max.)	kg/min	10,2	10,3
Exhaust gas temperature in manifold Max.	°C	480,0	506,0
Boost pressure ratio	-	2,7	2,8
Overall thermal efficiency (nett)	%	36	37
Typical genset electrical output (0.8 pf 25 °C)	kWe	90,0	100,0
	kVA	113,0	125,0
Assumed alternator efficiency	%	90	
Energy balance			
Energy in fuel	kWt	276,0	301,0
Energy in power output (gross)	kWt	106,0	117,0
Energy to cooling fan	kWm	6,0	6,0
Energy in power output (nett)	kWm	100,0	111,0
Energy to exhaust	kWt	81,0	87,0
Energy to coolant and oil	kWt	57,0	61,0
Energy to radiation	kWt	15,0	18,0
Energy to charge cooler	kWt	17,0	18,0

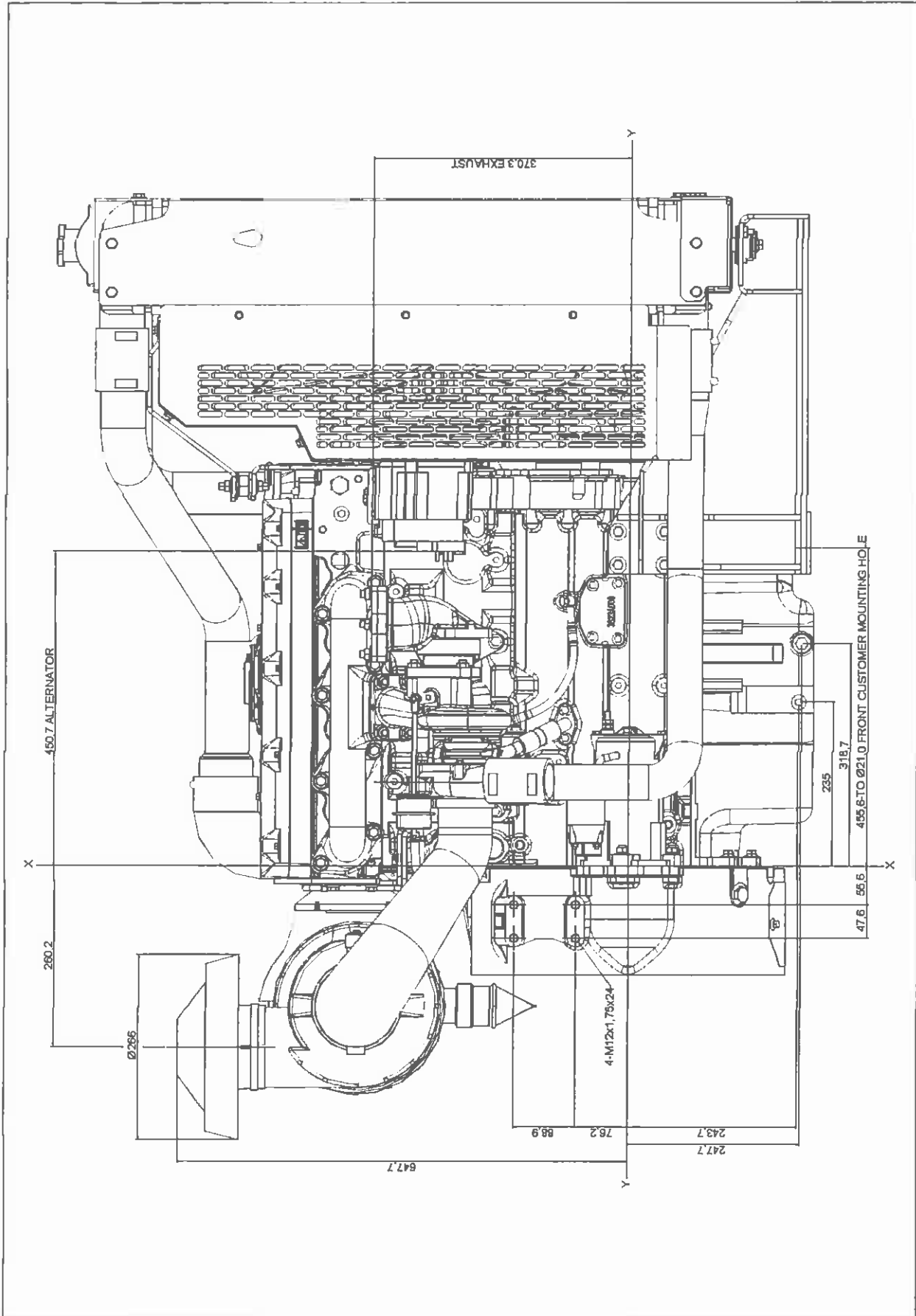
1104D-E44TAG2 ElectropaK - left side view



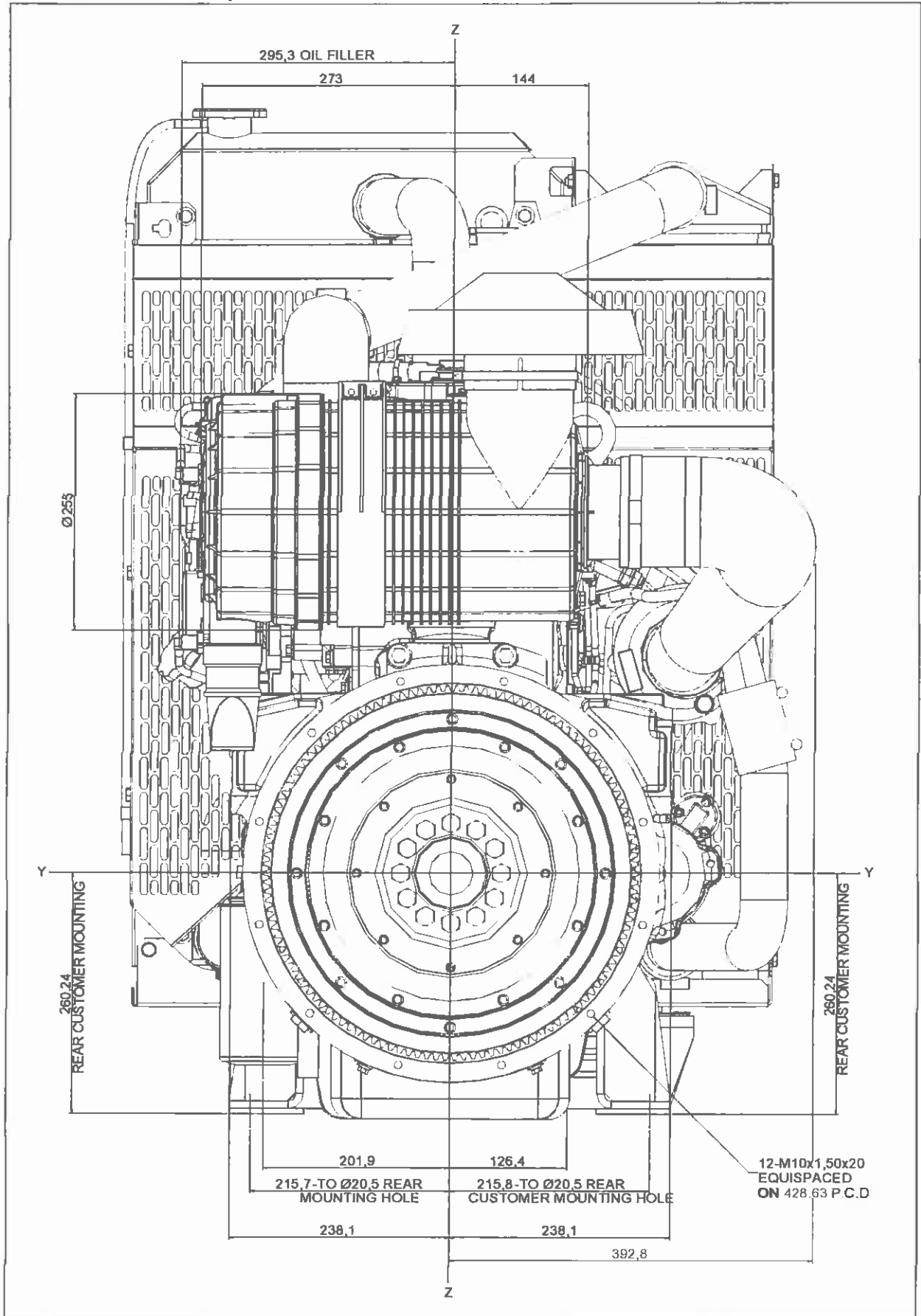
1104D-E44TAG2 ElectropaK - front view



1104D-E44TAG2 Electropak - right side view



1104D-E44TAG2 ElectropaK - rear view



Cooling system

Cooling pack

overall weight (wet)	68,5 kg
overall face area of matrix	0,43 m ²
width of matrix	629 mm
height of matrix	690 mm

Radiator

-face area	0,3 m ²
-number of rows and material	38 aluminium
-matrix density and material	10,0 aluminium fins per inch
-width of matrix	438 mm
-height of matrix	690 mm
-pressure cap setting	100 kPa

Charge cooler

-face area	0,13 m ²
-number of rows and material	9 aluminium
-matrix density and material	7,5 aluminium fins per inch
-width of matrix	191 mm
-height of matrix	690 mm

Fan

-diameter	559 mm
-drive ratio	1,25:1
-number of blades	7
-material	composite
-type	pusher

Coolant

Total system capacity

-with radiator	17 litres
-without radiator	7,0 litres

Coolant pump drive

Coolant pump drive ratio

Maximum top tank temperature

Temperature rise across engine (rating dependent)

Thermostat operation range

Recommended coolant: 50% ethylene glycol with a corrosion inhibitor (BS 658 :1992 or MOD AL39) and 50% clean fresh water.

Duct allowance with 50% glycol		
°C	kPa	m ³ /min
53	120	182
46	200	154

Electrical system

-type	12 Volt negative earth
-alternator type	Denso A115i
-alternator voltage	12V
-alternator output	65A
-starter motor type	Denso P95
starter motor voltage	12V
starter motor power	3,0 kW
-number of teeth on flywheel	115
-number of teeth on starter pinion	10
-minimum cranking speed	80 rev/min
-starter solenoid maximum pull-in current @ 0°C	TBA
-starter solenoid maximum hold-in current @ 0°C	TBA

Cold start recommendations

Temp °C	Battery type and viscosity used					Starter aid	Min average cranking speed	Battery quantity
	20W	15W	10W	5W	0W			
-5		B				None	130	1
-10		D		A		None	130	2
-15			B			Gp	100	2
-15				A		Gp	100	2
-20			B			Gp	100	2
-20				B		Gp	100	2
-25						Gp	100	2

Note: Gp = Glowplugs

Battery selection

Battery type	Perkins code	Battery minimum performance		
		Cold cranking current (Amps)		
		BS 3911 ⁽¹⁾	SAE J537 ⁽²⁾	DIN 43539 ⁽³⁾
643	A	440	660	400
647	B	510	770	465
069	D	340	540	300
655	E	570	810	490

1. Voltage no less than 7,5 volts after 10 seconds after 90 seconds at -18 °C across each 12 volt battery
2. Voltage no less than 7,2 volts after 30 seconds at -18 °C across 12 volt battery
3. Voltage no less than 6 volts after 150 seconds at -18 °C across 12 volt battery

Notes:

- Battery to starter lead resistance must not be more than 0,0017 Ohms (12V system)
- Battery capacity is defined by the 20 hour rate
- If a change to a low viscosity engine oil is made, the required cranking torque at low ambient temperature is much reduced. The starting equipment has been selected to take advantage of this. It is important to change to the appropriate multigrade oil in anticipation of operating in low ambient temperature
- Breakaway current is dependent on the battery capacity. Cables should be capable of handling the transient current which may be double the steady cranking current

Exhaust system

Maximum back pressure	15 kPa
Exhaust outlet size	64 mm

Induction system

Maximum air intake restriction

-clean filter	5 kPa
-dirty filter	8 kPa
-air filter type	2 stage cyclonic/paper element

Fuel system

Type of injection direct
 Fuel injection pump common rail
 Fuel atomiser unit injector / multi-hole
 Nozzle opening pressure 18,5 MPa

Fuel lift pump

-max flow through customer filter 130 litres/hour
 -max fuel supply restriction at lift pump 40 kPa
 -max fuel return restriction @ low idle 50 kPa
 -max fuel return flow 0,8 m³/min
 Maximum suction head 17 kPa (1.7 m)
 Maximum static pressure head 10 kPa (1.0 m)
 Governor type control by ECM
 Speed control to ISO 8528, G3

Fuel specification

USA Fed Off Highway EPA2D 89.330-96
 Density (kg/l @ 15°C) 0,845 - 0,855
 Viscosity (mm²/s @ 40 °C) 2,0 - 3,2
 Sulphur Content 0,03 - 0,04
 Cetane Number 40 - 48

Fuel consumption litres/hour

Power Rating			
110%	100%	75%	50%
29,96	27,77	22,04	16,07

Lubrication system

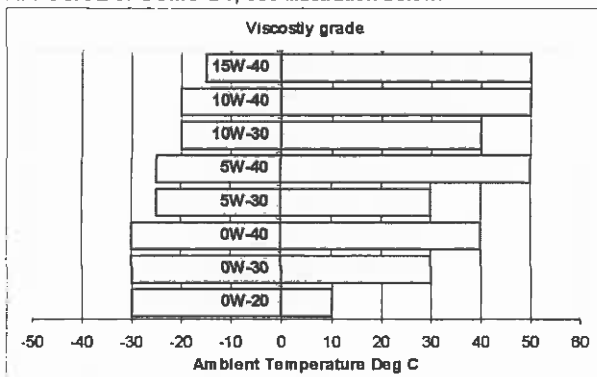
Lubricating oil capacity total system 8,0 litres
 Maximum sump capacity 7,0 litres
 Minimum sump capacity 5,5 litres
 Maximum engine operating angles
 -front up, front down, right side or left side 25°

Lubricating oil pressure

-relief valve opens 450 kPa
 -at maximum no-load speed 280 - 340 kPa
 -oil temperature (continuous operation) 125 °C
 -oil temperature (maximum intermittent operation) 135 °C
 Oil consumption at full load as a % of fuel consumption 0.15%

Recommended SAE viscosity

A single or multigrade oil must be used which conforms to API-CC/SE or CCMC-D1, see illustration below:



Mountings

Maximum static bending moment at rear face of block 791 Nm

Load acceptance

Initial load application when engine reaches rated speed, 15 seconds (maximum) after engine starts top crank		
Prime Power %	Transient frequency deviation %	Frequency recovery time seconds
80	10	1,44

Notes:

- The above complies with the requirements of classifications 3 and 4 of ISO 8528-12 and G2 operating limits stated in ISO 8528-5
- The above figures were obtained under test conditions as follows:

Minimum engine block temperature 45 °C
 Alternator efficiency 90%
 Ambient temperature 15 °C
 Governing mode Isochronous
 Mechanical governing 4% ± 1%
 Alternator inertia 8 kgm²
 Flywheel inertia 1.14 kgm²
 Under frequency roll off point (UFRO) set to 1Hz below rated
 UFRO rate set to 2% voltage / 1% frequency
 LAM on/off off

All tests were conducted using an engine which was installed and serviced to Perkins Engines Company Limited recommendations.

