

HRV TROUBLE SHOOTING GUIDE OPERATION GUIDE

PROBLEM	PROBABLE CAUSE	SOLUTION
PERSISTENT CONDENSATION ON WINDOWS	IMPROPER ADJUSTMENT OF DEHUMIDISTAT(S).	ADJUST DEHUMIDISTAT(S) TO CORRECT RH READING (see operation manual), ADJUST TO A LOWER SETTING. CHECK OPERATION OF DEHUMIDISTAT, IF DEFECTIVE, REPLACE. INSTALL A DEHUMIDISTAT IN LIVING AREA OF HOME.
	IMPROPER VENTILATION RATE.	ENSURE HRV IS ON CONTINUOUSLY. INCREASE FAN SPEED. BALANCE SYSTEM.
DEFROST NOT WORKING.	BROKEN DAMPER BLADE ASSY.	REPLACE.
FRESH AIR DUCT FROZEN OR VERY COLD (DEFROST LIGHT COMES ON) .	FAILED MAIN CONTROL BOARD.	IF DAMPER DOOR DOES NOT OPERATE DURING “START UP SELF DIAGNOSTIC” BUT POWER LIGHTS ARE ON, BOARD MAY REQUIRE REPLACEMENT.
	DEFECTIVE DAMPER MOTOR.	REPLACE. INSPECT CONNECTION BETWEEN MOTOR SHAFT AND DAMPER, COUPLING MAY BE LOOSE.
HUMIDITY LEVEL TOO LOW	HRV AIR FLOWS IMPROPERLY BALANCED.	BALANCE HRV
	DEHUMIDISTAT CONTROL SET TO LOW.	SET DEHUMIDISTAT TO A HIGHER SET POINT.
	LIFE STYLE OF OCCUPANTS.	HUMIDITY MAY HAVE TO BE ARTIFICIALLY ADDED, i.e. HUMIDIFIER.
	VENTILATION RATE TOO HIGH	ADJUST TO LOWER FAN SPEED OR INTERMITTENT
HUMIDITY LEVEL TOO HIGH	HRV AIR FLOWS IMPROPERLY BALANCED	BALANCE HRV
	HRV UNDERSIZED.	

PROBLEM	PROBABLE CAUSE	SOLUTION
	DEHUMIDISTAT SET TOO HIGH	SET DEHUMIDISTAT TO A LOWER SETTING.
	HRV UNDERSIZED TO HANDLE HOT TUB, INDOOR POOLS, ETC.	COVER POOLS, HOT TUBS ETC. WHEN NOT IN USE.
	LIFESTYLES OF OCCUPANTS	AVOID HANGING CLOTHES TO DRY INSIDE, AVOID STORING WOOD INSIDE AND VENT DRYERS OUTSIDE.
HRV AND/OR DUCTS FROSTING UP	HRV AIR FLOWS IMPROPERLY BALANCED	BALANCE HRV NOTE: FROST BUILD UP IS EXPECTED ON CORES PRIOR TO INITIATING A DEFROST CYCLE.
SUPPLY AIR FEELS COOL	HRV AIR FLOWS IMPROPERLY BALANCED.	BALANCE HRV.
	POOR LOCATION OF SUPPLY GRILLS.	LOCATE GRILLS HIGH ON WALLS OR UNDER BASEBOARDS.
	OUTDOOR TEMPERATURE EXTREMELY COLD.	IF SUPPLY AIR IS INSTALLED INTO RETURN AIR OF FURNACE, FURNACE FAN NEEDS TO RUN CONSTANTLY TO DISTRIBUTE VENTILATION AIR COMFORTABLY. ENSURE THAT A BREATHER "T" IS INSTALLED IN SUPPLY DUCT. PREHEATER MAY BE REQUIRED.
WATER IN BOTTOM OF HRV	DRAIN PAN (S) PLUGGED	ENSURE "O" RINGS ON DRAIN SPIGOT SEATS PROPERLY LOOK FOR KINKS IN LINE.
	DRAIN LINES OBSTRUCTED	CHECK WATER DRAIN CONNECTIONS. MAKE SURE WATER DRAINS PROPERLY FROM THE PAN(S)
	HRV HEAT EXCHANGE CORE NOT INSTALLED PROPERLY	CHECK ORIENTATION LABEL ON FRONT OF CORE AND POSITION CORE CORRECTLY. HRV MAY NOT BE LEVEL
AIR FLOWS ARE POOR	HRV AIR FLOW IMPROPERLY BALANCED	BALANCE HRV.
	FILTER/CORE PLUGGED UP	CLEAN AND REINSTALL
	1/4" MESH ON OUTSIDE HOODS PLUGGED	REMOVE OBSTRUCTIONS IN DUCT(S), HOODS AND GRILLS.
	IMPROPERLY SIZED DUCTING	

