

# **RIGMASTER POWER**

## **RMP 110**

## **1995-2002**

# **OWNERS MANUAL**

**Congratulations on your purchase of the RigMaster Auxiliary Power Unit.**

**RigMaster is a totally self contained, stand-alone 110 volt generator, air conditioner and heater system. The only items that are shared with your Truck Systems are fuel and battery supply. The RigMaster unit also trickle charges the Truck batteries while in operation.**

**Superior design and performance have been incorporated into this product to give you, trouble-free economical operation. We are confident you will be satisfied with your new RigMaster Auxiliary Power Unit.**

**The following pages contain design features, principles of operation, preventative maintenance procedures and trouble shooting guides. Please review it carefully prior to starting and operating your RigMaster Unit.**

**Should you have any questions or concerns, please contact you're nearest authorized RigMaster Power Dealer, or International Power System Inc. Product Support Group at:**

**1-800-249-6222**

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## **HEATER, AIR CONDITIONER, 110V GENERATOR**

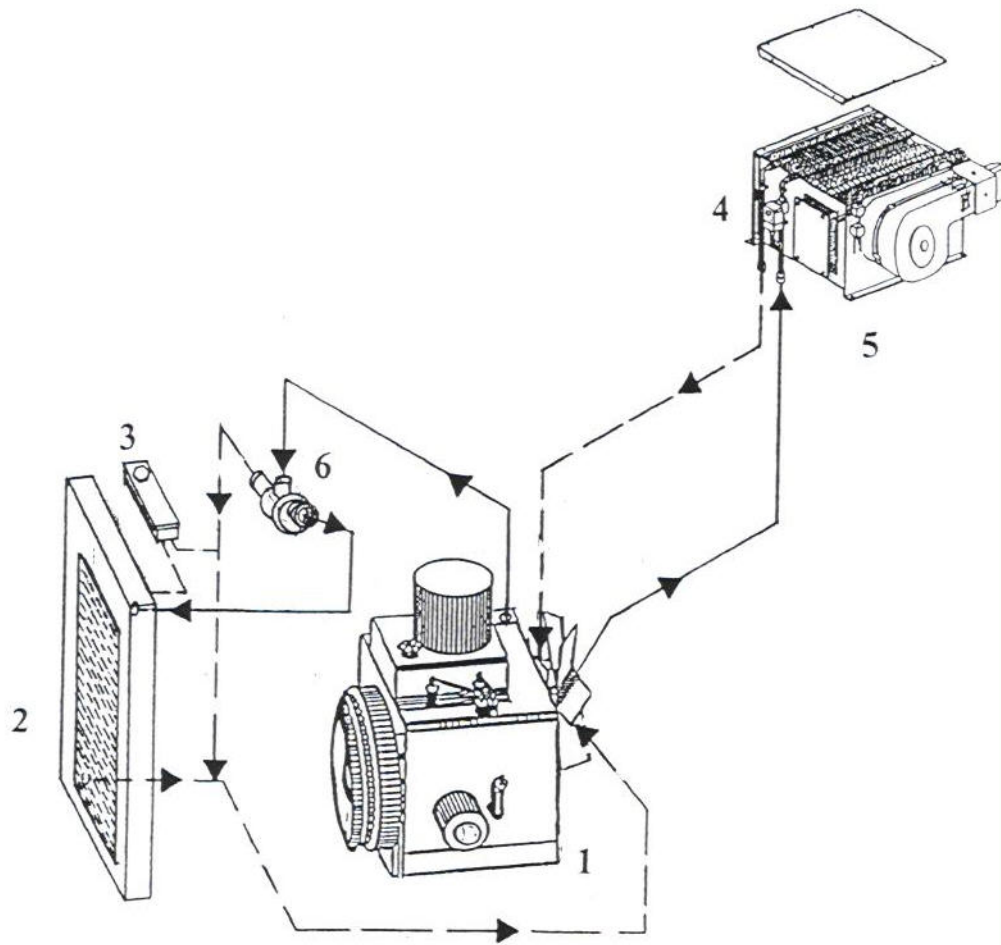
### **HEATER**

The RigMaster heating system is fully automatic. A constant comfort zone is maintained with the temperature selector (see Climate Control Operation - Page 8). The bunk heating system has a capacity of 12,000 BTU's. This is a **closed, Stand-alone system** that is **not** integrated into the vehicle's cooling system. When heat is selected, and the RigMaster is in operation, the hot coolant flows through the heat core (installed under the bunk see Figure 1). The heater/air conditioner blower motor (fan) circulates the cab air through the heater core pushing warm air into the bunk area.

The coolant is then re-circulated back to the RigMaster Unit.

***NOTE: PLUGGING IN THE BLOCK HEATER PLACES A LOAD OF 1,500 WATTS ON THE ENGINE, THIS LOAD ENABLES THE ENGINE TO HEAT THE COOLANT.***

When the coolant temperature reaches 82 degrees C (180 degrees F) an internal bypass valve will open, allowing the coolant to flow to the RigMaster's radiator, where the excess heat is dispersed. This system is designed to maximize bunk heating efficiency.



**Legend:**

—— Hot Coolant Supply  
 - - - - - Cold Coolant System

- 1) Engine
- 2) Radiator
- 3) Fill/Expansion Reservoir
- 4) Flow Control Valve
- 5) Heater/Air Conditioner Unit
- 6) Coolant Control Valve

**HEATER - FIGURE 1**

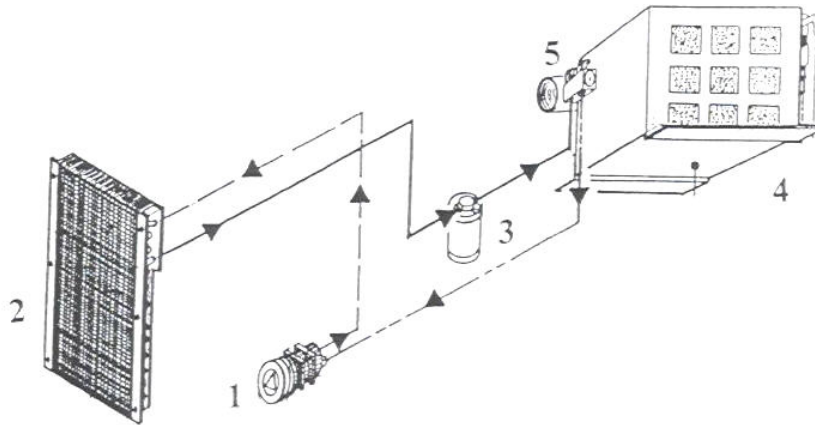
## AIR CONDITIONER

The RigMaster air conditioner is fully automatic. A constant comfort zone is maintained with the temperature selector setting (see Climate Control Operation - Page 8). The capacity of the air conditioner is 20,000 BTU's. The RigMaster air conditioner is a R134A system that is **not** integrated into the vehicle's existing air conditioning system.

### WARNING

**ONLY CERTIFIED AIR CONDITIONING TECHNICIANS SHOULD SERVICE THE AIR CONDITIONER.**

The compressor installed in the RigMaster pumps the refrigerant gas through the condenser which dissipates the heat and changes the refrigerant from a gas to a liquid. Then the liquid refrigerant passes through a filter (receiver dryer), and then through the evaporator core located in the bunk heater/air conditioner unit. The heater/air conditioner blower motor (fan) then activates and cool, dry air is then forced into the bunk area.



