WILBUR CURTIS COMPANY, INC.

Service Manual – Gemini Narrow Twin Brewer

Models

- GEM TN
- GEM-3N
- GEM-5N

Important Safeguards/Conventions

This appliance is designed for commercial use. Any servicing other than cleaning and maintenance should be performed by an authorized Wilbur Curtis service center.

- *Do NOT immerse the unit in water or any other liquid*
- *To reduce the risk of fire or electric shock, do NOT open top panel. No user serviceable parts inside. Repair should be done only by authorized service personnel.*
- *Keep hands and other items away from hot parts of unit during operation.*
- *Never clean with scouring powders, bleach or harsh implements.*

Conventions

WARNINGS – To help avoid personal injury

Important Notes/Cautions – from the factory

Sanitation Requirements

Your Curtis G3 System is Factory Pre-Set and Ready to Go… Right from the Carton.

Following are the Factory Settings for your interLock Coffee Brewing Systems:

- *Brew Temperature = 200°F*
- *Brew Volume = Large set to vessel requirements.*
- *Water Bypass = On LARGE & MEDIUM brew only*
- *Energy Save Mode = Off*

System Requirements:

- *Water Source 20 – 90 PSI (Minimum Flow Rate of 1 GPM)*
- *Electrical: See attached schematic for standard model or visit www.wilburcurtis.com for your model.*

CAUTION: Please use this setup procedure before attempting to use this brewer. Failure to follow the instructions can result in injury or the voiding of the warranty.

IMPORTANT: Equipment to be installed to comply with applicable federal, state, or local plumbing/electrical codes having jurisdiction.

CAUTION: DO NOT connect this brewer to hot water. The inlet valve is not rated for hot water.

WARNING HOT LIQUID, Scalding may occur. Avoid splashing.

SETUP STEPS

The unit should be level (left to right and front to back), located on a solid counter top. Connect a water line from the water filter to the brewer. NOTE: Some type of water filtration device must be used to maintain a trouble-free operation. (In areas with extremely hard water, we suggest that a sedimentary and taste & odor filter be installed.) This will prolong the life of your brewing system and enhance coffee quality.

NSF International requires the following water connection:
1. A quick disconnect or additional coiled tubing (at least 2x the depth of the unit) so that the machine can be moved for cleaning underneath.
2. In some areas an approved backflow prevention device may be required between the brewer and the water supply.

1. *A 3/8"Flare x 3/8" Male pipe elbow is supplied with the brewer for water line connection. Use tubing sized sufficiently to provide a minimum of 1.0 GPM.*
2. *Connect the unit to an appropriate electrical power circuit.*
3. *Turn on the toggle (STANDBY/ON) switch behind the unit. The heating tank will start to fill. When the water level in the tank rises to the correct volume, the heating elements will energize automatically. With G3 Systems there is no danger of element burnout caused by an empty tank.*
4. *The heating tank will require 20 to 30 minutes to reach operating temperature (200°F), indicated when READY TO BREW is displayed on the LCD screen.*
5. *Prior to brewing, dispense 12 ounces of hot water through the hot water faucet.*
6. *Brew a cycle of at least 12 ounces, to purge the water lines of any air that may be trapped after filling.*

BREWING INSTRUCTIONS

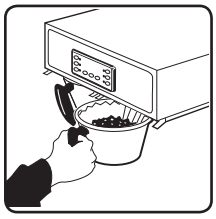
1. *Brewer should be ON (Confirm at rear toggle switch, then press the ON/OFF button). Ready-to-Brew should be on the display. If the brewer is connected to an InterLock grinder, the grinder should be on. When Interlock connection is made, grind coffee at this time.*
2. *Place an empty Satellite under the brewcone and press the warmer switch to pre-heat the Satellite.*



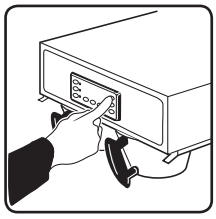
3. Place a clean filter into the brewcone.



