

## QUICK REFERENCE GUIDE

# SUN MODEL MEA-1500

### REMOTE CONTROL

The remote control keypad is divided into three basic sections: numeric entry, VDU control, and scope control. An engine kill key is located in the upper right hand corner of the remote control.

**ENGINE KILL** — Press this key to electronically disable the engine (i.e. in emergency situations to stop the engine or to perform cranking tests). Press again to release. When ENGINE KILL is on, a status indicator will be displayed on the VDU.

### Numeric Entry Keys

Numeric entry keys are used to make menu selections, enter numerical data, and to select a specific cylinder (i.e. for power balance or scope display). The function of the key depends on the page displayed. For example, a numeric key pressed on a power balance page will short out a cylinder. On the VEHICLE TEST page, a numeric key pressed will select a cylinder for expanded view on the scope.

*NOTE: The ten (10), eleven (11) and twelve (12) functions cannot be used for numeric entries. For example, a number of cylinder entry for a 12 cylinder car is accomplished by pressing "1" then "2".*

- 1 — 9** Press these keys to make number entries and select cylinders.
- 10** Dual-function. Use the decimal point with numeric entry keys on the data entry pages; press "ten" to select the number (i.e. cylinder selection on scope control or power balance page).
- 11** Dual-function. Use the zero with numeric entry keys on the data entry pages; press "eleven" to select the number (i.e. cylinder selection on scope control or power balance page).
- 12** Dual-function. Select plus or minus sign by pressing this key successively when required on data entry pages. Press "twelve" to select the number (i.e. cylinder selection for scope control or power balance page).

### VDU Keys

VDU control keys are used to change VDU pages; to clear, print or freeze VDU data; and to select VDU pages (HELP, MENU or SET-UP).

**ENTER**  
**CURSOR** Dual-function. Use cursor on data entry pages to move the cursor down the page to the next data entry line. Use enter after making a correct numeric selection whenever the word "Enter" is displayed at the bottom of the VDU in the Data Link program.

**ENGINE**  
**SET-UP** Dual-function. Use set-up to advance directly to the VEHICLE SET-UP page from MEA pages. Use engine to advance directly to the VEHICLE TEST Page from Data Link pages.

**CLEAR**

Press this key to erase data prior to repeating tests or to clear a data entry field.

**ABORT**

**FREEZE**

Press this key to stop the automatic update of data on the VEHICLE TEST page and "freeze" the data for analysis. Pressing FREEZE a second time reactivates the screen and discontinues the status indicator on the VDU.

**CONT**

Press the continue key when prompted. It is typically used to leave a test page, start a test, or return from HELP, VEHICLE SET-UP or DATA LINK pages.

**PRINT**

Dual function. 1) To print out any individual data page, press the key ONCE. There will be momentary pause before the printer begins to print out the information which appears on the VDU page, except the prompt messages at the bottom.

2) To form feed the printer paper to the next top of form (perforation), press this key TWICE in rapid succession. Refer to the printer operation section for instructions on setting the top of form.

**VOLT**

**OHM**

Press this key successively to change the display of VOLTS to OHMS and back again on the VEHICLE TEST page.

**HELP**

Press this key for help in setting up the vehicle, setting up the tester or operating the tester. Refer to the "Overview" for more details.

**MENU**

Press this key to return to the previous MENU page.

**YES**

Press this key to answer "Yes" to a (YES/NO) question displayed on the VDU in the Data Link program.

**NO**

Press this key to answer "No" to a (YES/NO) question displayed on the VDU in the Data Link program.

**BACK  
UP**

Press this key to review data or test results on a previous Data Link page. Refer to the backup function section for a detailed explanation of this feature.

## Scope Keys

The scope control keys are used to select the type of waveform display and the scale to be read. Once selected, these settings are displayed for a short period of time at the bottom of the VDU.

*NOTE: Upon power-up, the scope is automatically pre-set to display a primary circuit waveform in the display mode and high scale range.*

**PRI**

Press this key to display a PRIMARY circuit waveform on the scope.

**SEC**

Press this key to display a SECONDARY circuit waveform on the scope.

**SPECIAL**

Press this key to display an alternator output waveform (signaled from Red battery (+) lead) on the scope.

**DISPLAY**

Press this key to display all the cylinder waveforms in a horizontal row across the scope. The number one cylinder spark line is displayed at the left of the scope with the remainder of the cylinder waveforms displayed in firing order sequence from left to right. The display will end with the firing line of the number one cylinder on the right. By pressing the appropriate key, a secondary or primary DISPLAY waveform may be viewed on the scope.

### Cylinder Select

In the DISPLAY mode, the operator may press a cylinder's number on the remote control and display that cylinder in an expanded sweep above the other cylinders. The cylinder selected will be increased in size and appears in the center of the scope. Pressing the selected keypad number again returns that cylinder's waveform back into the original firing sequence.

One or more cylinders at a time can be selected. Patterns are then overlaid, similar to SUPERIMPOSED. Pressing the DISPLAY key cancels the cylinders chosen and returns the waveforms to the original firing sequence. Figures 16 and 17 show examples of secondary and primary waveforms with cylinders selected.

**RASTER**

Press this key to display each cylinder waveform one above the other at full screen width. A RASTER display consists of the cylinder number one waveform displayed at the bottom of the scope with the other waveforms displayed one above the other in firing order sequence. By pressing the appropriate key on the remote, a secondary or primary RASTER waveform may be viewed on the scope.

**SUPER**

Press this key to display a SUPERIMPOSED pattern, which places all the cylinder waveforms one on top of the other. By pressing the appropriate key, a secondary or primary SUPERIMPOSED pattern may be viewed on the scope.

**5  
MSEC**

Press this key to display the first five milliseconds of the waveform selected.

In DISPLAY mode, the cylinder select feature is used with the 5 MSEC sweep to show the first five milliseconds of the selected cylinder. In RASTER and SUPERIMPOSED modes, **all** cylinders will be displayed with the five millisecond sweep rate.

**HIGH  
LOW**

Press this key successively to change the range of the displayed scope pattern. The selection made will appear in reverse video on the VDU.

Primary circuit waveforms are displayed in either 0 to 500 volts using the right scale, or 0 to 25 volts using the left scale.

Secondary circuit waveforms are displayed in either 0 to 50 kilovolts using the right scale or 0 to 25 kilovolts using the left scale.

# MAG OFFSET ANGLES

## FORD

### 4-CYLINDER ENGINES

1.6	4	-068.0
1.9	4	-068.0
2.3 (OHC)	4	-052.5
2.3 (HSC)	4	-314.0
2.5	4	-068.0

### 6-CYLINDER ENGINES

3.3	I6	-135.0
3.8 (Early 82)	V6	-309.0
3.8 (Late 82 Up)	V6	-334.0
3.0	V6	-233.0
4.9	I6	-135.0
2.8	V6	-135.0

### 8-CYLINDER ENGINES

4.2	V8	-135.0
5.0	V8	-135.0
5.8	V8	-135.0

## GENERAL MOTORS/AMC

### ALL DISPLACEMENTS

-9.5

## CHRYSLER

### ALL DISPLACEMENTS

-10.0

## EUROPEAN VEHICLES

Systems with on-board mag timing pickups are automatically detected and the correct offset angle is set to either -20.0 deg. or 0.0 deg. depending on the type of system.



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