### Legend:

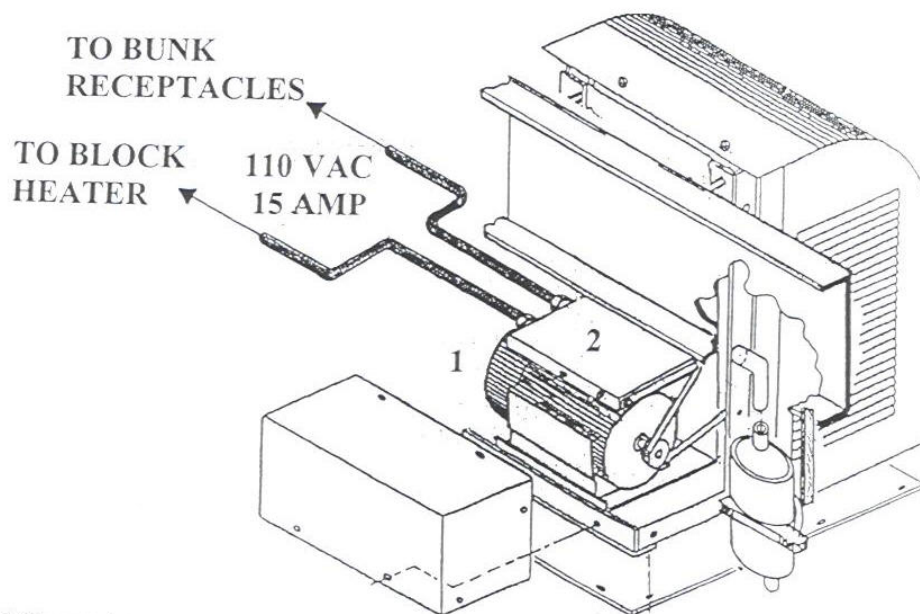
- High Pressure Gas
- High Pressure Liquid
- · - · Low Pressure Gas

- 1) Refrigerant Compressor
- 2) Condenser
- 3) Receiver Dryer
- 4) Heater / Air Conditioner Unit
- 5) Expansion Valve

**AIR CONDITIONER - FIGURE 2**

## 110 VOLT GENERATOR

The 4kw heavy duty generator is located at the rear of the RigMaster and is belt driven at 3600 RPM. The generator has two (2) factory supplied cords. One (1) block heater cord (complete with a plug), allows the generator to be plugged into the vehicle's block heater. This ensures that the vehicle's main engine will be warm when starting in cold weather. This also provides a load for the RigMaster's engine that allows the unit to run more efficiently and prolong the RigMaster's service life. The block heater connection uses one (1) - 15 AMP breaker. It is recommended that the RigMaster remain plugged into the vehicle's block heater throughout the winter months. When the RigMaster is not required, the block heater cord can be unplugged and the operator can then plug the vehicle into a conventional power source. A second 15 AMP supply of 110V power is supplied for the owner/operator convenience. A multiple outlet cord is supplied and can be installed in the bunk area of the vehicle to provide power for 110V appliances.



### Legend:

- 1) 4KW VAC Generator
- 2) Connection Box c/w two (2) 15 AMP Breakers: one (1) for the Block Heater; and one (1) for the Bunk Cord.

## GENERATOR - FIGURE 3

### NOTE

Each 15 Amp Breaker has a capacity of 1800 Watts

## **PRE-START INSPECTION**

### **WITH THE RIGMASTER TURNED OFF**

- 1) Remove the cover.
- 2) Visually inspect the unit for evidence of oil or coolant leakage.
- 3) Check the oil and add oil if necessary.
- 4) Check the tension and wear of all belts.
- 5) Check the mounting bolts and tighten if necessary.
- 6) Check for broken, corroded, or loose connectors and/or wires.
- 7) Check the physical condition and tightness of all hoses and hose clamps.
- 8) Replace and secure the cover.

## **RIGMASTER OPERATING / STARTING INSTRUCTIONS**

- 1) Perform the pre-start inspection (See Page 7 for instructions).
- 2) Set the "ON/OFF" switch to the "ON" position.
- 3) Press the "START/GLOW PLUG" to the "GLOW PLUG" position and "HOLD" for: **20 seconds** (when outside temperature is **above 0 degrees C**) or **30 seconds** (when outside temperature is **below 0 degrees C**).
- 4) Press the "START/GLOW PLUG" to the "START" position and "HOLD" until unit starts. Release when unit starts.
- 5) If unit **does not start within 60 seconds** (total sequence time - steps 2 through 4). Turn the "ON/OFF" switch to the "OFF" position.
- 6) Allow **5 seconds** and repeat steps 2 through 4.

### **NOTE**

**THE ENGINE HAS A LOW OIL SAFETY FEATURE. WHEN THE UNIT SENSES LOW OIL, IT COMMANDS THE ENGINE TO SHUT DOWN. IN ORDER TO START THE RIGMASTER, A 60 SECOND BY-PASS TIMER IS INCORPORATED. IF THE UNIT DOES NOT START REFER TO STEPS #5 AND #6 ABOVE.**

## **CLIMATE CONTROL OPERATING INSTRUCTIONS**

- 1) Turn "FAN SPEED" from the "OFF" position to the desired "FAN SPEED: 1, 2, or 3".
- 2) Set the temperature indicator to the desired setting. The twelve (12) o'clock position is approximately 70 degrees F or 20 degrees C.
- 3) Adjust "FAN SPEED" to the desired speed.



## **FUEL SYTEM**

The RigMaster incorporates a low/high pressure system. In order to prevent the vehicle engine from sucking the RigMaster's fuel supply line dry. The fuel supply is interconnected to the vehicles fuel system utilizing an in-line check valve, which is inserted between the vehicle's tank suction fitting and the RigMaster unit.

The RigMaster fuel supply line is connected to the Perkins engine feed pump, which in turn supplies fuel to the filter/sediment bowl assembly and then in turn to the injection pump.

### **NOTE**

**THIS TYPE OF FUEL SYSTEM DOES NOT DE-AIRATE ITSELF.**

All air must be bled from all of the hoses and components. There are air bleed screws located in the fuel filter head assembly and on the inlet fitting of the injection pump.

## **BLEEDING PROCEDURES**

### **NOTE**

**THE LOW PRESSURE SYSTEM MUST BE COMPLETELY FREE OF AIR BEFORE THE HIGH PRESSURE SYSTEM CAN BE BLED PROPERLY.**

### **LOW PRESSURE SYSTEM (see Figure 4)**

- 1) Position a container or shop wiper under the fuel sediment bowl in order to contain any spillage of fuel.
- 2) Using a Philips screwdriver, loosen the right hand bleed screw located in the fuel filter head (Location B).

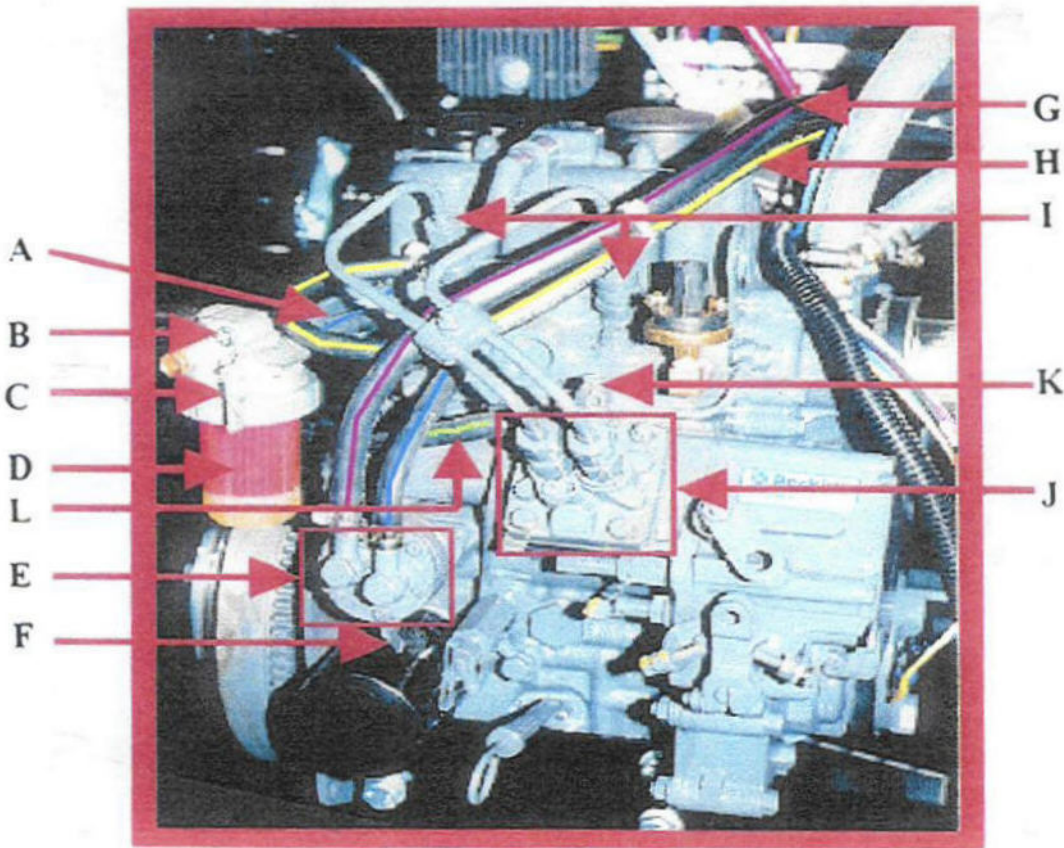
**BLEEDING PROCEDURES - LOW PRESSURE SYSTEM (cont'd.)**

- 3) Prime the fuel system using the manual primer pump lever located on the fuel feed pump (Location F).
- 4) Continue to pump until the sediment bowl is full and clear flow of fuel is present at the bleed screw.
- 5) Tighten the bleed screw in the fuel filter head (Location B).
- 6) Loosen the air bleed screw on the inlet to the injection pump (Location K).
- 7) Operate the manual primer pump lever until a clear stream of fuel is present from the bleed screw (Location K). Ensure that that fuel bowl (Location D) is free of air.
- 8) Carefully tighten the bleed screw.

