# INSTALLATION / OWNER'S MANUAL

Schwank
INNOVATIVE HEATING SOLUTIONS
ISO 9001:2000 REGISTERED

infrasave
radiant heaters
ISO 9001:2000 REGISTERED

## ECOSCHWANK 36-52

## IL 150-200

## SERIES

## LUMINOUS GAS FIRED INFRA RED HEATERS

**FOR YOUR SAFETY:**

**Do not store or use gasoline or other flammable vapours and liquids in the vicinity of this or any other appliance.**
**If you smell Gas:**
**>Shut off gas to the appliance**
**>Extinguish any open flames**
**>Don't touch electrical switches**
**>Call your Gas supplier immediately**

**FIELD CONVERTIBILITY:**

**"The conversion shall be carried out in accordance with the requirements of the provincial authorities having jurisdiction and in accordance with the requirements of the B149.1 (latest edition) INSTALLATION CODE" in Canada, and the ANSI Z223.1 (latest edition) in the U.S.A.**

**FOR YOUR SAFETY**
If you smell gas:
1) Open windows
2) Don't touch electrical switches
3) Extinguish any open flame
**Immediately call your gas supplier**

CERTIFIED ®

DESIGN CERTIFIED ®

SP-MEC3-BX-09A
ecoSchwank 36-52 / IL 150-200 Manual
RD: Sept, 2005
RL: 9
KH

***NOTICE:***

*The manufacturer reserves the right to make changes to equipment and specifications without obligation or notification.*



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# ECOSCHWANK 36-52 / IL150-200
# LUMINOUS SERIES
# INFRA-RED GAS TUBE HEATERS

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# ECOSCHWANK 36-52 / IL 150-200 INSTALLATION INSTRUCTIONS

## 1. GENERAL

The gas fired infra-red luminous heaters are suitable to be installed for heating of non-residential indoor or outdoor spaces. Installation of the **ecoSchwank 36-52 / IL 150-200 Series** heaters must conform to all Schwank heating installation design procedures including ventilation. All local, provincial and national code requirements including the current latest edition B149.1-00 INSTALLATION CODE" in Canada, and ANSI Z223.1 in the U.S.A. for gas burning appliances and equipment. The latest edition Electrical Code PART 1 CSA C22.1 in Canada and ANSI/NFPA N0 70 in the U.S.A must also be observed.
Due to ever changing standards and requirements, revision to our equipment and installation procedures may be necessary. In case of discrepancies, the latest installation manual will take priority. The **ecoSchwank 36-52 / IL 150-200** heater may be installed for heating of non-residential indoor spaces. It is beyond the scope of these instructions to embrace all conditions that will be encountered. All system piping must be supported in accordance with acceptable practice, local codes, and applicable standards.

## 2. INSTALLATION REQUIREMENTS

### 2.1 INSTALLATION IN AIRCRAFT HANGARS

The **ecoSchwank 36-52 / IL 150-200** Luminous Heaters are suitable for use in aircraft hangars when installed in accordance with the following. NFPA No 409
(latest edition)

A A minimum clearance of 10 ft above either the highest fuel storage compartment or the highest engine enclosure of the highest aircraft which may occupy the hangar. The clearance to the bottom of the heater shall be measured from the upper surface of either the fuel storage compartment or the engine enclosure, whichever is higher from the floor.
B A minimum clearance of 8 ft must be maintained from the bottom of the heater in other sections of the aircraft hangars, such as offices and shops, which communicate with areas for servicing or storage. Refer to sections 8.3 for proper mounting clearances to combustibles.
C Heaters must be located so as to be protected from damage by aircraft and other objects, such as cranes and movable scaffolding.
D Heaters must be located so as to be accessible for servicing and adjustment.

### 2.2 INSTALLATION IN COMMERCIAL GARAGES

The **ecoSchwank 36-52 / IL 150-200** Luminous Heaters are suitable for use in commercial garages when installed in accordance with minimum clearances to combustible construction or material in storage, from heater and vent, to standard ANSI Z223.1 latest edition, in the U.S.A. and CSA B149.1-00, in Canada. "Overhead heaters shall be installed at least (8) feet above the floor". In addition, they shall be located high enough to maintain the minimum distance to combustibles, as shown on the heater rating plate, between the heater and any vehicles parked below the heater

### 2.3 INSTALLATIONS OTHER THAN SPACE HEATING

Use for process applications will void the C.S.A. certification and require governing authority field certification at the installers / owners responsibility and expense.

## 2.4 MOUNTING CLEARANCES

The **ecoSchwank 36-52 / IL 150-200** Luminous Heater must be mounted with minimum clearances as shown in sections 9.3. It should also be located with respect to building construction and equipment so as to provide sufficient clearance and accessibility for servicing and cleaning of burners and ignition control.

**WARNING:** **Luminous Heaters cannot be installed inside degreasing plants, nor can they be in an area where chlorine, fluorine or bromine are present.**

## 2.5 HEATER MOUNTING

The **ecoSchwank 36-52 / IL 150-200** Luminous Heaters are approved for both horizontal and angle mounting. When angle mounting, the short axis may be rotated in either direction to a maximum of 30°. Improper angle mounting can result in damage to the heater or unsafe operation.

