~1Chris's Automobile Recorder~2

Version 13.2
1/8/94

~1C~2ooney ~1A~2pplied ~1T~2echnology
P.O. Box 292039
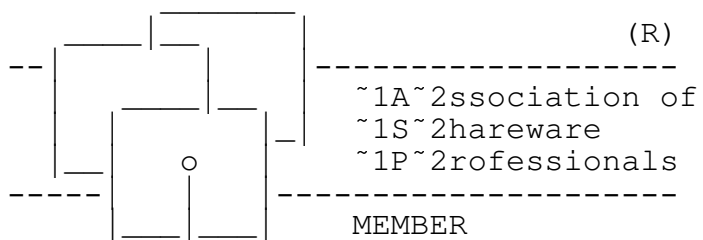Kettering, OH   45429-0039

```
         _____                        (R)
    ____|      |   ------------------
 --|    |_____|  |------------------
   |     _____  |_|    ~1A~2ssociation of
   |    |     | |      ~1S~2hareware
 __|    |  o  | |      ~1P~2rofessionals
-----   |_____|_|  --------------------
        |___|___|      MEMBER
```

1/49

˜1˜3˜2˜4

~1~2
    ~1Chapter 5 - Basic Use of C.A.R.~2

    ~1Chapter 6 - Reports, Statistics, & Data Export~2

~1~2
    ~1Chapter 7 - Using Advanced Features of C.A.R.~2

~1~3~2~4
    ~1Chapter 8 - Miscellaneous~2

˜1˜2
                        ˜1Chapter 1 - General Information˜3˜2˜4

˜1˜3˜2˜4˜1˜3General Description of C.A.R.˜2˜4

C.A.R. is an operation and usage logger & reminder for vehicles and
machines. It is quick & easy to use, 100% comprehensive, and has
context-sensitive pop-up help and an extensive manual. Its reminders &
reports will help you operate reliably and economically. The detailed,
printed logs will add value at resale time. It is superior to all
other programs like it, regardless of cost.

˜1˜3Program Features˜2˜4

C.A.R. supports U.S. users (miles, gallons, MPG) and metric users
(kilometers, Liters, L/100km). It supports U.S. (MM/DD/YY) and
European (DD/MM/YY) dates. It supports both US and foreign currencies.

C.A.R. will keep logs for special equipment and machines, with hours
instead of miles, and maintenance scheduled by days instead of months.

This manual is generally written from the perspective of a U.S. vehicle
user. The program on-line help will change itself to support U.S.,
metric, and machine users.

The program is very quick to use. Most menus are single keystroke and
self-customizing for each vehicle. A full set of defaults as to fuel
supplier, fuel type, repair provider, etc. are provided for quick
entry. You can add a fuel purchase, backup the files, and exit with 16
keystrokes, no dozens of fancy menus to wade through. Parts of the
program that are used on a daily basis, such as adding an entry, have
been carefully optimized.

On-line, screen-sensitive help is provided with the [F1] key. If you
aren't sure what to do, push [F1].

˜3˜1Shareware Registration˜4˜2

C.A.R. is Shareware. You must register with C.A.T. if you use the
software more than 30 days. The good news is registration is FREE!
Please print the file REGISTER.TXT that came with C.A.R. for more
information.

Please register and give us your comments and suggestions!

Please give copies to all your friends! Be sure and give them the
original CAR132.EXE or CAR132.ZIP file that you received.

Cooney Applied Technology is a member of the Association of Shareware
Professionals (ASP). ASP wants to make sure that the shareware
principle works for you. If you are unable to resolve a shareware-
related problem with an ASP member by contacting the member directly,
ASP may be able to help. The ASP Ombudsman can help you resolve a
dispute or problem with an ASP member, but does not provide technical
support for members' products. Please write to the ASP Ombudsman at 545
Grover Road, Muskegon, MI 49442-9427 or send a Compuserve message via
easyplex to ASP Ombudsman 70007,3536
˜1˜3˜2˜1˜2˜4

~1~3Further Information~4~2

Timely problem diagnosis and repair will be provided via Compuserve
EMAIL to Chris at [71001,1370] (Internet 71001.1370@COMPUSERVE.COM),
Prodigy EMAIL to [TVJM07A] (Internet TVJM07A@PRODIGY.COM), or via the
address below.