**CAUTION**

**DO NOT OVER-TIGHTEN THIS BLEED SCREW  
AS DAMAGE MAY RESULT**

## FUEL SYTEM - FIGURE 4



### Legend:

- A) Filter Feed Hose
- B) Air Bleed Screw (Filter Housing)
- C) Shut-Off Valve
- D) Fuel Filter Element and Fuel Bowl
- E) Fuel Supply Pump - Feed Pump
- F) Manual Primer Pump Lever (Fuel Supply Pump)
- G) Fuel Supply Hose
- H) Fuel Return Hose (Injector Bleed-off)
- I) Fuel Injector Nozzles
- J) Fuel Injection Pump
- K) Air Bleed Screw (Injection Pump)
- L) Injector Pump Feed Line

## **BLEEDING PROCEDURES** (cont'd.)

### **HIGH PRESSURE SYSTEM** (see Figure 4)

#### **NOTE**

**THE LOW PRESSURE SYSTEM MUST BE COMPLETELY FREE OF AIR BEFORE THE HIGH PRESSURE SYSTEM CAN BE BLED PROPERLY. THIS PROCEDURE MAY NOT BE NECESSARY IF YOU BLEED LOW PRESSURE SYSTEM PROPERLY BEFORE STARTING.**

- 1) Loosen both high-pressure line nuts located at the injectors (Location I).

#### **NOTE**

**IT IS RECOMMENDED THAT A SECOND PERSON ASSIST IN THE PERFORMANCE OF STEPS #2, #3, #6 AND #7.**

- 2) Turn the "ON/OFF" switch (located in the cab, on the Control Panel Unit) to the "ON" position. Crank the engine by pressing the "START" switch until pulses of fuel are observed from the left high-pressure line nut or crank to a maximum of 30 seconds.
- 3) If the air bubbles are still present after 30 seconds of cranking, cycle the "ON/OFF" switch and crank the engine again.

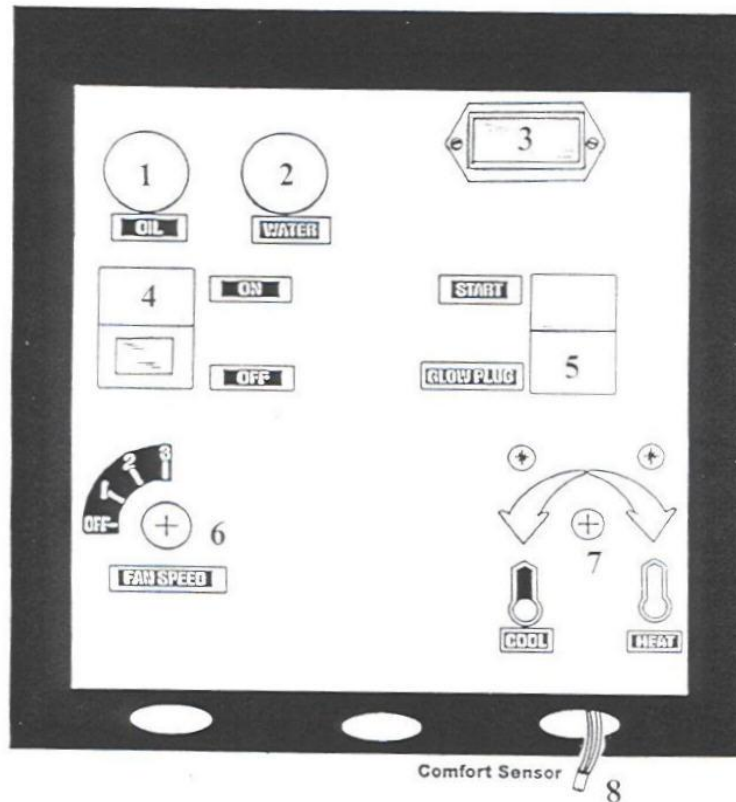
#### **NOTE**

**CYCLING THE ON/OFF SWITCH RESETS THE OIL PRESSURE SHUT DOWN DELAY TIMER AND RE-ENERGIZES THE RUN SOLENOID.**

- 4) Tighten the left injector line nut (Location I).
- 5) Move over to the previously loosened right high-pressure nut. When pulses of fuel are observed, tighten the right high-pressure nut. The engine should start.
- 6) If the unit fails to start, cycle the "ON/OFF" switch and start the engine.
- 7) Repeat steps 2 through 5, if unit fails to run.
- 8) As a final measure, it is recommended to bleed the fuel system with the engine running under a partial load condition.
- 9) Plug the 110 volt block heater in and loosen one injector nut (left nut first - Location I) at a time. This will remove any remaining air. Be sure to tighten the first injector nut (left nut) before continuing to the next injector nut (right nut)

## CONTROL PANEL (see Figure 5)

The control panel is designed to be "user friendly" with the generator set control functions in the top half of the panel and the climate control functions in the bottom half of the panel.



**CONTROL PANEL - FIGURE 5**

### Legend:

- 1) Low Oil Light
- 2) Low Coolant Level (Water) Light
- 3) Hour Meter
- 4) ON/OFF Switch
- 5) START/GLOW PLUG Switch
- 6) Fan Speed Control Knob
- 7) Comfort Selector Control Knob (Cool/Heat)
- 8) Comfort Sensor (Cab Ambient Air Temperature)

## **GENERATOR SET OPERATION**

### **ON/OFF SWITCH**

The ON/OFF switch supplies power for the engine and the operating systems. When this switch is in the "ON" position, the **OIL** warning light turns on and the fault system by-pass timer starts. When the engine is started and no faults are present (i.e.: low oil pressure; or high water temperature) the oil light will turn off, the hour meter will start counting and the run light (red) in the ON/OFF switch will illuminate. If, after 45 to 60 seconds the unit is not started, the automatic fault by-pass timer will time out and the low oil pressure shut down (safety feature) will turn on.

To shut the unit off, depress the "OFF" position on the ON/OFF switch and turn the FAN CONTROL switch to the "OFF" position.

### **CAUTION**

**FOR PROPER OPERATION OF THE  
"AUTOMATIC SHUTDOWN SYSTEM", THE SEQUENCE  
DESCRIBED ABOVE MUST OCCUR EACH AND EVERY TIME  
THE RIGMASTER IS STARTED.**

### **START/GLOW PLUG**

The starting sequence is: ON - GLOW PLUG - START (Refer to page 8 for **RIGMASTER OPERATING / STARTING INSTRUCTIONS**).

### **OIL**

The OIL light will activate if the ON/OFF switch is in the "ON" position and the unit is not started. If during operation of the unit, a low oil pressure condition arises, the OIL light will activate and the unit will automatically shut down.

## **WATER**

The WATER light will activate if during the course of operation the generator coolant temperature reaches 100 degrees C (212 degrees F). Should this condition arise the unit will automatically shut down.

## **HOUR METER**

The HOUR METER displays the number of operational hours accumulated by the unit. The HOUR METER only records when the unit is running.

## **CLIMATE CONTROL**

The lower portion of the control panel unit contains all of the controls for both heating and air conditioning.

## **FAN SPEED CONTROL KNOB**

The FAN SPEED CONTROL KNOB has four (4) positions. In the "OFF" position the heater and the air conditioner are shut off. FAN SPEED positions: **1, 2, and 3** increase the air flow and can be set by the operator to the desired comfort control position. FAN SPEED position **3** can be utilized to achieve a more rapid heating or cooling of the bunk area. A lower fan speed can be selected when the desired comfort level has been attained.