4. Fill brewcone with ground coffee.



5. Transfer filled brewcone to brewer.



6. Press Brew button. Brewing will begin immediately.

Quick Start

GEM TN

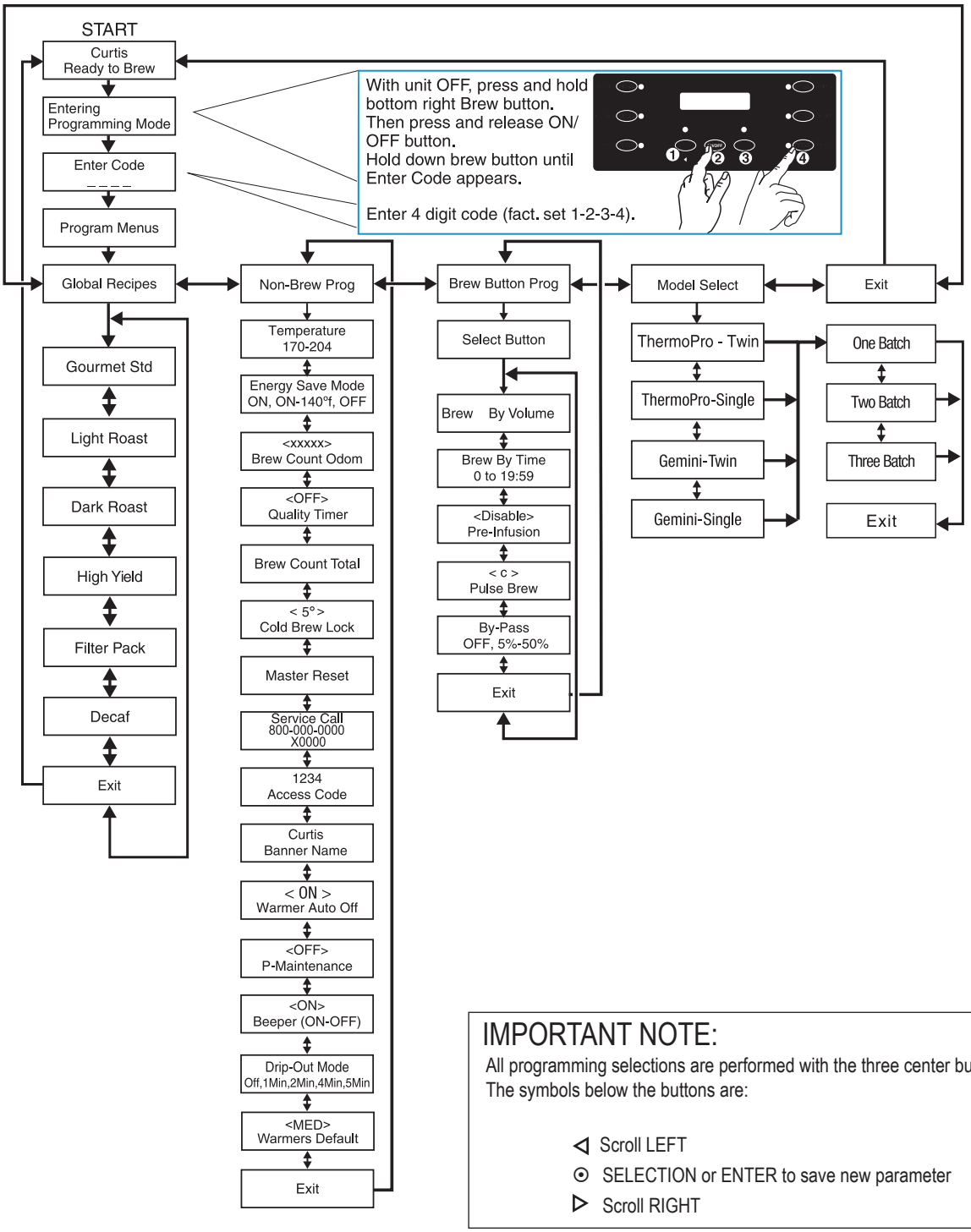
Your Curtis ADS System is Factory Pre-Set for Optimum Performance.
After connection to water and power; the rear toggle switch must be on. You will hear a beep sound, indicating power is available to the controller.

The control displays CURTIS *. Press ON/OFF button and the screen will display* <GEMINI TWIN> WILBUR CURTIS *. After three seconds,* CURTIS FILLING *is displayed.*

Water will fill the tank (approximately 2-3 minutes depending on water flow rate). When the proper level is reached CURTIS HEATING *will appear on the screen. It takes approximately 20 minutes to reach setpoint temperature of 200°F.*

Control will display CURTIS READY TO BREW *when temperature reaches the setpoint (200°F). Unit is now ready to brew.*

