



SUN ELECTRIC CORPORATION

Model: **MGA-9000NC**
UNIT SETUP

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Field Installation Instructions

INSTALLATION MUST BE PERFORMED BY QUALIFIED SUN SERVICE PERSONNEL ONLY

INSTALLATION OVERVIEW:

The MGA-9000 is shipped as a fully assembled unit, with the exception of the unit pack and packaging assembly.

PARTS LIST:

<u>DESCRIPTION</u>	<u>PART NUMBER</u>	<u>QTY</u>	<u>DESCRIPTION</u>	<u>PART NUMBER</u>	<u>QTY</u>
Literature Kit, NC	0119-0335-01	1	1.44 Floppy, Uniform	0552-0072-01	1
Gas (Low Scale)	0271-0062-01	2	Keyboard cover	0552-0993-01	1
Gas (Mid Scale)	0271-0066-01	2	Install. Instinct.	0692-1978-01	1
Keyboard, 101 key	0552-0990-01	1	Emission Banner	0693-1426-01	1
Keyboard Label	0682-1041-01	1			
Packaging Assy, NC	7009-2054-07	1	Lead Hanger	2161-0023	2
Hook, 4"	0124-0105-01	1	Exhaust Hose, Long	3988-0230-01	1
Regulator	0131-0024	2	Exhaust Hose, Short	3988-0231-01	1
Rubber strap	0144-0010-01	1	Trigger Lead, Short	6004-0262-05	1
Filter, 75 Micron	0301-0944-01	4	Volt/Ohm Lead	6004-0462	1
Filter, 8 Micron	0301-0945-01	4	Tach Lead (Blue)	6004-0566-01	1
Screws, 10-32x1/2"	0403-1541-08	2	Quad 4/Nissan Adapt.	6005-0181-01	1
Velcro Loop, 3"	0424-0804-01	1	BMW Adapter	6005-0184-01	1
Velcro Hook, 3"	0424-0804-02	1	Acura Adapter	6005-0184-02	1
Printer Ribbon	0528-0995	2	Adapter Kit	7009-1700	1
Dos 6.22 Package	0552-0104-01	1	Exhaust Probe Assy.	7009-1869	2
Brass Fitting	0647-0069	2	Trigger Pickup, Blk	7009-1929	1
Black Plastic Plug	1374-0110-01	6	ID Tag, Low Scale	7009-2035-01	1
Cable Clamp	0718-0103	1	ID Tag, Mid Scale	7009-2035-02	1
Nissan 300ZX Adapter	7009-2223-01	1	Tubing 8"	8200-0100-01	1
			Protective Caps	0758-0200-01	2
			Modem Cable	6004-0606-01	1
			Decal Tray Assy.	7020-2016-01	1

REQUIRED TOOLS:

Service Box
Mid Gas Bottle

Nut Drivers
Low Gas Bottle

Service Keys
Flow Gauge

INSTALLATION:

USE STANDARD ANTI-STATIC PRECAUTIONS WHILE PERFORMING THIS PROCEDURE

1. Cut the Straps, and remove the top of the carton, top packing, and carton sides.
2. Slide the WA-9000 and carton base off of the pallet, and split the corners of the base carton.
3. Lean the MGA-9000 so that one half of the foam base can be removed.
4. Lean the MGA-9000 so the other half of the foam base can be removed.
5. Open the Computer Drawer and ensure the boards are seated properly in each backplane. Visually inspect all connectors, making sure they are all properly connected. NOTE: Connector P720 is normally not connected and is used for the option kits.
6. Using the Service Box, plug the gray power cable into J424 on the System Interface Board.
7. Remove P412 from the Systems Storage Board and plug the ribbon cable from the Service Box in its place. Then reconnect P412 from hard drive into the T-Connector on the Service Box. Hang the Service Box on the side of the computer drawer.
8. Check for proper A/C and GROUND connections before turning the unit on.
9. Plug the tester into an A/C outlet, press the Circuit Breaker/Switch on the rear of the computer drawer.
10. Place the Operate/Standby switch into the operate position.
11. Load Software using the Service Box. On early boxes this procedure is completely automatic and needs no operator assistance.
12. Verify that the accessories listed on the first page are all present on the bottom shelf of the MGA-9000.
13. Remove the keyboard (0552-0990-01) from its box and plug the connector into the keyboard jack on the front of the tester. Attach the keyboard label (0682-1041-01) to the keyboard. Attach protective skin (0552-0993-01) to keyboard; secure by peeling off backing exposing adhesive.
14. Mount the one strip of Velcro (0424-0804-01) on the bottom of the keyboard. Now, attach the mating velcro (0424-0804-02), remove the backing, and place the keyboard in its proper position.
15. Remove all tape from the Lower printer and remove the carriage cover to gain access to the print head. Ensure that the printer ribbon cartridge is installed properly and remove the plastic stop that secures the print head.