**IMPORTANT:** **For either horizontal or angle mounting, the long axis of the heater must be level. Use only non-combustible mounting hardware.**

## 2.6 VENTILATION REQUIREMENTS

In Canada it is required by law that an unvented heater be electrically interlocked to an independent exhaust fan by means of an Air Proving Switch. The exhaust fan must be sized to create 3 Cfm for every 1000 Btu/hr or fraction thereof, of total input of installed equipment. Consult CSA.B149.1-00 latest edition for requirements.

In the USA when a heater is installed unvented the system requires the exhausting of at least 4 Cfm per 1000 Btuh/hr on NG, and 4.5 Cfm per 1000 Btu/hr for LP. By natural or mechanical means, or electrically interlocked to an independent exhaust fan, for the total input of all heaters installed. Exhaust openings for removing flue products shall be above the level of the heaters. Consult your local codes and ANSI Z223.1 latest edition.

## 2.7 GAS SUPPLY LINE INSTALLATION

A All piping must be installed according to local codes.
B It is recommended to install an approved flexible connector between the heater and gas piping available as option from the manufacturer.
C A drip-pocket at the inlet connection must be provided.
D On propane-fired units, a main line filter is recommended.
E Piping joint compounds must be resistant to the action of liquefied petroleum gases.
F All piping joints should be tested for leaks with a soap and water solution.

**CAUTION:** **Do not install any gas piping in heat zones. Do not subject heater controls to leak test pressures when checking the main supply piping.**

## 2.8 GAS PRESSURE

The maximum supply pressure must be limited to 14" W.C. (0.51 psi). If the line pressure is above 14" W.C., then a separate pressure reducing regulator must be used. The minimum pressure at the inlet to the heater regulator must be equal to or greater than 6.0" W.C. for natural gas and 11.0" W.C. for propane gas.
A sealed regulator is supplied with the heater which maintains the proper manifold pressure when the main burner is operating under the following pressure:

| | LINE PRESSURE IWC | | MANIFOLD PRESSURE IWC AT TAP IN GAS VALVE |
|---|---|---|---|
| | MINIMUM | MAXIMUM | |
| NATURAL GAS | 6.0 | 14.0 | 5.0 |
| PROPANE GAS | 12.0 | 14.0 | 11.0 |

Natural gas models are orificed for 1000 BTU/CU FT., and propane gas models are orificed for 2500 BTU/CU FT.

## 2.9 ELECTRICAL REQUIREMENTS AND THERMOSTAT CONTROL

All electrical installations must meet local and the latest edition Electrical Code PART 1 CSA C22.1 in Canada and ANSI/NFPA N0 70 in the U.S.A.. Single heater requires 24 Volt, 60 Hz electrical transformer sized at 40 VA. If multiple heaters are connected to a single transformer, the proper transformer is 24 Volt, 60 Hz, sized at 40 VA for the first heater, then 20 VA for each additional. For example, four heaters wired together (parallel), require a transformer of 100 VA. It is not recommended to install more than 12 heaters per zone. PROPER WIRING POLARITY MUST BE MAINTAINED, particularly when grouping the heaters in a zone.
Total wiring distances of up to 200' must use minimum 16 gauge electrical wire, and wiring distances of over 200' must use minimum 14 gauge electrical wire. The heater must be electrically grounded in accordance with the local electrical code. Malfunction of the heating system will result if the voltage varies by more than +10% or -10%.
The heater can be controlled by a line voltage thermostat, a TruTemp thermostat or “off-on” switch. Total load of all heaters must be considered in determining the required contact rating of the controlling thermostat or switch.

## 3. HIGH ALTITUDE INSTALLATIONS

**Canada:** All Luminous heaters are approved for altitudes zero to 2000 ft above sea level. If installed at 2000 ft to 4500 ft above sea level the heater must be ordered as **High altitude**.
Contact Technical Services at 1-866-361-0417 for further information.
**USA:** If a heater is to be installed at altitudes above 2000 ft, the input must be reduced by 4% per 1000 ft. Some gas utilities de-rate the heat content in the gas supply to suit local conditions and no modification of the heater is required. If the gas supply is not de-rated, then the orifice must be changed.

Contact your local gas utility regarding the de-rating requirements of this appliance.
Contact the manufacturer's Technical Services at 1-877-446-3727 for orifice sizing.

## 4. INSTALLATION PROCEDURES

Properly install gas line as outlined in section 2.7.

Properly connect the ignition control assembly to the heater.

Mount heaters by using non-combustible mounting hardware as illustrated Section 9.2. Observe the minimum clearances as outlined in section 9.3.

Connect heater to the main gas line. It is recommended to use a 1/2" flexible connector to absorb gas line expansion and any building vibration (available as option)

Mount thermostat at desired location, away from direct infra-red rays of heater and not on cold wall without sufficient insulation backing. Install exhaust fan, air switch and transformer, as per section 2.6 and section 2.9.