Bug reports, comments and suggestions are always welcome! Please drop
us a note and tell us of your experience, good, bad, or boring with
this program. What features would you like? Like removed?

The most current release can be obtained on Compuserve, in the USA from
the Annex BBS at (513)274-0821, in the UK from the Shareware Support
BBS at (+44 442 891109), or from the address below for a media and
shipping charge. Write for info. Look for a Windows version in 1994!

This program, all related files, and manual are Copyright (c) 1990,
1991, 1992, 1993, 1994 by:

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Kettering, OH 45429-0039.   Compuserve EMAIL [71001,1370]
All rights reserved.   Internet [71001.1370@COMPUSERVE.COM]

C.A.R. is written using the Microsoft Complied BASIC 7.1 Professional
Development System. Portions are Copyright (c) 1985-1989 Microsoft
Corporation and are used under license.

Unless this software is marked ß or Beta Test, you are granted a
license to use C.A.R. provided you register as a user after 30 days of
starting your use. You may freely distribute it as long as no charge
other than a physical or telecommunications media and distribution
charge is made not exceeding $5.00 US, and the program and files are
not modified and are the original and complete set, without addition,
in the form of the original CAR132 file.   This program cannot be
included as part of a commercial package or distributed through the
sale of another item or product without the written permission of
C.A.T.

~3NO WARRANTY~4

C.A.R. is not warranted in any way, and is distributed "as-is" and
without charge for a license for its use. The user is responsible for
determining its suitability for any application. No liability for
damages -- direct, indirect, or consequential -- from the use of this
program is assumed by Cooney Applied Technology or its agents.

                ˜1Chapter 2 - Installing C.A.R. on Your Computer˜3˜2˜4

˜1˜3Hardware Requirements˜4˜2

C.A.R. requires a 100% compatible IBM PC computer running MS-DOS
Version 3.3 or higher.

The program makes good use of color monitors, but also identifies and
runs well on monochrome monitors. For reasons known only to Microsoft,
this program runs much slower when used with MDA monochrome displays
then when used with color displays.

A hard disk is highly recommended, but not required. A high density
floppy disk may be used to hold all the files, but the log display
update will be considerably slower. Just the Usage Log files may be
kept on floppies, but this will also slow the speed.

About 300K of free memory is required. It will run at a fairly
acceptable rate on 8088 based systems, but an 80286 system or better is
recommended. It uses any floating point processor it might find. An
80286 optimized version is available at a nominal charge through C.A.T.

The program will work with almost any printer. Fancier printouts are
available for printers that are 100% IBM compatible (line drawing
character set). Color-coded printouts are available for color printers
that are 100% Epson compatible.

˜1˜3Installing C.A.R.˜4˜2

When you ran CAR132 it created all of the needed files, including this
manual, in a disk directory of your selection. They should all be in a
separate disk directory; a directory called "CAR" is recommended. If
these files are not where you want them, move them at this time. You
may also run CAR132 to install them again somewhere else.

Print the READ.ME file that was included, and make sure you have
received exactly the files listed, no more and no less, all the same
size listed. If not, please write C.A.T., including where you obtained
your copy. We will send you an undamaged copy at no charge.

If you will only have a few Usage Logs, you might as well keep them in
the same directory that the rest of the C.A.R. files were copied to.
In this case you are all set. Try this way first.

If you will have many Usage Logs, you may want to organize them into
groups, and keep each group in a different disk directory. Or, you may
keep each log or group of logs on a floppy disk (very slow to use).
Any disk directory or floppy disk used to keep logs in must have the
CAR.HLP and the three .FON font files copied into it.   (A way of
avoiding this is explained under ˜3Environmental Variables˜4 in Chapter 7).

~1~3Starting C.A.R.~2~4

~3For Novice & Experienced Users~4

The simplest way to run C.A.R. is to make the directory with all the
C.A.R. files in it the current directory on the current disk, example:

        C> CD \CAR

Then enter "CAR" at the DOS prompt and hit [Enter]. A menu of all the
Usage Logs in the current directory (up to 32) will be presented, along
with the option to create a new log. Select the log you want by the
number or letter preceding it, and the Log Screen will be displayed.