### **WARNING**

**TO AVOID LOSS OF BATTERY POWER, THE APU FAN MUST BE  
TURNED OFF IN THE EVENT OF APU SHUTDOWN**

## **COMFORT SENSOR**

When a FAN SPEED has been selected, The COMFORT SENSOR will perform a 5 second self test and then will activate. The COMFORT SENSOR will continue to monitor the bunk/cab air ambient temperature and will maintain the selected temperature setting on the COMFORT SENSOR CONTROL KNOB (COOL/HEAT).

### **NOTE**

**THE COMFORT SENSOR CONSISTS OF THREE (3) WIRES CONNECTED TO FORM A THERMOCOUPLE AND PROJECTS APPROXIMATELY ONE INCH (1") INTO THE BUNK/CAB AREA BELOW THE CONTROL PANEL.**

**DO NOT INSERT SENSOR BACK INTO CONTROL PANEL**  
**OR**  
**THE RIGMASTER WILL FLUCTUATE CONTINUALLY.**

## **COMFORT SELECTOR CONTROL KNOB (COOL/HEAT)**

With the COMFORT SELECTOR CONTROL KNOB (COOL/HEAT) in the center position (70 degrees F, 20 degrees C) the air conditioner or heater will cycle on and off to maintain the temperature setting. Turning the temperature selector anti-clockwise (left-COOL) will activate the air conditioner. The green indicator light directly above the COOL symbol will activate when in the air conditioning mode. Turning the temperature selector clockwise (right-HEAT) will activate the heater. The red indicator light directly above the HEAT symbol will activate when in the heat mode.



## **PREVENTATIVE MAINTENANCE**

Maintenance schedules listed below are for **NORMAL** road conditions and the specific hour intervals must be adhered to. For **SEVERE** conditions perform the scheduled maintenance(s) earlier.

<b>SCHEDULED INTERVALS EVERY</b>							<b>MAINTENANCE ITEMS</b>
<b>50 hrs.</b>	<b>200 hrs.</b>	<b>400 hrs.</b>	<b>600 hrs.</b>	<b>800 hrs.</b>	<b>1000 hrs.</b>	<b>1600 hrs.</b>	
•							<b>Check coolant level. Top up with premixed coolant only.</b>
				•			<b>Check concentration of coolant.</b>
						•	<b>Renew coolant, (fill slowly, ensure correct quantity is used).</b>
•							<b>Check engine lubricating oil level.</b>
	•						<b>Renew engine lubricating oil, (fill slowly, ensure right quantity is used - 1.8 ltr. / 1.7 qt.).</b>
	•						<b>Renew engine oil filter.</b>
			•				<b>Renew fuel filter element.</b>
	•						<b>Check tension of drive belts.</b>
	•						<b>Check drive belts for wear.</b>
			•				<b>Renew drive belts.</b>
		•					<b>Check and clean heater/AC unit filter</b>
				•			<b>Remove LHS louver panel and Clean - blow out Condenser and Radiator (dry) with pressurized air.</b>
		•					<b>Wash out internal engine compartment, condenser, the air in-take RHS panel and the LHS exhaust panel.</b>
			•				<b>Check electrical systems.</b>
			•				<b>Check all nuts/bolts for tightness.</b>
					•		<b>Check injectors for performance.</b>
		•					<b>Renew air filter element / Standard filter.</b>
					•		<b>Renew air filter element / Long Life filter.</b>
•	•	•	•	•	•	•	<b>Check for and correct any leaks or engine damage.</b>

### **NOTE**

**THESE PREVENTATIVE MAINTENANCE PERIODS APPLY TO AVERAGE CONDITIONS OF OPERATION. IF NECESSARY USE SHORTER PERIODS.**

## CONSUMABLE PARTS - CROSS REFERENCE LIST

### OIL FILTER

<u>BRAND</u>	<u>PART No.</u>
Wix	51396
Perkins	140516250
AC Delco	PF1234
K-Mart Motorvator	K014477
Fram	PH4386
Baldwin	B37
Toyota	90915-03004
Purolator	PER4477
Deutsch	D369

### AIR FILTER

<u>BRAND</u>	<u>PART No.</u>
RigMaster (IPS)	RP3-002
Donaldson	C045001
Baldwin	PA3643
FleetGaurd	AH19001

### FUEL FILTER

<u>BRAND</u>	<u>PART No.</u>
Perkins	130366040
NAPA	3262
Wix	33262
Fram	C7516
Baldwin	PF937
AC Delco	GF771

### FAN BELT

<u>BRAND</u>	<u>PART No.</u>
Perkins	080109083
Goodyear	FM29
Gates	10A0735

### COMPRESSOR DRIVE BELT

<u>BRAND</u>	<u>PART No.</u>
RigMaster (IPS)	RP8-003
Gates	13A0840

### GENERATOR DRIVE BELT

<u>BRAND</u>	<u>PART No.</u>
RigMaster (IPS)	RP8-004
Gates (special)	3VX425

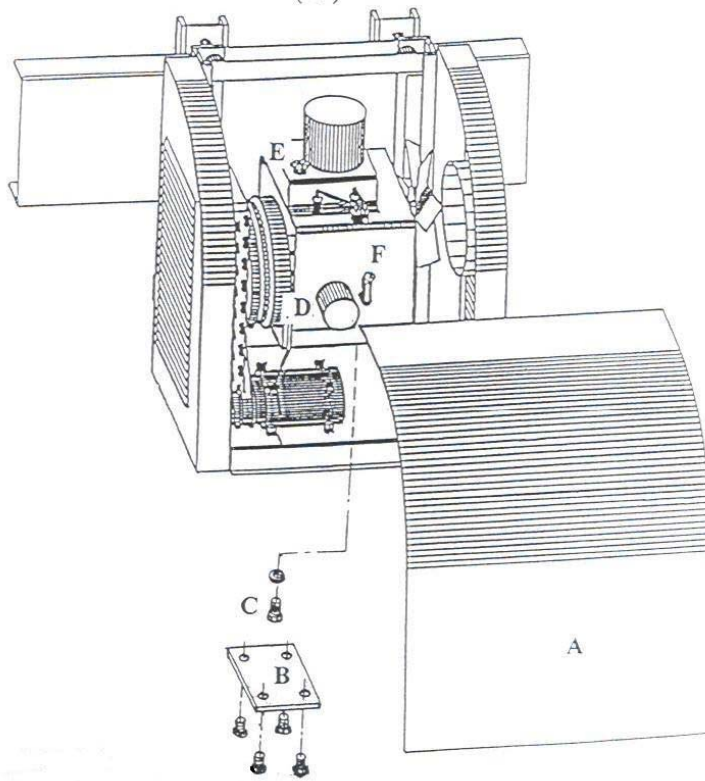
### GLOW PLUGS

<u>BRAND</u>	<u>PART No.</u>
Perkins	185366060
RigMaster (IPS)	RP12-078
NGK	Y-107-V

### RECEIVER-DRIER

<u>BRAND</u>	<u>PART No.</u>
RigMaster (IPS)	RP9-027
Four Seasons	34334
Everco (UAP)	A78239

