

INSTRUCTION MANUAL

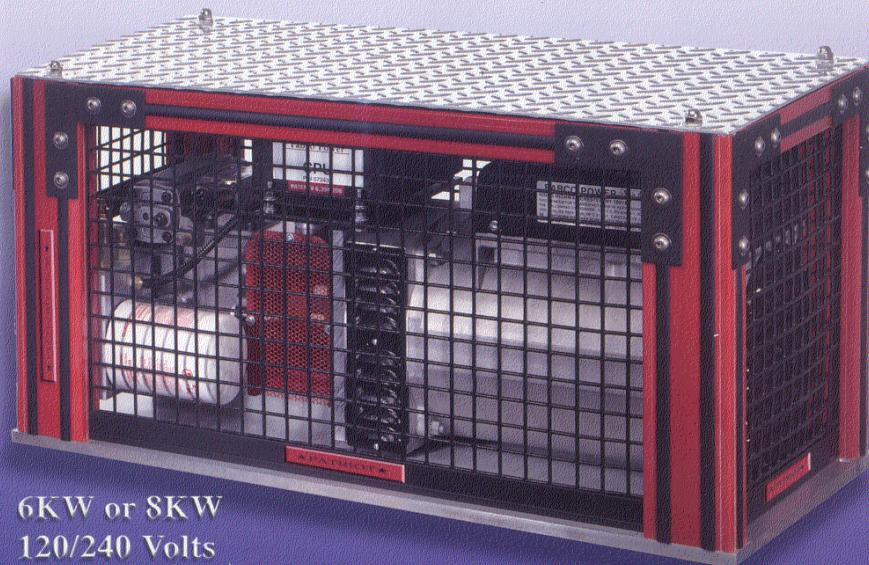
Fabco Power



Setting the Standard in Mobile Power

**A REVOLUTIONARY BREAKTHROUGH
IN MOBILE AC POWER**

THE PATRIOT™



6KW or 8KW
120/240 Volts

***ANOTHER FINE PRODUCT BY
FABCO GENERATORS INC.***

CHESTER, NY 10918

VOICE (845)-469-9151

FAX (845)-469-7871

WEB SITE: www.fabcopower.com

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CAUTION

DO NOT MOUNT OR ATTACH ANY EQUIPMENT ON TOP OR SIDES OF OUR GENERATOR ENCLOSURE.

DO NOT INSTALL RADIO ANTENNAS WITHIN A MINIMUM OF EIGHT FEET FROM OUR GENERATOR SYSTEM. WE RECOMMEND TEN FEET FROM OUR GENERATOR.

LOW AND HIGH BAND RADIO FREQUENCIES TRANSMITTED FROM ANTENNAS LOCATED AT A DISTANCE OF UNDER EIGHT FEET FROM OUR GENERATOR CONTROL CAN INTERFERE WITH THE GENERATORS OPERATION.

Fabco Power's

GENERAL SAFETY PRECAUTIONS

GENERATOR VOLTAGE CAN BE DEADLY

GENERATOR ELECTRICAL CONNECTIONS MUST BE MADE BY A TRAINED ELECTRICIAN IN ACCORDANCE WITH APPLICABLE CODES.

USE EXTREME CAUTION WHEN WORKING ON LIVE ELECTRICAL EQUIPMENT. REMOVE JEWELRY, MAKE SURE HANDS, CLOTHING AND SHOES ARE DRY AND USE TOOLS WITH INSULATING HANDLES.

WET CELL BATTERIES CAN CAUSE SEVERE INJURY

THEY CAN EXPLODE! DO NOT SMOKE WHILE WORKING NEAR WET CELL BATTERIES. WEAR SAFETY GLASSES.

BATTERY ACID CAN CAUSE BLINDNESS AND SEVERE SKIN DAMAGE. BATTERY GASSES CAN CAUSE EYE AND LUNG DAMAGE.

TO REDUCE SPARKS WHEN DISCONNECTING OR RECONNECTION BATTERY CABLES ALWAYS DISCONNECT THE NEGATIVE (-) CABLE FIRST AND CONNECT IT LAST.

MOVING PARTS CAN BE DEADLY

KEEP HANDS AWAY FROM MOVING PARTS. DO NOT WEAR LOOSE CLOTHING OR JEWELRY NEAR MOVING PARTS SUCH AS FANS, PTO'S, BELTS OR ANY OTHER MOVING PARTS.

KEEP ALL GUARDS IN PLACE OVER BELTS, COUPLINGS, PULLEYS AND ALL OTHER MOVING PARTS.

HIGH PRESSURE HYDRAULIC FLUID CAN CAUSE SEVERE INJURY

ALWAYS SHUT DOWN THE PRIME MOVER OF THE HYDRAULIC PUMP BEFORE WORKING ON FITTINGS.

HIGH PRESSURE SPRAY FROM A LEAK OR BROKEN HOSE CAN CAUSE BLINDNESS, WEAR SAFETY GLASSES. IF HOT, HIGH PRESSURE HYDRAULIC FLUID PENETRATES THE SKIN IT COULD CAUSE BLOOD POISONING. GET PROPER MEDICAL ATTENTION ASAP.