PROBLEM	PROBABLE CAUSE	SOLUTION
	UNDER SIZED HRV MALFUNCTION WITH HRV	INSPECT FAN WHEELS TO ENSURE THEY ARE TURNING FREELY
CONDENSATION OR ICE BUILD UP IN INSULATED DUCT	INCOMPLETE VAPOUR BARRIER AROUND INSULATED DUCT	TAPE ALL JOINTS ENSURE THAT VAPOUR BARRIER IS COMPLETELY SEALED
	UNUSUALLY HUMID AMBIENT	WRONG APPLICATION OF HRV
	DOOR GASKET DAMAGED	REPLACE GASKETING
WATER LEAKS	HRV NOT LEVEL	LEVEL HRV
	EXCESSIVE WATER DUE TO NEW WET CONSTRUCTION	OPERATE HRV ON LOWER SPEED ie. INTERMITTENT
FROST ON FRESH AIR INTAKE & STALE AIR EXHAUST FLEX	HRV CORE INSTALLED IN REVERSE	INSTALL CORE CORRECTLY "FRONT" OF CORE HAS INSTALLATION INSTRUCTION LABEL INSTALL WITH LABEL FACING HRV DOOR
	VAPOUR BARRIER INCOMPLETE	REPAIR SEAL OF ALL CRACKS AND TEARS
HRV STATUS PANEL FLASHING HIGH CONTINUOUSLY	HRV INTERNAL DEHUMIDISTAT SET TO LOW	ADJUST DEHUMIDISTAT TO HIGHER SET POINT

CONTROL FUNCTION

NOTE: ALL EXTERNAL MAINTENANCE TO BE PERFORMED BY A CERTIFIED ELECTRICIAN ONLY

PROBLEM	PROBABLE CAUSE	SOLUTION
NO POWER INDICATION AT ON/OFF SWITCH	LACK OF POWER AT SUPPLY	CHECK FOR POWER
	DOOR SAFETY SWITCH NOT ENGAGED	ENSURE THAT DOOR SWITCH IS OPERATING
	DEFECTIVE DOOR SWITCH	REMOVE MAIN ACCESS DOOR AND CONTROL COVER PLATE. APPLY POWER TO HRV AND CLOSE DOOR SWITCH AND TEST THE TWO LEADS ON BACK OF SWITCH, ONE SHOULD HAVE A READING. CLOSE DOOR SWITCH AND CHECK OTHER LEAD WITH METER AND KNOWN NEUTRAL. IF NO READING IS PRESENT THEN REPLACE SWITCH.
	DEFECTIVE POWER SWITCH	POWER UP HRV, CLOSE DOOR SAFETY SWITCH, TURN POWER SWITCH TO ON. PLACE ONE LEAD OF VOLT METER ON KNOWN NEUTRAL AND THE OTHER ON TERMINALS ON BACK OF SWITCH, ONE AT A TIME. VOLTAGE READING SHOULD BE LINE VOLTAGE ON BOTH BLACK LEADS. IF NOT, THEN REPLACE SWITCH. CONFIRM NEUTRAL AT SWITCH LEAD WITH KNOW NEUTRAL DISCONNECT POWER TO HRV. IDENTIFY KNOWN NEUTRAL, POSITION ONE LEAD OF OHM METER ON KNOWN NEUTRAL AND OTHER AT NEUTRAL LEAD AT REAR OF SWITCH. IF NO READING THEN INVESTIGATE CONNECTION OF NEUTRAL LEAD WIRE. AND OUTPUT. IF NO READING THEN REPLACE FILTER.
NOTHING WORKS	POWER OFF – UNPLUGGED FROM POWER SOURCE	RESTART HRV. THIS WILL RESET THE ELECTRONIC CONTROL BOARD