@Perkins®

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Peterborough PE1 5NA United Kingdom
Telephone +44 (0) 1733 583000
Fax +44 (0) 1733 582240
www.perkins.com

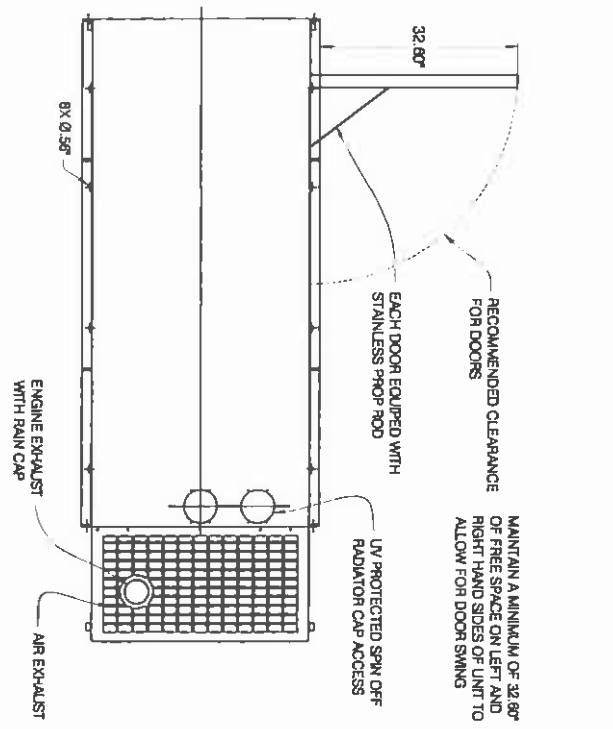
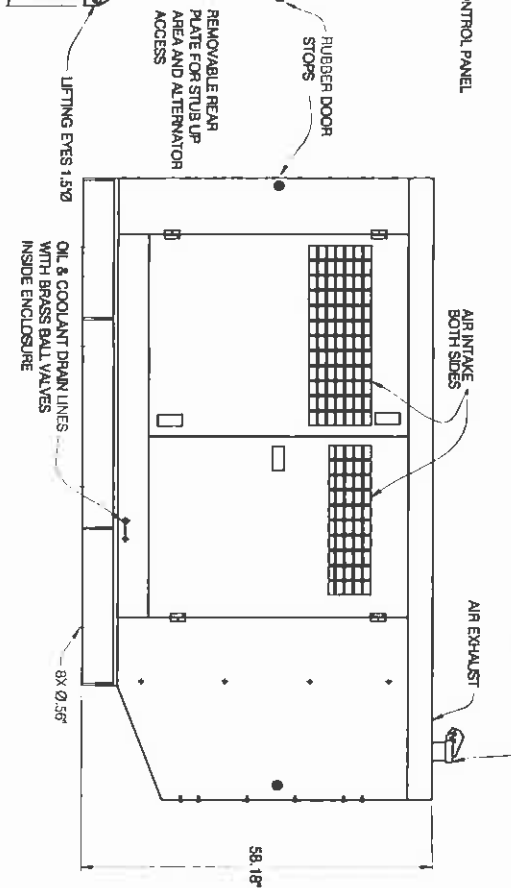
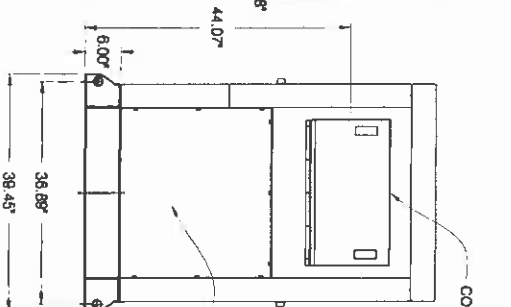
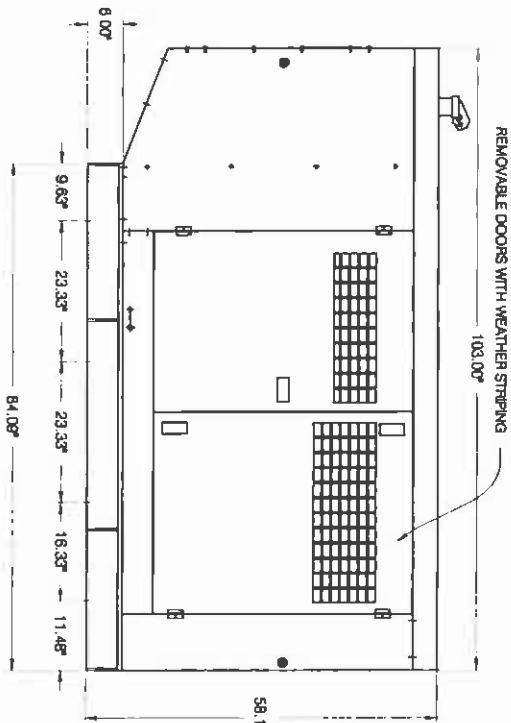
Distributed by

TRADEWINDS MODELS

TJ-50	TJ-65	TJ-125
TP-30	TP-45	TP-60
TP-65	TP-80	TP-100

NOTES

- ENCLOSURE CONSTRUCTED FROM A MARINE GRADE ALUMINIUM WITH A POWER COAT FINISH APPLIED. ENCLOSURE ASSEMBLED USING STAINLESS STEEL HARDWARE. ENCLOSURE MEETS WIND LOAD ANALYSIS PER ASCE 7-08 (WIND VELOCITY IS 150 MPH) INSTALLED ON A CONCRETE PAD AT GROUND LEVEL.
- VIBRATION ISOLATORS MOUNTED BETWEEN SUB BASE AND GEN SET
- IF TANK IS PROVIDED WITH ENCLOSURE, ENCLOSURE MOUNTS DIRECTLY TO TANK. TANK MAY EXTEND BEYOND THE EXHAUST END OF THE ENCLOSURE



ALL DIMENSIONS, SPECIFICATIONS, MATERIALS CAN CHANGE WITHOUT PRIOR NOTICE



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DRAWING NO.:	SCALE:
DRAWN BY:	DATE:
CHECKED BY:	REVISION:
APPROVED BY:	



**MARATHON ELECTRIC
SYNCHRONOUS AC GENERATOR
TYPICAL DYNAMIC CHARACTERISTICS**

Base Model 431CSL6206/431PSL6206

Date: 3/28/13

Kilowatt ratings at kW (kVA)	1800 RPM			60 Hertz			12 Leads		
	3 Phase			0.8 Power Factor			Dripproof or Open Enclosure		
	Class B	Class F			Class H				
Voltage*	80° C Ø Continuous	90° C Ø Lloyds	95° C Ø ABS	105° C Ø British Standard	105° C Ø Continuous	130° C Ø Standby	125° C Ø British Standard	125° C Ø Continuous	150° C Ø Standby
240/480	165 (206)	180 (225)	186 (233)	200 (250)	200 (250)	215 (269)	205 (256)	211 (264)	225 (281)
230/460	170 (213)	185 (231)	190 (238)	200 (250)	200 (250)	220 (275)	205 (256)	215 (269)	225 (281)
220/440	172 (215)	185 (231)	191 (239)	200 (250)	200 (250)	220 (275)	205 (256)	212 (265)	226 (283)
208/416	170 (213)	180 (225)	183 (229)	191 (239)	191 (239)	210 (263)	197 (246)	202 (253)	217 (271)
190/380	156 (195)	165 (206)	170 (213)	176 (220)	176 (220)	191 (239)	182 (228)	185 (231)	200 (250)

Ø Rise by resistance method, Mil-Std-705, Method 680.1b.

Ø Rating per BS 5000.

Submittal Data: 240/480 Volts*, 269 kVA, 1800 RPM, 60 Hz, 3 Phase					
Mil-Std-705B			Mil-Std-705B		
Method	Description	Value	Method	Description	Value
301.1b	Insulation Resistance	> 1.5 Meg	505.3b	Overspeed	2250 RPM
302.1a	High Potential Test		507.1c	Phase Sequence CCW-ODE	ABC
	Main Stator	2000 Volts	508.1c	Voltage Balance, L-L or L-N	0.2%
	Main Rotor	1500 Volts	601.4a	L-L Harmonic Maximum - Total (Distortion Factor)	5.0%
	Exciter Stator	1500 Volts	601.4a	L-L Harmonic Maximum - Single	3.0%
	Exciter Rotor	1500 Volts	601.1c	Deviation Factor	5.0%
	PMG Stator	1500 Volts**	—	TIF (1960 Weightings)	<50
401.1a	Stator Resistance, Line to Line High Wye Connection	0.0371 Ohms	625.1c	Mechanical Strength (High Wye Connection, Sustained 3 Phase Short Circuit Current) ⁽³⁾	< 300%
	Rotor Resistance	0.679 Ohms	652.1a	Shaft Current	< 0.1 ma
	Exciter Stator	18.5 Ohms	652.1a	Main Stator Capacitance to Ground	0.011 mfd
	Exciter Rotor	0.116 Ohms			
	PMG Stator	2.1 Ohms**			
410.1a	No Load Exciter Field Amps at 480 Volts Line to Line	0.68 A DC			
420.1a	Short Circuit Ratio	0.493			
421.1a	Xd Synchronous Reactance	2.976 pu			
422.1a	X2 Negative Sequence Reactance	0.202 pu			
423.1a	X0 Zero Sequence Reactance	0.04 pu			
425.1a	X'd Transient Reactance	0.152 pu			
426.1a	X''d Subtransient Reactance	0.148 pu			
—	Xq Quadrature Synchronous Reactance	1.284 pu			
427.1a	T'd Transient Short Circuit Time Constant	0.061 sec.			
428.1a	T''d Subtransient Short Circuit Time Constant	0.019 sec.			
430.1a	T'do Transient Open Circuit Time Constant	1.02 sec.			
432.1a	Ta Short Circuit Time Constant of Armature Winding	0.019 sec.			

⁽³⁾ Excitation support system or PMG required to sustain short circuit currents.

* Voltage refers to wye (star) connection, unless otherwise specified.

**Not supplied as standard equipment.

***DVR[®]2000E+ voltage regulator supplied with PMG option. DVR[®]2000E+ voltage regulation 1/4%, 1 or 3 Phase sensing.

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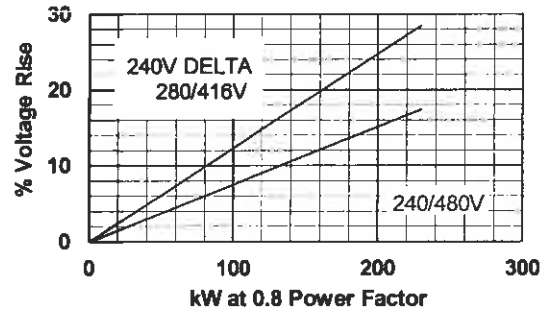
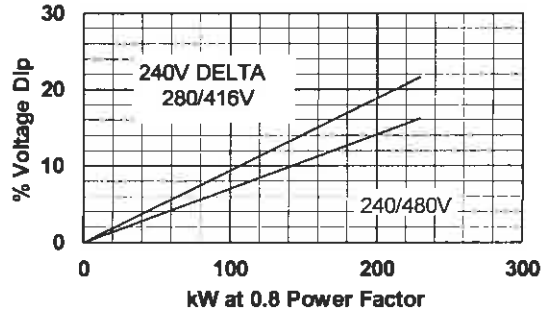
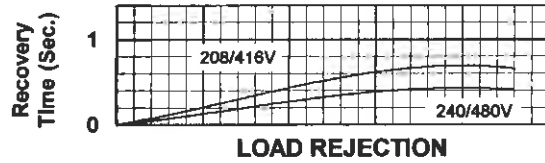
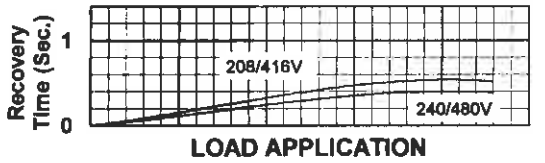
MAGNAPLUS[®]

MARATHON ELECTRIC SYNCHRONOUS AC GENERATOR TYPICAL DYNAMIC CHARACTERISTICS

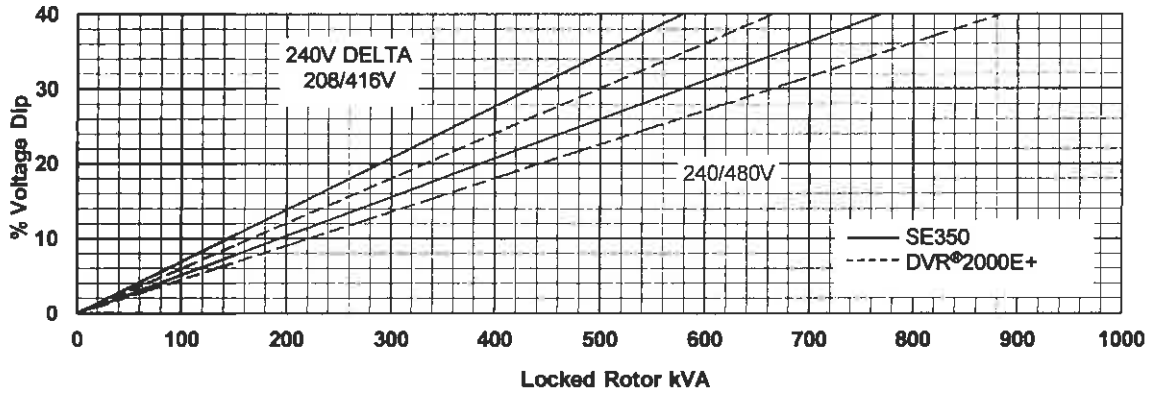
Base Model 431CSL6206/431PSL6206

Date: 3/28/13

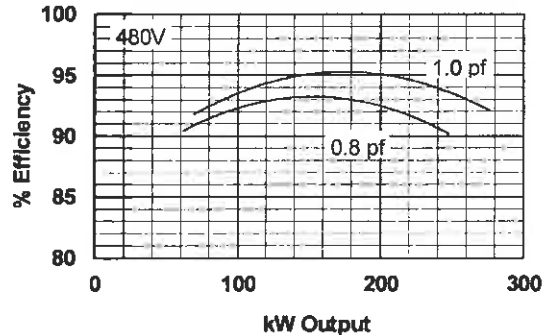
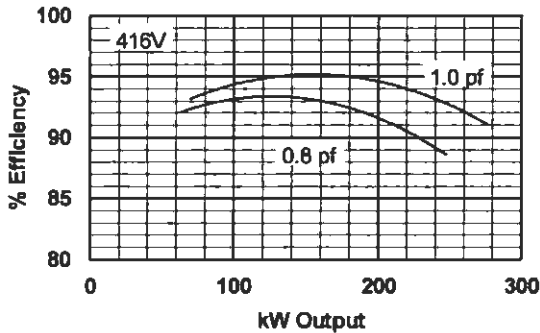
60 HERTZ