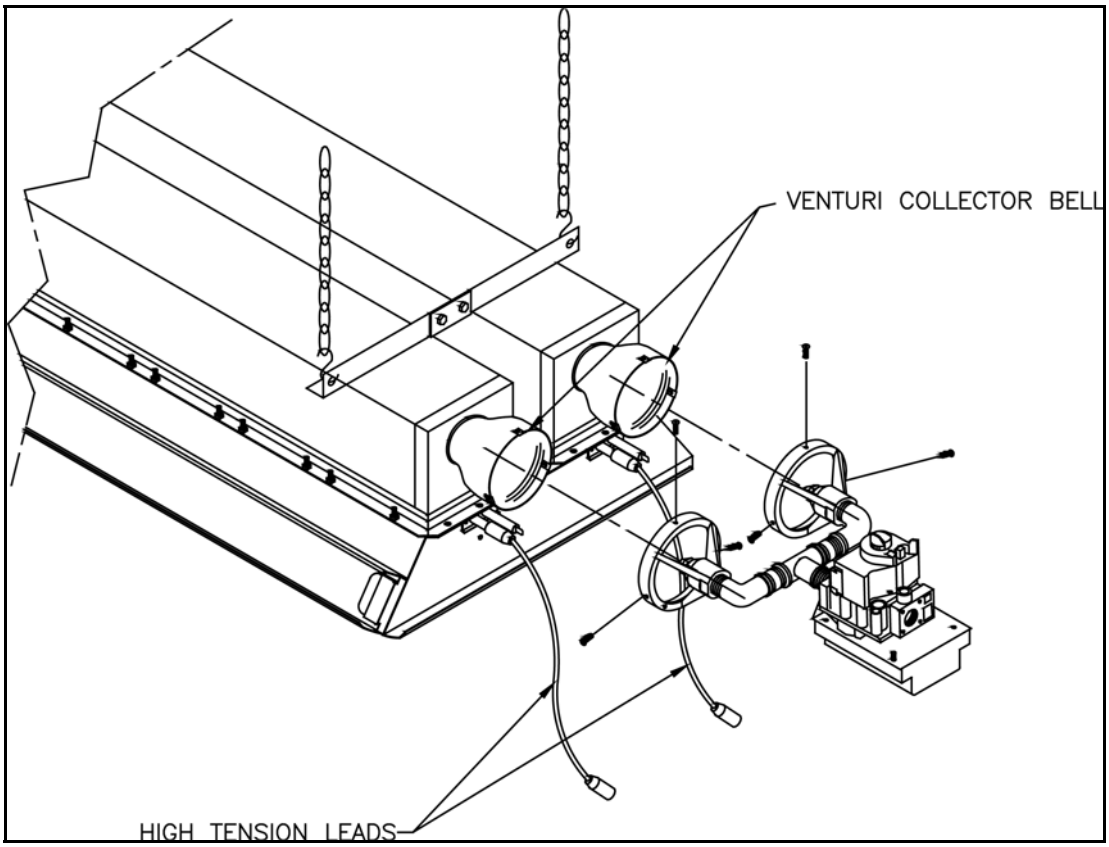
Check gas line for leakage by using soap test or gas meter test. Ensure gas pressure meets the requirements outlined in section 2.8.

Ensure proper electrical rating in the system by checking voltage at ignition module terminals. To avoid system malfunction, the voltage range must be within 21.6 volts to 26.4 volts.

Test fire the heating system by following the lighting instructions on the heater.

**WARNING: When testing the main gas line pressure, ensure the gas shut-off valve is "OFF", otherwise damage to the combination gas valve will result.**

## 4.1 VENTURI AND GAS VALVE ASSEMBLY




1. Remove valve and heater from carton. Remove the three screws from each venturi collector bell located on one end of the heater.
2. Slide valve onto collector bells and insert two vertical screws. Then install remaining four screws.
3. To avoid possible damage to wiring connection, it may be advantageous to hang heater before connecting wires. Connect two gray wires to the flame sensors located by the electrodes. Connect the two spark-plug type high tension leads to the Electronic Ignition Control. If a thermostat is used, separate the two red wires that are twisted together and connect the thermostat between them. If a thermostat is not used, connect the red wires to the positive side of the power source and the single blue wire to the negative via a switch.

## 4.2 HEATER INSTALLATION

Installation of the Gas Fired Luminous Heaters should conform to all the Manufacturer's Heating Installation Design Procedures including ventilation. All local and national codes requirements, or in the absence of local codes, the National Electrical Code NFPA No. 70 and the National Fuel Gas Code ANSI A223.1 – latest edition in the U.S.A., or in Canada CAN 1-2. 15-M81, and CSA B149.1-00 codes shall be observed.

## 5. LIGHTING INSTRUCTIONS

A Open the isolation valve in the main gas line and turn gas control knob on the combination gas valve to the "ON" position.
B Switch on electrical circuit by turning the thermostat to the highest temperature setting.
C The heater should attempt ignition and remain lit within thirty seconds. Note that the corresponding exhaust fan is operating properly.
D If ignition does not occur, then cut off electrical power by turning the thermostat to off position.

**WARNING: If heater back-fires during operation, it must be turned off immediately.**

Indication of back-firing:

A. Loud ignition noise, then followed by distinct hissing sound.
B. Little or no visible burning on the ceramic tile.
C. Combustion is taking place inside the burner body.

Cause & remedy of back-firing:

A. Improper gas pressure entering the venturi tube: - check pressure.
B. Breakage of a ceramic tile and or gasketing: - replace damaged part.
C. Faulty sealing of the ceramic tile to the burner body, caused by breakdown of gasketing material: - contact your Schwank distributor.