PROGRAM MENUS

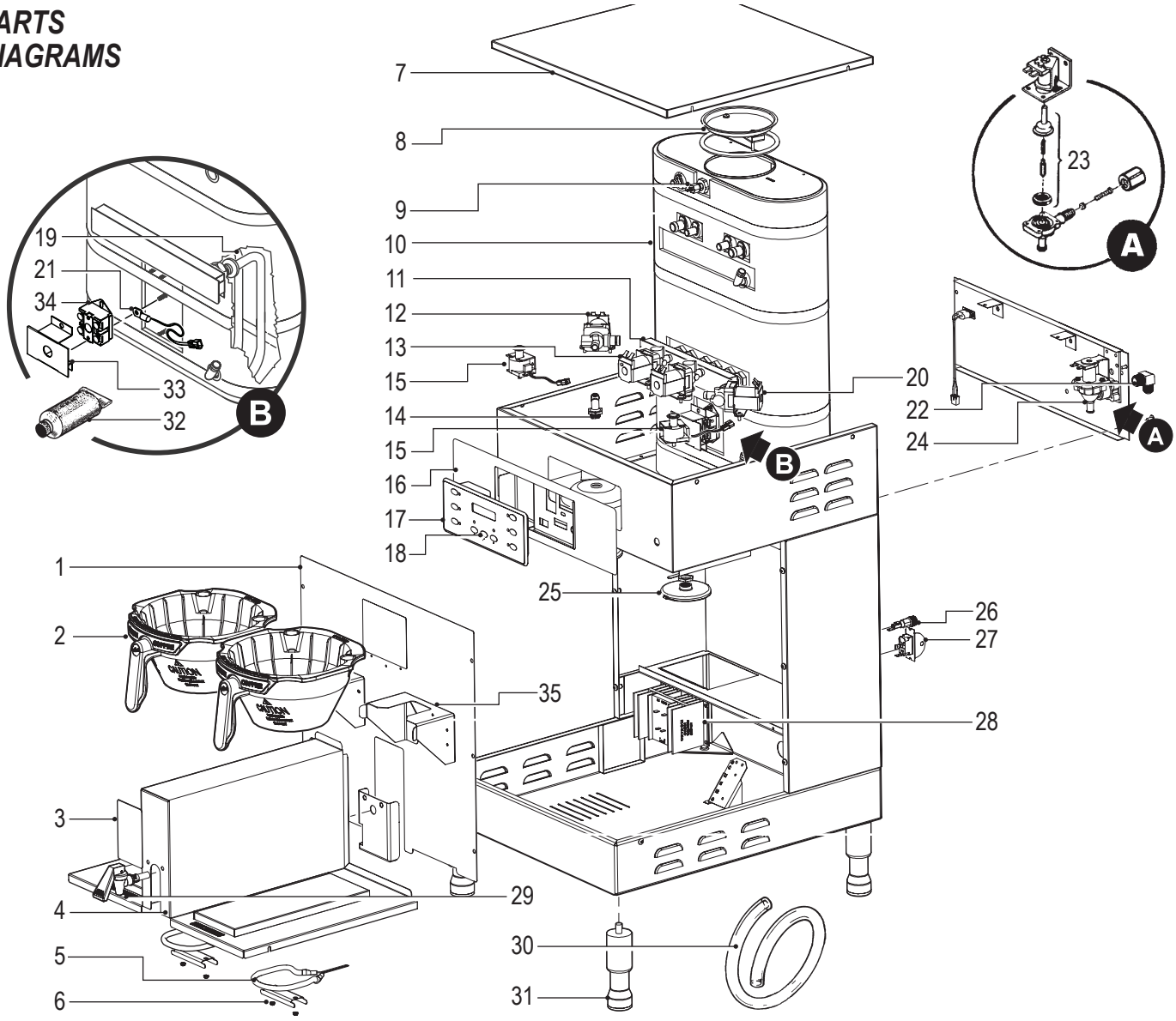


IMPORTANT NOTE:

All programming selections are performed with the three center buttons.
The symbols below the buttons are:

- ◁ Scroll LEFT
- ⊙ SELECTION or ENTER to save new parameter
- ▷ Scroll RIGHT

PARTS DIAGRAMS

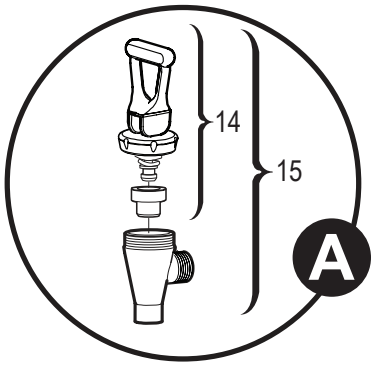


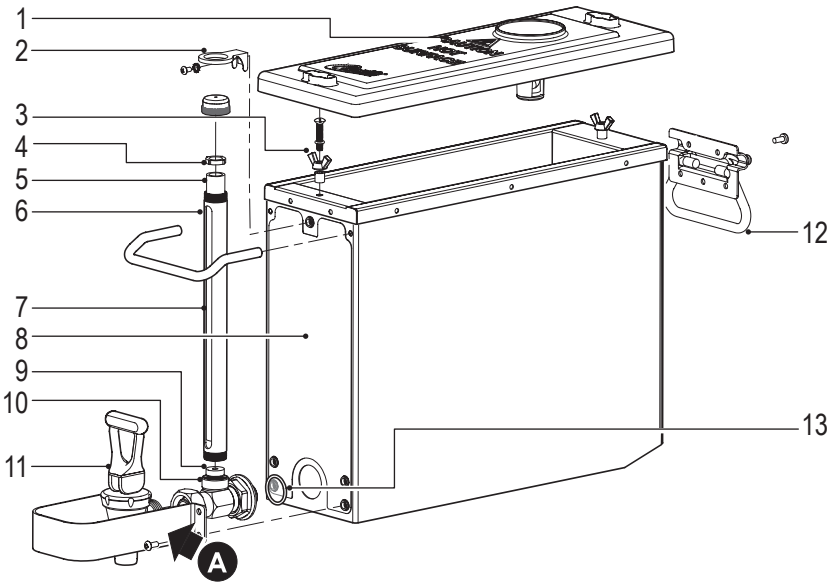
Index Nº	Part Nº	Description
1	WC-61676	COVER, FRONT CENTER WRAP
2	WC-37308	KIT, BREWCONE BLACK PLSTC GEM
3	WC-38512	LABEL, HOT WATER CAUTION
4	WC-61678	DECK, WARMER W/A GEMTN
5	WC-37102*	KIT, WARMER ELEMENT, 120V 100W
6	WC-61672	STRAP, WARMER ELEMENT
7	WC-5421	COVER, TOP SS GEM
8	WC-37008*	KIT, TANK LID ROUND
9	WC-37278*	KIT, LIQUID LEVEL PROBE GT
10	WC-62033	TANK, CMPLT GEMTS W/ULTEM FTNG
11	WC-4382	GUARD, SHOCK HEATING ELEMENT
12	WC-37121*	KIT, DUMP VALVE LEFT
13	WC- 844-101*	KIT, VALVE BYPASS NON-ADJUSTABLE
14	WC-2977-101	FITTING, SPRAYHEAD ULTEM
15	WC- 442	SOLENOID, LOCK BREWCONE L/R
16	WC-39395	LABEL, UCM OUTER DUAL TWIN
17	WC-37176*	KIT, UCM CONTROL MODULE
18	WC-39438	LABEL, UCM OVERLAY 1-BATCH
18A	WC-39439	LABEL, UCM OVERLAY 2-BATCH

