



SUN ELECTRIC CORPORATION

Mode / : DIL-200 Serial B

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Field Installation Instructions

INSTALLATION MUST BE PERFORMED BY QUALIFIED SUN SERVICE PERSONNEL ONLY

The DIL-200 Serial B functions as an interface between the SUN-1805(-9), SUN-1805Z(-9), MEA-1500, or the MCA-3000 Host Testers and certain vehicles having Distributorless Ignition Systems (DIS) since 1984.

HOST TESTER COMPATIBILITY

The DIL-200 is designed to work on the above mentioned family of testers ONLY. Software and/or Hardware updates that may be required to support the DIL-200, refer to the chart below for requirements:

DIL-200 SERIAL "B" COMPATIBILITY CHART				
SUN MODEL	GM DIS SYSTEMS		FORD DIS SYSTEMS *	
	SOFTWARE REQUIRED	HARDWARE REQUIRED	SOFTWARE REQUIRED	HARDWARE REQUIRED
SUN- 1805(-9)	MINIMUM OF 08.0/05.0/08.0 FIRMWARE REQUIRED. UPDATE USING KIT #0120-0479-02.	KV/02 PROCESSOR BOARD MUST BE 7001-0592. WHICH IS CONTAINED IN #0120-0479-02 KIT.	THIS UNIT WILL NOT CURRENTLY SUPPORT FORD DIS SYSTEMS. HOWEVER, FUTURE PLANS ARE TO RELEASE A KIT TO MAKE THIS SO.	
MEA- 1500	NO UPDATES REQUIRED	NO UPDATES REQUIRED	NO UPDATES REQUIRED	NO UPDATES REQUIRED
SUN- 1805Z(-9)	NO UPDATES REQUIRED	NO UPDATES REQUIRED	PROGRAM MEMORY REV 3.0 WITH LIMITS & DIAGNOSTICS OF REV 88.1/20.2. UPDATE USING KITS 1095-0048-01 & 1095-0049-01. **	SINGLE REMOTE Area-Y REQUIRED (p/n 7009-1947)
MCA-3000	NO UPDATES REQUIRED	NO UPDATES REQUIRED	MASTER PROGRAM REV 4.2 WITH LIMITS & DIAGNOSTICS REV 08.1/02.02 ***	SECONDARY TRIGGER BOARD (p/n 7001-0551) MUST BE REVISION T OR LATER.
SERIAL '8" DIL-200s DO NOT INCLUDE DIS CABLE KITS. TO INSTALL AND CALIBRATE THIS UNIT, ONE OF THESE KITS IS REQUIRED:				
		GM DIS CABLE KIT # 1091-0035-01		
		FORD DIS CABLE KIT # 1091-0021-01		
DIL-200 SERIAL "A" CAN BE UPDATED TO SUPPORT FORD DIS SYSTEMS USING KIT #1091-0021-02, THIS KIT CONTAINS FORD DIS CUES				

* UNITS THAT ARE FORD DIS CAPATIBLE ARE ALSO GM DIS COMPATIBLE.

** OLDER LIMITS & DIAGNOSTICS DISKS ARE NOT SUPPORT BY REV 3.0 PROGRAM MEMORY.

*** TO ORDER 4.2 MASTER PROGRAM DISK USE NUMBER 7009-1973E04 AND FOR LIMITS & DIAGNOSTICS USE NUMBER 7009-1973B05
4.2 MASTER PROGRAM WILL NOT SUPPORT OLDER VERSIONS OF LIMITS & DIAGNOSTICS.

CALIBRATION" OF THE DIL-200 TO THE HOST TESTER

Before being used, the DIL-200 must be calibrated to ensure matching of the DIL-200 with it's associated Host Tester. Calibration of the DIL-200 consists of adjusting the analog pattern processing circuitry and adjusting the secondary output gain. Calibration of the analog pattern processing circuitry is done at the factory, only the secondary pattern output gain will require calibration during setup.

