



SUN ELECTRIC CORPORATION

Model: DIL-300

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Field Installation Instructions

INSTALLATION MUST BE PERFORMED BY QUALIFIED SUN SERVICE PERSONNEL ONLY

The DIL-300 functions as an interface between the Sun-1805(-9), Sun-1805Z, MEA-1500 or the MCA-3000 Host Testers and specific vehicles having a Distributorless Ignition System.

HOST TESTER COMPATIBILITY

The DIL-300 is designed to work on the above mentioned testers ONLY. Particular software and hardware requirements to these testers must be met to support the DIL-300. See Figure 1 below for requirements. NOTE: If the Host Tester is already capable of supporting a DIL-200 Serial "B", no changes will be necessary to support the DIL-300.

DIL-300 COMPATIBILITY CHART		
SUN MODEL	SOFTWARE REQUIRED	HARDWARE REQUIRED
SUN-1805(-9)	THE MINIMUM REV OF THE PROGRAM MEMORY IS 3.0 AND THE MINIMUM REVISION OF THE LIMITS AND DIAGNOSTICS IS 86.1/20.2	THE KV/02 BOARD MUST BE A 700 1-0591
SUN-1805Z(-9)	THE MINIMUM REV OF THE PROGRAM MEMORY IS 3.0 AND THE MINIMUM REVISION OF THE LIMITS AND DIAGNOSTICS IS 88.1/20.2	NO SPECIAL HARDWARE UPDATES REWIRED
MEA-1500	NO SPECIAL SOFTWARE UPDATES REQUIRED	NO SPECIAL HARDWARE UPDATES REWIRED
MCA-3000	THE MINIMUM REV OF THE MASTER PROGRAM IS 4.3 AND THE MINIMUM REVISION OF THE LIMITS AND DIAGNOSTICS IS L88.1/D2.02	THE SECONDARY TRIGGER BOARD #7001-0551 MUST BE A REVISION "T" OR LATER

Figure 1

PARTS LIST -----

<u>Description</u>	<u>Part #</u>	<u>Qty</u>
Installation Instructions	0692-1759-01	1
Universal Cable Assembly "U1"	6004-0627-01	1
DIS Processor Assembly	7009-2048-01	1
Cartridge Assembly "AVS"	7009-2055-01	1

GENERAL INFORMATION

Before being used, the **DIL-300** must be calibrated to ensure matching of the **DIL-300** to it's associated Host Tester. Calibration of the **DIL-300** consists of adjusting the Analog Pattern Processing circuitry and the Secondary Output Gain. The Analog Pattern Processing circuitry is factory adjusted and calibration ONLY needs to be performed whenever either the Pattern Pickup Cable **Assembly #6004-0544** or **D.I.S.** Processor PCB Assembly 7001-2075-01 is replaced.

NOTE : ONLY the **DIL-300** SECONDARY GAIN ADJUST procedure MUST BE performed upon initial equipment setup or whenever the **DIL-300** is transferred to another Host Tester.

REQUIRED TOOLS -----

<u>Description</u>	<u>Part Number</u>	<u>Qty</u>
Calibration Cable Assembly	6004-0500	1
Adjustment Screwdriver	0001-0033	1
Ignition Simulator	IS-100A	1

SECONDARY GAIN ADJUSTMENT

Prior to performing the following procedure, refer to the MEA 1500 Service Manual and perform VERTICAL CHECKOUT/CALIBRATION procedures in Chapter 4, page 4-15; or the SUN-1805 Service Manual and perform the firing and spark KV procedures in Chapter 11, Page 110, or the MCA-3000 Service Manual and perform the KV calibration in Chapter 9, page 9-9.