## OIL CHANGE - FIGURE 6

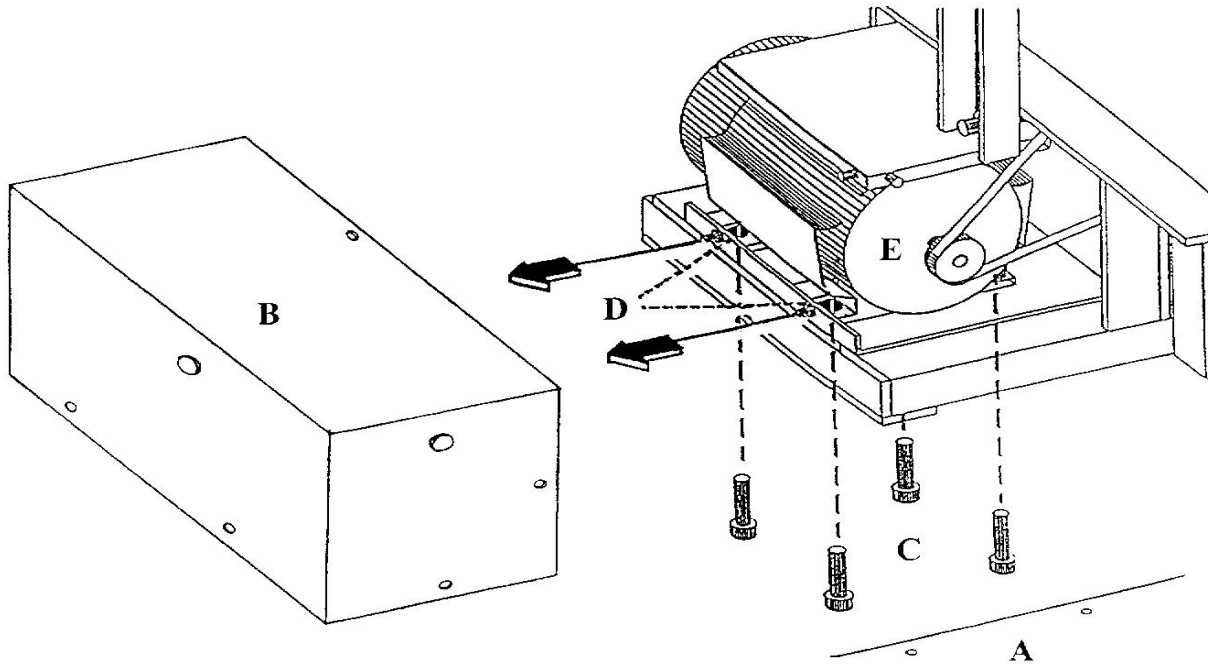


### PROCEDURE:

- 1) Remove Front Cover (A).
- 2) Remove Drain Plug Access Cover (B).
- 3) Remove Drain Plug (C).
- 4) Remove Oil Filter (D).
- 5) Install New Oil Filter.
- 6) Install New Drain Plug Gasket.
- 7) Install and Tighten Drain Plug.
- 8) Refill Engine with 1.8 litres (1.7 qts.) of New Engine Oil (E)\*\*
- 9) Check Oil Level with Dipstick (F).
- 10) Run RigMaster.
- 11) Recheck the Oil Level and Add Oil if necessary.

- \*\*Notes:** 1) Use only good quality lubricating oil which meets (and not exceeds) any of the following specifications - API CC/CD/CE/CF/CF-4/CG-4  
- ACEA E1/E2/E3
- 2) Recommended Viscosity Grades: 10W30 & 15W40 are most commonly used.

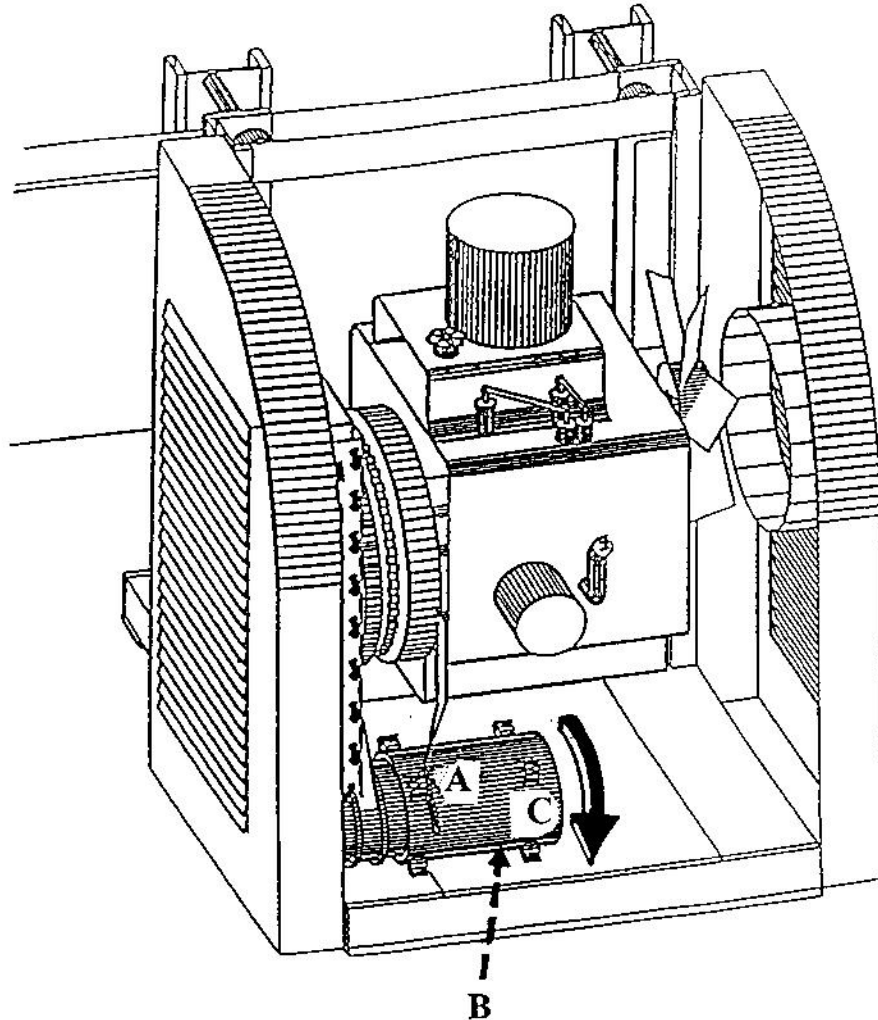
## GENERATOR BELT REMOVAL / ADJUSTMENT - FIGURE 7



### PROCEDURE:

- 1) Remove Bottom Panel (A).
- 2) Remove Generator Cover (B).
- 3) To Replace the Generator Belt, First - Loosen and Remove the Compressor Belt (see Figure 8 for details).
- 4) LOOSEN, but DO NOT REMOVE, the four (4) Generator Mounting Bolts (C).
- 5) Using the Two Eye Bolts (D), Gently pull the Generator (E) outward and evenly in the direction of the Arrows until the Belt Deflection is Less than 12 mm (1/2").
- 6) Tighten the four Generator Bolts (C), replace and adjust the Compressor Belt (see Figure 8 for details).
- 7) Replace the Generator Cover (B) and the Bottom Panel (A).

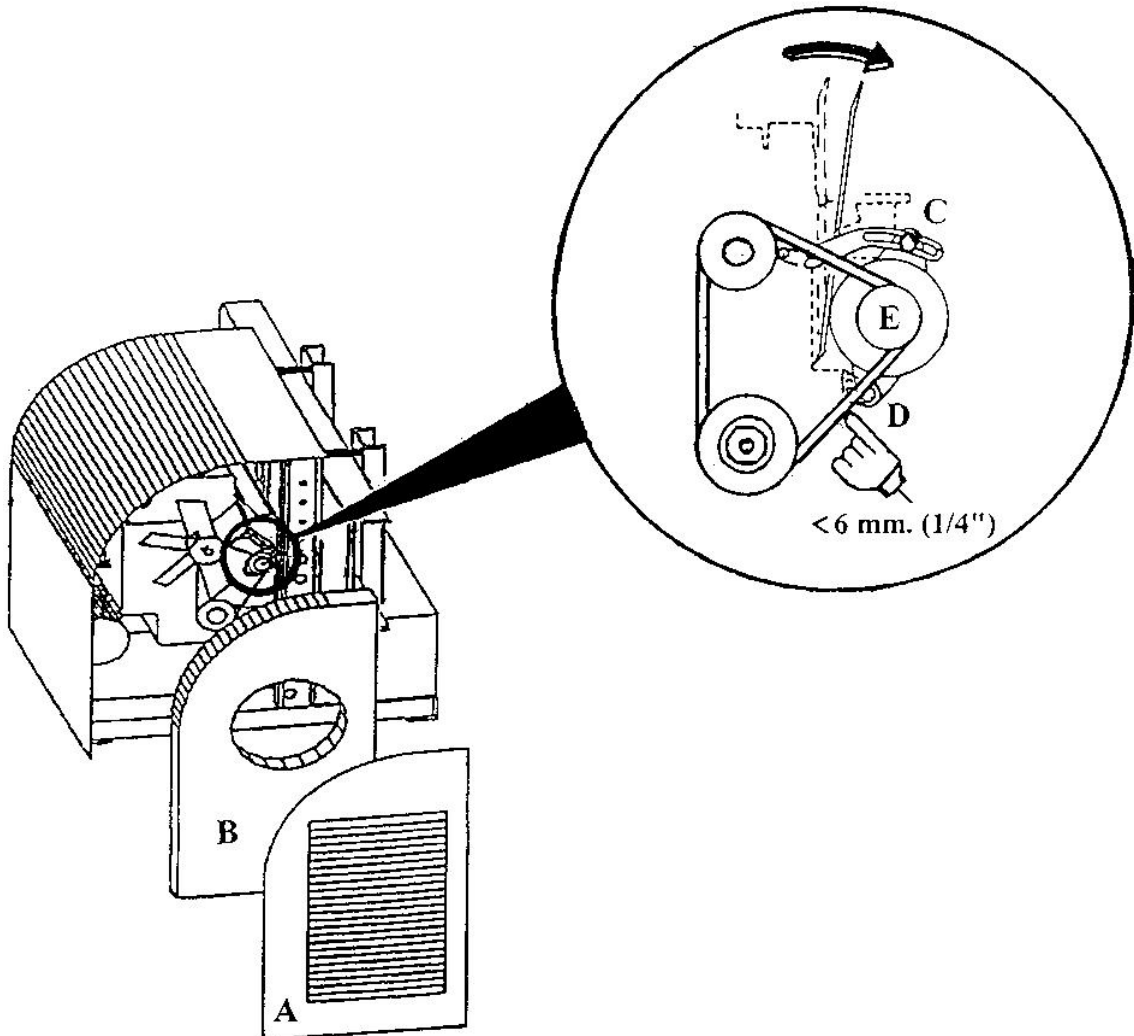
## COMPRESSOR BELT REMOVAL / ADJUSTMENT - FIGURE 8