NOTE: ALL EXTERNAL MAINTENANCE TO BE PERFORMED BY A CERTIFIED ELECTRICIAN ONLY

PROBLEM	PROBABLE CAUSE	SOLUTION
DAMPER MOTOR NOT ACTUATING, NO ACTION WHEN SHORTING DEHUMIDISTAT TERMINALS	CHECK ELECTRICAL PANEL - CIRCUIT BREAKER – FUSE. CHECK HRV	RESET CIRCUIT BREAKER OR REPLACE FUSE, OR YOU MAY BE REQUIRED TO CALL AN CERTIFIED ELECTRICIAN.
	DOOR INTERLOCK SWITCH	REPLACE DOOR SWITCH.
BLOWER MOTOR NOT OPERATING BUT POWER LIGHT ON.		UNPLUG 120V POWER SOURCE, APPLY 120V DIRECTLY TO MOTOR, IF MOTOR DOES NOT RUN, REPLACE CAPACITOR, IF MOTOR DOES NOT RUN, REPLACE MOTOR.
DEHUMIDISTAT (S) NOT WORKING (INTERNAL AND/OR REMOTE WALL MOUNTED)		DISCONNECT LEADS AT DEHUMIDISTAT AND SHORT TOGETHER. IF HRV RESPONDS TO HIGH SPEED THEN REPLACE DEHUMIDISTAT.
HRV MAKES AN ANNOYING NOISE	SUPPLY OR EXHAUST BLOWER WHEEL OUT OF ADJUSTMENT	REMOTE MOTOR ASSEMBLY AND TIGHTEN SCREW ON MOTOR SHAFT. CHECK SUPPLY /EXHAUST WHEELS FOR BALANCE. REPLACE IF NECESSARY. ENSURE THAT FAN WHEELS ARE NOT RUBBING ON FAN HOUSING INLET RING.
NOISE LEVEL TOO HIGH AT DISTRIBUTION REGISTERS WHEN HRV ON HIGH SPEED	AIR DUCT SYSTEM TOO SHORT	REDESIGN DUCT SYSTEM OR INSTALL SILENCER.
TOUCH PAD	CHECK FOR CORRECT WIRE GAUGE (18) OR WIRING TO HRV OR SWITCH IMPROPER CONNECTION TO 24V TERMINALS	CONFIRM WIRING TO WIRING DIAGRAM. CHANGE TO CORRECT WIRE GAUGE. CHECK TOUCH PAD FOR PROPER CONNECTIONS. ENSURE THAT CORRECT SWITCHES ARE BEING USED.