You may also skip the step of selecting the log you want by entering
the log name after "CAR" at the DOS prompt. C.A.R. will go straight to
the Log Screen for that log.

Examples:

        CAR Pinto
        CAR MX-6
        CAR Truck4

~3For Experienced Users~4

C.A.R. may also be started regardless of current disk or current
directory (such as during boot-up) by supplying paths, both for C.A.R.
and the log files. Examples:

        C:\CAR\CAR C:\CAR\Pinto
        C:\CAR\CAR C:\CAR\Jaguar
        C:\CAR\CAR A:\MX-6

Ending with a "\" tells C.A.R. it is a directory name that C.A.R.
should look for log files in, and display a list for selection.
Examples:

        C:\CAR\CAR C:\CAR\
        C:\CAR\CAR C:\VEHICLES\
        C:\CAR\CAR A:\

˜1˜3Configuring C.A.R.˜2˜4

The first time this C.A.R. Version is run, it will pop up a screen and
ask you to set up how you want the program to operate.

This is a rather frightening looking screen, but it has already been
setup in a way that will most likely work for you. If you are a USA
user with a 100% Epson compatible printer, just push [F10] to accept
the setup already entered. If not, you can push [F1] for help, or read
˜3Change How the C.A.R. Program Works˜4 in Chapter 7 of this manual for
full information.

(This is the first mention of the [F10] key. It is normally pushed to
accept everything when all the entries on a screen are what you want.)

~1   Chapter 3 - The Usage Log~2

~1~3The Usage Log~4~2

C.A.R. creates something called a ~3Usage Log~4 for each vehicle or machine
you want to track the operation and maintenance of. This log is like a
list you might keep in a little notebook, listing each important thing
that happens. These things that happen, such as buying fuel, repairs,
inspections, etc., are called ~3Log Entries~4. They are listed in order by
date or odometer. So, a Usage Log is a list of Log Entries that are in
order of date or odometer. The Usage Log will be called ~3log~4 for short,
and Log Entries called ~3entries~4 or ~3entry~4.

You make Log Entries into C.A.R.'s log by filling out a full screen
form automatically customized for your vehicle. The entry is then
condensed to a one line entry to be displayed on the Log Screen. You
can move up and down the log at will, and the full screen of
information that was originally entered for each entry can be easily
displayed. Log entries may be added, inserted, edited, or deleted.

~1~3The Log Screen~4~2

The Log Screen is the heart of C.A.R. When you start C.A.R. and select
a vehicle or machine, the Log Screen will be displayed.

The Log Screen shows one line for each entry you have entered into the
log. The entries are shown in different colors on color monitors, and
in different intensities on mono monitors to help you differentiate
between entry types.

A list of the functions or commands that can be performed appears at
the bottom of the screen. The first letter of each function is
intensified. Push the letter on the keyboard and the function will be
executed. When done, the Log Screen will be returned to.

One log entry will always be "highlighted" or shown in reverse video.
This is the log entry that will be used for functions that do something
to one entry, such as the View, Edit and Delete functions.

To move the highlite up and down through the log, use these keys:

   ~1[up arrow]~2 » To move the highlight down one entry
 ~1[down arrow]~2 » To move the highlight up one entry
        ~1Home~2 » To move the highlight to the first entry on the screen
         ~1End~2 » To move the highlight to the last entry on the screen
        ~1PgUp~2 » To display the previous page of log entries
        ~1PgDn~2 » To display the next page of log entries
   ~1Ctrl+Home~2 » To move to the very first entry in the log
    ~1Ctrl+End~2 » To move to the very last entry in the log

More on using the Log Screen later.

    ˜1˜3Log Types˜2˜4
˜1˜3˜4˜2
    ˜3General Log Usage˜4

    C.A.R. can be used with almost any type of maintenance schedule. It
    has been successfully used with cars, trucks, motorcycles, planes,
    boats, construction equipment, machine tools, lawnmowers, farm
    equipment, manufacturing and material processing equipment, laboratory
    equipment, computers, home appliances, and even rental housing.
    If it gets used, and needs maintenance & repair, you can manage it with
    C.A.R.

