

MILEAGE KEEPER  
CALTRANS  
INSTRUCTION MANUAL

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# NOTICE

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This is version 2.2.3 of the manual and software.

Any comments or problems with the Model 170 Mileage Keeper or documentation, please contact :

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MODEL 170  
MILEAGE KEEPER  
OPERATING INSTRUCTIONS

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# 1. Introduction And Parts Included

The Model 170 Mileage Keeper is intended to keep a record of the mileage or hours driven, and remind the operator when Service and Preventative Maintenance is due on the vehicle

A maximum of 300 entries will be saved in the memory before writing over previous entries.

Following is a list of parts that come with the Model 170 Mileage Keeper:

- Model 170 Mileage Keeper
- AC Adapter / Power Supply  
12 vdc @ 100ma Center contact is Ground, Outside is +12vdc  
Radio Shack part # 273-1662 will work as replacement.
- 12 Foot Cable  
4 wire flat phone cable with RJ11 connector
- Instruction Manual

The display that will be on the screen during normal operation is shown below:

<b>I t i n e r a r y</b>		
<b>xxxxxxx</b>	<b>y</b>	<b>zzzzz</b>

- itinerary* - The itinerary that was selected or entered.  
*xxxxxxx* - This is the Expenditure Authority selected.  
*y* - Distance traveled since the destination was selected.  
*zzzzz* - Time

The cable connects to the connector on the bottom of the unit. The knob on the top left side is the contrast adjustment, use this to adjust the display for best viewing. The connector on the top of the unit is for the computer interface.

**The unit turns ON and OFF with the ignition switch in the vehicle so there is not a separate ON/OFF switch on the Model 170.**

## 2. Installation

The Mileage Keeper connects to the vehicle through the cable. This cable has 4 wires, only 3 are used.

**BLACK** wire connects to Ground

**RED** wire connects to +12 volts DC.

**GREEN** wire connects to the speedometer sending unit.

**YELLOW** wire is not connected.

The **BLACK** wire (Pin 1 of the connector) must be connected to a good **GROUND** on the vehicle.

The **RED** wire (Pin 2 of the connector) should be connected to the ignition side of +12 VDC. (This means that the **IGNITION KEY** must be **ON** to have +12 V DC on the **RED** wire).

The **GREEN** wire (Pin 3 of the connector) needs to be connected to the Speedometer Sending Unit for a signal that pulses this wire. This is available on most late model vehicles. If your vehicle does not have an electronic speedometer, then a sending unit can be installed in your speedometer cable.

**Special care must be taken to avoid running the GREEN wire near ignition components, spark plug wires, distributor, and coil: as this may pick up noise**

The **YELLOW** wire (Pin 4 of the connector) is not connected.

**For information on which wire for different vehicles to connect the GREEN wire (speedometer) to, check our website at <http://www.wildtec.com>**

### 3. Initialization And Calibration Of Mileage Keeper

NOTE: This initialization and calibration can only be done with the PROGRAM box attached to the Mileage Keeper . This will usually be done by the Equipment Group.

- Plug Program Box in Mileage Keeper
- Plug in cable to Program Box .
- Turn key on in vehicle.
- Adjust contrast knob on top of unit, if necessary.

Display shows :

CHANGE ? Y/N

- Press **N** to get to the standard display.

Itinerary  
xxxxxx y zzzz

- Press green **FUNC**

FUNCTION #

- Press **2**

SET TIME DATE? Y/N

- Press **Y** for Yes













ENTER TIME  
XX: XX XX/XX/XX

You enter time (24 Hour) and date completely.

Enter time first. You must enter two digits i. e. 03:15 not 3:15 for the time



If the month is less than 10, enter a 0 first for the month. i. e. 04/23/96. When you finish entering the date press ENTER (If you make any mistakes press CLEAR and start over with the green FUNCtion key.)

### 3. Initialization And Calibration Of Mileage Keeper (cont.)



- Press the green   

- Press   

- Enter the 5 digits and press   
or press  to skip this step  

- Enter the 4 digits and press   
or press  to skip this step  

- Enter the 7 digits and press   
You need to enter 7 digits, if your license has only 6, enter an E first.  
or press  to skip this step

### 3. Initialization And Calibration Of Mileage Keeper (cont.)

OPERATOR

- Enter the 15 characters and press 
- or press  to skip this step


Phone#

- Enter the 10 digits Area Code first and press 
- or press  to skip this step

The odometer reading must be entered each time, you can not skip this step.

ENTER ODOMETER

This is the starting odometer reading, enter all of the numbers including zeros except for the tenths of a mile. Do not enter the tenths of a mile on the odometer.