## 6. SHUT DOWN INSTRUCTIONS

A. Turn off electrical circuit for temporary shutdown.
B. Turn off the electrical circuit and turn gas control knob to the "OFF" position for complete shut-down.

## 7. AIR BORNE PARTICLES

Under certain conditions, heater may discolour due to ambient air borne particle deposits on the outside surface. These deposits in no way affect the operation of the heater nor the manufacturer's warranties.

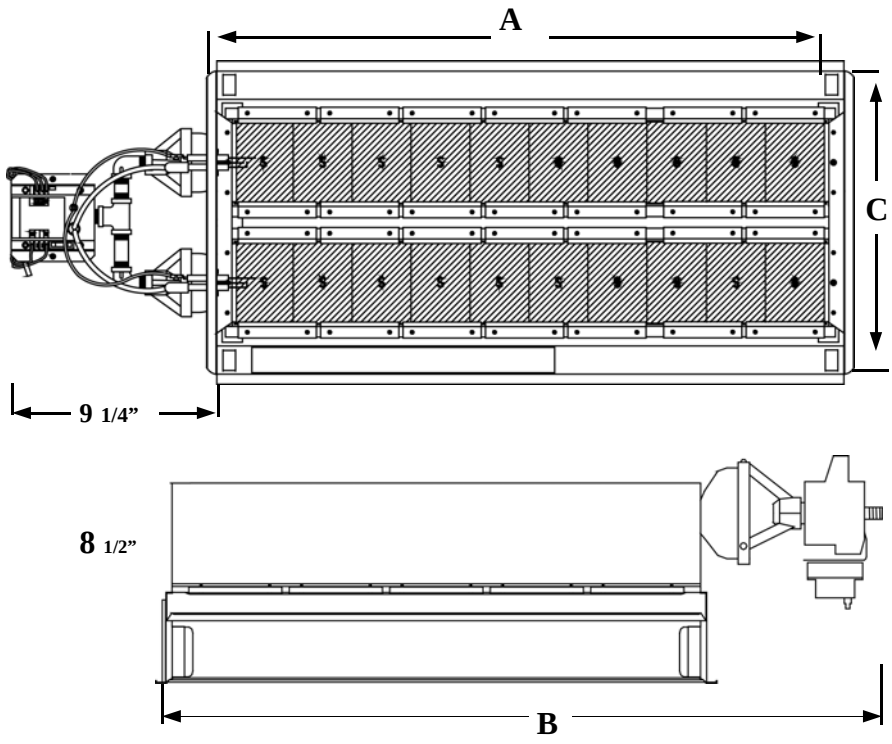
## 8. SERVICING GUIDE

Servicing of heater is essential for continued efficient operation. Servicing should be carried out annually by qualified service personnel.

A. Clean the ceramic tile with compressed air, avoid directing air stream at gasketing material between tile and heater body. The air pressure must be lower then 20 psi.
B. Clean the venturi tube with compressed air.
C. Clean the reflectors.

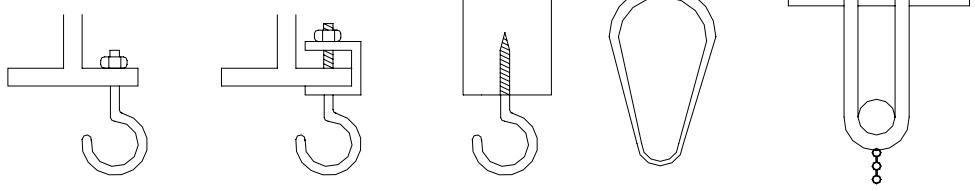
## 9. DIAGRAMS AND SPECIFICATIONS:

### 9.1 DIMENSIONS FOR THE LUMINOUS HEATERS

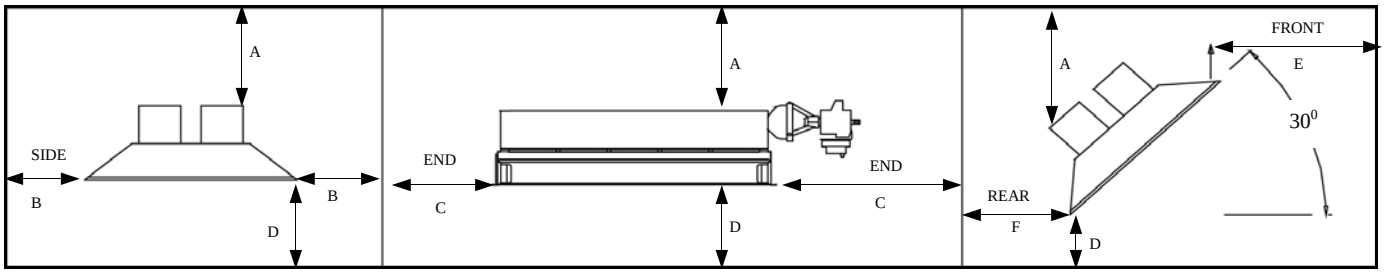



| MODEL N0. | A | B | C | RATING BTU/HR | WEIGHT LBS. |
|---|---|---|---|---|---|
| ecoSchwank 36 | 36 3/4” | 48 1/2” | 20” | 150,000 | 60 |
| ecoSchwank 52 | 53 1/4” | 63 3/4” | 20” | 200,000 | 70 |