TYPICAL MOTOR STARTING CHARACTERISTICS



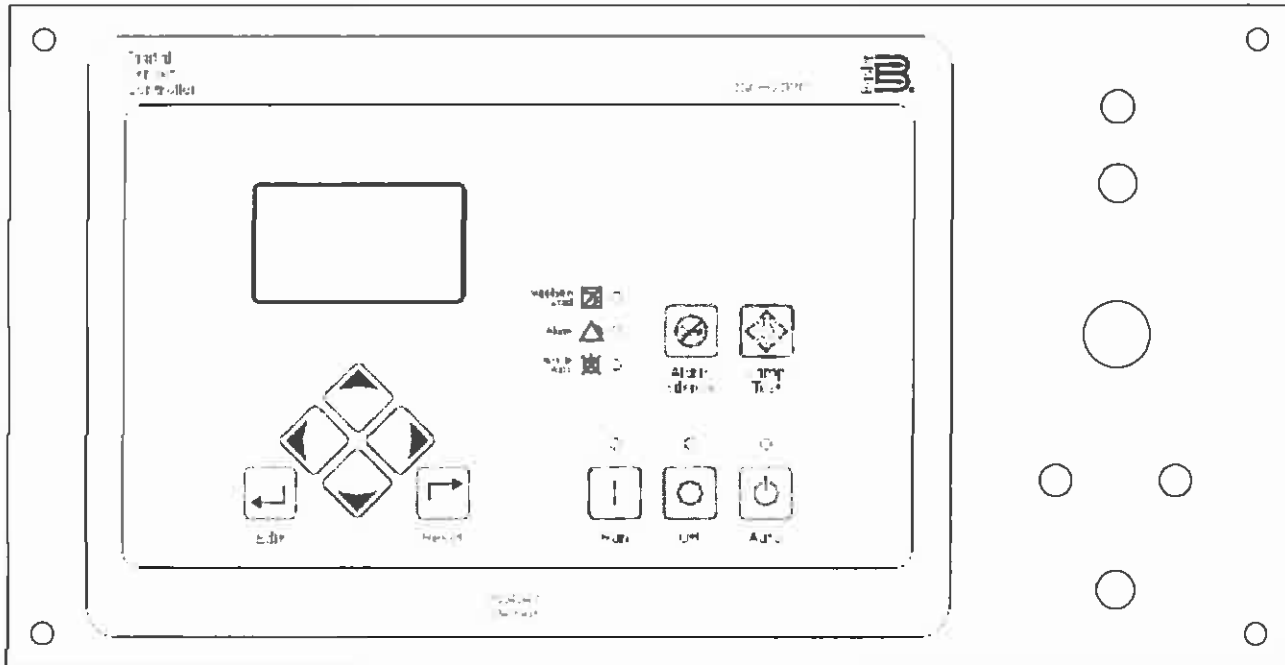
TYPICAL GENERATOR EFFICIENCY




Voltage refers to wye (star) connection, unless otherwise specified.

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TRADEWINDS ELECTRICAL DRAWINGS
 DGC-2020 SERIES CONTROL PANELS



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TITLE: DGC-2020	
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DRAWN BY: JRGP	SCALE:
CHK'D BY: JRGP	DATE: 11/19/2012
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TRADEWINDS ELECTRICAL DRAWINGS

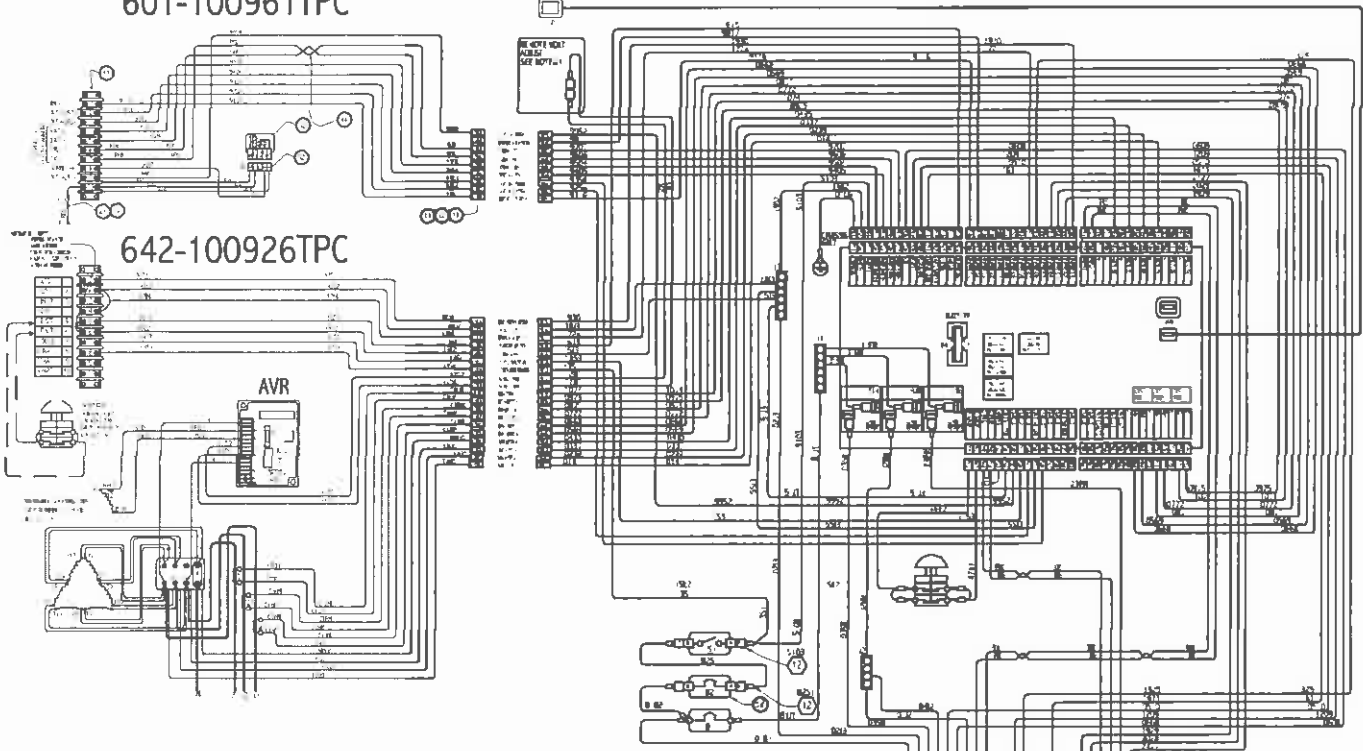
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- . ENGINE HARNESS
- . ALTERNATOR HARNESS

702-202000TPC

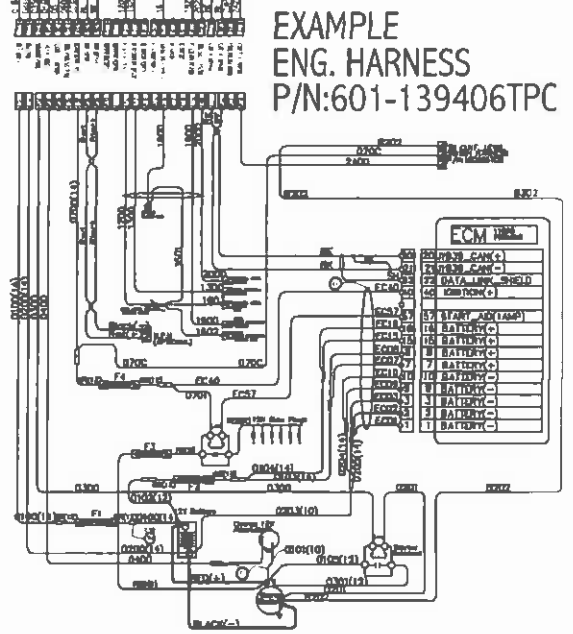
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642-100926TPC

AVR



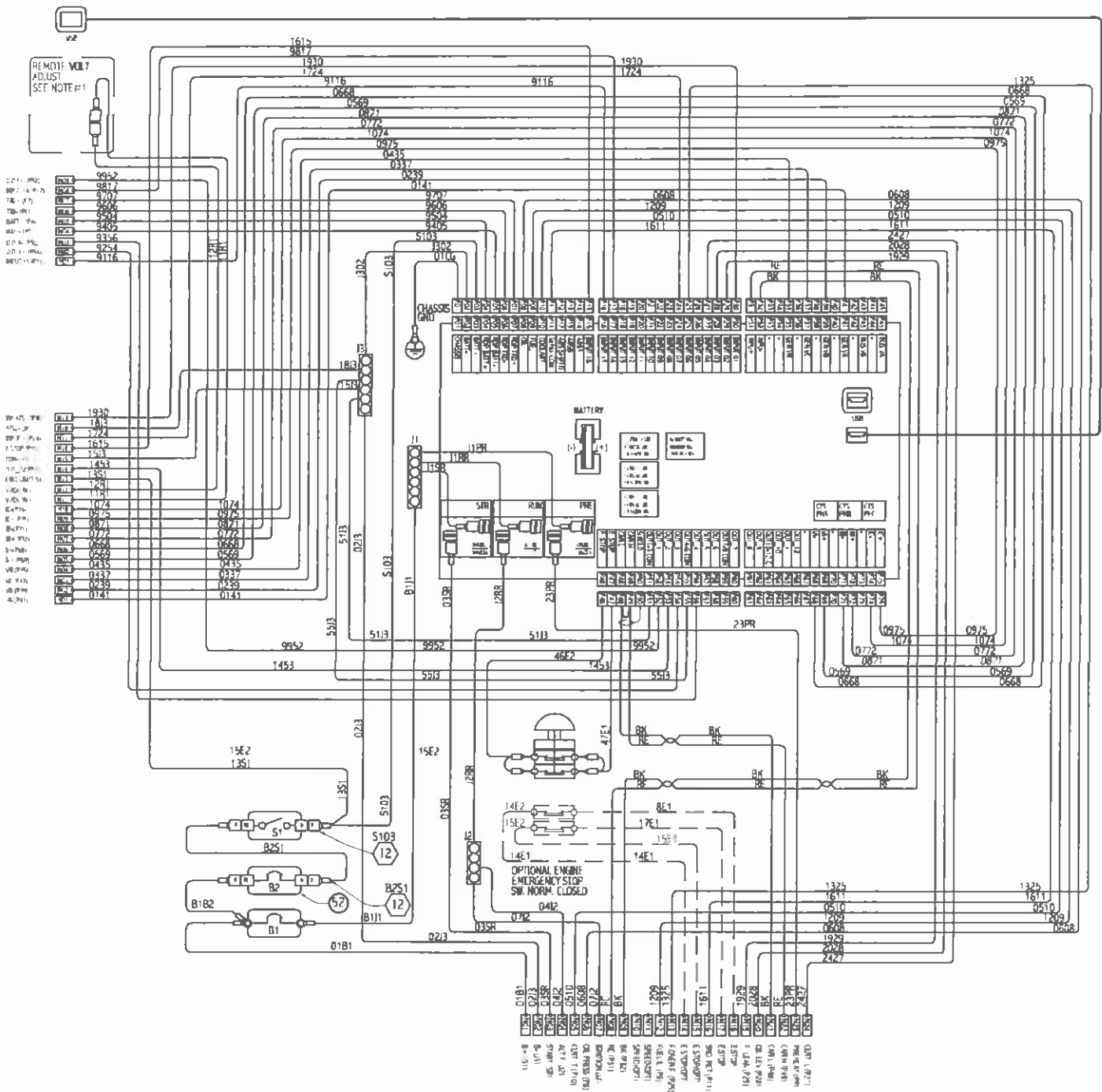
EXAMPLE
ENG. HARNESS
P/N:601-139406TPC



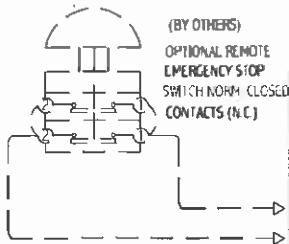
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DGC-2020 CONTROL PANEL

702-202000TPC



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AP'VED BY: JFO			



NOTE: IF THE REMOTE
EMERGENCY STOP
SWITCH IS NOT
CONNECTED (OPTIONAL)
A JUMPER FROM POSITION
5 TO 6 IS NEEDED

ATS1	1
COM	2
IN_7	3
COM	4
E.STP	5
E.STP	6
OUT2	7
ELB+	8
SPARE	9
SPARE	10

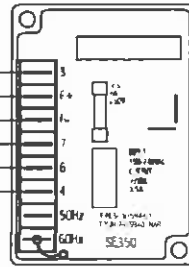


ATS1
ATS2
17IN
16E1
15E2
14ST
13S1

ATS1
ATS2
17IN
16E1
15E2
14ST
13S1

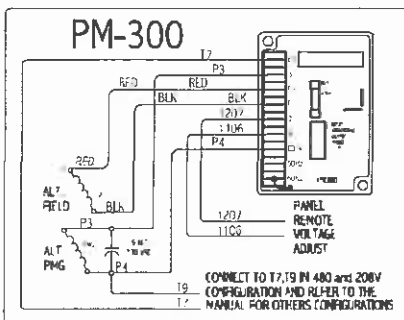
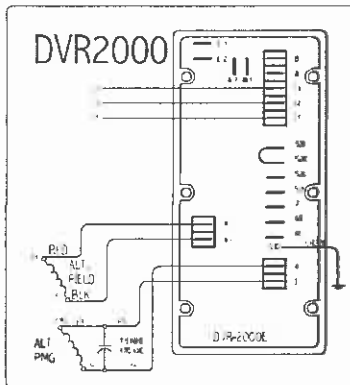
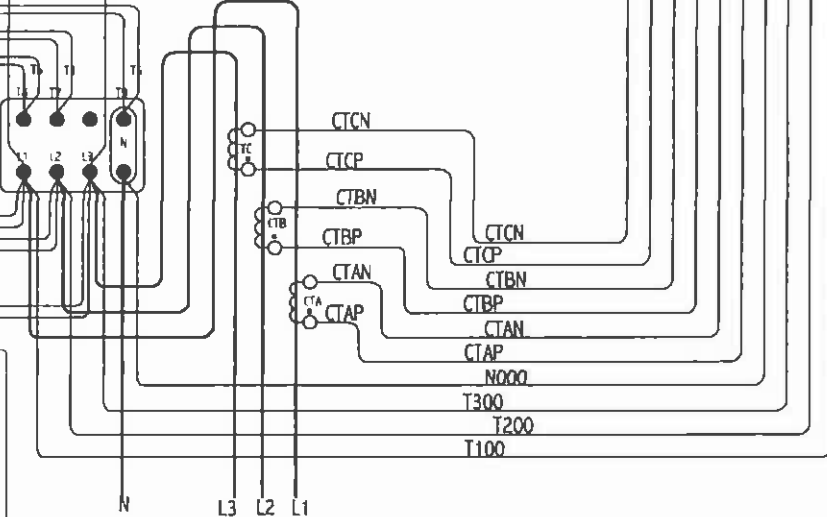
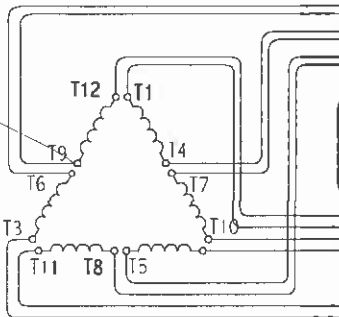
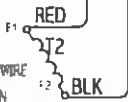
- ATS1
- ATS2
- IN_7
- E.STOP
- OUT_2
- ENCLS L
- AVR7
- AVR6
- IC-
- IC+
- IB-
- IB+
- IA-
- IA+
- IN
- VC
- VB
- VA