THE PATRIOT OWNERS MANUAL

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SECTION # 1

INTRODUCTION SPECIFICATIONS WARRANTY

INTRODUCTION

PATRIOT SERIES

TWO PIECE MODULAR HYDRAULICALLY DRIVEN, ELECTRONICALLY CONTROLLED, ELECTRIC POWER GENERATOR SYSTEM

THE SIX AND EIGHT KW COMPACT ELECTRONIC CONTROLLED MODULAR HYDRAULIC GENERATOR MOUNTS ON 4X4 VEHICLES OR WORKS ON ANY FIXED DISPLACEMENT GEAR OR PISTON, PTO OR BELT DRIVEN PUMP THAT CAN DELIVER A MINIMUM OF 15 GPM TO A MAXIMUM OF 25 GPM AT 2400 PSI. OUR NEW ELECTRONIC CONTROL SYSTEM CAN DELIVER PERFECT FREQUENCY REGULATION FROM ZERO TO 100% LOAD AT VARYING GPM BETWEEN 15 AND 25 GPM

The MODULAR 6 & 8 KW system was developed for the Military, Homeland Security, Rescue and the Fire industry. The need for safe, reliable and precise electric power is becoming essential as electric powered rescue equipment becomes more sophisticated. The need to have **POWER-ON-THE-MOVE_MOUNTED ON VEHICLES IS ESSENTIAL IN THE 21st. CENTURY. THE MODULAR SYSTEM** is a **TWO PIECE** electric power generating system. The heat exchanger, fan, and **THREE GALLON SUPER V TANK** are mounted in one module and the generator, hydraulic motor and automatic **PATENTED FABCO PRECISION POWER CENTRAL PROCESSING UNIT (CPU)** system is mounted in the second module. This new system is easy to install (**it takes the guesswork out of the installation**) and there are **NO ADJUSTMENTS REQUIRED**.

The system includes pre-wired generator and control system with 12 feet of load and control cables, and a digital meter displaying voltage, frequency, double line ammeter, oil temperature, high oil temperature alarm and elapsed time. The unique **CPU** control system incorporates an automatic soft start and stop from zero to 60 HZ in 20 seconds and from 60 HZ to zero HZ in 10 seconds. The soft start and stop feature protects all of the component parts in the system from damage due to high torque and mechanical shock in non-accelerated starts and decelerated stops, which increases the life of all the systems component parts. The electronic control system also includes many built in safeties such as under and over frequency, and under and over voltage. **PLEASE READ THE COMPLETE MANUAL PRIOR AND DURING THE INSTALLATION. CONTACT US IF IN DOUBT.**

PATRIOT**MODULAR 6KW & 8KW**

MODEL	HYDRO-4WD-6K	HYDRO-4WD-8K
WATTS	6,000	8,000
AMPS	54/26	66/33
VOLTS	120/240	120/240
GPM	15	18
PSI	2300	2000
DIM. GENERATOR PACKAGE	30.75"L X 15.5"W X 16.5"H	30.75"L X 15.5"W X 16.5"H
WEIGHT	245 lbs.	255 lbs.
DIM. SUPER V COOLER & TANK	14"L x 15"W x 16.5"H	14"L x 15"W x 16.5"H
WEIGHT COOLER	25 lbs.	25 lbs.

WARRANTY TERMS:

EACH FABCO POWER GENERATOR IS WARRANTED TO THE ORIGINAL OWNER TO BE FREE FROM DEFECTS IN MATERIAL OR WORKMANSHIP UNDER NORMAL USE AND SERVICE FOR ONE (1) YEAR FROM THE DATE OF PURCHASE .

OUR OBLIGATION UNDER THIS WARRANTY IS LIMITED TO REPLACING OR REPAIRING, AT OUR OPTION, ANY PART OR PARTS PROVED TO BE SO DEFECTIVE WHICH ARE RETURNED FREIGHT PREPAID.

PATRIOT WARRANTY PROCEDURE

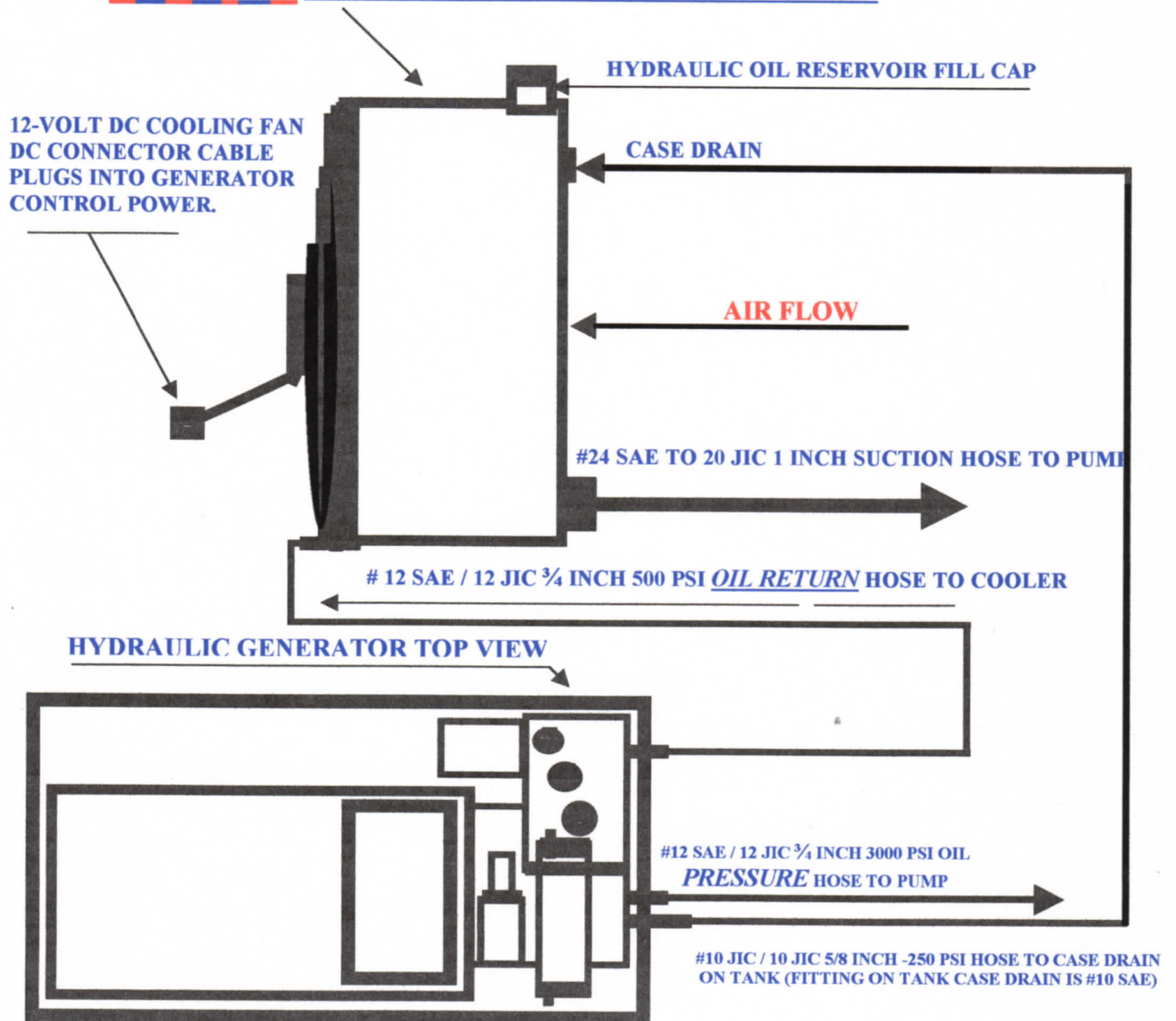
WARRANTY CONTACT AND PAPER TRAIL:

- 1. CALL FABCO POWER WITH UNIT SERIAL NUMBER.**
- 2. GIVE FABCO THE OPPORTUNITY TO TROUBLE SHOOT OVER THE PHONE.**
- 3. IF FABCO CAN'T FIX IT OVER THE PHONE, FABCO WILL SEND A FIELD SERVICE REPRESENTATIVE OR ISSUE A (RGA #) RETURN GOODS AUTHORIZATION NUMBER TO SHIP THE UNIT BACK TO FABCO, FREIGHT PRE-PAID.**
- 4. FABCO WILL THEN INSPECT THE UNIT OR PART AND DECIDE WHETHER IT IS UNDER WARRANTY OR NOT. WE WILL CONTACT YOU WITH THE RESULTS AND ESTIMATED COST IF ANY.**
- 5. IF THE PROBLEM IS NOT A WARRANTY ITEM THEN FABCO WILL BILL YOU FOR SHIPPING AND REPAIR CHARGES. FABCO WILL INCLUDE A REPORT DETAILING WHAT WAS FOUND, AND HOW TO PREVENT IT FROM HAPPENING IN THE FUTURE.**

SECTION # 2

HYDRAULIC HOOK-UP FITTINGS AND DRAWING

PATRIOT HYDRAULIC OIL TANK COOLER COMBO SIDE VIEW



1. USE # 12 SAE / 12 JIC FOR THE OIL SUPPLY PRESSURE AND RETURN FITTINGS. THE PRESSURE IS ON THE MOTOR AND THE RETURN IS ON THE MANIFOLD. **THE CASE DRAIN FITTING SUPPLIED IS A # 12/10 JIC MALE.** THE HYDRAULIC MOTOR IS PRE-PRIMED WITH **DEXRON III ATF HYDRAULIC OIL** TO PREVENT DRY STARTS THAT CAN DAMAGE THE MOTOR. ONLY USE **DEXRON III HYDRAULIC OIL. (DO NOT DRAIN)**
2. **DO NOT USE ANY SMALLER DIAMETER HOSES THAN RECOMMENDED.**
3. ONLY USE A 1-INCH HOSE MARKED SUCTION FROM THE TANK TO THE PUMP. THE TANK SUCTIONS THREADED FITTING IS A #24 SAE AND USE A #20 JIC MALE END FOR THE HOSE CONNECTION. ONLY USE A 3000 PSI HOSE FOR THE PUMP PRESSURE TO THE MOTOR FITTING #12 SAE / 12 JIC.

SECTION # 3

AC AND DC ELECTRICAL HOOK-UP AND WIRING DIAGRAMS

PATRIOT MODULAR WIRING INSTRUCTIONS

1. REMOVE TOP COVER FROM THE PRE-WIRED SWITCH (SUPPLIED). MOUNT GENERATOR ON OFF SWITCH BOX ON THE CONTROL PANEL UNDER OR NEXT TO THE DIGITAL DISPLAY METER. MOUNT THE HIGH TEMP OIL ALARM UNDER THE GENERATOR ON OFF SWITCH. (SEE NEXT PAGE FOR HOLE SIZES)
2. CONNECT THE #18 GAGE **RED** WIRE FROM THE ON OFF SWITCH TO THE (+) TAB ON THE **HIGH TEMP ALARM**. CONNECT THE SECOND #18 GAGE **RED** WIRE TO THE **RED** WIRE ON THE SQUARE CONNECTOR #1 PIN SUPPLIED WITH THE DIGITAL DISPLAY METER. CONNECT THE THIRD 18 GA. **RED** WIRES FROM THE BACK OF THE SWITCH TO THE **RED** WIRE ON THE 3 PIN TRIANGLE CONNECTOR. **GROUND THE BLACK WIRE** FROM THE 3 PIN TRIANGLE CONNECTOR THE WHITE WIRE IS NOT USED. ALLOW ABOUT 6 INCHES FOR A SERVICE LOOP. (SEE INSTRUCTIONS SUPPLIED WITH THE DIGITAL DISPLAY METER)
3. CONNECT THE #18 GAGE **GREEN AND BLACK WIRE** FROM THE GENERATOR TO THE **GREEN AND BLACK WIRE** ON THE SQUARE 4 WIRE MALE CONNECTOR SUPPLIED WITH THE DIGITAL DISPLAY. CONNECT THE **YELLOW** WIRE FROM THE 4 PIN CONNECTOR TO THE GROUND (-) TERMINAL ON THE ALARM. CONNECT THE # 10 **RED** WIRE WITH BLUE STRIPE FROM THE GENERATOR TO THE (**#10 RED WIRE WITH BLUE STRIPE MARKED TO GENERATOR**) ON THE REAR OF THE ON OFF SWITCH.
4. PLUG IN TWO-WIRE CONNECTOR FROM GENERATOR TO COOLING FAN.
5. CONNECT A #10 **RED** WIRE FROM THE REAR OF THE SWITCH DIRECTLY TO THE POSITIVE TERMINAL OF THE 12-VOLT BATTERY USING THE 30 AMP FUSE SUPPLIED. MOUNT THE FUSE AS CLOSE TO THE BATTERY AS POSSIBLE.
6. CONNECT 6 PIN CONNECTOR ON GENERATOR TO METER.