    In all applications, usage can be logged and costs tracked. Also,
    maintenance and inspections that are scheduled by the calendar can be
    used in all applications.

    For applications such as planes, boats, or machines, a reading of an
    hour-meter giving total hours of operation can be used, and C.A.R. can
    be asked to use hours instead of odometer readings. Maintenance and
    inspections can be scheduled by hours of operation and/or days passed.
    The program will estimate current hours of operation, and costs per
    hour will be calculated.

    If no odometer or hourmeter is available, maintenance can be scheduled
    by the calendar only.

˜1˜3˜2Five Log Types˜4

C.A.R. has five basic log types. One of these types must be selected
for each Usage Log:

˜1Gallons of fuel - Miles of usage (USA Vehicle)˜2

     This type of log is used with any type of vehicle or machine that
     has an odometer showing usage in ˜3Miles˜4, and has fuel purchased for
     it measured in ˜3Gallons˜4.

˜1Liters of fuel - Miles of usage (USA Vehicle/Metric Country)˜2

     This type of log is used with any type of vehicle or machine that
     has an odometer showing usage in ˜3Miles˜4, and has fuel purchased for
     it measured in ˜3Liters˜4. An example would be a car built for the
     USA with an odometer reading Miles, but being used in Canada where
     fuel is sold by the Liter.

˜1Liters of fuel - Kilometers of usage (Metric Vehicle)˜2

     This type of log is used with any type of vehicle or machine that
     has an odometer showing usage in ˜3Kilometers˜4, and has fuel
     purchased for it measured in ˜3Liters˜4.

˜1Gallons of fuel - Hours of usage (USA Machine)˜2

     This type of log is used with anything that does not have an
     odometer. If an ˜3Hour Meter˜4 is available, it can be used to track
     usage and schedule maintenance. ˜3If not˜4, this type of log is still
     selected, and all references to Hours and the Hourmeter are
     ignored when using C.A.R.

     This log type expects fuel usage in ˜3Gallons˜4. If ˜3no fuel˜4 will b
     used, this type of log is still selected, and all references to
     fuel are ignored when using C.A.R.
˜1˜2
˜1Liters of fuel - Hours of usage (Metric Machine)˜2

     This is the same as the previous type, except fuel usage (if any)
     is measured in ˜3Liters˜4.

~3~1~4~2~1~2
~1   Chapter 4 - Setting Up Usage Logs for Vehicles & Machines~2

~1~3What are Inspection and Preventative Maintenance Items?~4~2

~3This is the most misunderstood part of using this program. Please read~4
~3it carefully and give it some thought. It will be hard to totally~4
~3rearrange the setup for a log after you start using it.~4

~1Inspections~2 are things you look at on a vehicle ever so-often to see ~1~
any repair, replacement, replenishment, or adjustment is needed.
Unless some problem is found, no material or work is needed. They can
be done very quickly, and several of them are often done at once.
Examples might be:

      Check Oil Level   Check Engine Coolant Level
      Inspect Brakes   Check Windshield Wiper Blades
      Check Tire Pressures   Check Tire Wear

~1Preventative Maintenance~2 is a replacement or repair or adjustment that
you ~3always do~4 every so often. The replacement or service is performed
regardless of condition. Part or materials are likely to be needed.
Examples might be:

      Change Oil & Filter   Change Coolant
      Align Front End   Rotate Tires
      Change Fuel Filter   Change Air Filter

The distinction between the two will be important later, so be sure you
understand.

~1~3Inspection Groups~2~4

You will want to organize your Inspections into Groups of those
performed at the same time. Examples might be all those items
~3inspected~4 every 15,000 miles or 12 months, those ~3inspected~4 every
Spring, etc. A title will be picked for each group such as "15,000
Mile Inspection" or "Monthly Inspection".

Something that is performed every 15,000 miles need only be in the
"Every 15,000" group and not repeated in the 30,000 mile or 60,000 mile
groups.