EQUIPMENT REQUIRED

Part Number	Description
6004-0500	Calibration Cable Assembly
0001-0033	Calibration Screwdriver
IS-100-A	Ignition Simulator

NOTE: Before performing the following procedure it will be necessary **to do** one of the following Firing KV calibration procedures (depending on what Host Tester you are installing the **DIL-200** on). USE STANDARD ANTI-STATIC PROCEDURES WHILE PERFORMING THIS PROCEDURE:

A: Page 110 of the Interrogator Service Manual.

B: Page 4-15, Chapter 4 of the MEA-1500 Service Manual.

C: Page 9-9, Chapter 9 of the **MCA-3000** Service Manual.

The Firing KV section of the Host Tester must be checked for proper calibration before the **DIL-200** Secondary Gain **adjustment** can be made.

DIL-200 SECONDARY GAIN ADJUSTMENT

1. Turn the Host Tester "ON" and advance to the Self Calibration Page. Following completion of Self Calibration (Good, Not Calibrated, or Service Required) calibrate the KV section of the Host Tester, if not previously done.
2. A. If the Host Tester is a SUN-1805 or **SUN-1805Z** (limits must be loaded), advance to the PROGRAM SETUP Page. Enter vehicle code 438 and advance to the PROGRAM SELECTION MENU. Press NEXT TEST to advance to the DYNAMIC FIRING KV page.
 - B. If the Host Tester is a MEA-1500, advance to the VEHICLE SETUP page. Enter 6 cylinder and 4 cycle and then advance to the VEHICLE TEST page. Select DISPLAY, SECONDARY, and LOW SCALE (25 KV) on the remote.
 - C. If the Host Tester is a **MCA-3000**, enter vehicle code #438 in the VEHICLE I.D. page and advance to the DYNAMIC KV page from the PINPOINT MENU. Press CONT to advance to the DYNAMIC FIRING KV page.
- 3* Connect the red #1 trigger clamp of the Host Tester to the IS-100A Trigger Loop .
4. Connect the blue secondary pattern lead of the Host Tester to the Pattern Lead connector on the **DIL-200**.
5. Connect the blue booted Primary Clip and the black booted Ground clip from the Host Tester's 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 a **MCA-3000**, DO NOT connect the Yellow booted lead to the (+) side of the coil.

6. Connect the four pin connector of the Secondary Calibration Cable #6004-0500 to the SECONDARY PICK-UPS connector on the DIL-200. Connect the other end of the Calibration Cable to the Calibrated Secondary KV output terminal of the IS-100A.