### 9.2 SUSPENSION HARDWARE (supplied by others)



## 9.3 MINIMUM CLEARANCE TO COMBUSTIBLES




**HORIZONTAL MOUNT**

| Series | 36 / 150N/L | 52 / 200N/L |
|---|---|---|
| Top of Heater (A) | 52” | 52” |
| Sides of Heater (B) | 55” | 55” |
| End of Heater (C) | 39” | 39” |
| Bottom of Heater (D) | 121” | 121” |

**ANGLE MOUNT**

| Series | 36 / 150N/L | 52 / 200N/L |
|---|---|---|
| Top of Heater (A) | 52” | 52” |
| Front of Heater (E) | 84” | 84” |
| Rear of Heater (F) | 55” | 55” |
| End of Heater (C) | 39” | 39” |
| Bottom of Heater (D) | 121” | 121” |

## 9.4 SUGGESTED MOUNTING DISTANCE FOR COMFORT**

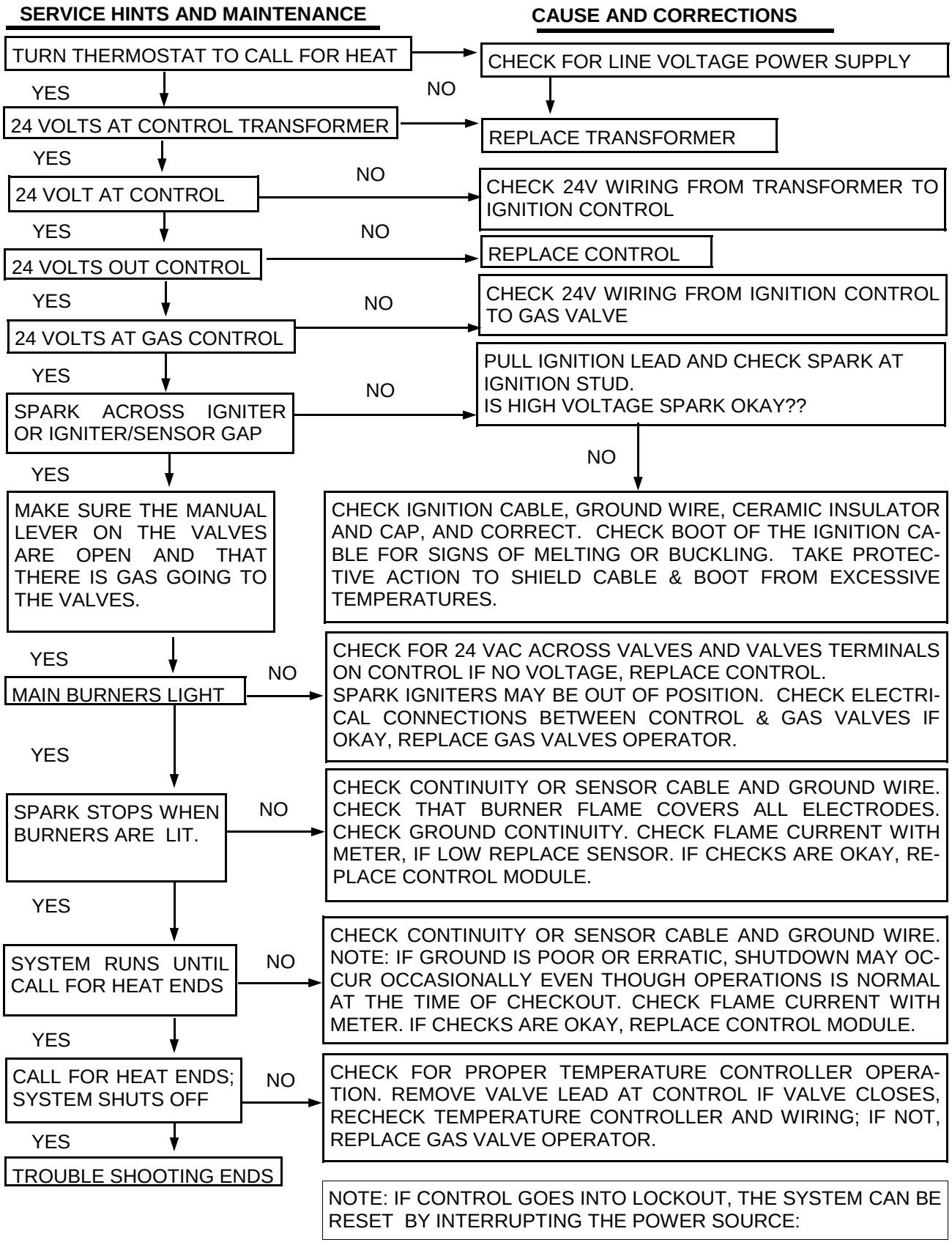
Since most installations will differ in many details, these instructions are general. Sound judgment must be exercised and careful supervision is essential to assure the installation will be made in the best manner possible for trouble-free operation and at minimal cost. All systems must be done in accordance with acceptable practices, local codes, and applicable standards. This heater is suitable for reflector mounting angles up to 30° degrees along the short axis. Improper angle mounting can result in overheating of controls and combustible materials.

**IMPORTANT:** For either horizontal or angle mounting, the long axis of the heater must be level. Use only non-combustible mounting hardware.