### PROCEDURE:

- 1) Remove the Front Cover.
- 2) Loosen the Adjustment Bolt (A) and the Pivot Bolt (B).
- 3) Rotate the Compressor (C) in the direction of the Arrow until the Belt Deflection is Less than 6 mm. (1/4").
- 4) When the Belt is sufficiently tight, Tighten the Adjustment Bolt (A), and then Tighten the Pivot Bolt (B).

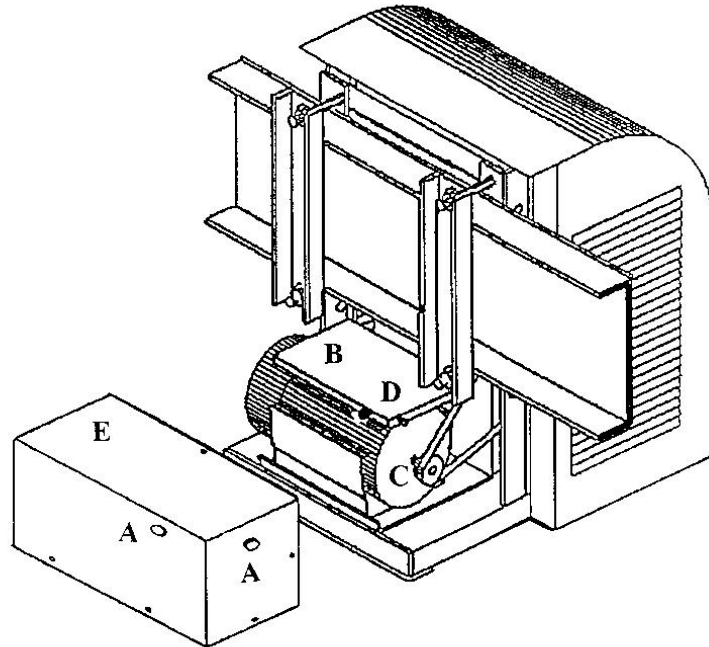
## FAN BELT REMOVAL / ADJUSTMENT - FIGURE 9



### PROCEDURE:

- 1) Remove the Right Hand Louver Panel (A) and the Right Hand Side Panel (B).
- 2) Loosen, but **DO NOT REMOVE**, the Adjustment Bolt (C) and the Pivot Bolt (D).
- 3) To Remove the Fan Belt, slide the Alternator Pulley (E) outward towards the front of the unit. Replace the Fan Belt.
- 4) To Adjust the Fan Belt, slide the Alternator Pulley (E) in the direction of the Arrow (inward) until the Belt Deflection is less than 6 mm. (1/4").
- 5) When the Fan Belt is tight, tighten the Adjustment Bolt (C) and the Pivot Bolt (D).

## **RESETTING THE BREAKERS - FIGURE 10**



**Note:** The cover is shown removed for clarity purposes only.

**WARNING: CORRECT THE ELECTRICAL OVERLOAD PRIOR TO THE  
RESETTING OF EITHER BREAKER.**

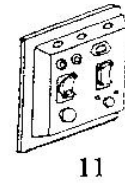
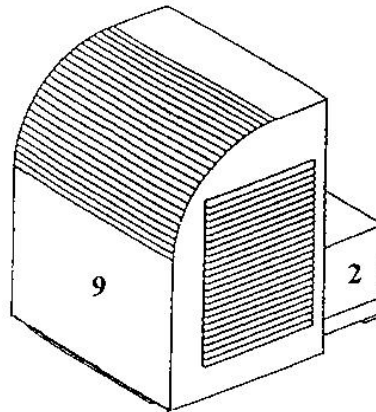
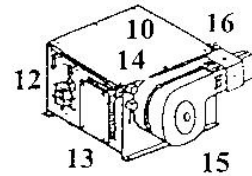
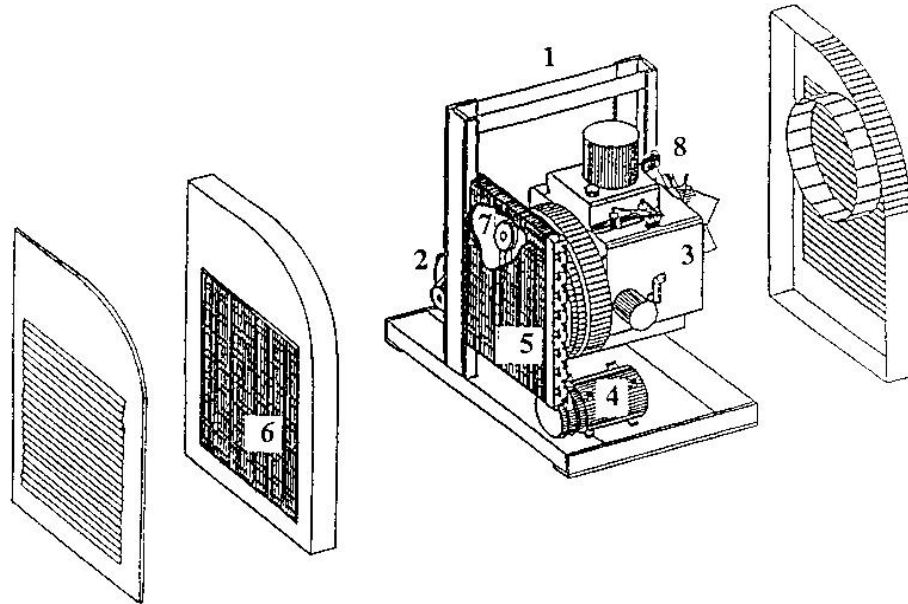
### **PROCEDURE:**

- 1) Remove the Rubber Plugs (A) from the Generator Cover (E) using a flat head screw driver.
- 2) Locate the Breakers (D) located on the front and right side of the Electrical Connection Box (B) mounted on top of the Generator (C).
- 3) Insert the screw driver and depress the Buttons (D) which protrude from the Electrical Connection Box (B) to reset the breakers.

# MAIN COMPONENTS AND PART LOCATIONS - FIGURE 11

**Legend:**

- 1) Frame
- 2) Generator
- 3) Engine
- 4) Compressor
- 5) Condenser
- 6) Radiator
- 7) Starter
- 8) Alternator



- 9) RigMaster Main Unit
- 10) Heater / Air Conditioner Unit
- 11) Control Panel Unit
- 12) Water Solenoid Valve
- 13) Engine Control Circuit Board
- 14) Temperature Switch
- 15) Fan Blower Assembly
- 16) Expansion Valve

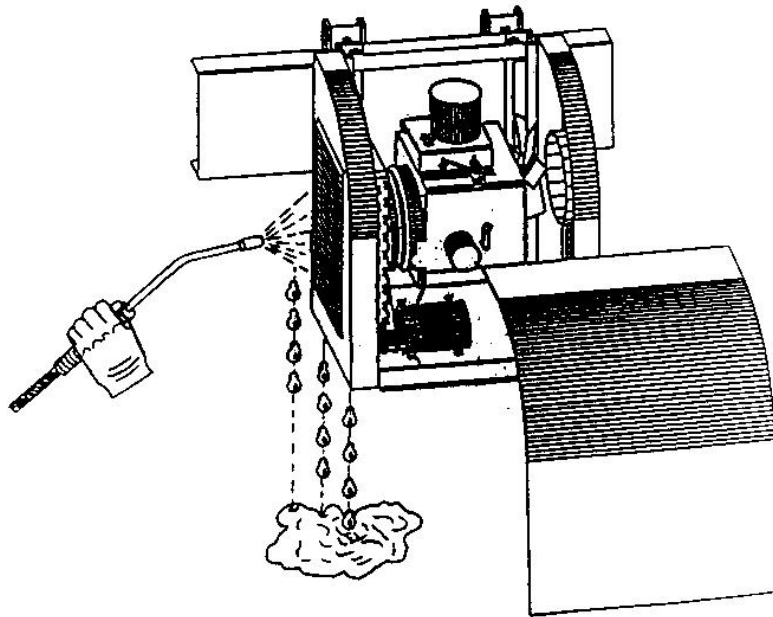


## **CLEANING INSTRUCTIONS**

The RigMaster Auxiliary Power Unit should be periodically inspected and any accumulation of road contaminants (such as: paper; plastic; dirt; oil; etc.) must be removed. Three main components, as outlined below, must be kept clean and free of contaminants and/or debris. Refer to Figure 11 for location of components.