Index Nº	Part Nº	Description
18B	WC-39440	LABEL, UCM OVRLY 3-BATCH INNER
19	WC- 934-04*	ELEMENT HEATING 2.5KW 220V
20	WC-37122 *	KIT, DUMP VALVE RIGHT
21	WC-1438-101*	SENSOR, HEATING TANK
22	WC-2402	ELBOW, 3/8"FL x 3/8" M. PIPE
23	WC-3765L*	KIT, VALVE REPAIR
24	WC- 847 *	VALVE, INLET
25	WC-29050	SPRAYHEAD, AFS-AMBER
26	WC-1501	FUSE HOLDER ASSY W5A FUSE
27	WC- 102*	SWITCH, TOGGLE
28	WC-8559	RELAY, SOLIDSTATE 40A W/HT SNK
29	WC-1809	FAUCET, PS/HPS SERIES HOT WTR
30	WC-5310	TUBE, 5/16 ID x 1/8W SILICONE
31	WC-3528 *	LEG, 4" ADJUST 3/8-16 THRD ITALIAN
32	WC-5231*	COMPOUND, SILICONE 5 OZ TUBE
33	WC-43055	GUARD, SHOCK RESET T-STAT
34	WC- 522 *	THERMOSTAT, RESET
35	WC-61677	GUIDE, BRACKET GEM-TN

** Recommmended parts to stock.*

GEM-3N – ILLUSTRATED PARTS





PARTS LIST – GEM-3N

Index Nº	Part Nº	Description
1	WC-61645	LID, PLASTIC GEM-3N
2	WC-2007	BRACKET, GAUGE GLASS GEM-3
3	WC-4240-101	NUT, 1/4-20 WING BLK SS
4	WC-2005*	WASHER, SHIELD CAP 1/8" THICK
5	WC-2026*	GLASS, GAUGE 9"
6	WC-2011	SHIELD, GAUGE GLASS, 3/4" X 9" LG
7	WC-2101	GAUGE GLASS ASSY, 9"
8	WC-38480	LABEL, FRONT GEM-3N

Index Nº	Part Nº	Description
9	WC-2006*	WASHER, .188 ID x .188 THK BTM
10	WC-1901A	SHANK, FAUCET W/SHIELD BASE
11	WC-64067	GUARD, FAUCET
12	WC-3282	HANDLE, CHEST GEM-3N
13	WC-4373	O' RING, 3/4 ID x 15/16 OD x 3/32 CS
14	WC-3705*	KIT, FAUCET S' SERIES
15	WC-1800	FAUCET, S' NON-LOCKING