AVR



1207
1106

MARATHON DELTA 3PHASE 4WIRE
OUTPUT TERMINALS L1,L2,L3 N
NEUTRAL T6,T9



ALTERNATOR HARNESS WITH BASIC INTERFACE



TRADEWINDS
POWER CORP. MIAMI LAKES, FLORIDA

TITLE: DGC-2020

DRAWING NO.:

DRAWN BY: JRGP

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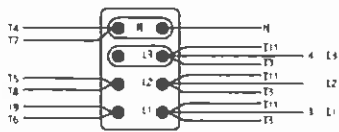
SHEET NO.:

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DATE: 11/19/2012

REVISION:

MARATHON DELTA 3PHASE 4WIRE

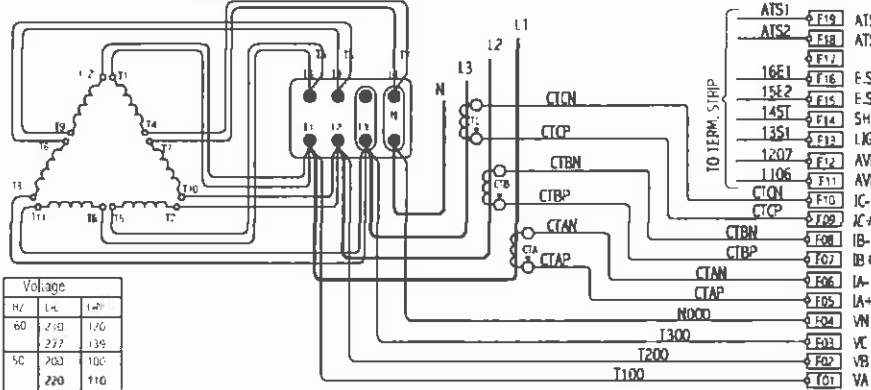


○ = BUSS BAR CONNECTION
 [T1] = NEMA EQUIVALENT

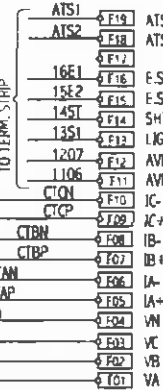
IN CASE OF SINGLE PHASE LOAD, IT IS IMPORTANT THAT THE PHASE CURRENT NOT EXCEED THE NOMINAL VALUE IF IN DOUBT (AS4)

Voltage		
HZ	L-L	L-N
60	240	120
	277	139
	290	145
50	200	100
	220	110
	240	120

MARATHON DELTA 3PHASE 4WIRE
 OUTPUT TERMINALS L1, L2, L3, N

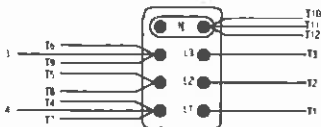


19 PIN (F)



MARATHON SERIES STAR 3PHASE 4WIRE

MARATHON SERIES STAR 3PHASE 4WIRE
 OUTPUT TERMINALS L1, L2, L3, N

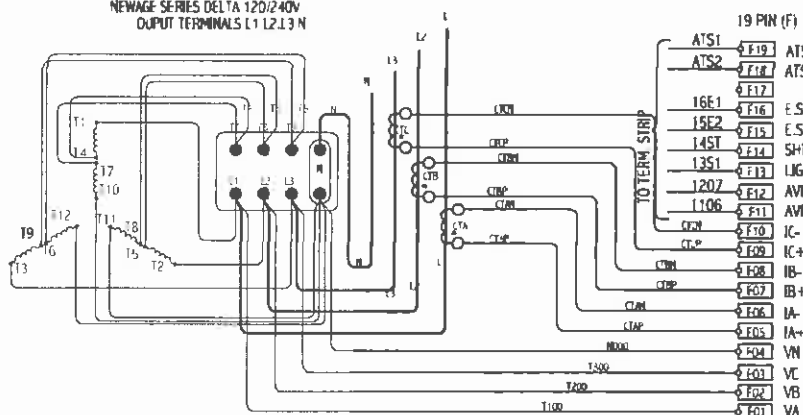


○ = BUSS BAR CONNECTION
 [T1] = NEMA EQUIVALENT

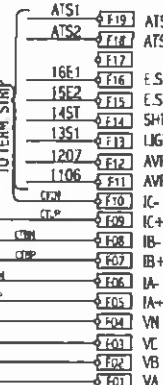
Voltage		
HZ	L-L	L-N
60	330	220
	416	240
	440	254
	480	266
50	350	219
	400	231
	416	240
	440	254

IF IN DOUBT (AS4)

NEWAGE SERIES DELTA 120/240V
 OUTPUT TERMINALS L1, L2, L3, N

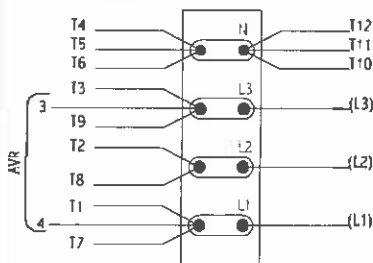


19 PIN (F)



MARATHON PARALLEL STAR 3PHASE 4WIRE

MARATHON LOW START (PARALLEL) 3P
 OUTPUT TERMINALS L1, L2, L3, N

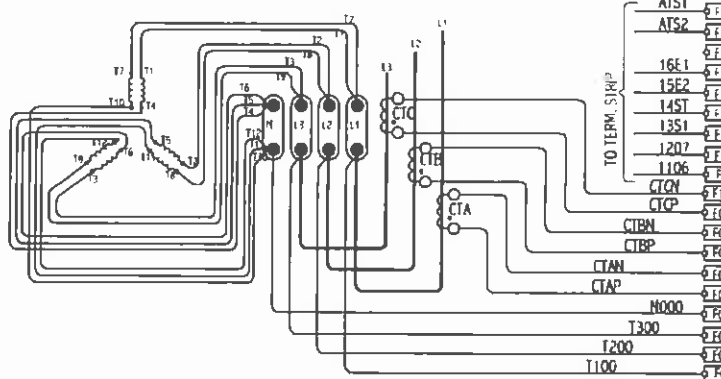


○ = BUSS BAR CONNECTION
 [T1] = NEMA EQUIVALENT
 [U1] = IEC EQUIVALENT

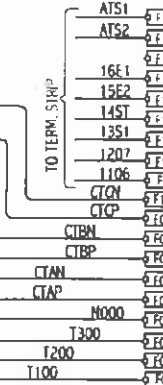
Voltage		
HZ	L-L	L-N
60	190	110
	208	120
	230	127
	240	131
50	170	110
	200	115
	208	120
	230	127

IF IN DOUBT (AS4)

MARATHON LOW START (PARALLEL) 3P
 OUTPUT TERMINALS L1, L2, L3, N



19 PIN (F)



FILE: DGC-2020

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DRAWN BY: JRGP

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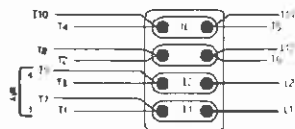
SHEET NO.:

SCALE:

DATE: 11/19/2012

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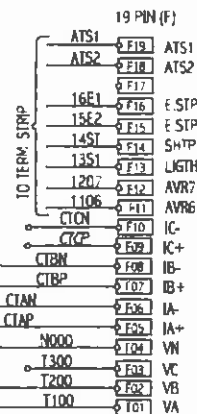
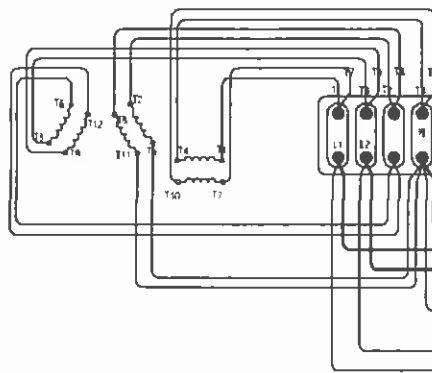
MARATHON ZIG ZAG 1PHASE 4WIRE



○ = BUSS BAR CONNECTION
 [T] = NEMA EQUIVALENT

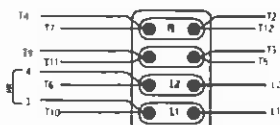
VOLTAGE		
HZ	L-L	L-N
60	200	100
	220	110
	240	120
50	220	110

MARATHON ZIG ZAG 1PHASE 3WIRE OUTPUT TERMINALS L1, L2, N



MARATHON DOUBLE DELTA 1 PHASE

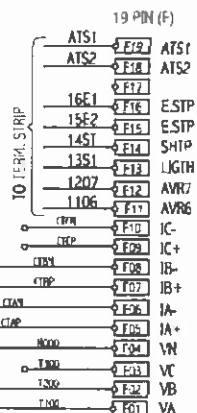
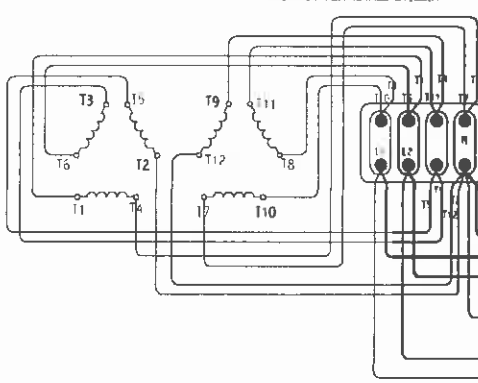
MARATHON DOUBLE DELTA 1 PHASE OUTPUT TERMINALS (L1) (L2)



○ = BUSS BAR CONNECTION
 [T] = NEMA EQUIVALENT

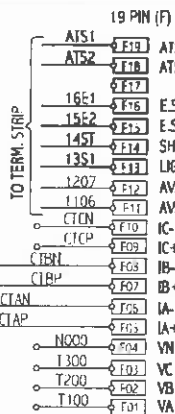
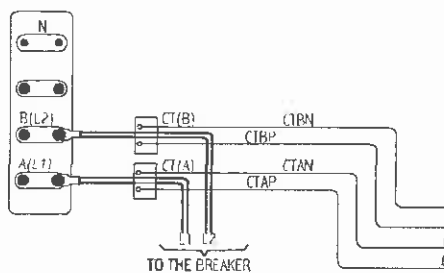
VOLTAGE		
HZ	L-L	L-N
60	200	100
	220	110
	240	120
50	220	110

MARATHON D. DELTA 1PHASE 3WIRE OUTPUT TERMINALS L1, L2, N



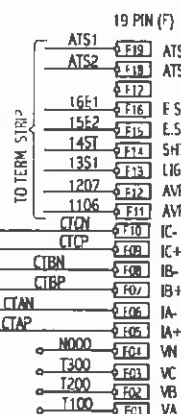
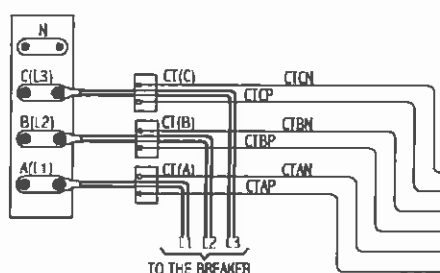
MARATHON 1P STD CT'S CONFIG.

MARATHON PANEL CT'S
ALL 1PH CONFIGURATION



MARATHON 3P STD CT'S CONFIG.

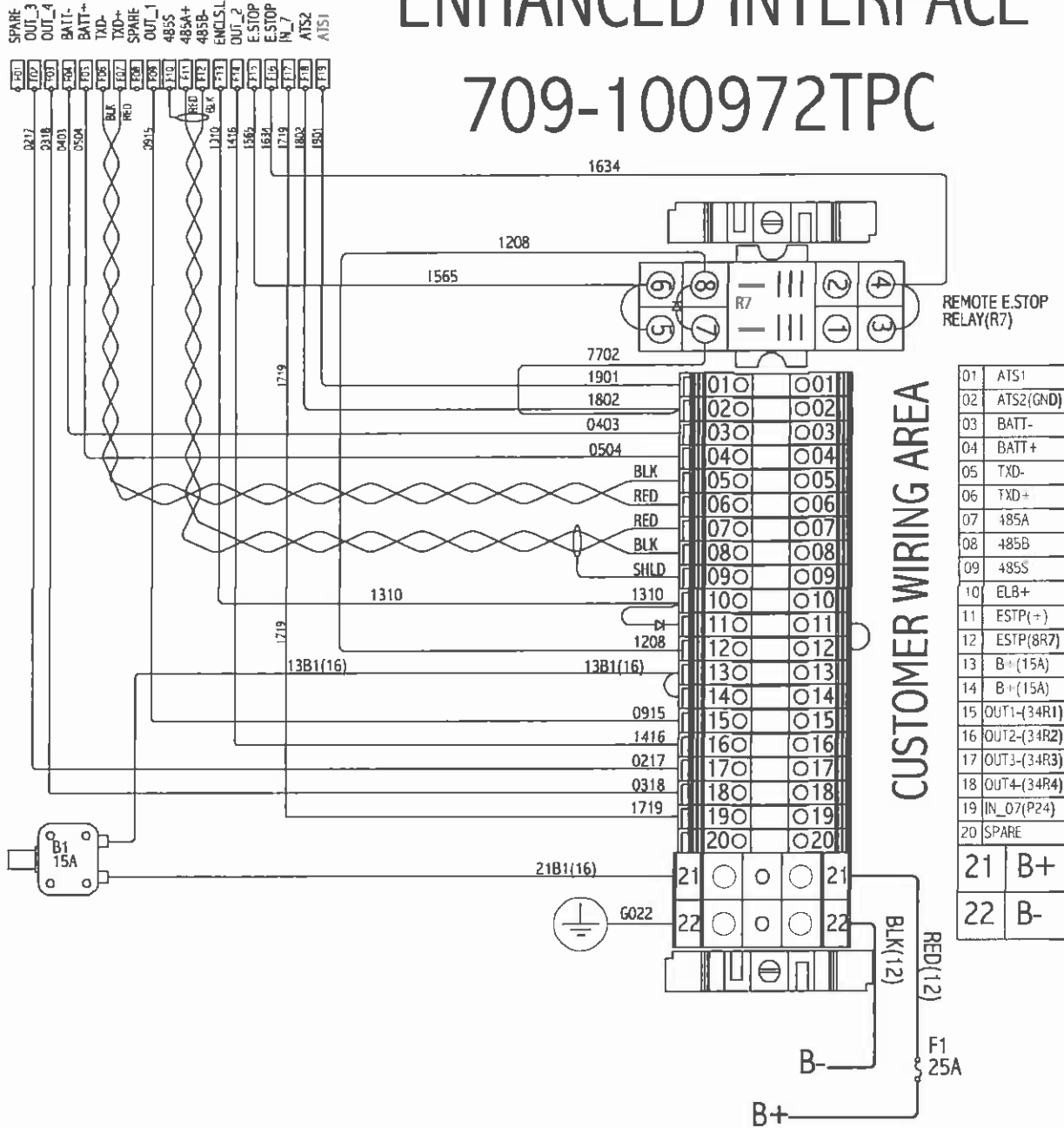
MARATHON PANEL CT'S
ALL 3PH CONFIGURATION