~1~3Why Preventative Maintenance is not Grouped~2~4

Unlike Inspections, Preventative Maintenance Items are normally not
combined into groups. Some, such as oil change and oil filter change,
can be combined into one item with no problem, as there is little
chance one will be changed without the other. But even if you
determine that both the fuel filter and air filter should be changed at
the same time, say every 15,000 miles, ~3don't~4 combine them into a single
item. Don't put them into an Inspection Group. If only one is
replaced due to a failure, C.A.R. will not be able to track them
separately. The same warning applies to combining tire rotation with
tire balancing or alignment, etc.
~1~3~2~4
~1~3The Inspection and Preventative Maintenance Schedule~2~4

You will want to set up a schedule of Inspection and Preventative
Maintenance for each log you set up. When you load this schedule into
C.A.R., it will remind you when anything is due.

Both a first reminder and a second reminder are provided, along with an
overdue warning. The days in advance each reminder will occur can be
set, and will even work for things scheduled by mileage only.

Preventive Maintenance items and Inspections Entries are all
independently tracked, and reminders for each are based on actual due
dates and/or milages, which are based on the last time each was done.
Each of up to 20 different P.M. items and up to 5 Inspection Groups (up
to 7 Inspection Items each) may have a different milage and/or time
interval set up for it.

˜3˜1Creating Your Schedule˜4˜2

You will need to find or develop a list of all the Inspections and
Preventative Maintenance procedures that you want to perform for you
vehicle or machine. A good source of this is your Vehicle's Owner
Handbook or Equipment Maintenance Manual. Other sources:

    Contact a dealer of your vehicle's or machine's make to get a
    replacement handbook.

    Buy a maintenance book at an auto store for your make & model.

    Ask your dealer for an Inspection and Preventative Maintenance
    schedule, or their recommendations.

Make up a list of those items THAT YOU REALLY INTEND TO DO. Putting
"measure tire tread depth every 30 days" on the list will not measure
anything, it will just cause the C.A.R. program to bug you until you do
it or lie that you did it. This is not a time for New Year's
resolutions.

You may copy file "PMSCHED.TXT" to a printer to produce a blank form
that can be used to gather the needed information.

You can always change the schedule later if it does not fully meet your
needs, but try to get as close as possible now.

˜3˜1Scheduling˜4˜2

Each PM Item or Inspection Group is scheduled by you to occur every-so-
often. They can be scheduled for vehicles to occur every so-many
months, or to occur every so-many miles (or km) of use, or both (which
ever occurs first). They can be scheduled for machines to occur every
so-many days, or to occur every so-many hours of use, or both (which
ever occurs first).

The time intervals between inspections is specified in months or days,
depending on what type of log type you are creating. If you want
something to occur every Spring, set an interval of twelve months. If
you want something to occur every Spring and Fall, set an interval of
six months. For an inspection every Monday, set a seven day interval.

You might want to schedule some things, such as oil changes, more often
that your vehicle manufacturer specifies.

You can always do things more often than they are scheduled in C.A.R.,
    so set up the maximum interval that you want to allow.
˜3˜1˜2˜4

~1~3~2~4~3~1Example Schedule~4~2

The following illustrates an ambitious example schedule for a 1989
Ford Probe GT:

~1INSPECTIONS~2

MONTHLY INSPECTION (every month)
 Inspect Clutch, Brake & ABS Fluid Levels
 Inspect Power Steering Fluid Level
 Inspect Coolant Level
 Inspect Tire Pressures (32 F/26 R)
 Inspect Tire Wear
 Inspect Oil Level
 Inspect Battery & Lighting System

SPRING/FALL INSPECTION (every 12 months)
 Inspect Wheel Lug Nuts
 Inspect Pressure in Spare Tire
 Inspect Headlamp Alignment
 Inspect Coolant Condition
 Inspect Air Conditioning System Operation

7,500 MI INSPECTION (every 7,500 miles)
 Inspect Engine Belts & Hoses
 Inspect Wiper Blades & Washer

~3~415,000 MI INSPECTION (every 15,000 miles)
 Inspect Brake Lines and Connections
 Inspect Front Disc Brakes
 Inspect Plug Wires, Rotor & Cap

30,000 MI INSPECTION (every 30,000 miles)
 Inspect Rear Disc Brakes
 Inspect Steering Operation & Gear Linkage
 Inspect Front Suspension Ball Joints
 Inspect Driveshaft Dust Boots
 Inspect Exhaust System Heat Shields
 Inspect Fuel Lines
 Inspect Manual Transmission Fluid Level