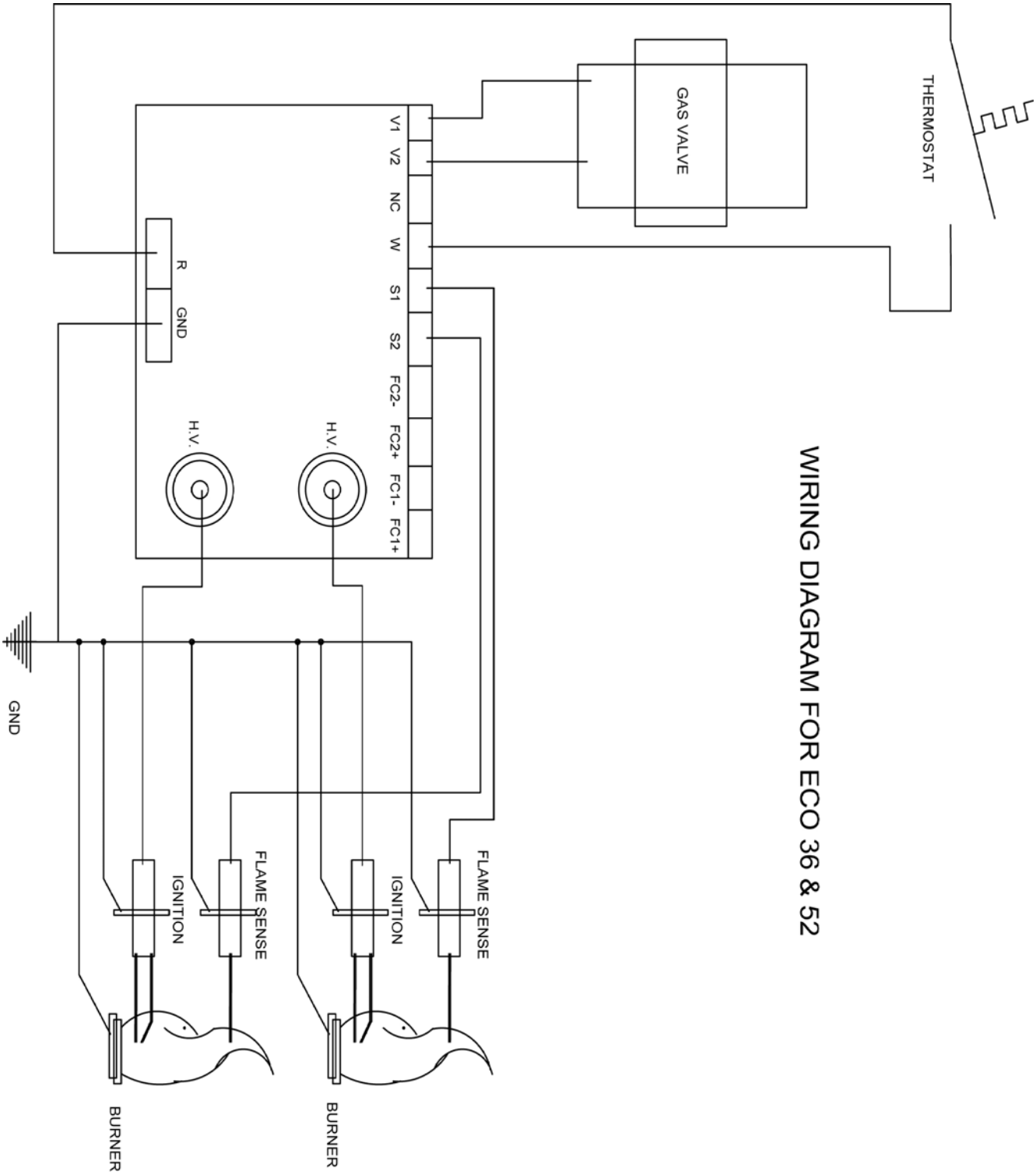
**NOTE:** It is the responsibility of the installer to ensure that the chosen suspension system will support at least 200 lbs.

| Model N/L | Horizontal 36 / 150 | Horizontal 52 / 200 | Angle 36 / 150 | Angle 52 / 150 |
|---|---|---|---|---|
| Average Mounting Height in Feet | 32’ | 34’ | 26’ | 28’ |
| Maximum Heater Spacing (short axis) | 45’ | 50’ | 45’ | 50’ |
| Maximum Distance Between Heater Rows | 75’ | 80’ | 100’ | 100’ |
| Distance from Wall to Rear of Heater | 32’ | 34’ | Service Clearance | Service Clearance |

## 10. TROUBLE SHOOTING GUIDE



## 11. ELECTRICAL WIRING DIAGRAM FOR THE LUMINOUS HEATERS



## 12. SPARK IGNITION SYSTEM INFORMATION:

### OPERATION

Upon applying power (24VAC) to 24V terminal, the control will reset, perform a self check routine, initiate full time flame sensing, flash the diagnostic LED for up to four seconds, and enter the thermostat scan state.

### HEAT MODE

When a call for heat is received from the thermostat 24 volts is supplied to TH/W, a pre-purge delay begins, then the gas valve is energized and the sparks commence at both burners for the trial for ignition period.

When flame is detected during the trial of ignition, sparks are shut off immediately and the gas valve remains energized. The thermostat and burner flame are constantly monitored to assure the system continues to operate properly. When the thermostat is satisfied and the demand for heat ends, the main valve is de-energized immediately.