** Recommmended parts to stock.*

Cleaning the GEM3N Satellite

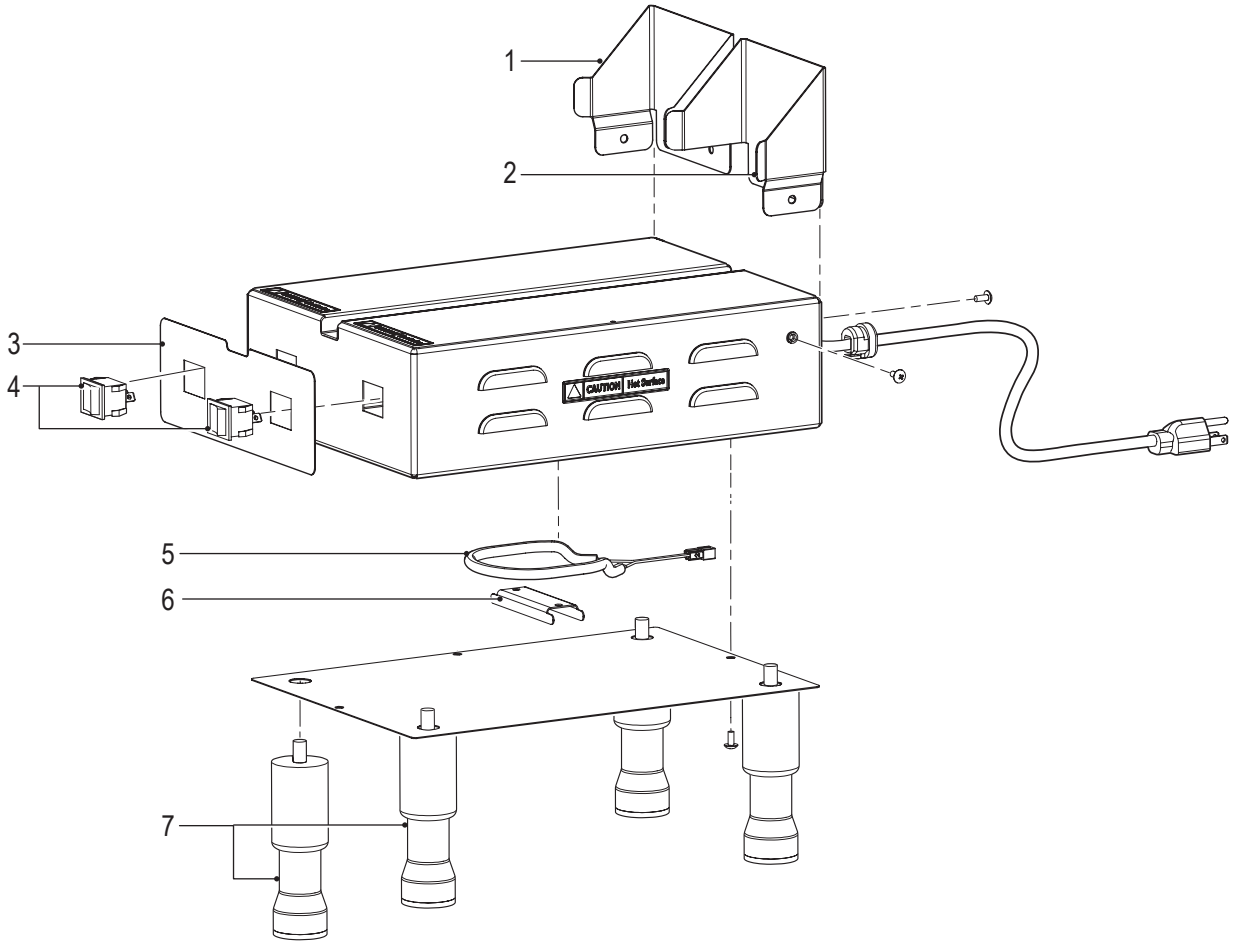
A daily routine of cleaning the GEM-3N Satellite will maintain the appearance of the unit and ensure great tasting coffee.

IMPORTANT

CAUTION – Do not use cleansers, bleach liquids, powders or any other substance containing chlorine. These products promote corrosion and will pit the stainless steel. USE OF THESE PRODUCTS WILL VOID THE WARRANTY.

To clean the Satellite components, prepare a mild detergent solution.

1. *Remove lid from satellite.*
2. *Turn the lid over and clean the funnel area, preferably with a gauge glass brush.*
3. *Rinse the lid, removing all traces of cleaning solution.*
4. *Unscrew the handle/bonnet assembly and remove from faucet.*
5. *Remove seat cup from stem and inspect for wear or hardening. Replace if necessary.*
6. *Clean all parts, including faucet body, with mild detergent and warm water. Thoroughly rinse with clear warm water.*
7. *Dry and assemble. Hand-tighten the handle assembly.*
8. *Remove the gauge glass tube by unscrewing the gauge glass cap.*
9. *Flush the tube and washers with a gauge brush and washing solution. Rinse with clear water. Dry and assemble.*
10. *Clean inside Satellite with a cloth or ScotchBrite™ pad.*
11. *Remove coffee residue using a mild detergent solution with water.*
12. *Thoroughly rinse with clear hot water.*