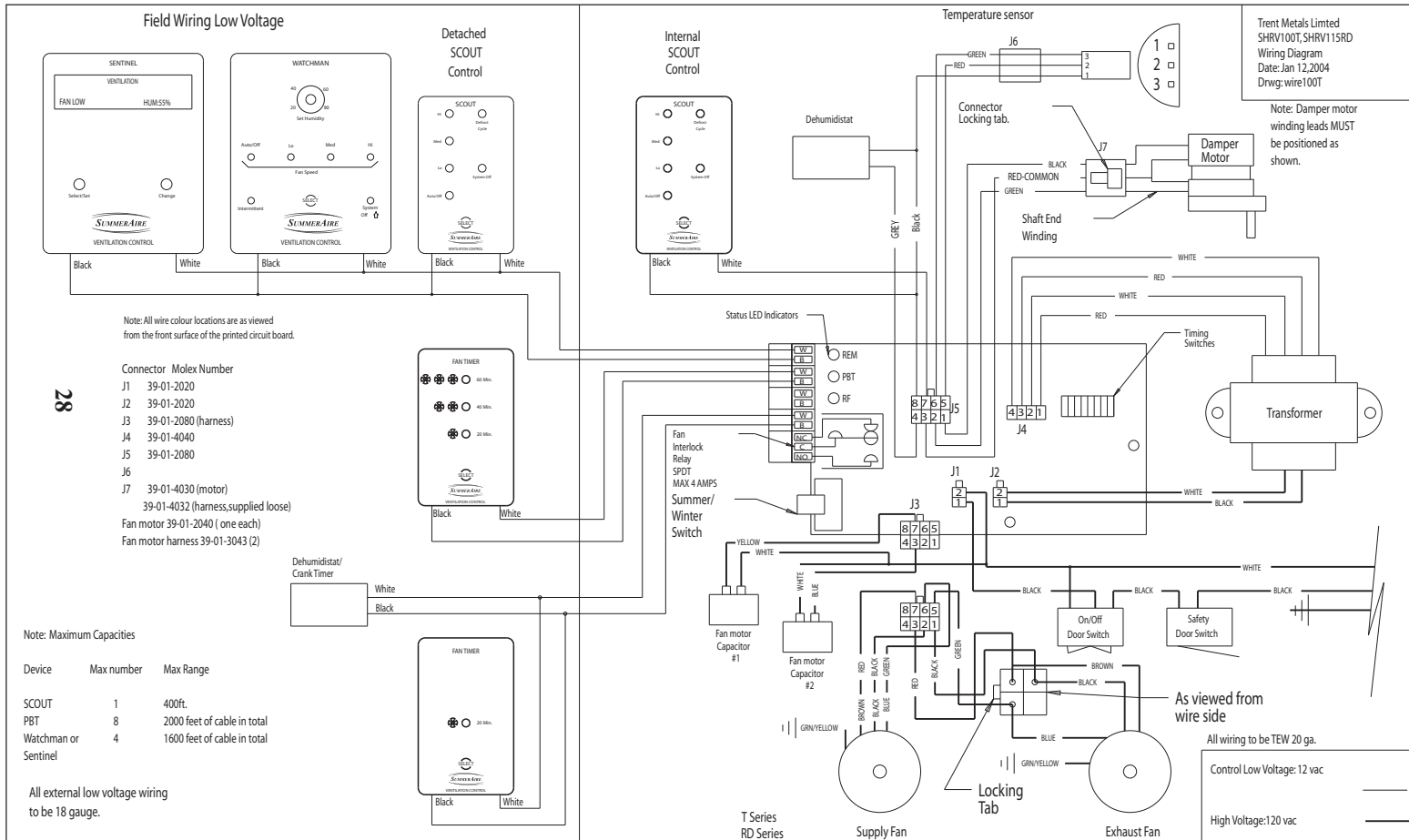
NOTE: ALL EXTERNAL MAINTENANCE TO BE PERFORMED BY A CERTIFIED ELECTRICIAN ONLY

PROBLEM	PROBABLE CAUSE	SOLUTION
	EXTERNAL LOW VOLTAGE WIRE IS SHORTED OUT BY A STAPLE OR NAIL	DISCONNECT LEADS AT BOTH ENDS @ TEST FOR CONTINUITY BETWEEN LEADS.
DAMPER MOTOR STAYS IN DEFROST. DEFROST L.E.D NOT ILLUMINATED. LEAD.	DEFECTIVE DAMPER MOTOR DEFECTIVE CONTROL BOARD	PICK COMMON COLOURED (2) DAMPER MOTOR LEADS. PROBE 1 OF THESE LEADS WITH 1 LEAD FROM METER. WITH THE OTHER METER LEAD PROBE 1 OF THE OTHER SINGLE METER SHOULD READ 30V OR 27V. THE POSITION OF THE DAMPER MOTOR DETERMINES THE VOLTAGE YOU WILL READ (IT WILL BE ONE OR THE OTHER) IF THESE READINGS ARE OBTAINED, CHANGE THE DAMPER MOTOR. IF NO VOLTAGE PRESENT, OR VOLTAGES ARE THE SAME, CHANGE THE CONTROL BOARD.
FAN SPEED DOESN'T SEEM TO CHANGE AS SELECTIONS ARE MADE ON SELECT BUTTON.	IMPROPER DUCT SYSTEM INSTALLED.	ENSURE THAT MOTOR AMP DRAW DOES NOT EXCEED NAMEPLATE RATING. INCREASED STATIC (I.E. DAMPERING) MAY BE NECESSARY.
	INCORRECT VOLTAGE, MEASURE LINE VOLTAGE & VOLTAGE TO MOTOR.	DETERMINE IF IT'S CORRECT AND CONFIRM THAT VOLT METER IS READING CORRECTLY. ALL VOLTAGES MUST BE MEASURED WITH DUCT SYSTEM INSTALLED. LOW SPEED 97 VOLTS MEDIUM SPEED 105 VOLTS HIGH SPEED 120 VOLTS IF THE VOLTAGES ARE CORRECT THEN THE DUCT SYSTEM STATIC IS TOO LOW.
CONTROL BOARD CHANGED UNIT DOES NOT SEEM TO RUN PROPERTY	DIP SWITCHES NOT SET AS INSTRUCTED	RESET DIP SWITCHES TO ORIGINAL SPECIFICATIONS.