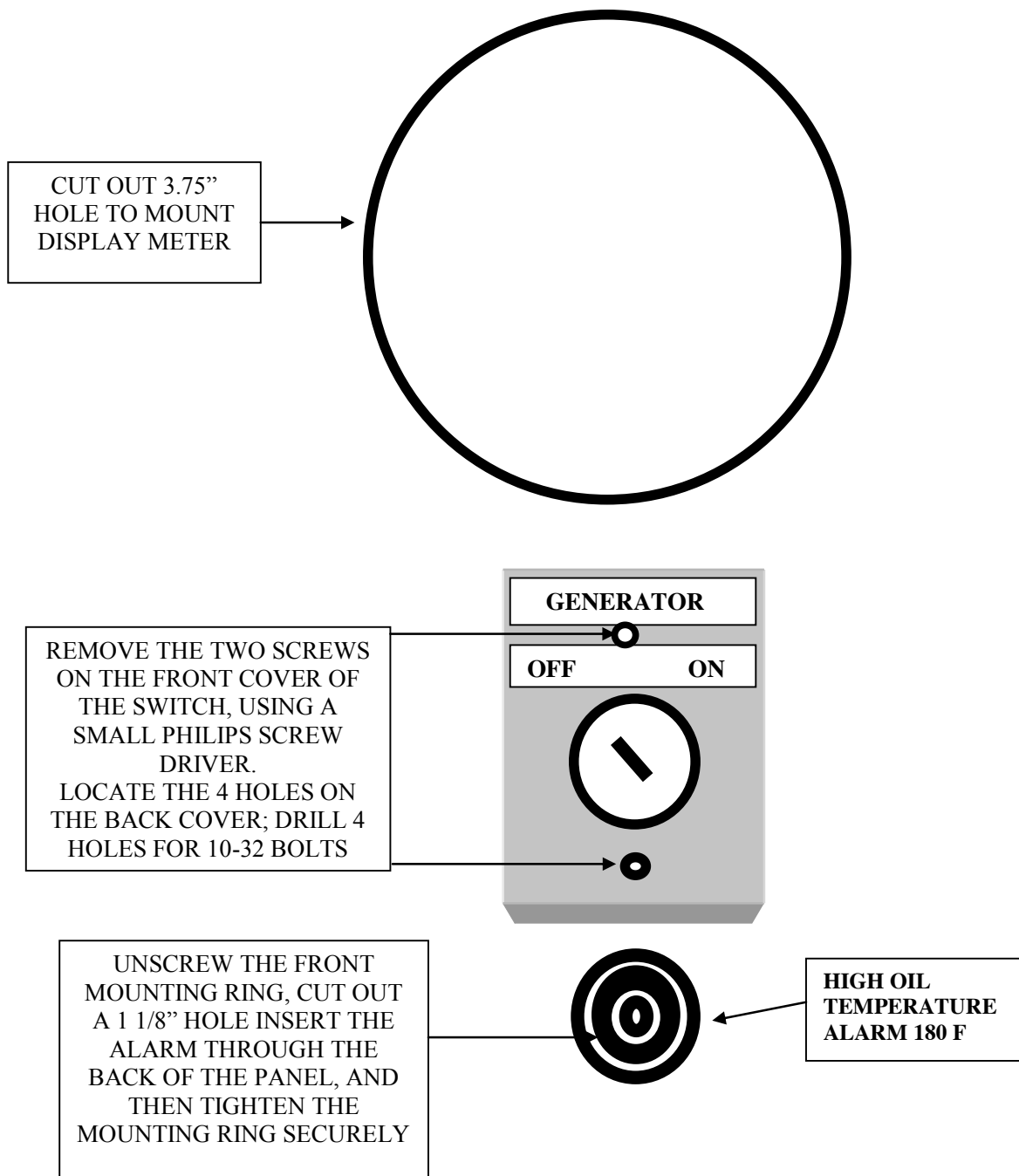
CAUTION:

DO NOT TURN SWITCH ON! REMOVE THE FUSE UNTIL THE UNIT IS READY FOR START-UP! (SEE THE DETAILED START-UP INSTRUCTIONS IN THIS MANUAL).

NOTE:

- BE SURE OUR GENERATOR BASE PLATE IS GROUNDED TO THE TRUCK FRAME.
- BE SURE TO HAVE A QUALIFIED ELECTRICIAN MAKE ELECTRICAL CONNECTIONS FROM THE GENERATOR TO THE JUNCTION BOX.