- Enter the 6 digits and press 

The odometer reading must be entered each time, you can not skip this step.

### 3. Initialization And Calibration Of Mileage Keeper (cont.)

- Next you will need to calibrate to the vehicle.

CALIBRATE  
Y/N

- Use the vehicle odometer to measure for the 1 mile calibration.

NOTE: For safety the Mileage Keeper will not accept keyboard input while the vehicle is in motion. Bring the vehicle to a safe stop off of the road and out of traffic before using the keyboard.

- Press  when ready to calibrate the 1 mile measurement.

CALIBRATE D  
Y/N 0 ENTER ?

On the screen the number will count up (2000 to 8000 counts per mile) depending on the make of your vehicle. Drive the 1 mile then stop

NOTE: If the number does not begin counting when the vehicle moves, then

stop and press  to change style of sensor pickup, the D in the upper right corner of display will change to a A, (D is DC pickup: A is AC pickup) and then calibrate the vehicle. If after calibration the reading doesn't match the vehicle's odometer then select the other style of sensor pickup and recalibrate.


• Press

The Model 170 Mileage Keeper is now calibrated.

## 4. PROGRAMMING SERVICE AND P. M. ALARMS

- Requires the Program box to enter alarms or reset the P.M. Alarm


- Service Miles:


- Press green 


FUNCTION #

- Press 


ENTER SERVICE MILES  
Y/N 6000

- Press  for No if it is not necessary to change the miles.


- Press  for Yes and then enter the number of miles before the SERVICE

alarm is displayed. Press 

PRESET Y/N?

- Press  for No if you do not want to preset the Service Mileage counter.

NOTE: If this is the first or initial programming of service miles press .

- Press  to PRESET the Service Mileage counter. And then enter the number of miles remaining until the next service is required. You must enter 4 numbers. i.e. 0712. Press

After this initial ALARM happens, then the SERVICE MILES will determine the interval between ALARMS.

#### 4. PROGRAMMING SERVICE AND P. M. ALARMS (cont.)

- P.M. Date

ENTER P. M DATE  
Y/N 03/20/00

- Press  for No if you do not want to change the P.M. Date
- Press  for Yes and then enter the date for when the P.M. Date Alarm will be displayed. Press

SERVICED ? Y/N

NOTE: If this is the first or initial programming of P.M. DATE press

- Press  for Yes
- Press  for No if you do not want to record the P.M. Date.

You can disconnect the Program box from the Mileage Keeper now.

## 5. Pre-Entering Sources, Expend. Auth., Sub Job, Special Designation, Management Activities, Itinerary, Storage, and Operator

In the operation of the Model 170 Mileage Keeper you can enter a Source, Expend. Auth., Sub Job, Special Designation Management Activities Itinerary, Storage location, or Operator name by typing in the name or selecting a pre-entered one. This section covers how to pre-enter these names.

		Source District	Source Unit	Charge District
Source	7 digits representing	1 2	3 4 5	6 7
E. A.	6 digits			
Sub Job	5 digits			
Special Designat.	12 digits			
Mgmt Activities	9 digits			
Itinerary	15 characters			
Storage Location	18 characters			
Operators Name	15 characters			

- A maximum of 10 entries each are allowed for **Sources**, **E.A.s**, **Sub Jobs**, **Special Designation**, **Management Activities**, **Itinerary**, **Storage** and **Operator** are allowed. These can be entered or changed at any time.


You can do this in your office by using the AC adapter to power the Mileage Keeper.

You may press  or use the  to correct mistakes during entering.

- Apply power to the Model 170 Mileage Keeper. Turn on ignition or connect to AC adapter.


Display shows :

CHANGE ? Y/N

- Press  for continue to get to the next display.

**I t i n e r a r y**  
 xxxxxxx      y      zzzz

## 5. Pre-Entering Sources, Expend. Auth., Sub Job, Special Designation, Management Activities, Itinerary, Storage, and Operator(cont.)

- Press green 

FUNCTION #


- Press 

1- SOURCE 2- EA 3- SUBJ  
4- S/D N- NEXT



- Press the number or N that matches what you want to pre-enter. NEXT selects the last 4 choices.

6- ITIN 7- STOR 8- OPER  
9- MGMT

### For example:


- Press  to pre-enter Source numbers.



↑ or ENTER  
1234567

- Press  or  to select one of the ten(10) locations that you want to pre-enter or change.

- Press 

You can now type the 7 digits for the Source. 1 and 2 are the Source District, 3, 4 and 5 are the Source Unit and 6 and 7 are the Charge District.

- Press  when you have the 7 digits for the Source.

- Press  or  to scan your entries. and pre-enter or change any of the 10 different entries.