NOTE: ALL EXTERNAL MAINTENANCE TO BE PERFORMED BY A CERTIFIED ELECTRICIAN ONLY

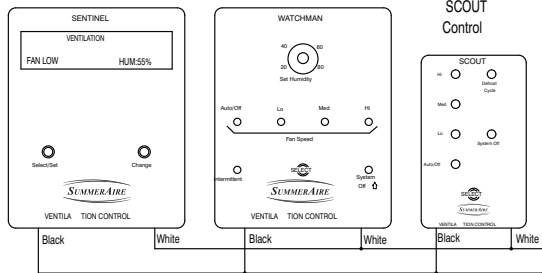
PROBLEM	PROBABLE CAUSE	SOLUTION
WHEN UNIT IS INITIALLY POWERED ON, UNIT STAYS IN DEFROST MODE LONGER THAN 10 MINUTES	DEFECTIVE MAIN CONTROL BOARD	CHANGE BOARD. WHEN CHANGING BOARD ALWAYS SET DIP SWITCHES TO EXACT POSITION OF DEFECTIVE BOARD BEING REPLACED.
DEFROST CYCLE ACTIVE DURING ABOVE FREEZING OUTDOOR TEMPERATURE	DEFECTIVE TEMPERATURE SENSOR	CHANGE SENSOR
LATCH OPENS	EXCESSIVE CLOSING FORCE	REPLACE LATCH
	REPEATED FORCING OF LATCH WEARS OFF LOCKING TAB ALLOWING IT TO POP OPEN. FORCING DOOR SHUT, THEN FORCING LATCH WEARS OFF LOCKING TAB ON LATCH.	LATCH MUST BE OPEN PRIOR TO LATCHING DO NOT PULL DOOR SHUT
LOCKED ON HIGH SPEED	DEHUMIDISTAT SET TOO LOW	REDUCE SET POINT
	DEHUMIDISTAT DEFECTIVE	REPLACE
NOT ALL WALL SWITCH CONTROL ILLUMINATE WHEN ONE IS ACTIVATED	DEFECTIVE CONTROL.	REPLACE
	FEED LINE TO WALL SWITCH CONTROL TOO LONG	SHOULD BE LESS THAN 2,000 LINEAL FEET IN TOTAL

SHRV115RD, SHRV240RD Wiring Diagram



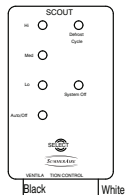
SHRV130RD/SHRV190RD Wiring Diagram

Field Wiring Low Voltage

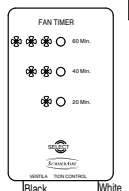


Note: All wire colour locations are as viewed from the front surface of the printed circuit board.

Internal SCOUT Control



Status LED Indicators



Dehumidist/ Crank Timer



Note: Maximum Capacities

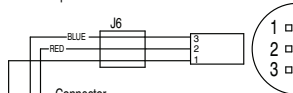
Device	Max number	Max Range
SCOUT	1	400ft.
PBT	8	2000 feet of cable in total
Watchman or Sentinel	4	1600 feet of cable in total

All external low voltage wiring to be 18 gauge.

Connector Molex Number

J1	39-01-2020
J2	39-01-2020
J3	39-01-2080
J4	39-01-4040
J5	39-01-2080
J6	
J7	39-01-4030 (motor)
	39-01-4032 (harness, supplied loose)

Temperature sensor



Connector Locking tab.

Dehumidist

White-Common

ORANGE

YELLOW

Shaft End Winding

WHITE

RED

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RED

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Trent Metals Limited
SHRV130RD
Wiring Diagram
Date: July 12 05
Drwg: wire130RD

Note: Damper motor winding leads MUST be positioned as shown.

Dehumidist

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Connector Locking tab.

White-Common

ORANGE

YELLOW

Shaft End Winding

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Control Low Voltage: 12 vac
High Voltage: 120 vac
All wiring to be TEW 20 ga.