REV-3-4/12/10 SH

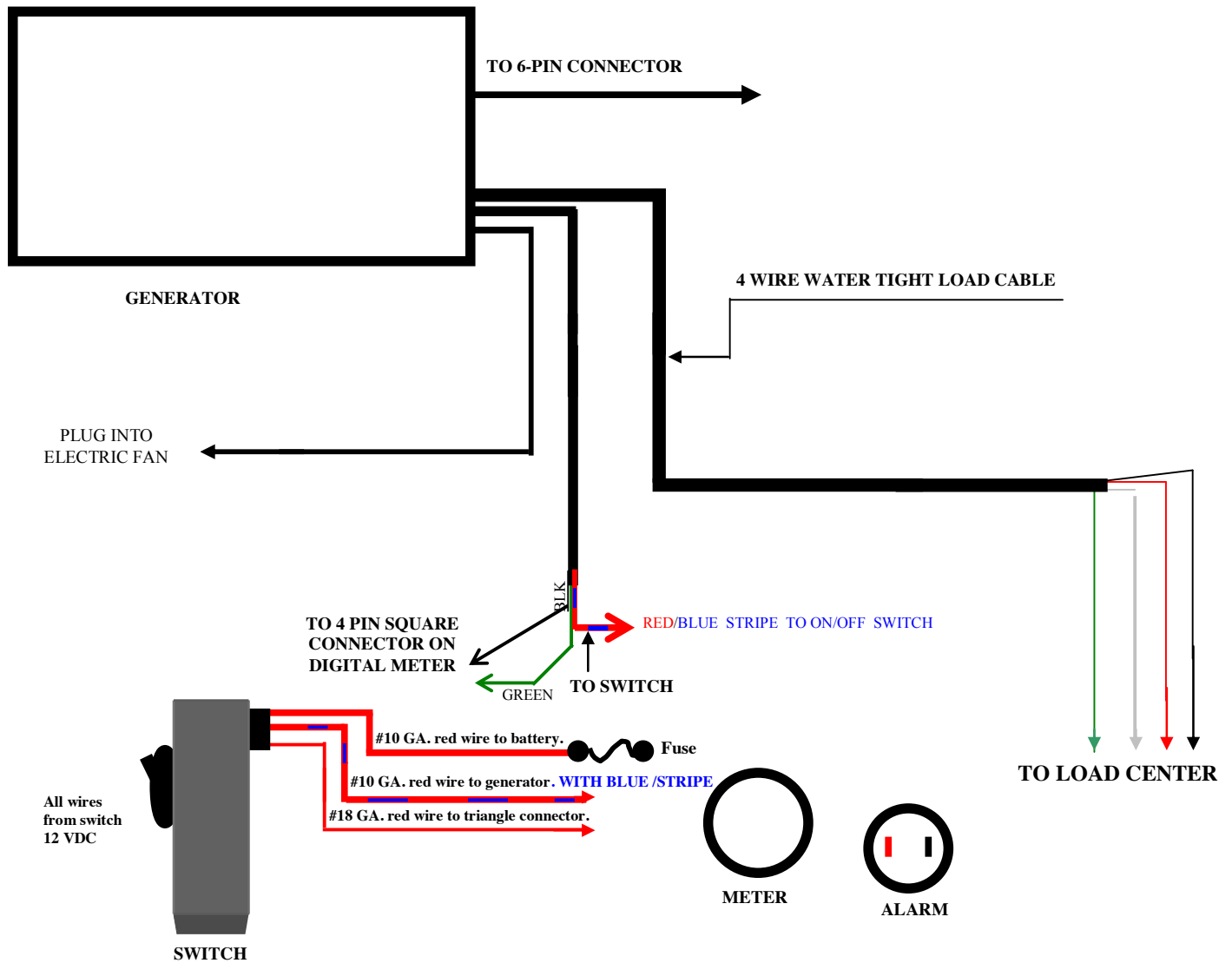


**PANEL MOUNT FOR ON / OFF SWITCH, AC VOLT, AMP &
HZ, OIL TEMPERATURE, ALARM AND ELAPSED TIME
DIGITAL DISPLAY METER**

MODULAR & PATRIOT GENERATOR OVERVIEW

ELECTRICAL HOOK-UP AC AND DC

TOP VIEW

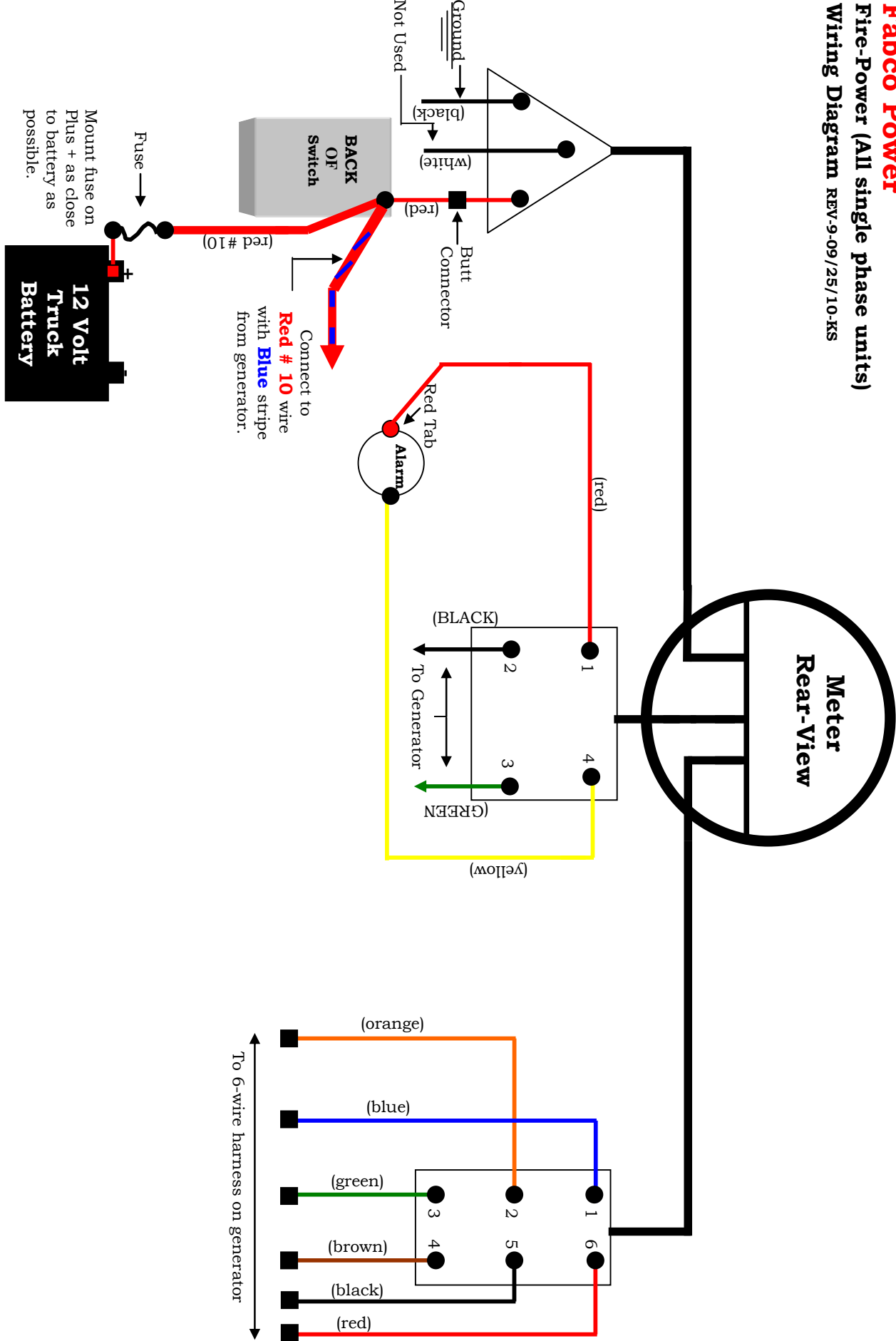


SEE AC-DC WIRING DIAGRAM

Fabco Power

Fire-Power (All single phase units)

Wiring Diagram REV-9-09/25/10-KS



SECTION # 4

MECHANICAL DRAWINGS MOUNTING TEMPLATE INSTALLATION AND START-UP

PATRIOT INSTALLATION AND START-UP PROCEDURE

THE GENERATOR AND TANK ASSEMBLY SHOULD BE MOUNTED A MINIMUM OF 2 FEET HIGHER THAN THE PUMP. DO NOT MOUNT GENERATOR CLOSER THAN 6 FEET FROM A RADIO TRANSMITTER ANTENNA. THE PUMP MUST BE