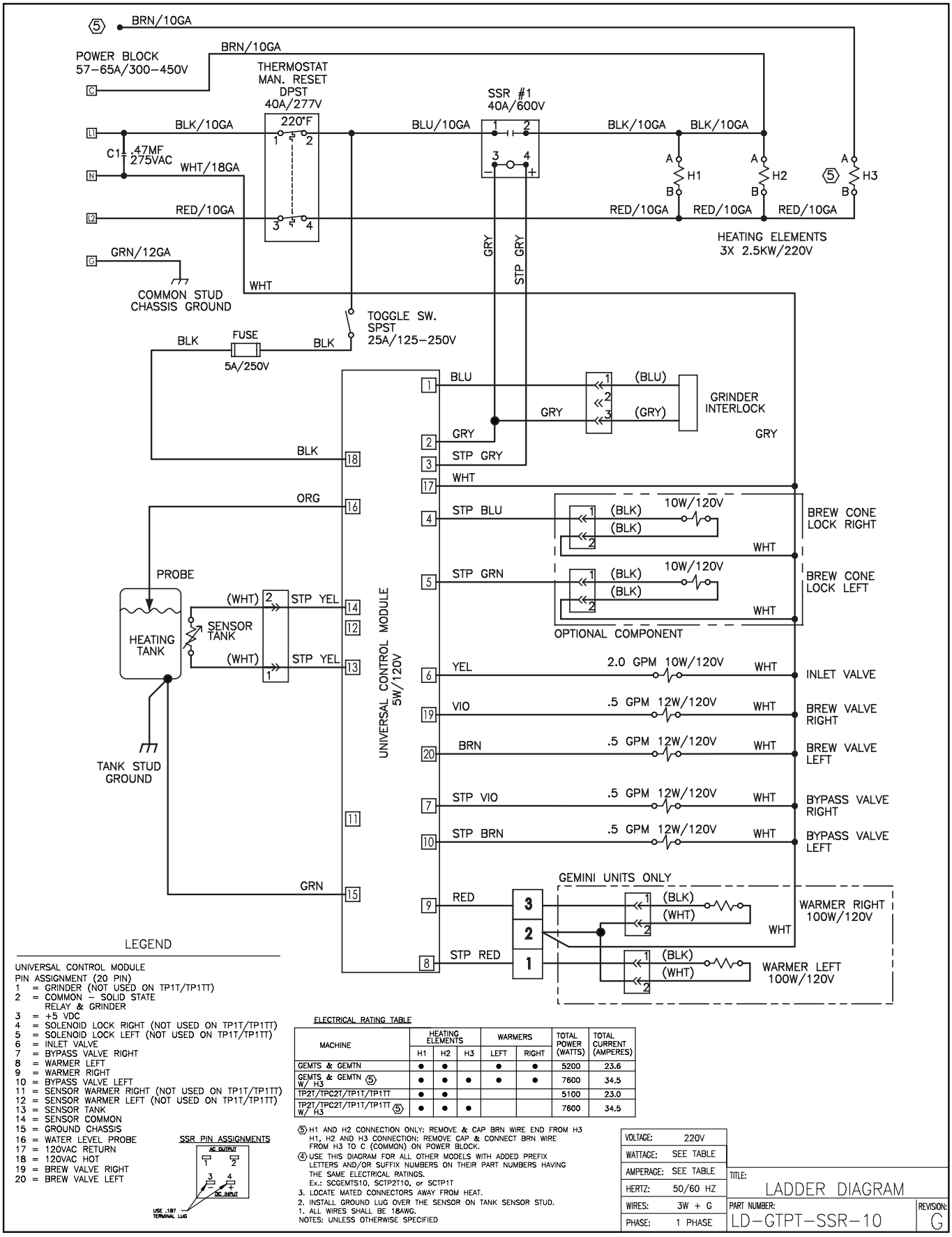


PARTS LIST – GEM-5N

Index Nº	*Part Nº*	*Description*
1	*WC-61687-L*	*BRACKET, STABILIZER LEFT*
2	*WC-61687-R*	*BRACKET, STABILIZER RIGHT*
3	*WC-38482*	*LABEL, FRONT GEM-5N*
4	*WC- 114R**	*SWITCH, ROCKER (RED) 120VAC*
5	*WC-37102**	*KIT, WARMER ELEMENT, 120V 100W*
6	*WC-61672*	*STRAP, WARMER ELEMENT*
7	*WC-3528*	*LEG, 4" ADJUSTABLE 3/8-16 THREAD ITALIAN STYLE*

** Recommmended parts to stock.*

ELECTRICAL SCHEMATIC –10



LEGEND

UNIVERSAL CONTROL MODULE
PIN ASSIGNMENT (20 PIN)

1 = GRINDER (NOT USED ON TP1T/TP1TT)
2 = COMMON – SOLID STATE RELAY & GRINDER
3 = +5 VDC
4 = SOLENOID LOCK RIGHT (NOT USED ON TP1T/TP1TT)
5 = SOLENOID LOCK LEFT (NOT USED ON TP1T/TP1TT)
6 = INLET VALVE
7 = BYPASS VALVE RIGHT
8 = WARMER LEFT
9 = WARMER RIGHT
10 = BYPASS VALVE LEFT
11 = SENSOR WARMER RIGHT (NOT USED ON TP1T/TP1TT)
12 = SENSOR WARMER LEFT (NOT USED ON TP1T/TP1TT)
13 = SENSOR TANK
14 = SENSOR COMMON
15 = GROUND CHASSIS
16 = WATER LEVEL PROBE
17 = 120VAC RETURN
18 = 120VAC HOT
19 = BREW VALVE RIGHT
20 = BREW VALVE LEFT