## 5. Pre-Entering Sources, Expend. Auth., Sub Job, Special Designation, Management Activities, Itinerary, Storage, and Operator(cont.)

- Press  to exit.



1- SOURCE	2- EA	3- SUBJ
4- S/D		N- NEXT

More pre-entered values can now be entered in any other group.

- Press  to exit.


Itinerary		
xxxxxx	y	zzzz

## 6. Operation

When the vehicle key is turned on the Mileage Keeper turns on and will BEEP to alert you it is ready, or you can change by pressing  and then .

Alarms: If the vehicle is due for Service and/or Preventive maintenance the Mileage Keeper will beep 5 times and display the messages Due for Service or P.M. for 3 seconds and clear the display. This will continue at Start Up until the vehicle has been taken in for Service or P.M. and you reset it, saving the date and odometer reading in memory.

• Turn vehicle ignition on OR

• Press green 

• Press 

Display shows :

CHANGE ? Y/N

Note: If you do not select Y or N before the vehicle begins to move, the Mileage Keeper will continue to add the miles to the last record entered. If this is the first trip of the day (after midnight) then a new record for this date will begin with all of the previous information. Display will go to the standard display

LOCAL  
943035 32.6 10:41

To begin a new record with different parameters (Source, Expend. Auth., Sub Job, Special Designation, FA, Itinerary, Storage Location or Operator)

CHANGE ? Y/N

• Press  for Yes

## 6. Operation (cont.)

1- SOURCE 2- EA 3- SUBJ  
4- S/D N- NEXT

For example: To change the Itinerary :

- Press **6** for Itinerary.

ITIN=LOCAL  
↑ or ENTER

- Press **↑** to scroll to the first pre-entered Itinerary

ITIN=LOCAL  
LOCAL

- Press **↑** to scroll to the second pre-entered Itinerary

ITIN=LOCAL  
SACRAMENTO

- Press **ENTER** to select Sacramento as the new Itinerary.


CHANGE ? Y/N

- Press **Y** for Yes to change other parameters or if that is the only change then press **N** or when the vehicle begins moving a new record will begin.

SACRAMENTO  
943035 0.0 13:27

## 6. Operation (cont.)


- To Reset the Service Miles Reminder :

- Press green 

FUNCTION #

- Press 

SERVICED ? Y/N

- Press  if you have had the vehicle serviced and are ready for the Date and Odometer reading to be saved to memory

- Press  if the vehicle has not been serviced.

This will reset the service miles counter to stop the alarm from sounding at power on.

To reset the P.M. alarm the vehicle must be serviced at a CALTRANS  
Equipment Shop or by a Resident mechanic. (See Appendix C)

## 7. Transfer Information To Computer

This section covers transferring the stored information to a computer.

The interface or connection for the computer is an RS-232 port. This needs to be connected to your computer in place of a Modem. Use a standard modem cable to connect the Model 170 Mileage Keeper to the computer and software to interface to an external modem. Set the communications for 4800 Baud, 1 Start bit, 8 Data bits, 1 Stop bit, No Parity and No Flow Control is used. There are many different software programs available for the different types of computers that will work.


*See Appendix A for cable illustrations and program steps*

You will need to remove the Model 170 Mileage Keeper from the vehicle and take it to the computer. The AC adapter will be used to power the unit. Connect the AC adapter to the Model 170 Mileage Keeper and plug in.

Display shows :



CHANGE ? Y/N

- Press  to get to the standard display.




LOCAL  
943035      32.6    10:41

With your computer on, start the software program that you will use to receive the data from the Model 170 Mileage Keeper. Make certain that the communications port is set for the proper baud rate and other settings listed above.

Connect the cable from the Computer to the Model 170 Mileage Keeper.

When you transfer the saved information, it will be done by the month.

- Press green 



FUNCTION #

## 7. Transfer Information To Computer cont.

- Press 3

MONTH TO TRANSFER mm

Enter the 2 digits for the month of data to transfer. Use 2 digits i.e. 06 for June, 11 for November.

- Press ENTER and the Mileage Keeper will scan the memory for data from that month and transfer it to the Computer. If there is no data for that month in memory to be transferred it will display the *mm* for you to try again. All of the Information transferred to the computer is separated by an astrich " \* " .