CAPABLE OF SUPPLYING A MINIMUM OF 15 GALLONS PER MINUTE (GPM) AT 2400 PSI FOR 6 KW AND 18 GPM AT 2000 PSI FOR 8 KW.

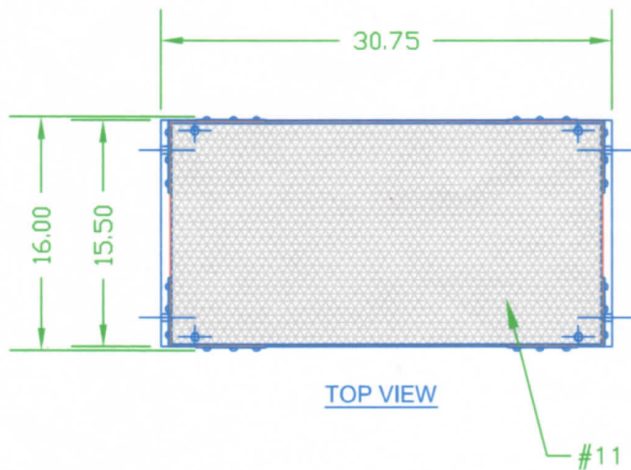
MAKE SURE THERE IS PROPER VENTILATION AND AIR CIRCULATION FOR THE SYSTEM. ALLOW AT LEAST (4) INCHES CLEARANCE AT EACH END OF THE GENERATOR AND FOR THE OIL COOLER AIR DISCHARGE. DO NOT RESTRICT AIR DISCHARGE.

CONNECT THE PUMP TO THE PTO OR BELT DRIVE. SHAFT MOUNT. BE SURE THE PUMP IS WELL SUPPORTED.

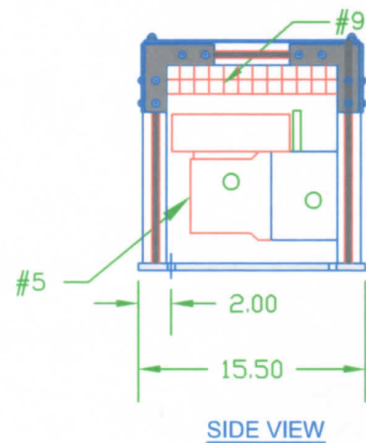
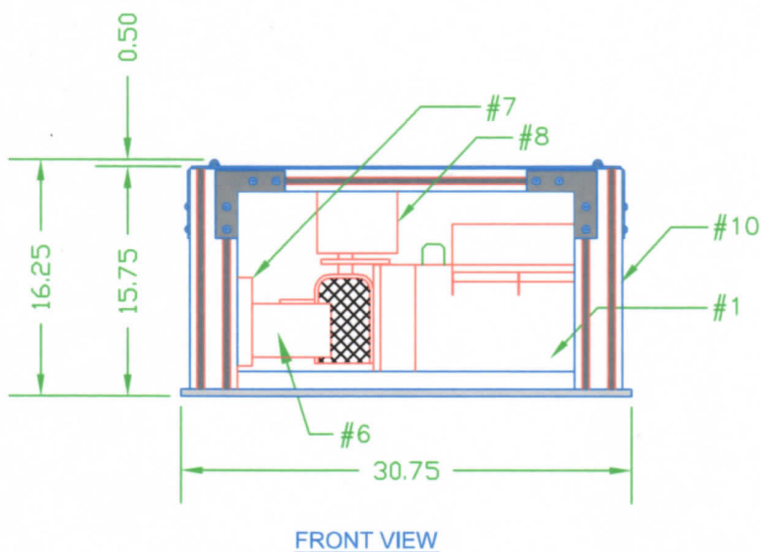
FILL THE CASE DRAIN HOSE FROM THE TANK TO PRIME THE MOTOR WITH FILTERED DEXRON III HYDRAULIC OIL FIRST. RE-CONNECT HOSES AND THEN FILL THE TANK WITH 10 MICRON FILTERED DEXRON III OIL.