SSR PIN ASSIGNMENTS

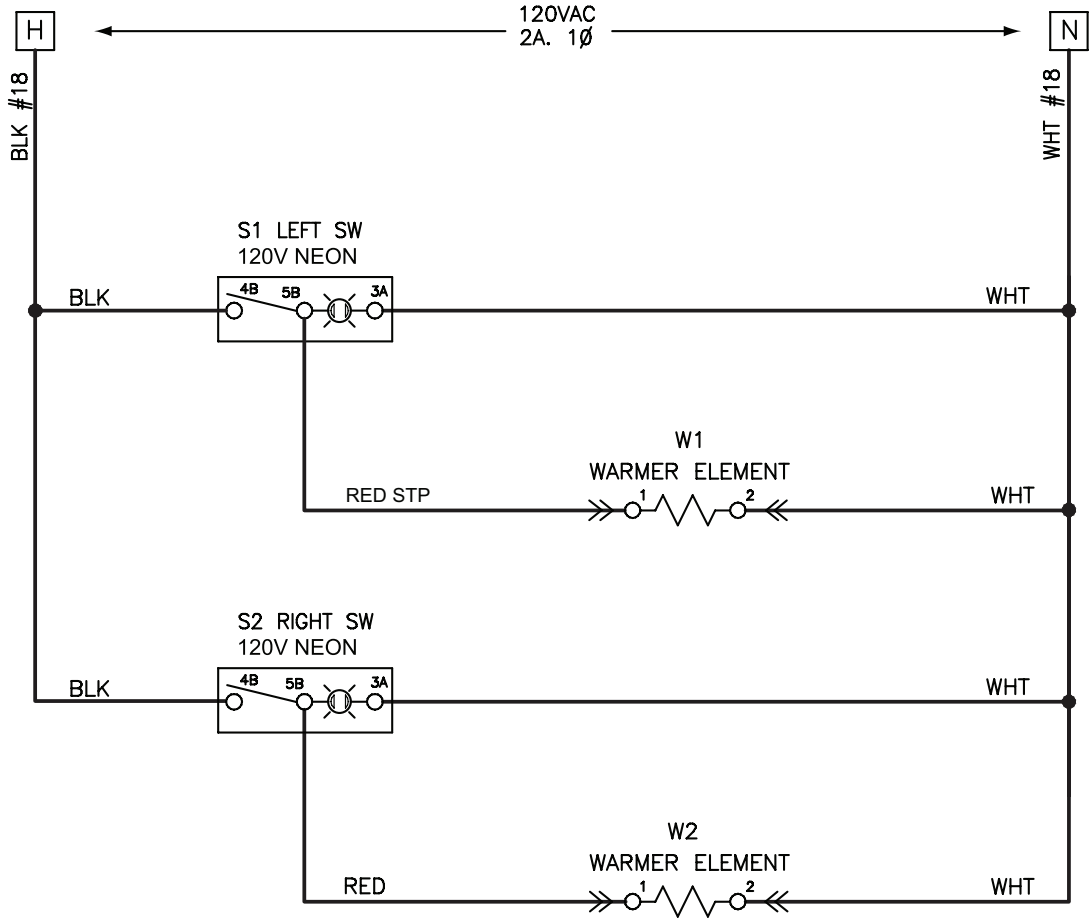
ELECTRICAL RATING TABLE

MACHINE	HEATING ELEMENTS			WARMERS		TOTAL POWER (WATTS)	TOTAL CURRENT (AMPERES)
	H1	H2	H3	LEFT	RIGHT		
GEMTS & GEMTN	●	●		●	●	5200	23.6
GEMTS & GEMTN ⑤ W/ H3	●	●	●	●	●	7600	34.5
TP2T/TPC2T/TP1T/TP1TT	●	●				5100	23.0
TP2T/TPC2T/TP1T/TP1TT ⑤ W/ H3	●	●	●			7600	34.5

⑤ H1 AND H2 CONNECTION ONLY: REMOVE & CAP BRN WIRE END FROM H3 H1, H2 AND H3 CONNECTION: REMOVE CAP & CONNECT BRN WIRE FROM H3 TO C (COMMON) ON POWER BLOCK.
④ USE THIS DIAGRAM FOR ALL OTHER MODELS WITH ADDED PREFIX LETTERS AND/OR SUFFIX NUMBERS ON THEIR PART NUMBERS HAVING THE SAME ELECTRICAL RATINGS.
Ex.: SCGEMTS10, SCTP2T10, or SCTP1T
3. LOCATE MATED CONNECTORS AWAY FROM HEAT.
2. INSTALL GROUND LUG OVER THE SENSOR ON TANK SENSOR STUD.
1. ALL WIRES SHALL BE 18AWG.
NOTES: UNLESS OTHERWISE SPECIFIED

VOLTAGE:	220V
WATTAGE:	SEE TABLE
AMPERAGE:	SEE TABLE
HERTZ:	50/60 HZ
WIRES:	3W + G
PHASE:	1 PHASE

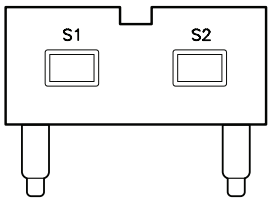
TITLE: LADDER DIAGRAM
PART NUMBER: LD–GTPT–SSR–10
REVISION: G