### **1) MAIN UNIT GENERAL CLEANING (See Figure 12)**

- a) Using a power spray wand, wash down the exterior of the main unit especially all louver panels (air intake / exhaust openings).
- b) Remove the Front Cover and wash down the interior of the main unit, holding the spray wand no closer than twelve inches (12") away from any component.
- c) Replace the Front Cover, properly seating cover and secure cover latches.  
Allow main unit to drip dry prior to starting

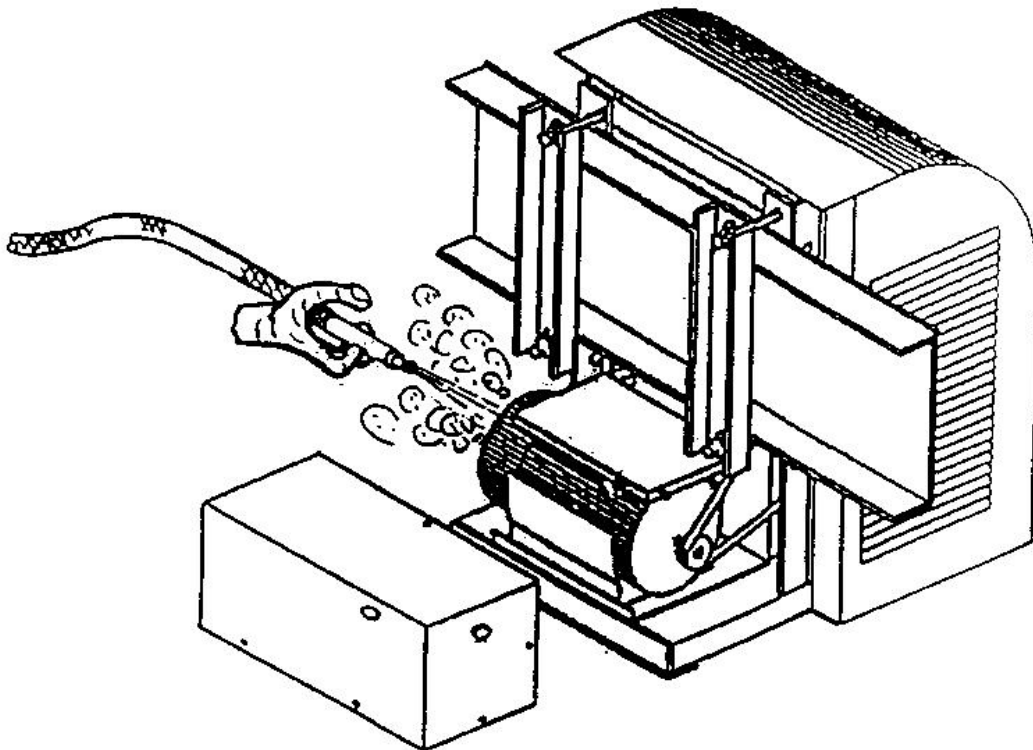


**MAIN UNIT - FIGURE 12**

## CLEANING INSTRUCTIONS (cont'd.)

### 2) GENERATOR CLEANING (See Figure 13)

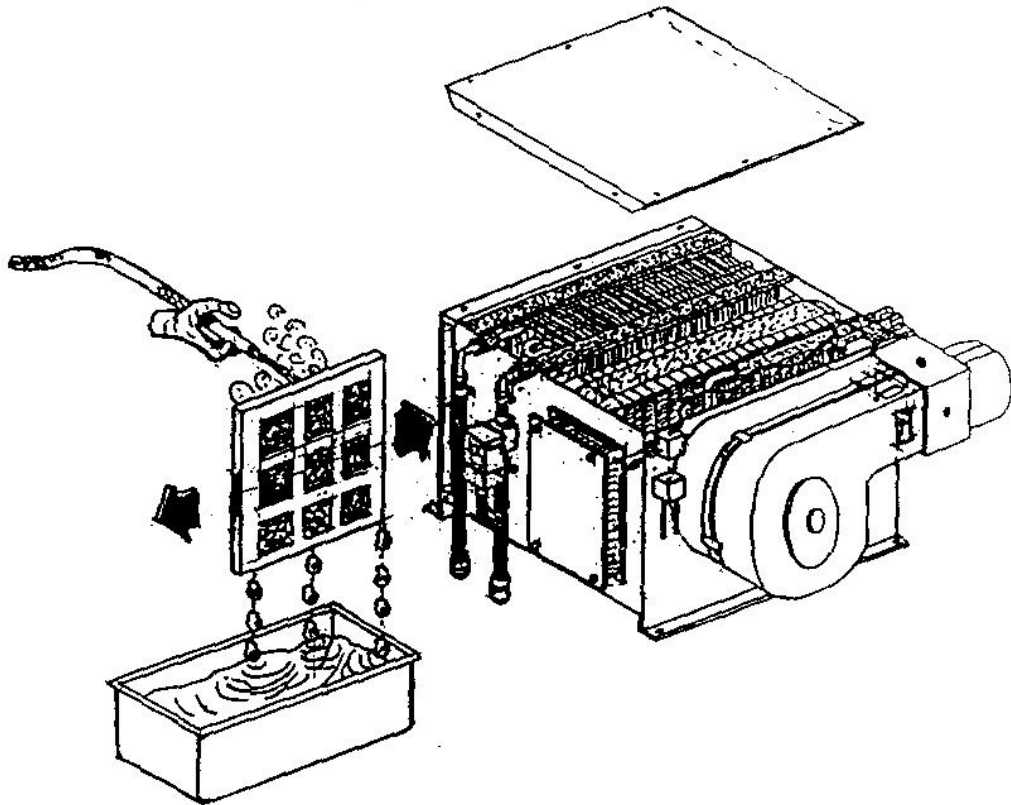
- a) Remove the Generator Cover and inspect for any accumulation of dirt or oil especially at the generator air inlet and outlet openings.
- b) Using a compressed air line and nozzle, blow out the generator compartment.
- c) Using a clean cloth, soak up any oil or other liquids.
- d) Replace the Generator Cover and secure.



GENERATOR - FIGURE 13

### **3) HEATER / AIR CONDITIONING UNIT (See Figure 14)**

- a) Pull (slide) the removable air filter out of the Heater / Air Conditioning Unit.
- b) Wash the air filter using soapy water or blow clean with compressed air.
- c) Re-insert the (dry) air filter into the slide portion and push the air filter all the way into the Heater / Air Conditioner Unit.