INSERT THE 30 AMP 12-VOLT DC FUSE WITH START SWITCH IN THE OFF POSITION. ENGAGE PTO WITH THE ENGINE RUNNING THEN BRING UP TO FAST IDLE TURN START SWITCH TO THE ON POSITION; CHECK THE DIGITAL METER FOR VOLTAGE AND FREQUENCY DISPLAY. LET THE UNIT RUN FOR LESS THAN 5 MINUTES CHECK FOR LEAKS. YOU WILL HEAR SOME LOW NOISES FROM PUMP AND MOTOR WHILE THE AIR IS PURGING OUT FROM THE SYSTEM.

TOP-OFF TANK AND RE-START, SET ENGINE GOVERNOR AT OPERATING SPEED APPLY LOAD IN SMALL STEPS UNTIL FULL OPERATING LOAD IS REACHED. CHECK FOR LEAKS, NOISE AND PROPER OIL LEVEL TO THE TOP OF SIGHT GLASS, LET UNIT RUN AT LOAD FOR ABOUT ½ HOUR RE-CHECK OIL LEVEL.



#	PART #	DESCRIPTION
1	572461	GENERATOR 6 KW
1A	572461	GENERATOR 8 KW
2	572393	RESERVOIR
3	572503	RESERVOIR CAP
4	572482	COOLER
5	572547	HYDRAULIC MOTOR 6 KW
5A	572547	HYDRAULIC MOTOR 8 KW
6	572390	FILTER
7	572546	MANIFOLD
8	572435	CPU
9	572502	CAGE MESH
10	572462	CAGE FRAME - RED
10A	572389	CAGE FRAME - YELLOW
11	572483	DIAMOND PLATE TOP



FABCO GENERATOR'S INC.

1570 KINGS HIGHWAY
CHESTER, NY 10918

PRODUCT: THE PATRIOT

MODEL NO. HYD-4WD-6KW & HYD-4WD-8KW

DESIGNED BY:
R.F.

APPROVED BY:
R.F.

DRAWN BY:
T.M.

DRAWING #:

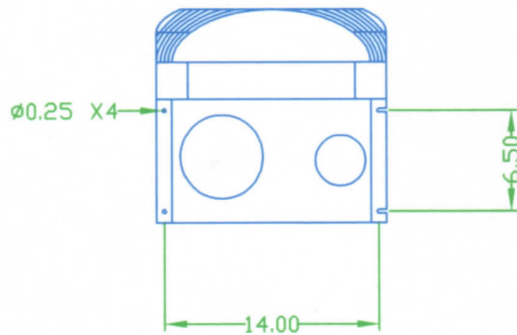
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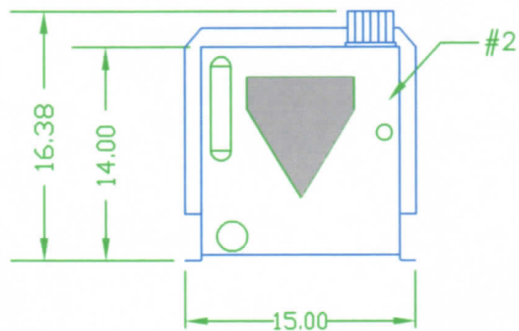
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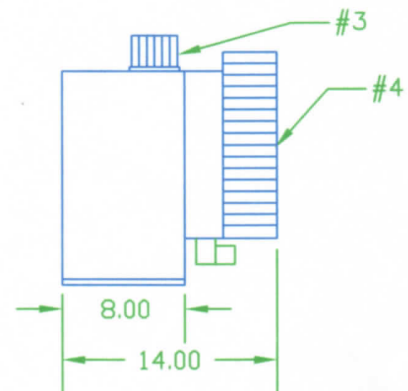
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TOP VIEW



FRONT VIEW



SIDE VIEW

FABCO GENERATOR'S INC.

1570 KINGS HIGHWAY
CHESTER, NY 10918

PRODUCT: THE SUPER-V, TANK & COOLER

PART # 572480

DESIGNED BY:
R.F.

APPROVED BY:
R.F.

DRAWN BY:
T.M.

DRAWING #:

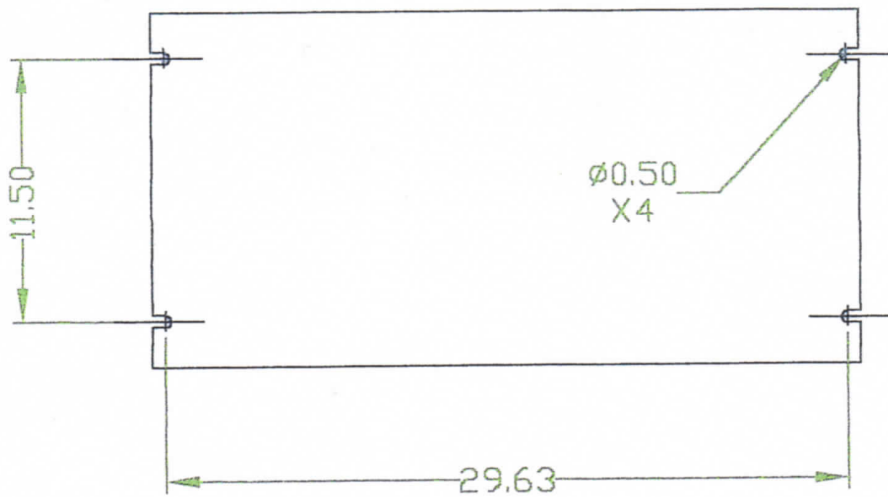
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Base Plate

SCALE 1:8

FABCO GENERATOR'S INC.