~1~3Example Schedule Contd.~4~2

~1PREVENTATIVE MAINTENANCE~2

Item Name	Every Miles	Every Months
Oil & Filter Change	5,000	6
Rotate Tires	15,000	
Balance Tires	15,000	
Sparkplugs Change	15,000	
Wheel Alignment	15,000	12
Wiper Blades		18
Coolant Change	18,000	12
Fuel Filter Change	30,000	
Air Filter Change	24,000	
Replace Belts & Tension	30,000	
Replace Timing Belt	60,000	
Lubricate All Hinges and Locks		6
Silicone on Weatherstrips		6
Clean Drain Holes & Undercarr.		3
Clean Battery Connections		6
Wax Car		3

~1~3~2~4~1~3~2~4
~1~3Vehicle History~4~2

You need to know or estimate when each Inspection or P.M. item was last
performed. If you have no idea, the program will assume it has never
been done since the vehicle was built. If this makes it now due or
overdue, then it is now due or overdue, get it done! If you don't want
to do it, why are you putting it on the schedule? If you plan to do it
in 2 months, and it is due every 6 months, pretend it was done 4 months
ago (6 minus 2) and make a fake log entry for then.

You will need to know or estimate the date everything was last
performed for those things that are performed every so-many days. You
will need to know or estimate the odometer reading when everything was
last done for those things performed every so-many miles or km. If you
don't know one, you might estimate it from the other.

This information will not be asked during the new log creation, but
will be needed the first time you use C.A.R. with the new log. You
will need to record the last time everything was done with log entries
so that the program will know when they are next due.

~3~1Creating a New Log~4~2

To create a new log, you will need to know the following information:

        Vehicle' VIN Number (look on dashboard thru windshield on driver's
        side) or your machine's Serial Number

        Date of Purchase

        Odometer or Hourmeter at Time of Purchase

        Current Odometer or Hourmeter Reading

        Date it was Built, or First Sold as New (you may estimate)

        Vehicle's Inspection and Preventative Maintenance Schedule
        (explained in detail in the previous sections)

    The information should be accurate, but you may estimate if you must.
    The information supplied by to you by C.A.R. will be only as good as
    the information you supply to it.~1~3~2~4~1~3~2~4

    ~1~3~2~4To start the new log creation, run C.A.R. without specifying a vehic
    name, and select "Add new vehicle" off of the Vehicle Selection Menu.
    Then follow along as you fill out the following entry forms.
~1~3~2~4
    ~1~3~2Enter Log Name~4

    Enter a short name for the new log, such as `PROBE' or `LATHE' or
    `TRUCK(3)'.  Do not use the name `CAR'.

    This is the name that will be shown on the menu of logs when you start
    C.A.R. It is also the name used for the disk files, so it must be a
    legal MS-DOS file name. This means it can be up to 8 characters long,
    and can only the characters shown on the next line:

        ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789(){}@#$%^&!-_~~

    ~3Select Log Type~4

    Enter the number corresponding to the log type you want to create. See
    ~3Log Type~4 in Chapter 4 for more information.

    Examples of how log entries might look will be displayed each time you
    enter a log type number.

˜3Copy Configuration from Another Log?˜4

If this vehicle or machine is the same or similar to another you
already have a log for, you may want to copy the Inspection Schedule
and Preventative Maintenance Schedule you have set up for it. You can
edit it later to match this new vehicle or machine exactly. Just enter
[Y] and a list of the Log Files in the current directory will be shown.
Pick the one you want to copy the schedules from.

˜3General Information˜4

Enter the information you have collected, as explained in the beginning
of this section.

˜3Enter Preventative Maintenance Items˜4

Enter the P.M. items off the list you have created for this vehicle or
machine. Enter items starting at the top, and do not leave any blank
lines in the middle of your list.

The right and left arrow keys move the cursor inside an entry blank.
The up and down arrow keys move the cursor from blank to blank. Press
the [F10] key when done, or press [Esc] to quit and not create a new
log.

˜3Enter Inspection Groups˜4

Now forms for up to 5 Inspection Groups will be displayed for you to
fill out. For each group enter a name for the group, plus either every
how-many miles it should be done, or every how-many months, or both.
Then enter up to seven Inspection Items for the group. Press [F10]
when the group is correct.