TITLE: DGC-2020		SHEET NO.:	
DRAWING NO.:		SCALE:	
DRAWN BY: JRGP		DATE: 11/19/2012	
CHECKED BY: JRGP		REVISION:	
APPROVED BY: JFO			

ENHANCED INTERFACE

709-100972TPC

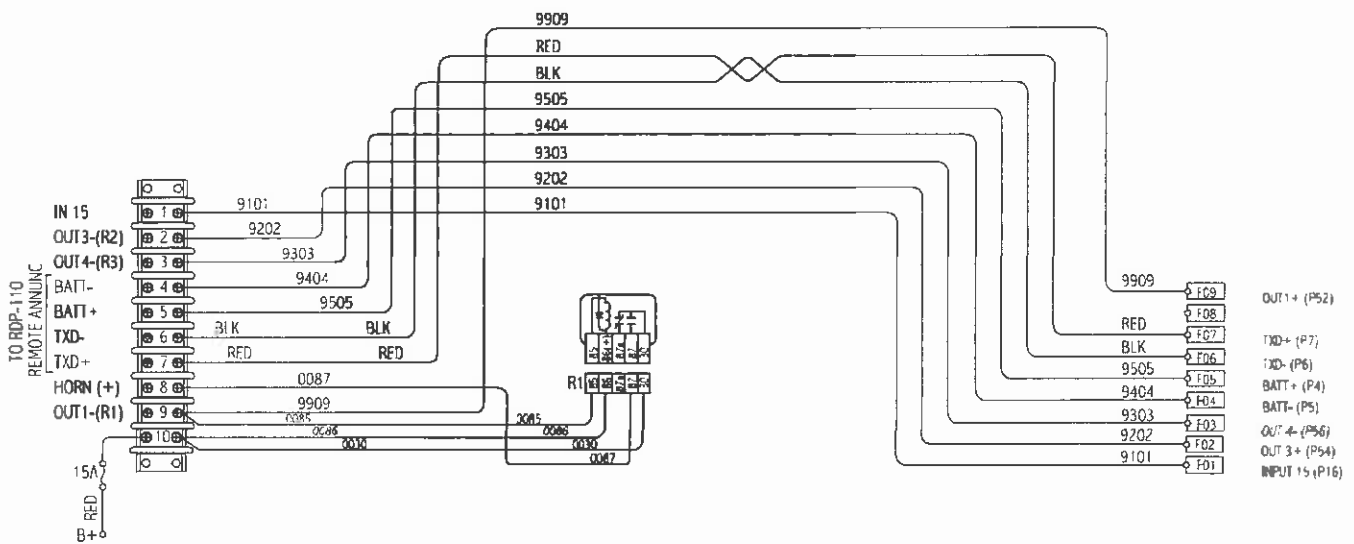


01	ATS1
02	ATS2(GND)
03	BATT-
04	BATT+
05	TXD-
06	TXD+
07	485A
08	485B
09	485S
10	ELB+
11	ESTP(+)
12	ESTP(8R7)
13	B+(15A)
14	B+(15A)
15	OUT1-(34R1)
16	OUT2-(34R2)
17	OUT3-(34R3)
18	OUT4-(34R4)
19	IN_07(P24)
20	SPARE
21	B+
22	B-



FILE: DGC-2020	SHEET NO.:
DRAWING NO.:	SCALE:
DRAWN BY: JRGP	DATE: 11/19/2012
CHK'D BY: JRGP	REVISION:
AP'VED BY: JFO	

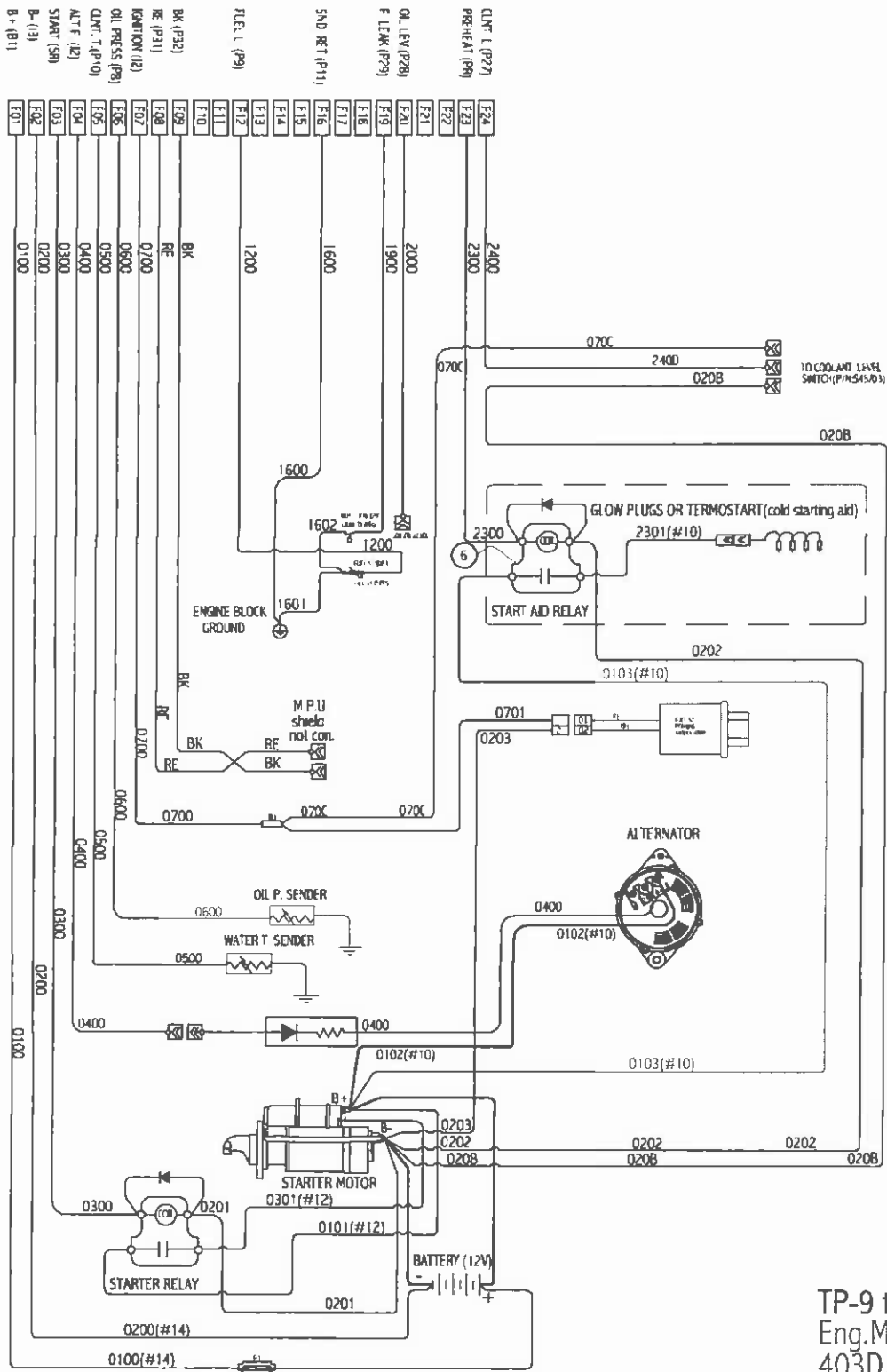
REMOTE ANNUNCIATOR HARNESS WITH BASIC INTERFACE



P/N:601-100961TPC



TITLE: DGC-2020		SHEET NO.:	
DRAWING NO.:		SCALE:	
DRAWN BY: JRGP		DATE: 11/19/2012	
CHECKED BY: JRGP		REVISION:	
APPROVED BY: JFO			

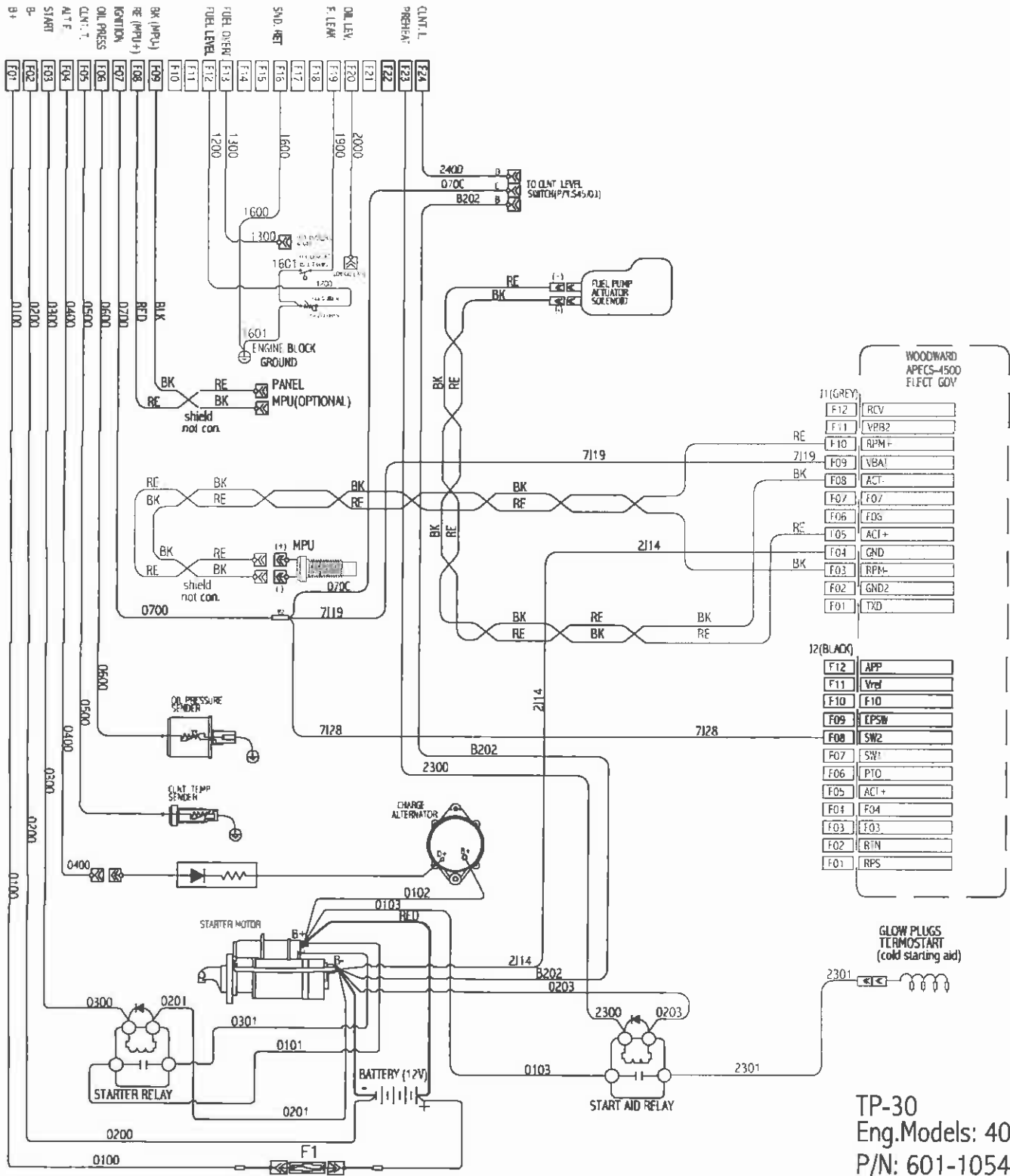


TP-9 to TP-20
 Eng. Models: 403D,11
 403D,15 403D,22
 P/N:601-105402TPC

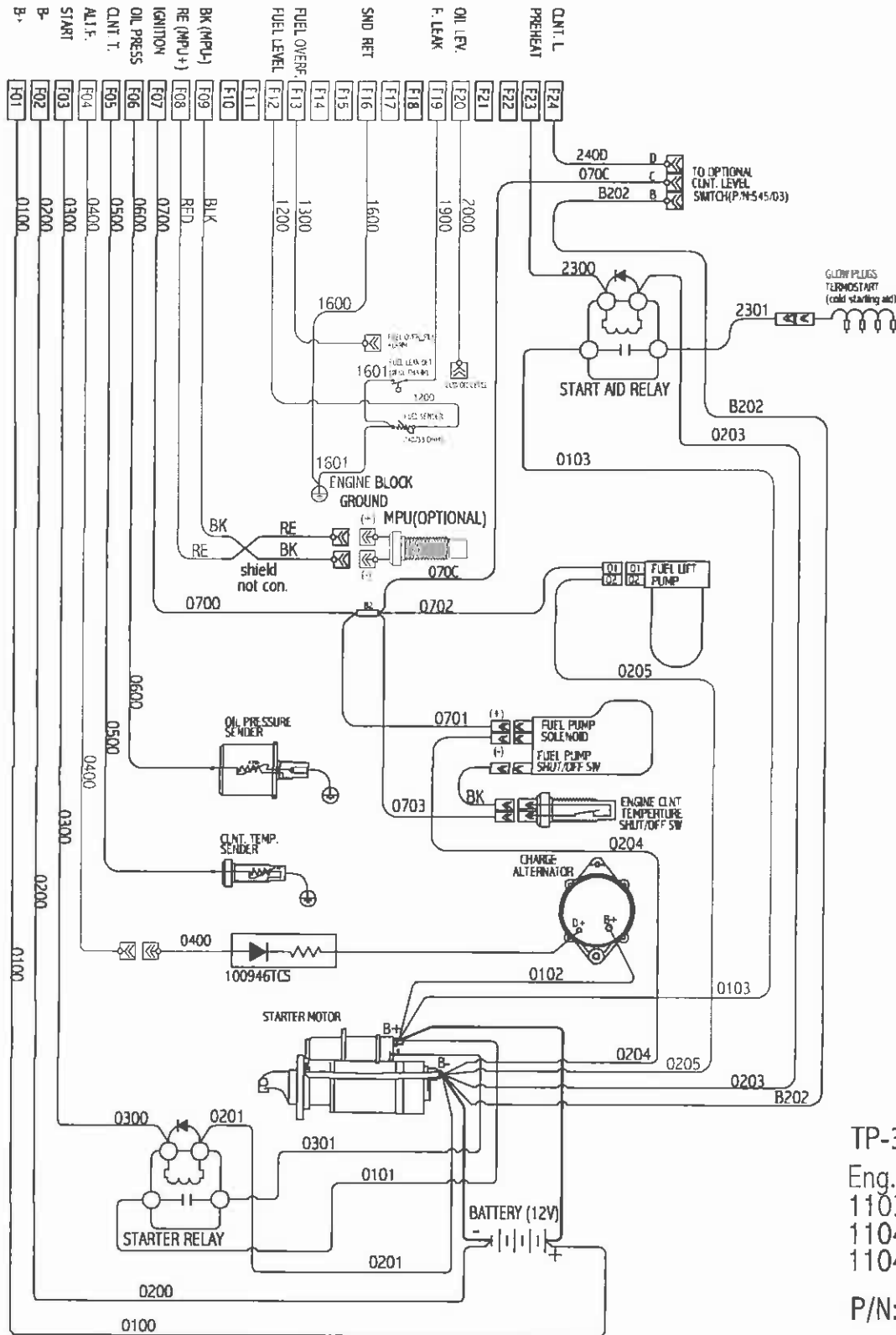


TRADEWINDS
 POWER CORP. MADE IN JACKSONVILLE FLORIDA

TITLE: DGC-2020		SHEET NO.:	
DRAWING NO.:		SCALE:	
DRAWN BY: JRGP		DATE: 11/19/2012	
CHECKED BY: JRGP		REVISION:	
AP'VED BY: JFO			