16. Load a package of printer paper **into** the **lower printer**.
17. Perform the **same** procedure to the **Upper Printer**.
18. Insert the 6 black plastic plugs (1374-0110-01) into the six holes, just above casters, **on the base of the tester**.
19. **Using** the **one 10-32x1/2"** (0403-1541-08) **screw**, install one lead hanger (2161-0023) **into** the right slot on the rear of the **computer** drawer.
20. Mount 4" **round** hook (0124-0105-01) **to** the **bottom** shelf on the right side in the rear of the tester. **This is used to attach the rubber strap and secure the gas bottles to the shelf.**
21. Place the **clamp** (0718-0103) **around** the **modem** cable (6004-0606-01). Mount **clamp using** the **10-32x1/2"** screw **to** the lead **hanger** on the left slot on the rear of the **computer** drawer. **Position** cable so if **disconnected from** unit it will not hang **lower** than 18" from the floor. (See **bulletin #663**)
22. Connect the **Tach** Lead, Volt/Ohm Lead, Leak **Check** Adapter, Drain hose for Aspirator, and Exhaust Hose **to their perspective** connections.
23. **Cut the Drain Hose just enough so it does not reach the Exhaust port outlet.**
24. Attach the **Exhaust** probes **to** the two Exhaust Hoses, **and** place the short hose in the storage shelf in the rear, **along** with all the **Tach** Pickups, Filters, Printer Ribbon, **and** the DOS 6.22 Package.
25. Attach the regulators (0131-0024) **to the** two gas bottles, **and** attach the two brass fittings (0647-0069) **to** the regulators.
26. Attach the hose, with label (7009-2035-*), **to** the proper tanks.
27. When the software installation is **complete**, remove power **from** the unit and disconnect **the black box completely and** reconnect P412 **to** J412.
28. Press the Circuit **Breaker/Switch** to **power** up the **MGA-9000**. The **MGA-9000** will perform systems test **and prompt** you for the Service access **code**. Type in service access code and press enter.
29. **From** the Service Menu, select **"Manual Calibration"**. select **"Cal Port 1"** **and** press "Enter" .
30. With the **IR** Pump "ON" , connect the Flow Gauge **to the** Exhaust port, and record the flow rate.
31. **Press "Enter"**, select "Cal Port 2", **and** press **"Enter"**. Record the **Flow** rate again.
32. **Disconnect the Flow Gauge from the exhaust port and** connect it **to the** Mid Gas Bottle. **Turn** the bottle on **and** adjust the Regulator to **match** the **f low** of Cal Port 1 **and** turn off the gas bottle.
33. Disconnect the **Flow** Gauge from the Mid Gas Bottle **and** connect it to the **Low** Gas Bottle. **Turn** the bottle on **and** adjust the Regulator to **retch** the **f low** of Cal Port 2 **and** turn off the gas bottle.

34. Place the bottles in the **bottom** of the cabinet, **strapping** them **down** with the **Rubber** strap (0144-0010-01). Connect the Mid Gas Hose to Cal **Port 1**, and the **Low Gas Hose** to Cal **Port 2**.
35. **From** the Service Menu, select #7 for State Audit Functions.
36. *Select #2*, Install New Data Disk.
37. **The** Screen will display "Do you want to install a new data **disk**?" Press **"Enter"** to answer Yes.
38. **The** Screen will **prompt** you to unlock the State drive **compartment**. Insert an unformatted 1.44 **MEG** Disk, close **and** lock the state drive door. Press **"CONT"** .
39. *The* **Screen** should display "No vehicle Inspection **Records**". Press **"CONT"**, the green key, to install data disk. **"Disk Installation Complete"** should **appear on the screen** shortly, after which, press **"Menu"** to return to the State Audit Functions Menu.
40. **Select #1**, **"Reset Time and Date"**.
41. Press **"Enter"** to keep current date or type correct date and press **"Enter"**.
42. Press **"Enter"** to keep current time or type correct **time** and press **"Enter"** .
43. Type in the correct **"AM or PM"** and press **"Enter"**.
44. Use cursor **arrow** to **move** highlight **bar** and press **"Enter"** to select either **Standard Time** or Daylight Savings Time.
45. Press **"Menu"** to return to the State Audit Function Menu.
46. *Select #3* **"Update Station Information"** , select Station **and** press **"Enter"**.
47. Type in the **County name** and press **"Enter"**.
48. Type in the Station number **and** press **"Enter"**.
49. Type in the Analyzer **number** and press **"Enter"**.
50. Press the **"Cont"** key.
51. If a **State** Representative is present during the initial set up, cursor over to **DMV** and press **"Enter"**. If not, **go to step 53**.
52. Press **"Enter"** on line 1. Type in the Representative last name, press **"Enter"**, type in the first **name** and press **"inter"**.
53. **Type in his access** code, press **"Enter"**, type in his Drivers License **and** press **"Enter"** . Press **"Enter"** again to save charges.
54. Press the **"Menu"** key to return the State Audit Functions **menu**.
55. **Press #4**, **"Set Calibration Gas Limits"**.