Shown below is an example of the information that is collected and transferred to the computer.

```
NAME*VEHICLE_NO*C_NO*LICENSE*DATE*SOURCE_DISTRICT*SOURCE_UNIT*CHARGE_DISTRICT
EA_CODE*SUBJOB*SPECIAL_DESIGN*FED_AID*MGMT_ACTIVITIES*START_ODOMETER
END_ODOMETER*START_TIME*END_TIME*ITINERARY*STORAGE
T. HARNS*12345*1234*E123456
08/26/1999*98*765*43*246813* * *6*
000000*000028*1047*1052*LOCAL*STATE FACILITY
T. HARNS*12345*1234*E123456
08/26/1999*98*765*43*246813* * *7*
000028*000034*1118*1124*TEST1 *STATE FACILITY
T. HARNS*12345*1234*E123456
08/26/1999*98*765*43*246813* * *7*
000034*000042*1124*1128*TEST2*ENROUTE
T. HARNS*12345*1234*E123456
08/26/1999*98*765*43*246813* * *6*
000042*000074*1129*1314*TEST2*ENROUTE
T. HARNS*12345*1234*E123456
08/26/1999*12*345*67*824619*56473 *102938475610 *7*
000074*000081*1323*1329*TEST3*STATE FACILITY
```

Save this "data" in a file, this information must now be loaded into Excel, formatted into a readable format, checked and then printed or transferred to another database. ( see Appendix B )

# Appendix A

## A-1 Cable and setup for computers running Windows™ .

**Cable:** This varies depending on the model and manufacture of your computer. Some use 9 pin connectors, this usually requires a High Speed Modem (Belkin #F2L088-06) cable that has the signals between pins 2 & 3 cross connected (Null Modem). If it has a 25 pin connector, this usually requires a Straight Thru Serial cable

The connection at the Mileage Keeper is:

DB-25 Male
Pin 3 (Transmit / TX)
Pin 2 (Receive / RX)
Pin 7 (Ground)

### Program setup for Windows™

1. Connect cable to computers RS-232 port before turning computer on.
2. Turn on computer.
3. Select **Programs**
4. Select **Accessories** file.
5. Select **HyperTerminal** file
- 6 The HyperTerminal window should be displayed. Select **hypertrm.exe** .
- 7 Type Mileage Keeper and select the Icon with **2 TelePhones**, click **OK**
9. The Phone Number Window opens:  
    Connect using L  
        **Direct to Com X** (1,2, where the cable is connected)  
    Click ; **OK**
10. Change Port settings to be:

<u>B</u> its per second	<b>4800</b>
<u>D</u> ata Bits	<b>8</b>
<u>P</u> arity	<b>None</b>
<u>S</u> top Bits	<b>1</b>
<u>F</u> low control	<b>None</b>
11. Click on **OK**

You are now ready to transfer the information from the Model 170 Mileage Keeper (**Section 7**)

## Appendix B

### Transfer data from HyperTerminal to Excel™ for further use

Now that the “data” is in the computer you need to get the “data” into the spreadsheet Excel™

1. Open Excel™
2. Click on **File**
3. Click on **Open**
4. Enter the name of the file you saved the “data” in.
5. Excel™ will ask about the format, select **Delimited**.
6. Click on **Next**.
7. Select **Other** and enter an \*.
8. Click on **Finish**.

The astrix’s will be removed and the “data” formatted into individual cells. Before running the Macro, scroll to the bottom of your “data” in Excel™, and delete any junk that is present. The Macro to properly format the “data” needs to be run now. (See Appendix D to enter the Macro into Excel™, if it has not been done.)

1. Click on **Tools**.
2. Click on **Macros**.
3. Select **PERSONAL.XLS/MACRO1**
4. Click on **Run**.

The “data” will format to a readable format. You should verify the contents of the data and save or print a copy. Next save the “data” in a text formatted file for transfer to the **DataBase**.

1. Click on **File**.
2. Click on **SaveAs**.
3. Enter the file name to be saved as.
4. Select **Save as type:Text(Tab delimited)**


This is the file that you will upload to the central data base.

When you close Excel™, it may ask if you want to save the file in Excel™, select **NO**

## Appendix C

### Mechanic's instructions to reset the SERVICE miles and P.M. DATE


- To Reset the Service Miles Reminder :

- Press green 

FUNCTI ON #

- Press 

SERVICED ? Y/N

- Press  if you have had the vehicle serviced and are ready for the Date and Odometer reading to be saved to memory


- Press  if the vehicle has not been serviced.


This will reset the service miles counter to stop the alarm from sounding at turn on.


- To Reset the P.M. Date Reminder :


To reset the P.M. Date requires the use of the Program box.

- Connect the Program box inline with the cable going into the Mileage Keeper.

- Press green 

- Press  to access SPECIAL.

- Press  until the display asks if you want to ENTER P.M. DATE.

- Press  and enter the new P.M. Date.

- Press  when it asked if SERVICED? and a record of the P.M. date and mileage will be recorded.

Remove Program box from cable and the Mileage Keeper. is ready to go.