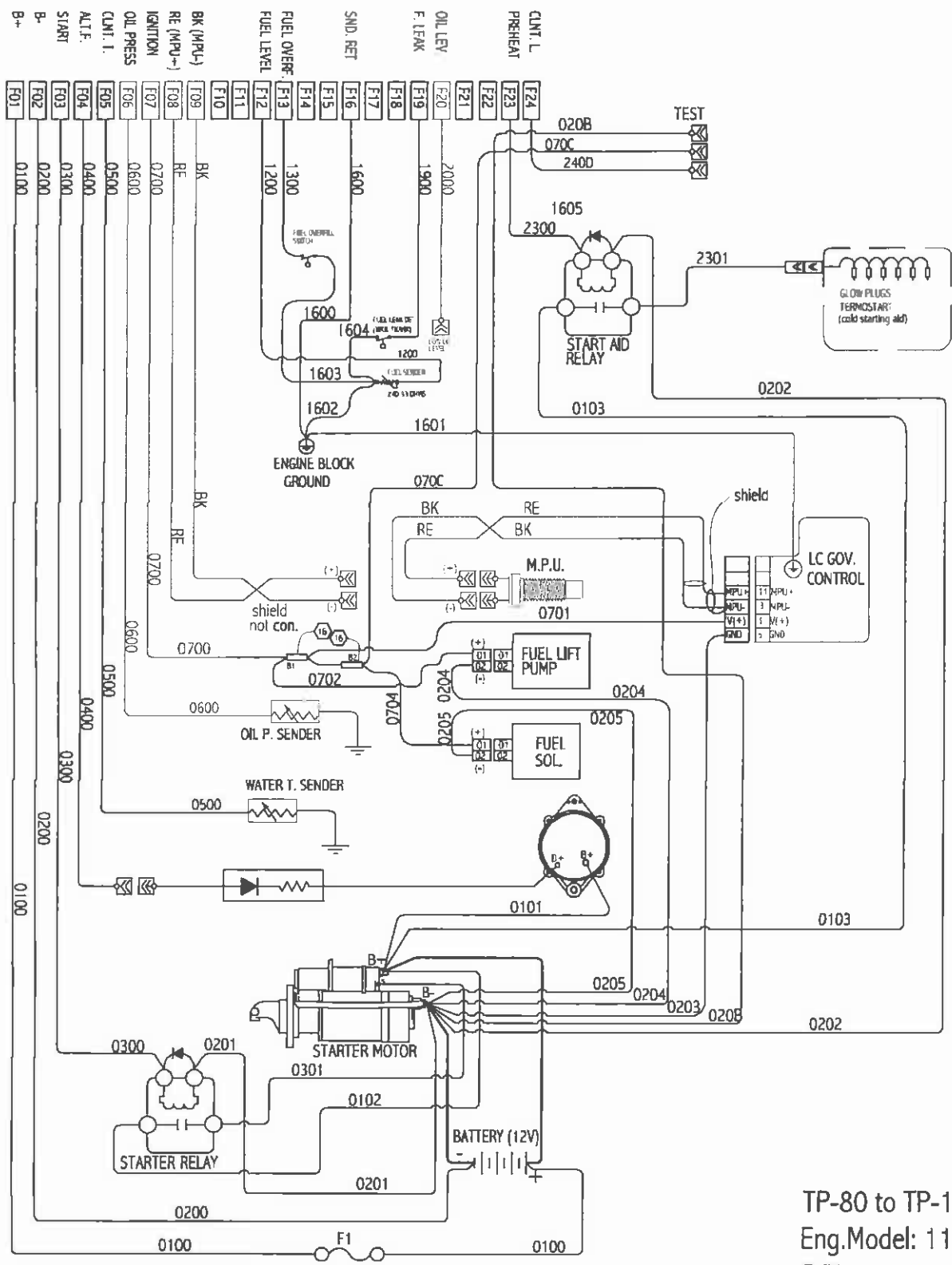
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DRAWING NO.:		SCALE:	
DRAWN BY: JRGP		DATE: 11/19/2012	
CHECKED BY: JRGP		REVISION:	
APPROVED BY: JFO			



TP-30 to TP-60
 Eng. Models: 1103A,33
 1103A,33T 1104A,44
 1104A,44T 1104C,44
 1104C,44T 1104D,44T
 P/N: 119100405TCS



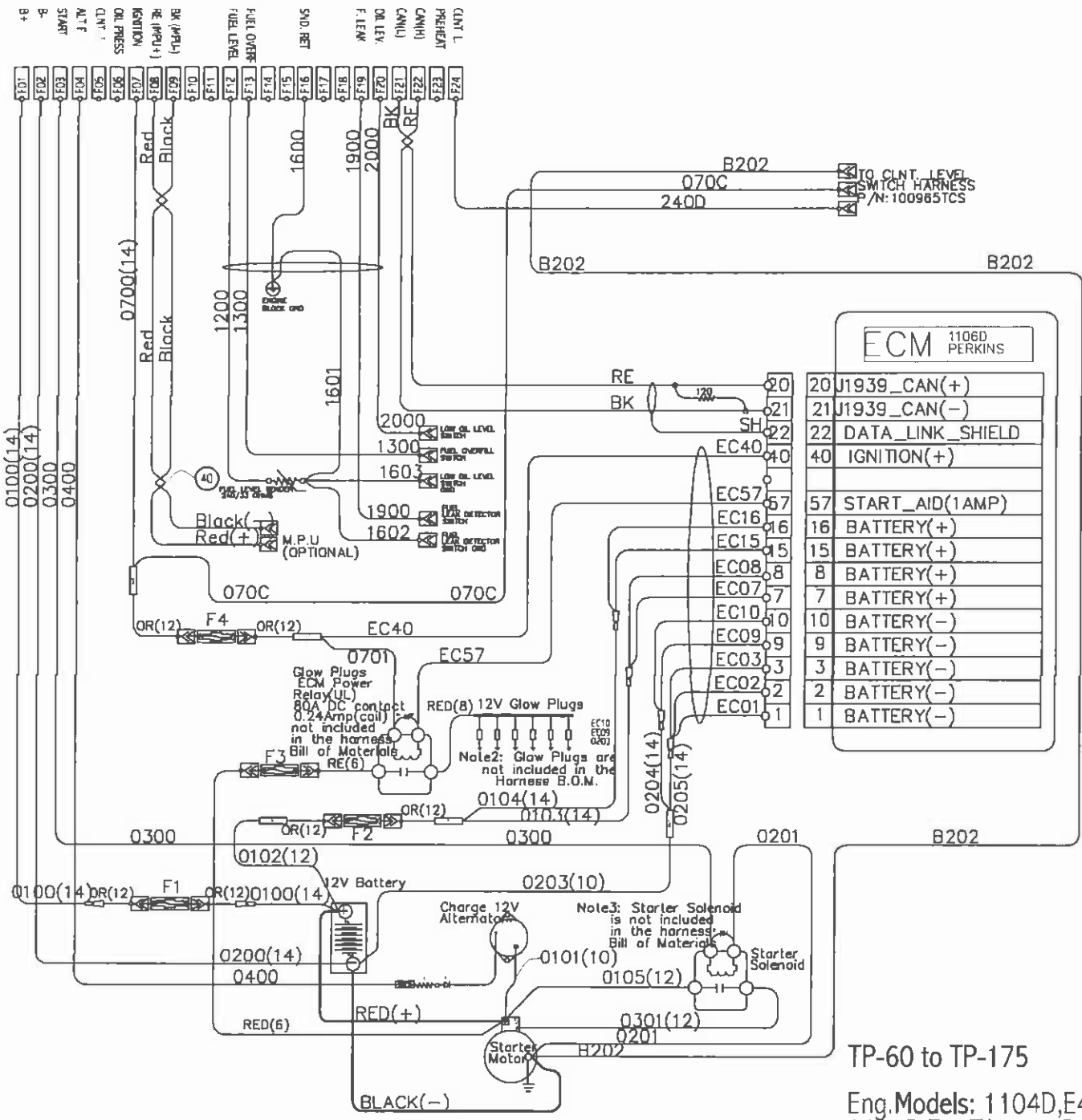
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DRAWING NO.:		SCALE:	
DRAWN BY: JRGP		DATE: 11/19/2012	
CHECKED BY: JRGP		REVISION:	
APPROVED BY: JFO			



TP-80 to TP-100
 Eng. Model: 1104C, 44TA
 P/N: 119100404TCS



TITLE: DGC-2020		SHEET NO.:	
DRAWING NO.:		SCALE:	
DRAWN BY: JRGP		DATE: 11/19/2012	
CHECKED BY: JRGP		REVISION:	
AP'VED BY: JFO			