**HEATER / AIR CONDITIONER UNIT - FIGURE 14**

## **TROUBLE SHOOTING GUIDE**

<b>SYMPTOM / PROBLEM</b>	<b>DIAGNOSIS</b>
Engine does not crank.	<ul style="list-style-type: none"><li>- Check "ON/OFF" Switch (Oil light is illuminated when Switch is turned "ON").</li><li>- Check Run Solenoid Wire (Yellow) is in place.</li><li>- Check Battery Connections.</li><li>- Check Fuel System for air. Refer to Page 9 for Bleeding Instructions.</li></ul>
Engine does not crank / no fuel past fuel pump / fuel filter changed.	<ul style="list-style-type: none"><li>- Check for plugged Fuel Filter.</li><li>- Check Glow Plugs for scorching.</li><li>- Check Run Solenoid Wire (Yellow) connection.</li></ul>
Engine cranks but does not start.	<ul style="list-style-type: none"><li>- Confirm proper starting sequence. Refer to Pages 8 and 14 for further details.</li><li>- Check fuel bowl. Fuel bowl must be completely full of fuel.</li><li>- Confirm that the Run Solenoid is energized.</li><li>- Check for corroded or broken wires.</li><li>- Confirm that the Oil Pressure Timer has not time out.</li><li>- Check for engine puffing white smoke. Check Glow Plugs for scorching.</li></ul>
Engine hard to start or runs rough.	<ul style="list-style-type: none"><li>- Check for improperly installed fuel filter.</li><li>- Check for plugged fuel filter.</li><li>- Inspect fuel lines for leaks and/or damage.</li><li>- Inspect Fuel Injectors for contamination and/or wear.</li></ul>
Oil light is on when unit is running.	<ul style="list-style-type: none"><li>- RigMaster will shut down immediately.</li><li>- Check oil level.</li><li>- Check for oil leaks.</li><li>- Check connections at Oil Pressure Switch.</li></ul>
Water light is on when unit shuts down.	<ul style="list-style-type: none"><li>- Check coolant level and add if necessary.</li><li>- Check air intake/exhaust louvers for obstruction(s).</li><li>- Remove LHS louver and check radiator for obstruction(s).</li><li>- Check fan belt tension. Refer to Page 22 for details.</li></ul>

## **TROUBLE SHOOTING GUIDE (cont'd)**

<b>SYMPTOM / PROBLEM</b>	<b>DIAGNOSIS</b>
Unit not producing AC voltage.	<ul style="list-style-type: none"><li>- Check voltage with voltage meter.</li><li>- Check power cords to block heater and bunk.</li><li>- Check generator drive belt tension. Refer Page 20 for details.</li><li>- Check engine RPM. If low RPM contact the nearest dealer for service.</li></ul>
Truck battery discharges with unit running.	<ul style="list-style-type: none"><li>- Check RigMaster DC charging system.</li><li>- Check condition of batteries.</li><li>- Check battery and ground connections.</li></ul>
Poor Air Flow	<ul style="list-style-type: none"><li>- Check for proper air flow throughout the bunk area.</li><li>- Check vent(s) for obstructions.</li><li>- Check FAN SPEED selector.</li><li>- Check COOL/HEAT selector for air conditioning mode.</li><li>- Check heater/air conditioning unit for obstructions.</li></ul>
Little or No Cold Air	<ul style="list-style-type: none"><li>- Check air filter and air inlet to bunk heater/air conditioner unit for obstructions.</li><li>- Check for freon leaks.</li><li>- Check compressor drive belt tension. Refer to Page 21 for details.</li><li>- Check fan belt tension. Refer to Page 22 for details.</li><li>- Check condition of Condenser for road contaminants.</li></ul>
Air not Hot Enough	<ul style="list-style-type: none"><li>- Ensure power cord to the block heater is plugged in.</li><li>- Check unit coolant level.</li><li>- Check for air in the heater system. Bleed if necessary.</li><li>- Check air filter and air inlet to bunk heater/air conditioner unit for obstructions.</li><li>- Check for coolant leaks.</li><li>- Check fan belt tension. Refer to Page 22 for details.</li><li>- Check condition of Condenser and Radiator for road contaminants.</li></ul>

## **WARRANTY**

The RigMaster Auxiliary Power Unit (APU) warranty terms and conditions expressed in the paragraphs below are limited to the following components:

- 1) The Generator Set;
- 2) The Control Panel Unit;
- 3) The combination Heater / Air Conditioning Unit; and
- 4) The Muffler.

The Perkins Engine - Model No. 102-05 is warranted by Perkins engine distributor or dealer in North America for twelve (12) months from the "In-Service Date" (ISD). Major castings are warranted by Perkins Engines Inc. for twenty-four (24) months from ISD.

### **NOTE**

**ENGINE RELATED CLAIMS SHOULD BE SUBMITTED DIRECTLY TO THE REGIONAL PERKINS MASTER DISTRIBUTOR OR THE LOCAL PERKINS ENGINE INC. AUTHORIZED DEALER.**

### **12 MONTH WARRANTY COVERAGE**

International Power Systems Inc warrants that, under normal service and use, the RigMaster APU components will be free from defects in material and workmanship for twelve (12) months from date of purchase and is subject to all terms, conditions, limitations, and provisions of this limited warranty. This limited warranty is governed by the laws of the Province of Ontario, Canada and any claims or disputes arising out of this limited warranty are subject to said laws of the Province of Ontario, Canada.

### **WARRANTY OBLIGATIONS**

During the above mentioned warranty period, International Power Systems Inc. will repair or replace, at its discretion, the RigMaster APU components listed above. Repair or replacement will be completed by any authorized dealer or company owned facility, upon presentation of proof of purchase and subsequent determination that a component is defective or has failed under normal service and use, at no charge to the RigMaster owner, within the first twelve (12) months from the date of purchase.

**NOTE**

**INTERNATIONAL POWER SYSTEMS INC., INCLUDING ITS AGENTS AND AUTHORIZED DEALERS, MAKES NO OTHER WARRANTIES AND DISCLAIMS ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ALL WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.**

**AND**

**NO PERSON, FIRM OR REPRESENTATIVE IS AUTHORIZED TO ASSUME ANY OBLIGATION OR MAKE ANY WARRANTY ON BEHALF OF INTERNATIONAL POWER SYSTEMS INC. OTHER THAN THIS LIMITED WARRANTY AS STATED HEREIN.**

**MAINTENANCE**

The RigMaster Owner's Manual lists all maintenance functions required to validate this limited warranty. Where a dispute arises regarding proper maintenance, the manufacturer reserves the right to request proof in the form of receipts for maintenance, and any other records of service to establish that proper maintenance has been performed, as per the maintenance manual.

**NOTE**

**FAILED COMPONENTS DUE TO POOR OR IMPROPER MAINTENANCE WILL NOT BE COVERED BY THIS LIMITED WARRANTY.**

## **INSTALLATION**

It is the responsibility of the installer and the owner to ensure that all RigMaster APU components are correctly installed and are in proper working order at time of installation.

### **NOTE**

**THE ORIGINAL EQUIPMENT MANUFACTURER IS NOT RESPONSIBLE FOR ANY FAILED COMPONENT(S) THAT ARE A RESULT OF IMPROPER INSTALLATION OR THE INSTALLATION ITSELF.**

## **NON-WARRANTABLE ITEMS**

Normal maintenance items, including, but not restricted to: tune-ups; adjustments; inspections; the tightening of clamps, hoses, and/or fasteners; and the replacement of fuel, oil, and/or air filters are excluded from this limited warranty.

## **LIMITATIONS OF REMEDIES**

The remedy of repair or replacement as set forth herein is the sole exclusive remedy available to the purchaser or user of the RigMaster. International Power System Inc. disclaims and shall not be liable or responsible to the owner or user of the RigMaster APU or any other person for incidental, consequential, direct, indirect, special or general damages of any kind arising out of or in any way related to the use of the RigMaster APU, including, but not limited to: towing charges; accident repairs; road calls; traveling expenses; loss of revenue profits; loss of truck use or damage to persons or property. No claim of any kind asserted against International Power Systems Inc. arising out of or in any way related to the use of the RigMaster APU, whether asserted under legal theories of negligence, strict liability, warranty, or any other common law or statutory basis, shall be greater in amount than the purchase price of the RigMaster with respect to which damages are claimed.



## **INDEMNITY**

The user and owner of the RigMaster APU agree to indemnify and hold International Power Systems Inc. harmless from any and all claims, expenses, suits or liability of any nature whatsoever asserted against International Power Systems Inc. arising out of or in any related to negligence on the part of or in any related to negligence on the part of the user or owner of the RigMaster APU.

## **TRANSFER OF WARRANTY**

Where the vehicle with the RigMaster APU has been sold by the first owner to a second owner and the RigMaster has not been removed, this limited warranty is transferable from the original owner to a second owner with whatever portion of the twelve (12) month limited warranty that remains from the date of sale to the first owner.

Where the RigMaster APU has been removed from the vehicle in which it was originally installed, and sold by the first owner to a second owner, re-installation is required to be completed by an authorized dealer in order to validate the remaining portion of this limited warranty.

Where the original owner transfers the RigMaster to a new vehicle, the installation must be completed by an authorized dealer to validate whatever is remaining of this warranty.

### **CALIFORNIA Proposition 65 Warning**

**Diesel engine exhaust and some of its constituents are known by the State of California to cause cancer, birth defects and other reproductive harm.**