**14 PIN CONNECTOR
EITHER #7009-1867
OR #8004-0580-01
DEPENDING ON
WHICH IS AVAILABLE.**

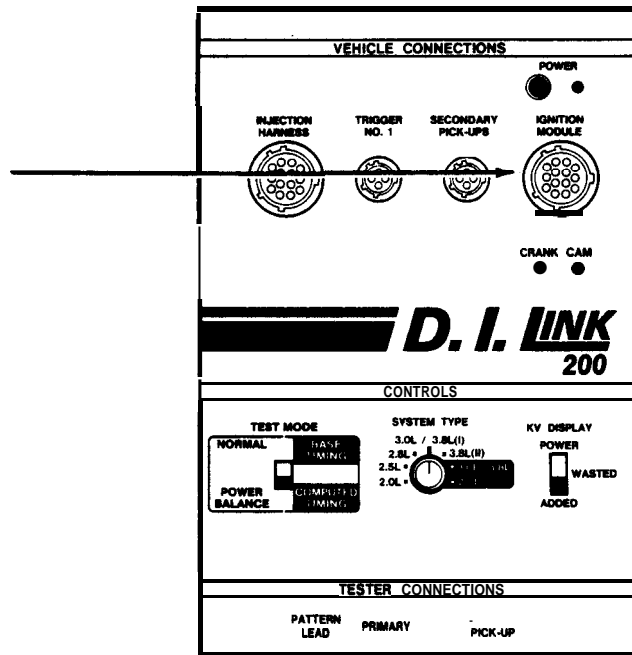


Figure 1

7. Connect the 14-pin connector of either the D. I.S. Module Cable Assembly #7009-1867 (for GM Cable Kit) or the Universal Cable #6004-0590-01 (for Ford DIS Cable Kit) , depending on which is available (see Figure 1) to the IGNITION MODULE connector on the DIL-200. Connect the pink twin flex RED and BLACK booted clips to the ALT VOLT/OHMS lugs on the IS-100A with regards to polarity. This is done just to supply power to the DIL-200.
8. Set the DIL-200's KV DISPLAY switch to "ADDED" and the SYSTEM TYPE switch to 3. 0L/3.8L (1).
9. Set the switches/controls of the IS-100A as follows:
- ALT VOLTS/OHMS to 13.
 - RIPPLE switch to OFF.
 - RPM/TIMING to 1200.
 - CYLINDERS switch to 6.
 - PATTERN DELTA KV to OFF.
 - . SPARK LINE SLOPE switch to OFF.
 - IGNITION and POWER switches to ON.
10. Momentarily press the POWER switch on the DIL-200 and note that the POWER LED lights.

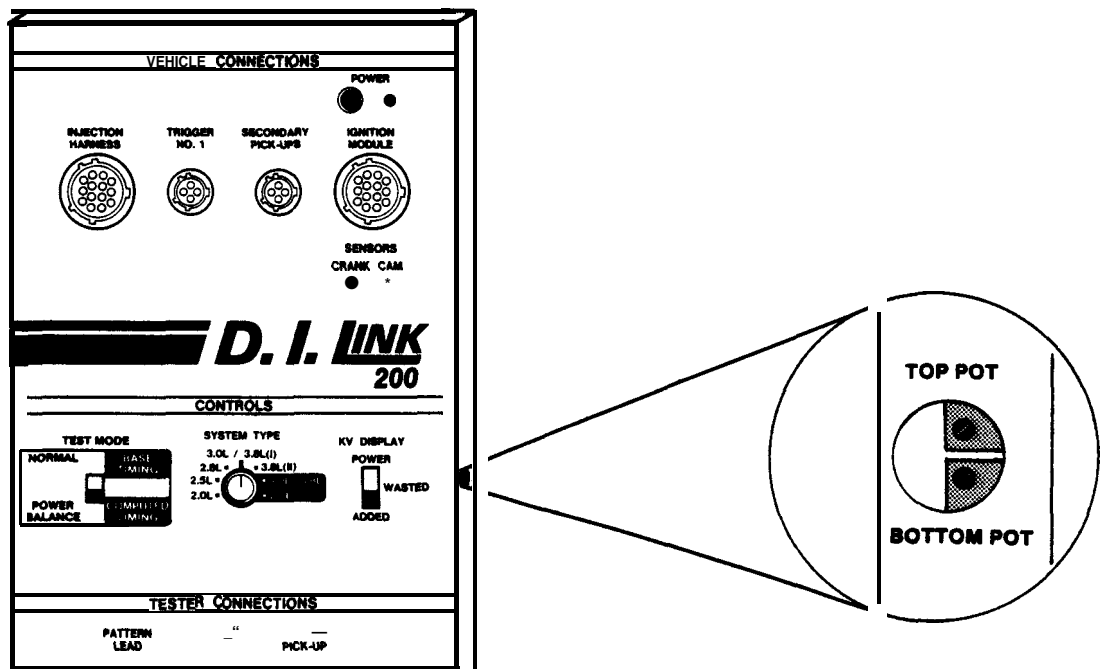


Figure 2

11. Adjust the bottom pot (see Figure 2) on the DIL-200 to read as shown in either A, B or C below.
 - A. If the Host Tester is a SUN-1805(Z), adjust the bottom pot until all 6 live DYNAMIC FIRING KV readings are 16.5 KV +/-0.1 KV.
 - B. If the Host Tester is a MEA-1500, adjust the bottom pot until all 6 firing lines are at 16.5 KV +/-0.5 KV on the **LOW SCALE (25 KV)**.
 - C. If the Host Tester is a MCA-3000, adjust the bottom pot until all the cylinders in the RESULTS column read 16.5 KV +/-0.1 KV.
12. Disconnect the Calibration Cable and complete tester hook-up as directed in the "DIL-200 Operating Instructions".

 * CALIBRATION COMPLETE *