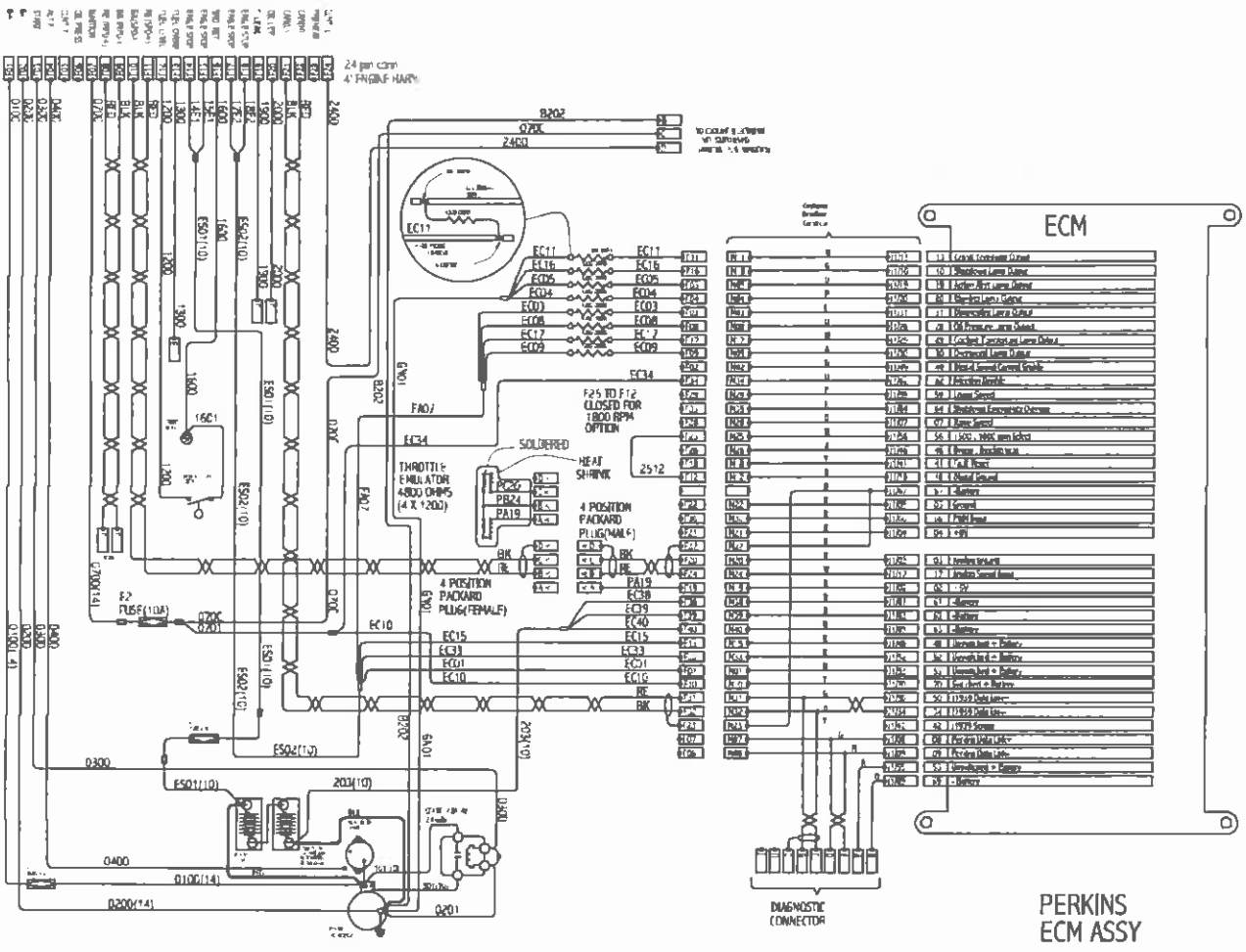
TP-60 to TP-175

Eng. Models: 1104D,E44T
1104D,E44TA 1106D,E66TA

P/N: 139100404TCS



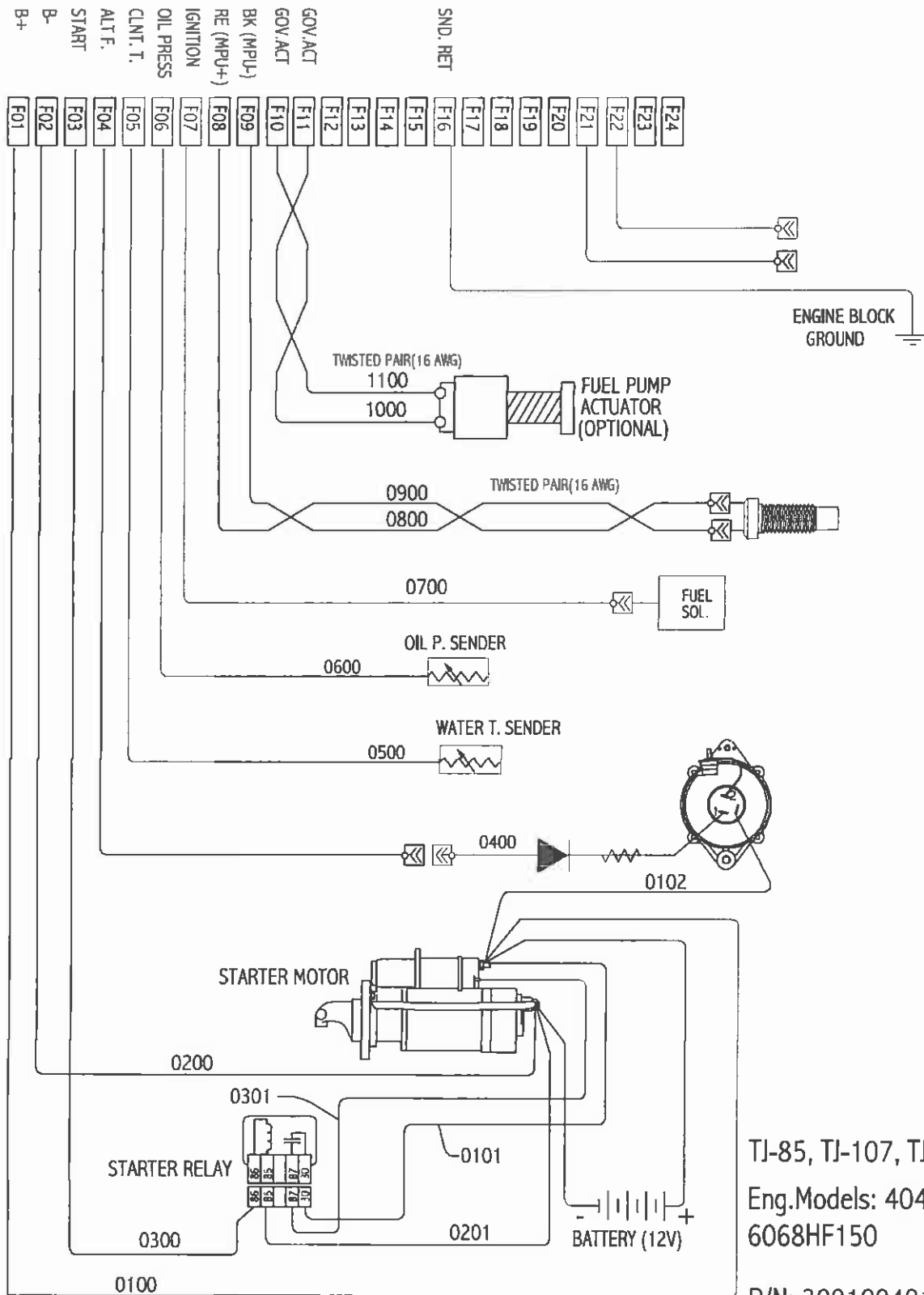
TITLE: DGC-2020	
DRAWING NO.:	SHEET NO.:
DRAWN BY: JRGP	SCALE:
CH'K'D BY: JRGP	DATE: 11/19/2012
AP'V'D BY: JFO	REVISION:



TP-300 to TP-600
 Eng. Models: 2206D, E13TA
 2506D, E15TA 2806C, E18TA
 P/N: 601-139405TPC



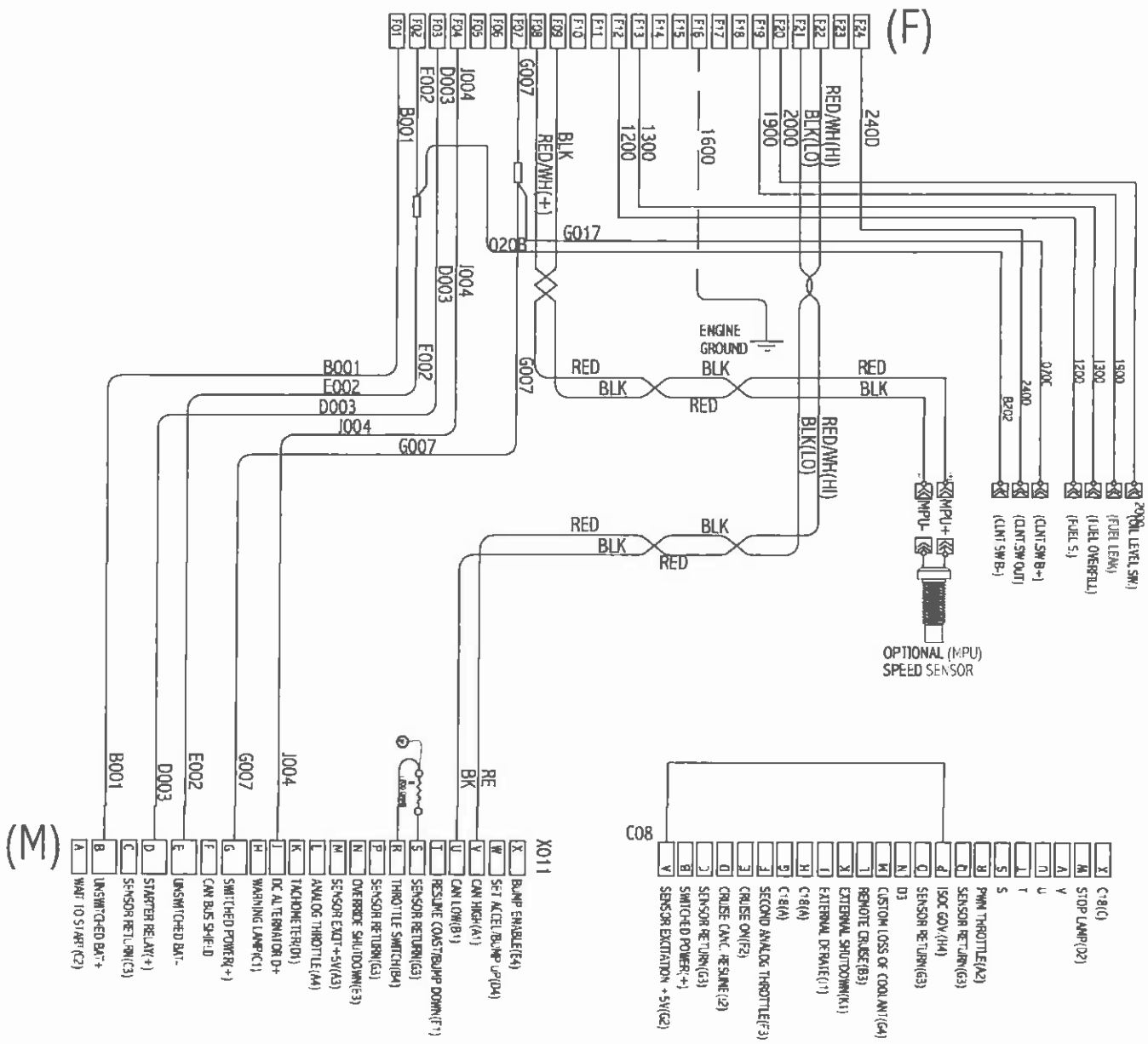
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DRAWING NO.:		SCALE:	
DRAWN BY: JRGP		DATE: 11/19/2012	
CHECKED BY: JRGP		REVISION:	
APPROVED BY: JFO			



TJ-85, TJ-107, TJ-160, TJ-184
 Eng. Models: 4045HF150
 6068HF150
 P/N: 309100401TCS



TITLE: DGC-2020	
DRAWING NO.:	SHEET NO.:
DRAWN BY: JRGP	SCALE:
CHECKED BY: JRGP	DATE: 11/19/2012
APPROVED BY: JFO	REVISION:



TJ-125, TJ-200
 TJ-250, TJ-275
 TJ-300, TJ-350
 TJ-400

Eng. Models:
 4045HF485
 6068HF485
 6090HF485
 6135HF485

P/N: 100964TCS



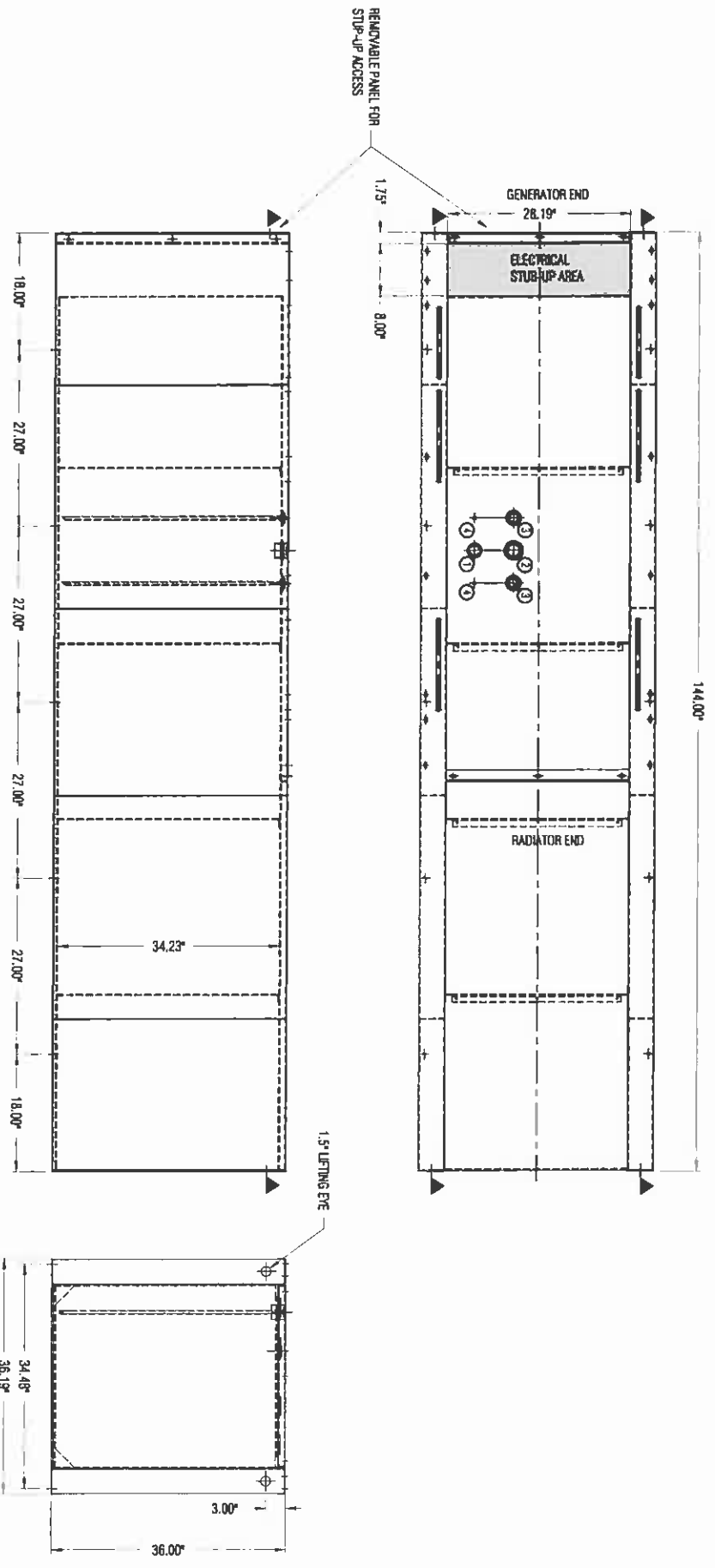
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DRAWING NO.:		SCALE:	
DRAWN BY: JRGP		DATE: 11/19/2012	
CH'K'D BY: JRGP		REVISION:	
AP'V'D BY: JFO			

TRADEWINDS MODELS

TJ-50	TJ-65	TJ-125
TP-30	TP-45	TP-56
TP-60	TP-65	TP-80
TP-100		

TANK FITTINGS

1. QUARTER TURN FUEL FILL FORT
2. 1.5NPT FEMALE (OPTIONAL FUEL GAUGE AND FUEL SENDING UNIT)
3. 1" NPT FEMALE (OPTIONAL LOW AND HIGH FUEL LEVEL SWITCH)
4. 1/4" MALE FUEL SUCTION AND RETURN TUBES



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'B' SIZE SINGLE WALL TANKS

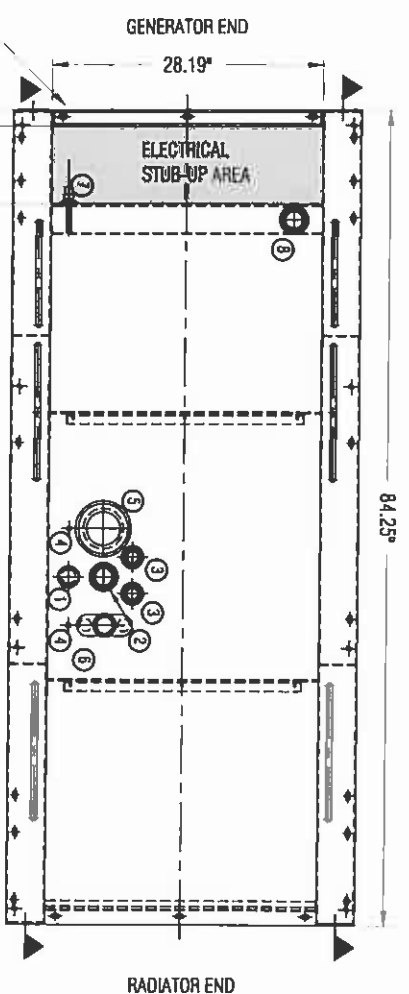
GALLONS	TANK PART NUMBER	H1	H2	Lbs
500	880986	36.00"	34.23"	34.23"

TITLE: EXTENDED SINGLE WALL TANKS

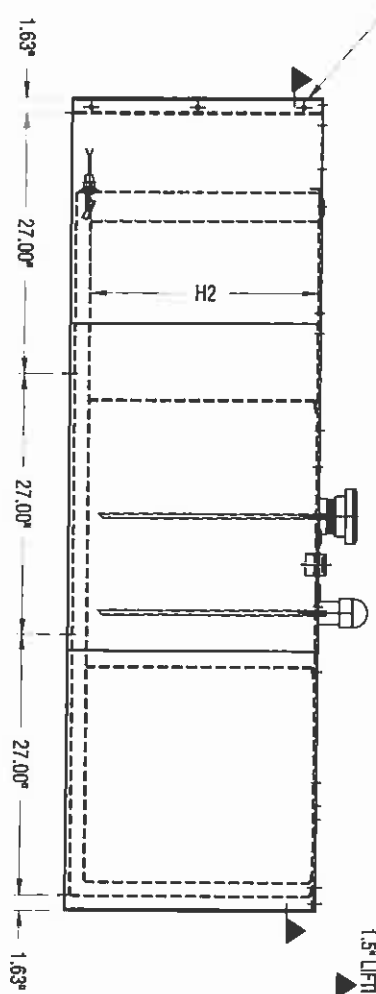
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SCALE:	SCALE:
DRAWN BY:	DATE:
CHECKED BY:	REVISION:
AP'VED BY:	