1570 KINGS HIGHWAY
CHESTER, NY 10918

PRODUCT: GENERATOR BASE PLATE

MODEL NO. N/A

DESIGNED BY:
R.F.

APPROVED BY:
R.F.

DRAWN BY:
T.M.

DRAWING #:

DATE:
2/15/05

PROJECT #:

SCALE:
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SECTION # 5

MAINTENANCE, TROUBLE SHOOTING, MAINTENANCE LOG & TEST REPORTS

SYSTEM MAINTENANCE

THERE IS LITTLE MAINTENANCE REQUIRED ON A **PATRIOT** GENERATOR. IT CONSISTS PRIMARILY OF CHANGING THE OIL AND FILTER AND PERFORMING A VISUAL INSPECTION OF THE ENTIRE GENERATOR SYSTEM. WITH A LITTLE MAINTENANCE AND PROPER INSTALLATION, THE SYSTEM SHOULD OPERATE TROUBLE FREE FOR 10 YEARS OR MORE.

THE HYDRAULIC FLUID AND THE FILTER SHOULD BE CHANGED EVERY 500 HOURS OR 5 YEARS, WHICHEVER OCCURS FIRST OR IF THE HYDRAULIC OIL BECOMES DISCOLORED, BURNT SMELLING OR BECOMES ABRASIVE TO THE TOUCH. ANY OF THESE CONDITIONS ARE AN INDICATION OF A SYSTEM PROBLEM AND STEPS SHOULD BE TAKEN TO DIAGNOSE THEM.

DRAIN OIL FROM THE TANK BY REMOVING THE LARGE SUCTION LINE FROM THE PUMP AND CAP THE HOSE END. PLACE A DRAIN PAN UNDER THE FILTER THAT CAN HOLD ABOUT ½ GALLON, UNSCREW THE FILTER AND **(REPLACE WITH THE SAME TYPE 10 MICRON FILTER)** FILL THE NEW FILTER WITH CLEAN HYDRAULIC FLUID AND SCREW IT TO THE FILTER HEAD. RE-CONNECT SUCTION LINE AND RE-FILL THE TANK WITH FILTERED OIL. RE-START THE SYSTEM AND RUN AT NO LOAD APPLIED TO THE GENERATOR FOR UNDER FIVE MINUTES TO PURGE ANY AIR OUT OF THE SYSTEM. SHUT UNIT DOWN AND TOP OFF THE TANK BEFORE RESUMING NORMAL OPERATION.

ENTER OIL AND FILTER CHANGE IN THE MAINTENANCE LOG PROVIDED ON THE LAST PAGES CONTAINED IN THIS MANUAL.

VISUALLY INSPECT THE ELECTRICAL WIRING **FOR CORROSION AND LOOSE OR BAD CONNECTIONS.**

MAKE SURE THAT THE GENERATOR HAS NOT BECOME SEVERELY CONTAMINATED WITH MUD OR GREASY SOIL BUILDUP. THIS COULD CONSTRICT AIRFLOW AND CAUSE PREMATURE GENERATOR FAILURE. USE AN AIR-HOSE AND BLOW OUT THE HEAT EXCHANGER FINS AND THE INSIDE OF THE GENERATOR IF THERE IS BUILDUP OF DIRT OR OTHER CONTAMINATES. **DO NOT USE WATER TO CLEAN THE INSIDE OF THE GENERATOR.**

IF THE GENERATOR HAS BECOME SUBMERGED IN WATER, THE WINDING MUST BE AIR DRIED BEFORE RE-USING.

CHECK THE FITTINGS FOR LOOSE CONNECTIONS OR ANY LEAKS. INSPECT HOSES FOR BULGES, CHAFFING, OR DAMAGE. REPLACE IMMEDIATELY IF DEFECTS ARE FOUND.

TROUBLE SHOOTING

SYMPTOM

POSSIBLE CAUSE

GENERATOR DOES NOT START	CHECK 12 VOLT 30 AMP INLINE DC FUSE CHECK FOR LOOSE OR BROKEN WIRES TURN START SWITCH OFF, WAIT 10 SECONDS AND TURN SWITCH ON. (THIS RESETS THE SYSTEM)
OIL TEMP ALARM ACTIVATES	CHECK HYDRAULIC FLUID LEVEL IN TANK CHECK HOSES AND FITTINGS FOR LEAKS CHECK HOSES FOR CRIMPS CHANGE OIL FILTER CHECK IF COOLING FAN IS RUNNING CHECK FOR AIR FLOW BLOCKAGE
NO VOLTAGE OR AMPS ON METER DISPLAY	CHECK MAIN CIRCUIT BREAKER CHECK FOR LOOSE OR BROKEN WIRES AND CONNECTORS ON METER AND BREAKER PANEL
LOW VOLTAGE OR FREQUENCY	CHECK ENGINE SPEED GOVERNOR
DIGITAL DISPLAY METER DOESN'T LIGHT	CHECK 12 VOLT DC 30 AMP INLINE FUSE CHECK FOR LOOSE OR BROKEN WIRES CONNECTED TO METER
AMPS OR VOLTAGE BLINKS ON AND OFF ON METER DISPLAY REV-4-2/28/05 G. B	REDUCE LOAD, GENERATOR COULD BE OVERLOADED CHECK FOR FRAYED OR BROKEN LOAD WIRES