56. Check **gas values** to ensure that they are correct. If they are correct press **"Enter"**, if incorrect, enter in the correct values.
 57. Press **"Menu"** to return the **State** Audit Functions menu and press **"Cont"** for **next** page.
 58. Select #10, Set Initial polling **Date"**.
- Note: The **correct** piling date for Sun Electric is the 26th of each month .
59. Type in the correct polling date and press **"Enter"**.
 60. Type **in** the correct polling time, using Military **Time**, and press "Enter".
 61. Type **in** AM and press "Enter" .
 62. Press **"Menu"** to return the State Audit Functions **menu**.
 63. Press **"Menu"** to return to the SexVice Menu.
 64. Select #3 "Device Setup" and enter in the correct information pertaining to the unit. Use arrow keys to change selections.
 65. Press the MENU key to **return** to the ServiceMenu. **Select number 8 (SETUP EXPEDITE/PC)** .

NOTE: *Once you have selected "8", you cannot POWER DOWN, RESET, REBOOT, or ABORT the setup procedure.*

66. **Watch** for and make a note of the **modem** type displayed. (**USRobotics** or **Okidata**) **Check** to see if all parameters are correct. If so, press **"Y"**. If not, press **"N"** for NO.
67. **Enter** the 3 digit ID **number** that is assigned to this unit by the region. Press **"Y"** if this is **correct**. Otherwise **"N"** for NO.
68. Select the phone number **from** the list (1-9) that is **in** your **area**. If nmkeris notonthelist, or the area code needs to be removed, enter the number **"0"** for manual **entry**. Press **"Y"** if this is correct. Otherwise **"N"** for NO.
69. **Enter** 9 for an internal **phone** line. **Enter** 1 for long distance number. **If neither one of these numbers need to be used, just press the ENTER key.** Otherwise press the ENTER key to except the entry. Press **"Y"** if this is **correct**. Otherwise **"N"** for NO.
70. For **the secondary** phone **number** enter 9 for an internal phone line. If 9 **is not used** **press the ENTER** key. Otherwise press the **ENTER** key to except the entry. Press **"Y"** if this is correct. Otherwise **"N"** for NO.

NOTE: *Do not enter a 1 in this field since a 1 is already displayed.*

71. Enter the first character of the modem type. U for **USRobotics** or 0 for **Okidata**. Press **"Y"** if this is correct. Otherwise **"N"** for NO.

72. Enter the type of **phone** line used. T for **Tone** or P for Pulse. Press "Y" if this is correct. Otherwise "N" for NO.
73. Select 1-5 to **change** any data that is not correct. Otherwise press the **"0" key to** continue.
74. select number 3 (**CHANGE PASSWORD**), then press the ENTER key.
75. **Enter NSUNXXX** for the current password, then press the ENTER key. Enter a 5 letter word that has not **been used on this** unit before for the new password, then press the ENTER key. Enter the **same word** again to verify password, then press the ENTER key.
76. Enter **NSUNXXX** for the current password, then press the ENTER key. Enter **the same 5 letter** word that was **used in the last step** for the new password, then press the ENTER key. Enter **the same word one more time** to verify password, then press the ENTER key.
77. Press the F3 key, then press the **ENTER key** to save data. Press the F3 key to EXIT.
78. select number 5 (**TRANSMIT**), then press the ENTER key. Press the **ENTER key** to select number 1 (**NOW**).
79. Watch the screen for a picture of a **computer and** phone lines. Listen for the dial tone, the dialing, etc. Watch for the IBM logon Successful message.
80. Watch the **box** to the liner left to display last **RETURN CODE: 00000**. If this does not match, note down the return code **and** call Jeff **Hinkle** (2625) at Crystal Lake.
81. If the **RETURN CODE** is "00000" then the Expedite Setup procedure is **complete**. The unit will reboot automatically back into North Carolina **BAR 90 Software**.

* **INSTALLATION COMPLETE** *