### MULTI-TRY IGNITION CONTROL

Should either burner fail to light, or flame is not detected during the first trial for ignition period, the gas valve is de-energized and the control goes through an inter-purge delay. The control system will follow this sequence three (3) times before lock out occurs.

Recovery from lockout requires a manual reset by either resetting the thermostat or removing 24 volts for a period of 5 seconds.

### FLAME FAILURE-RE-IGNITION

If the established flame signal is lost from either burner while the burners are operating, the control will respond within 0.8 seconds. The high voltage spark will be energized for a trial ignition period in an attempt to relight the burners. If either burner does not light the control will de-energize the gas valve. The Multi Try Ignition Control will make two attempts to relight the burners. If either burner does not relight the control will go into lockout as noted above in "Failure to light". If flame is re-established, normal operation resumes.

### FLAME FAULT

If at any time the main valve fails to close completely and maintain a flame, the full time flame sensing circuit will detect it and flash an error code of 2.

| ERROR MODE | LED INDICATION |
|---|---|
| Internal Control Failure | Steady On |
| Flame with no call for heat | 2 flashes |
| Ignition Lockout | 3 flashes |

### FLAME CONDITION
### FLAME CURRENT CHECK

Flame current is the current which passes through the flame from the sensor to ground. The minimum flame current necessary to keep the system from lockout is .7 microamps. To measure flame current, connect an analog DC micrometer to the FC – FC+ terminals. Meter should read .7 uA or higher. If meter reads below "0" on scale, meter leads are reversed. Disconnect power and reconnect meter leads for proper polarity.

## 13. START UP SHEET

# AS PER I&O MANUAL AND LOCAL CODES

**CONTRACTOR NAME: .....DATE.....**

**ADDRESS:.....**

**.....**

**CITY:.....**

**PHONE:.....**

**CELL: .....**

**JOB SITE.....CITY.....**

**HEATER MODEL NUMBER:.....**

**HEATER SERIAL NUMBER: .....**

**THIS EQUIPMENT HAS BEEN FACTORY FIRED AND TESTED BEFORE DELIVERY, NEVERTHELESS IT IS NOT A PLUG IN APPLIANCE..IT DOES REQUIRE COMMISSIONING AND FIELD ADJUSTMENTS**

**TO ENSURE THAT SITE CONDITIONS ARE COMPATIBLE WITH THIS HEATER, AND TO ALLEVIATE NUISANCE CALL BACKS FOR THE CONTRACTOR, THE FOLLOWING START-UP NEEDS TO BE COMPLETED BY THE LICENSED GAS INSTALLER.**

## A CONTRACTOR IS CALLING FOR TECHNICAL SUPPORT, MUST PROVIDE THE FOLLOWING INFORMATION FROM HIS COMPLETED COMMISSIONING REPORT ON NEXT PAGE

**FAX COMPLETED FORM TO TECHNICAL SERVICES: CANADA - 905-712-8336 USA - 706-554-9390**

## TO BE COMPLETED BY THE LICENSED INSTALLER:
## HIGH INTENSITY COMMISSIONING REPORT

| | | | |
|---|---|---|---|
| TYPE OF GAS: | NG | ☐ | ☐ |
| DOES BUILDING HAVE A NEGATIVE CONDITION: | YES | ☐ | ☐ |
| WILL HEATER BE EXPOSED TO WELDING FUMES: | YES | ☐ | ☐ |
| IS HEATER EXPOSED TO CHEMICAL OR CORROSIVE ATMOSPHERE: | YES | ☐ | ☐ |
| IS AN OPEN FLAME COMPATIBLE WITH THE INSTALLED LOCATION: | YES | ☐ | ☐ |
| MINIMUM CLEARANCES CONFORM AS PER I&O MANUAL: | YES | ☐ | ☐ |
| IF THIS IS A HIGH ALTITUDE AREA WHAT IS THE ALTITUDE ABOVE SEA LEVEL | | ☐ | Feet |
| IS HEATER SHORT AXIS HORIZONTAL WITH THE VENTURI ON TOP: | YES | ☐ | ☐ |
| IS HEATER INTERLOCKED WITH AN EXHAUST FAN SYSTEM: | YES | ☐ | ☐ |
| IS FAN SYSTEM 3 CFM PER 1000Btu/hr OF THE TOTAL HEAT LOAD: | YES | ☐ | ☐ |
| WILL HEATER BE AFFECTED BY OVERHEAD CRANES / VIBRATION: | YES | ☐ | ☐ |
| IS GAS SUPPLY LINE ADEQUATELY SIZED FOR SYSTEM VOLUME: | YES | ☐ | ☐ |
| HAVE GAS LINES AND BRANCHES BEEN PURGED OF AIR: | YES | ☐ | ☐ |
| THIS HEATER WAS FIELD TEST FIRED WITHOUT ANY MALFUNCTION: | YES | ☐ | ☐ |
| INLET GAS SUPPLY PRESSURE WITH HEATER OPERATING: | | ☐ | WC" |
| GAS VALVE OUTLET (Manifold) PRESSURE WITH HEATER OPERATING: | | ☐ | WC" |
| HAS THE WIRING POLARITY BEEN MAINTAINED THROUGHOUT: | YES | ☐ | ☐ |
| WHAT IS THE VOLTAGE READING AT THE IGNITION MODULE: | | ☐ | VOLTS |
| WHAT IS THE FLAME SIGNAL STRENGTH IN uA FROM SENSOR: | | ☐ | uA (microamps) |
| IS THE HEATER CONTROLLED BY A THERMOSTAT: | YES | ☐ | ☐ |
| IS THE THERMOSTAT STRATEGICALY LOCATED: | YES | ☐ | ☐ |
| TOTAL HEATERS SUPPLIED FROM ONE SINGLE TRANSFORMER: | | ☐ | TOTAL |
| WHAT IS THE RATING OF THE TRANSFORMER IN VA: | | ☐ | V.A. |
| WHAT IS THE TOTAL LENGTH OF THE LOW VOLTAGE WIRING: | | ☐ | FEET |
| WHAT IS THE GAUGE OF THE LOW VOLTAGE WIRING: | | ☐ | GAUGE |