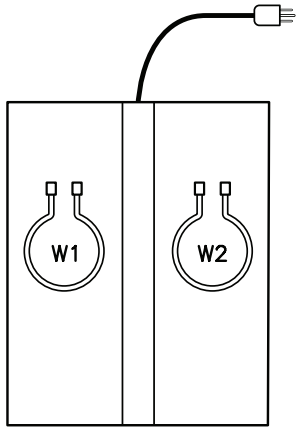
LEGEND:

S1 – Red Rocker Switch 1 (120Vac)
S2 – Red Rocker Switch 2 (120Vac)

W1 – Warmer Element 1 (100W, 120VAC)
W2 – Warmer Element 2 (100W, 120VAC)



FRONT



TOP

VOLTAGE:	120 VAC
WATTAGE:	200 W
AMPERAGE:	2A
HERTZ:	50/60 Hz
WIRES:	2W + G
PHASE:	1 PHASE

TITLE: LADDER DIAGRAM GEM–5N

PART NUMBER: LD–GEM–5N

REVISION: A

NOTES: UNLESS OTHERWISE SPECIFIED

1. ALL WIRES SHALL BE 18 AWG PVC–105C.

Product Warranty Information

The Wilbur Curtis Company certifies that its products are free from defects in material and workmanship under normal use. The following limited warranties and conditions apply:

3 Years, Parts and Labor, from Original Date of Purchase on digital control boards**.**
2 Years, Parts, from Original Date of Purchase on all other electrical components, fittings and tubing.
1 Year, Labor, from Original Date of Purchase on all electrical components, fittings and tubing.

Additionally, the Wilbur Curtis Company warrants its Grinding Burrs for Forty (40) months from date of purchase or 40,000 pounds of coffee, whichever comes first. Stainless Steel components are warranted for two (2) years from date of purchase against leaking or pitting and replacement parts are warranted for ninety (90) days from date of purchase or for the remainder of the limited warranty period of the equipment in which the component is installed.
All in-warranty service calls must have prior authorization. For Authorization, call the Technical Support Department at 1-800-995-0417. Effective date of this policy is April 1, 2003.
Additional conditions may apply. Go to www.wilburcurtis.com to view the full product warranty information.

CONDITIONS & EXCEPTIONS

The warranty covers original equipment at time of purchase only. The Wilbur Curtis Company, Inc., assumes no responsibility for substitute replacement parts installed on Curtis equipment that have not been purchased from the
Wilbur Curtis Company, Inc. The Wilbur Curtis Company will not accept any responsibility if the following conditions are not met. The warranty does not cover and is void under the following circumstances:

1) **Improper operation of equipment:** *The equipment must be used for its designed and intended purpose and function.*
2) **Improper installation of equipment:** *This equipment must be installed by a professional technician and must comply with all local electrical, mechanical and plumbing codes.*
3) **Improper voltage:** *Equipment must be installed at the voltage stated on the serial plate supplied with this equipment.*
4) **Improper water supply:** *This includes, but is not limited to, excessive or low water pressure, and inadequate or fluctuating water flow rate.*
5) **Adjustments and cleaning:** *The resetting of safety thermostats and circuit breakers, programming and temperature adjustments are the responsibility of the equipment owner. The owner is responsible for proper cleaning and regular maintenance of this equipment.*
6) **Damaged in transit:** *Equipment damaged in transit is the responsibility of the freight company and a claim should be made with the carrier.*
7) **Abuse or neglect (including failure to periodically clean or remove lime accumulations):** *Manufacturer is not responsible for variation in equipment operation due to excessive lime or local water conditions. The equipment must be maintained according to the manufacturer's recommendations.*
8) **Replacement of items subject to normal use and wear:** *This shall include, but is not limited to, light bulbs, shear disks, "0" rings, gaskets, silicone tube, canister assemblies, whipper chambers and plates, mixing bowls, agitation assemblies and whipper propellers.*
9) **Repairs and/or Replacements** *are subject to our decision that the workmanship or parts were faulty and the defects showed up under normal use. All labor shall be performed during regular working hours. Overtime charges are the responsibility of the owner. Charges incurred by delays, waiting time, or operating restrictions that hinder the service technician's ability to perform service is the responsibility of the owner of the equipment. This includes institutional and correctional facilities. The Wilbur Curtis Company will allow up to 100 miles, round trip, per in-warranty service call.*

RETURN MERCHANDISE AUTHORIZATION: *All claims under this warranty must be submitted to the Wilbur Curtis Company Technical Support Department prior to performing any repair work or return of this equipment to the factory. All returned equipment must be repackaged properly in the original carton. No units will be accepted if they are damaged in transit due to improper packaging.* **NO UNITS OR PARTS WILL BE ACCEPTED WITHOUT A RETURN MERCHANDISE AUTHORIZATION (RMA). RMA NUMBER MUST BE MARKED ON THE CARTON OR SHIPPING LABEL.** All in-warranty service calls must be performed by an authorized service agent. Call the Wilbur Curtis Technical Support Department to find an agent near you.

Curtis®
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Phone: 800/421-6150 ◆ Fax: 323-837-2410
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◆ *Web Site: www.wilburcurtis.com*

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