TRADEWINDS MODELS

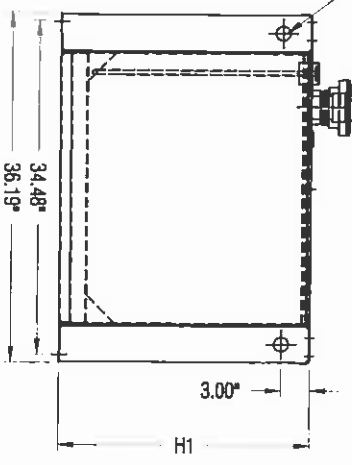
- TJ-50 TJ-65 TJ-125
- TP-30 TP-45 TP-58
- TP-60 TP-65 TP-80
- TP-100



REMOVABLE PANEL FOR STUP-UP ACCESS



1.5" LIFTING EYE



TANK FITTINGS

1. QUARTER TURN FUEL FILL PORT
2. 1.5NPT FEMALE (OPTIONAL FUEL GAUGE AND FUEL SENDING UNIT)
3. 1" NPT FEMALE (OPTIONAL LOW AND HIGH FUEL LEVEL SWITCH)
4. 1/4" MALE FUEL SUCTION AND RETURN TUBES
5. 1/4" NPT EMERGENCY VENT FITTING
6. 1.25" NPT NORMAL VENT
7. LEAK DETECTOR
8. SECONDARY TANK INSPECTION PORT

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'B' SIZE UL #142 DOUBLE WALL TANKS

ITEM	GALLONS	TANK PART NUMBER	H1	H2	Lbs
1	75	880166	9.50"	12.00"	
2	150	880105	17.50"	20.00"	
3	200	880550	23.50"	26.00"	

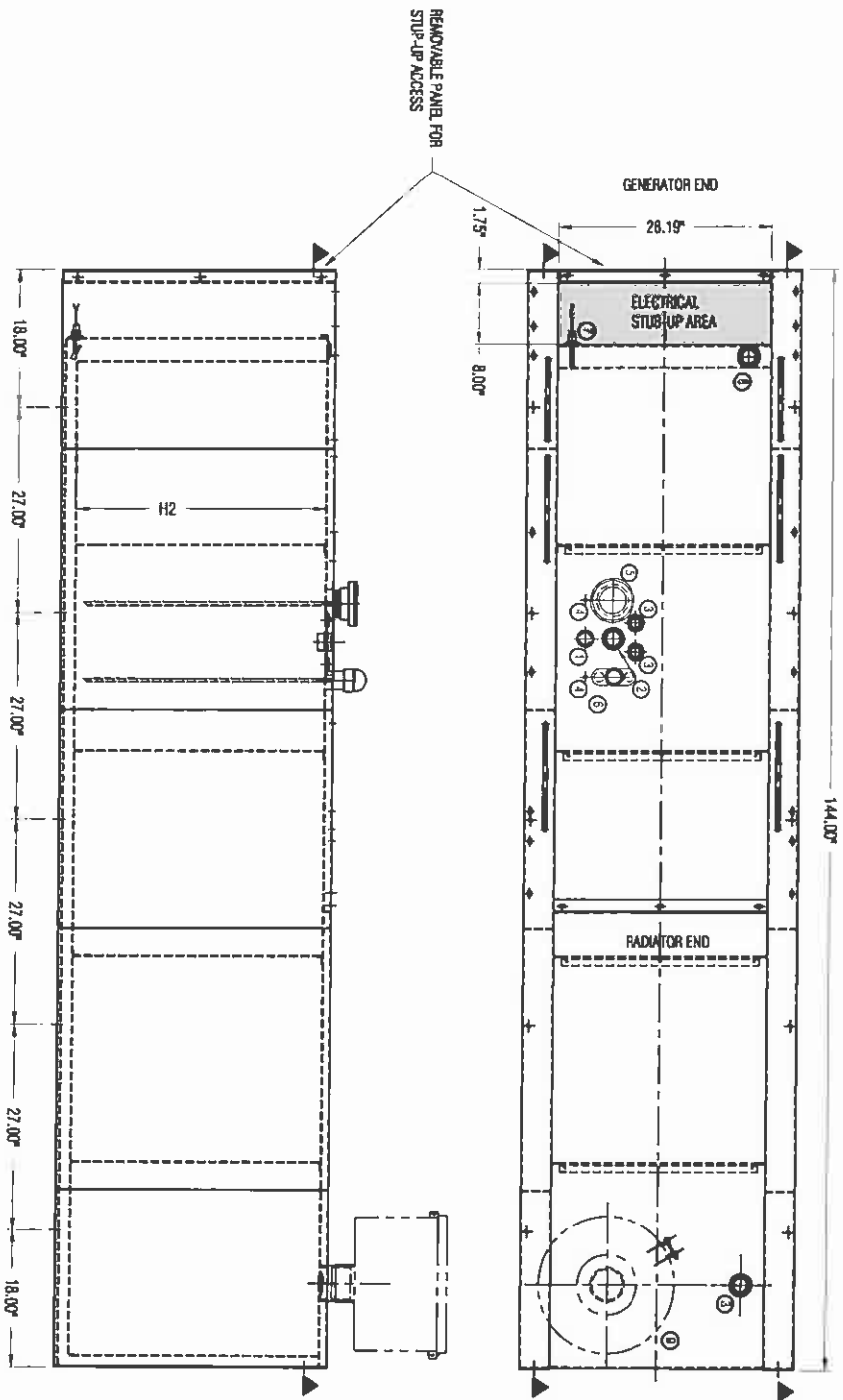
ALL DIMENSIONS, SPECIFICATIONS, MATERIALS CAN CHANGE WITHOUT PRIOR NOTICE



TITLE: UL142 TANKS	SHEET NO.:
DRAWING NO.:	SCALE:
DRAWN BY:	DATE:
CHECKED BY:	REVISION:
APVED BY:	

TRADEWINDS MODELS

TJ-50 TJ-65 TJ-125
 TP-30 TP-45 TP-56
 TP-60 TP-65 TP-80
 TP-100



- TANK FITTINGS**
1. QUARTER TURN FUEL FILL PORT
 2. 1.5NPT FEMALE (OPTIONAL FUEL GAUGE AND FUEL SENDING UNIT)
 3. 1" NPT FEMALE (OPTIONAL LOW AND HIGH FUEL LEVEL SWITCH)
 4. 1/4" MALE FUEL SUCTION AND RETURN TUBES
 5. 3/8" NPT EMERGENCY VENT FITTING
 6. 1.25" NPT NORMAL VENT
 7. LEAK DETECTOR
 8. SECONDARY TANK INSPECTION PORT
 9. OPTIONAL SPILL CONTAINMENT FILL STATION

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'B' SIZE UL #142 DOUBLE WALL TANKS

ITEM	GALLONS	FUEL GAUGE/SENDER PART NO.	H1	H2	Lbs
100	401-200102		10.00"	6.76"	
200	880852		16.00"	12.76"	
300	880544		24.00"	20.76"	
400	880908		30.00"	26.76"	
500	880987		36.00"	32.76"	

ALL DIMENSIONS, SPECIFICATIONS, MATERIALS CAN CHANGE WITHOUT PRIOR NOTICE



TITLE: UL 142 AND FDEP TANKS		SHEET NO.:
DRAWING NO.:		SCALE:
DRAWN BY:		DATE:
CHECKED BY:		REVISION:
APPROVED BY:		

General Information

Engine generator molded case circuit breakers are designed specifically for application on diesel engine powered standby generators where high interrupting circuit breakers are not required. The JG through NG breakers are equipped with a special trip unit, that includes standard thermal (overload) protection and special low magnetic pickup range (FG includes a fixed thermal/magnetic pickup). The standard thermal trip unit provides overload protection for conductors per the National Electric Code. The low magnetic pickup range is approximately two to five times the continuous rating and provides closer low level short circuit protection when applied on generators that have very low short circuit capacity. This combination allows the user to customize the breaker to the generator output.

Catalog Numbering System

This information is presented only as an aid to understanding catalog numbers. It is not to be used to build catalog numbers for circuit breakers.

FG breakers include both line and load side terminals.

JG, KG, LG, and NG breakers with "W" catalog number suffix do not include any terminals.

JG, KG, LG, and NG breakers without "W" catalog number suffix include both line and load terminals.

Contact Cutler-Hammer for additional ratings and internal/external accessories.

Interrupting Capacity Ratings

UL 489 Interrupting Capacity Ratings

Interrupting Capacity (Symmetrical Amperes)

Volts Ac (50/60 Hz)	
240	18,000
480	14,000
600	10,000

IEC 947-2 Interrupting Capacity Ratings

Interrupting Capacity (Symmetrical Amperes)

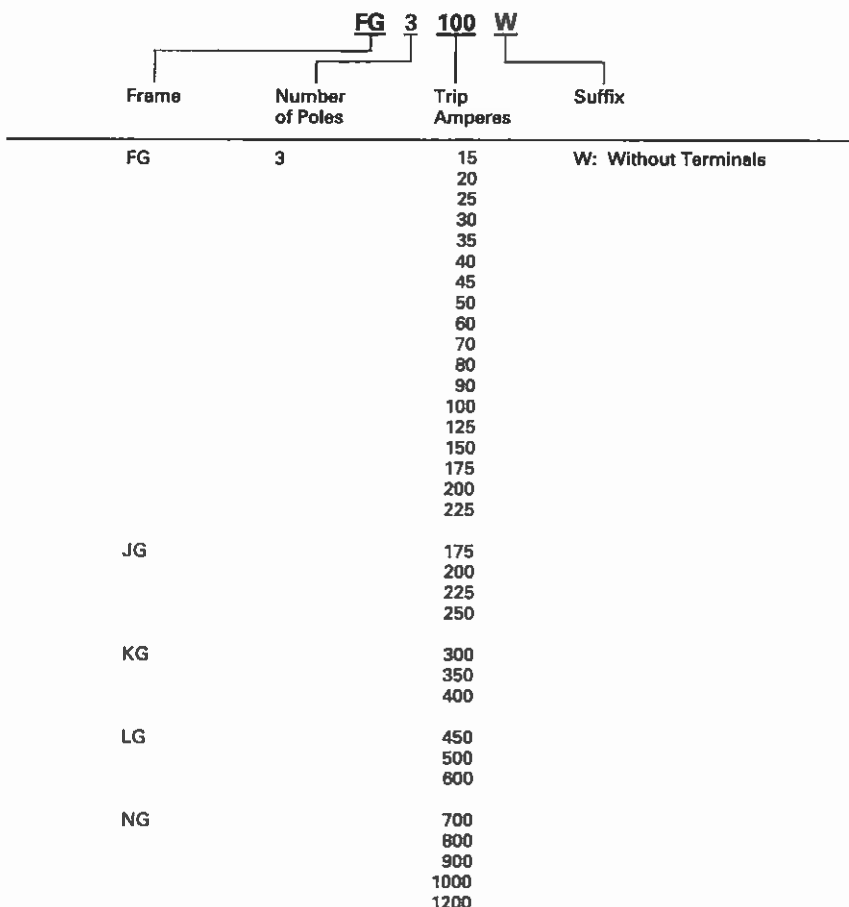
Volts Ac (50/60 Hz)	
220, 240	18,000/9,000
380, 415	14,000/7,000
660, 690	10,000/5,000

Standards

Engine generator molded case circuit breakers are designed to conform with the following standards:

- Underwriters Laboratories, Inc., Standard UL 489, Molded Case Circuit Breakers and Circuit Breaker Enclosures File E7819
- Canadian Standards Association Standard C22.2 No. 5, Service Entrance and Branch Circuit Breakers
- International Electrotechnical Commission Recommendations IEC 947-2, Circuit Breakers

Conformance with these standards satisfies most local and international codes, assuming user acceptability and simplified application.



Circuit Breakers

The following table lists FG through NG engine generator breakers with the maximum generator kVA and kW rating. Engine generator breakers

are applied at 115% of the generator full load current rating. The maximum kW rating is based on three-phase generators at 80% power factor.

Magnetic Pickup Range	Maximum Generator Rating 60 Hz						Engine Generator Breaker Catalog Number
	240 Vac		480 Vac		600 Vac		
	kVA ^①	kW ^②	kVA ^①	kW ^②	kVA ^①	kW ^②	
Fixed	5	4	11	9	14	11	FG3015
Fixed	7	6	14	12	18	14	FG3020
Fixed	9	7	18	14	23	18	FG3025
Fixed	11	9	22	17	27	22	FG3030
Fixed	13	10	25	20	32	25	FG3035
Fixed	14	12	29	23	36	29	FG3040
Fixed	16	13	32	26	41	32	FG3045
Fixed	18	14	36	29	45	36	FG3050
Fixed	22	17	43	35	54	43	FG3060
Fixed	25	20	51	40	63	51	FG3070
Fixed	29	23	58	46	72	58	FG3080
Fixed	32	26	65	52	81	65	FG3090
Fixed	36	29	72	58	90	72	FG3100
Fixed	40	32	79	64	99	79	FG3110
Fixed	45	36	90	72	113	90	FG3125
Fixed	54	43	108	87	135	108	FG3150
Fixed	63	51	126	101	158	126	FG3175
Fixed	72	58	144	116	181	144	FG3200
Fixed	81	65	162	130	203	162	FG3225
350-700	63	51	126	101	158	126	JG3175W ^③
350-700	72	58	144	116	181	144	JG3175 JG3200W ^③ JG3200
350-700	81	65	162	130	203	162	JG3225W ^③
350-700	90	72	181	144	226	181	JG3225 JG3250W ^③ JG3250
500-1000	108	87	217	173	271	217	KG3300W ^③
500-1000	126	101	253	202	316	253	KG3300 KG3350W ^③ KG3350
1000-2000	144	116	289	231	361	289	KG3400W ^③
600-2500	162	130	325	260	406	325	KG3400 LG3450 LG3450W ^③
600-2500	181	144	361	289	451	361	LG3500
600-2500	217	173	433	347	542	433	LG3500W ^③ LG3600 LG3600W ^③
800-2500	253	202	505	404	632	505	NG3700
800-2500	289	231	578	462	722	578	NG3700W ^③ NG3800 NG3800W ^③
1600-5000	325	260	650	520	812	650	NG3900
1600-5000	361	289	722	578	903	722	NG3900W ^③ NG31000 NG31000W ^③
1600-5000	433	347	867	693	1083	867	NG31200 NG31200W ^③

① Breaker continuous current is based on 115% of the generator full load ampere rating.

② Based on three-phase generators at 80% power factor.

③ Without terminals.