1. Turn Host Tester on.
2. A. If the host tester is a SUN-1805(Z), advance to the PROGRAM SETUP page. Enter vehicle code 438 (load limits first if an 1805Z) and advance to the PROGRAM SELECTION MENU. Select the DYNAMIC FIRING KV PAGE by pressing #8 on the remote.
 - B. If the host tester is a MEA-1500, advance to the VEHICLE SETUP page. Enter 6 cyl. and 4 cycle and then advance to the VEHICLE TEST page. Select DISPLAY, SECONDARY, and LOW **SCALE(25KV)** on the remote.
 - C. If the host tester is an MCA-3000, enter vehicle code 438 in the Vehicle ID page and advance the DYNAMIC KV page from the PINPOINT MENU. Use the CONT key to advance to the DYNAMIC FIRING KV Page.
3. Connect the TRIGGER pick-up of the Host Tester to IS-100A TRIGGER loop.

4. Connect the Blue PATTERN lead of the Host Tester to the PATTERN LEAD connector on **DIL-300**.
5. Connect the blue-booted primary clip and black-booted ground clip from the Host Tester's UNIVERSAL harness to the PRIMARY (-) side of the coil and the GROUND lug on the IS-100A respectively.

NOTE: If the Host Tester is a **MEA-1500** or **MCA-3000**, DO NOT connect the Yellow-booted lead to the **(+)** side of the coil.

6. Connect the 14-pin connector of either the **D.I.S.** Module Cable Assembly 7009-1867 (from the GM Cable Kit) or the Universal Cable #6004-0590-01 (from the Ford cable kit) to the **IGNITION** MODULE connector on the **DIL-300**. Connect the pink twin flex RED and BLACK clips to **ALT VOLTS/OHMS** lugs on IS-100A.
7. Connect the 4-pin connector of the Secondary Calibration Cable #6004-0500 to the **SECONDARY PICK-UPS** connector on the **DIL-300**. Connect the other end of the Calibration Cable to the Calibrated Secondary Output terminal on the IS-100A.
8. Set the switches/controls on the IS-100A as follows:

ALT VOLTS/OHM to 13.	CYLINDERS to 6.
PATTERN DELTA KV to OFF.	RIPPLE to OFF.
SPARKLINE SLOPES to OFF.	IGNITION to ON
RPM/TIMING to 1200.	POWER to ON.
9. Insert the Generic Personality Cartridge into the **DIL-300** cartridge receptacle. The Ford or GM Personality Cartridge may be used in place of the Generic Personality Cartridge.
10. The top cover of the DIL 300 must be removed to gain access to the pots located on the left side of the **DIL-300**. Remove the six screws that secure the top of the **DIL 300**. Remove the top cover carefully as the keypad will be suspended by its attaching ribbon cable.
10. Momentarily press the POWER switch on **DIL-300** and verify that the POWER LED lights.
11. If using the Generic Personality Cartridge, select "**6Cyl**" by pressing the corresponding number on the **DIL-300** Keypad. If using the GM Personality Cartridge select "3.8 Liter, Type I" engine. If using the Ford Personality Cartridge, select the "**3.0L, SHO**" engine.
12. Adjust the MIDDLE pot **R71** on the **DIL-300** to read as indicated in either 12A, 12B or 12C.
 - A. If the Host Tester is a SUN-1805, adjust R71 until all six live DYNAMIC FIRING KV readings are **16.5KV +/- 0.1 KV**.
 - B. If the Host Tester is a MEA-1500, adjust R71 until all six firing lines are at **16.5 KV +/- 0.5 KV** on the LOW SCALE (25 KV).
 - C. If the Host Tester is an MCA-3000, adjust R71 until all the cylinders in the RESULTS column read **16.5KV +/- 0.1KV**.

DIL " 300" DISPLAY ' BRIGHTNESS' CONTROL

1. Power the unit up.
2. Adjust the TOP pot R125 until the background raster disappears. Then adjust until the background raster becomes faintly visible.
3. Turn off power to the unit.
4. Position the keypad and place the top cover on the unit. Insert the six screws that secure the top and tighten.

* CALIBRATION COMPLETE *