**THIS HEATER MUST HAVE GOOD ELECTRICAL GROUNDING:**

*** FAX COMPLETED FORM TO TECHNICAL SERVICES: CANADA - 905-712-8336 USA - 706-554-9390**

**LIMITED WARRANTY CERTIFICATE**

## GAS-FIRED INFRA-RED LUMINOUS SERIES: ECOSCHWANK / IL SERIES

The Manufacturer warrants that this product is free from defects in material or workmanship under normal use and service subject to the terms of this document.

### TWO YEAR WARRANTY

Subject to the conditions and limitations stated herein, during the term of this limited warranty, we will supply any component part (at our option a new or repaired component part) of the heater, as defined below, excluding any labor, which the Manufacturer's examination determines to be defective in workmanship or material for a period of two years (2 years) from the date of installation, unless otherwise specified below. This warranty applies to the heater's original owner, and subsequent transferees and only if the unit is installed and operated in accordance with the printed instructions accompanying the unit and in compliance with all applicable installation, building codes and good trade practices. Warranty is only applicable to Schwank components, other parts are limited to their own Manufacturers warranty. (1 year)

### TEN YEAR WARRANTY

The Manufacturer warrants the Ceramic Tiles for a period of ten years (10 years)

### WHAT IS NOT COVERED

The Manufacturer shall not be responsible for any expenses, including service, labor, diagnosis, analysis, material or transportation charges incurred during removal or reinstallation of this product, or any of its components or parts. All labor or service charges shall be paid by the owner. This warranty does not cover heating products improperly installed, misused, exposed to or damaged by negligence, accident, corrosive or contaminating atmosphere, water, excessive thermal shock, impact, abrasion, normal wear due to use, alteration or operation contrary to the owner's manual or if the serial number has been altered, defaced or removed. This warranty shall not apply if the input to the heating product exceeds by more than 2% of the rated input on the rating plate. The Manufacturer shall not be liable for any default or delay in performance by its warranty caused by any contingency beyond its control, including war, government restrictions, or restraints, strikes, fire, flood, acts of God, or short or reduced supply of raw materials or products.

### WARRANTY PROCEDURE

To establish the installation date for any purpose under this Limited Warranty, you must retain the original records that can establish the installation date of your unit. If you do not provide such documents, the start date of the term of this Limited Warranty will be based upon the date of unit manufacture, plus thirty (30) days. Failure to maintain the equipment through regular annual service maintenance by a qualified service technician shall void the warranty.

### LIMITATIONS AND EXCLUSIONS

This document contains all warranties made by the Manufacturer and may not be varied, altered or extended by any person. There are no promises, or agreements extending from the Manufacture other than the statements contained herein. THIS WARRANTY IS IN LIEU OF ALL WARRANTIES EXPRESSED OR IMPLIED, TO THE EXTENT AUTHORIZED BY THE LAWS OF THE JURISDICTION, INCLUDING SPECIFICALLY THE WARRANTIES OR MERCHANTIBILITY OF FITNESS FOR A PARTICULAR PURPOSE.

It is understood and agreed that the Manufacturer's obligation hereunder is limited to repairing or replacing parts determined to be defective as stated above. In no event shall the Manufacturer be responsible for any alleged personal injuries or other special, incidental or consequential damages. As to property damages, contract, tort or other claim the Manufacturer's responsibility shall not exceed the purchase priced paid for the product.

All replacement parts will be warranted for the unused portion of the warranty coverage period remaining on the applicable unit.

Some Authorities do not allow certain warranty exclusions or limitations on how long a warranty lasts or the exclusions or limitations of incidental or consequential damages. In such cases, the above limitations or exclusions may not apply to you and are not intended to do so where prohibited by law. This warranty gives you specific legal rights. You may also have other rights which vary by each jurisdiction.

**5285 BRADCO BLVD. MISSISSAUGA, ON, L4W 2A6**
**2 SCHWANK WAY, WAYNESBORO, GEORGIA. 30830-8336**

**SCHWANK INC.** **Ph: 905-712-4766 Fax: 905-712-8336**
**INFRASAVE INC.** **Ph: 1-866– INFRASV (463 7278) Fax: 1-866-724 –9265**

GP-DECQ-CX-03A
ECO / IL WARRANTY
AUGUST 2005
RL: 3
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