Leave the Group Name blank and press [F10] when you don't want to add
any more groups.
˜1˜3˜2˜4
˜3New File Creation˜4

C.A.R. will now be ready to create the files for the new log. Enter
"Y" and the files will be created. Enter "N" and the new log creation
will be aborted.

If you do create the new log, a screen of customized helpful
information will be printed.

C.A.R. will also offer to add a line to your AUTOEXEC.BAT file. If you
enter "Y", a quick check of any P.M. or Inspections due will be made
every time you start your computer.

~0

~1~3~2~4
     ~1~3~2~4~1~3~2~4~1~3~2~4~1   Chapter 5 - Basic Use of C.A.R.
~1~3~2~4
     ~1~3Keys Used on All Screens~2~4

   Some keys will always have the same function, no matter what screen,
   form, or menu you are on.

   The ~1[F10]~2 key is pushed to accept everything - when all the entries on
   a screen are what you want. This is normally the last step in filling
   out an entry form.

   The ~1[Esc]~2 key is pushed to cancel or abort. It can send you back to a
   previous menu, discard all the entries on an entry form, or not make
   changes if editing.

   The ~1[F1]~2 key can almost always be pushed for help.

   ~1~3~2~4~1~3Log Screen Functions~4~2

   Many functions are available from the Log Screen, and are described on
   the following pages. They are listed across the bottom of the Log
   Screen. Push the letter shown next to the function name to perform it:

   ~3A - Add New Log Entry at End of Log~4

   Press the [A] key to add a new log entry to the log.
   See ~1~3~2Adding, Inserting, or Editing an Entry in the Log~1~4~2 for more d

   ~3V or <——┘ - View a Log Entry~4

   Press the [V] or [<——┘] (Enter) key to display the details of the entry
   currently highlighted in the log. The entry can only be viewed and
   cannot be changed in any way.
~3~4
   ~3E - Edit a Log Entry~4

   Press the [E] key to edit the entry currently highlighted in the log.
   The entry will be displayed on the original entry form and can be
   changed at will.

   When done, push the [F10] key to save the changed entry. If you do not
   want the changes you have made, and wish the entry back as it was, push
   the [Esc] key instead.

   When you edit a Fuel, Inspection or P.M. entry, next due dates &
   mileages or MPG's may become incorrect. The Sort function should be
   used to correct any possible problems. A reminder will be given by the
   program.

   See ~1~3~2Adding, Inserting, or Editing an Entry in the Log~1~4~2 for more d

~3D - Delete Log Entry~4

To delete a log entry and permanently remove it from the log, move the
highlight to the entry and push the [D] key. The entry will be flashed
and you will be asked if you want to delete it. When asked if you are
sure, press the [Y] key and press [Enter] and the entry will be
discarded.

When you delete a Fuel, Inspection or P.M. entry, next due dates &
mileages or MPG's may become incorrect. The Sort function should be
used to correct any possible problems. A reminder will be given by the
program.

~3L - Locate Entries by Searching by Entry Contents~4

Press the [L] key to search all the log entries for those that have a
certain word or words in them. You specify a word (or any combination
of characters) and C.A.R. looks through all the entries looking for the
word anywhere in the entries.

Push [L] and specify a date, and the log display will jump to that
date.

Push [L] and specify "door lock", and the log will move to the next
entry with "door lock" in it.

The searching starts with the currently highlighted record. If the end
of log is reached, the search starts again from the top.

Push [Alt-L] to repeat the same search starting with the record AFTER
the current one.
~3~4
~3S - Sort Log and Recalculate~4

Press the [S] key to start the Sort Function. It will execute in three
phases or parts:

~1Sort:~2 The entries in the log will be sorted using dates if supplied;
if not, by odometers if supplied; if not, by estimated dates. If an
entry exists with an impossible combination of date & odometer, the
program might not ever stop sorting. Press [Esc] to stop the sort
without harm at any time. The sort might take some time, be patient or
push [Esc] to check progress.

~1Statistics Scan & M.P.G. Recalculation:~2 The entries are scanned to
determine when P.M. and Inspections are next due. The Miles-Per-Gallon
for each fuel fill-up entry will be recalculated. A percentage of
completion will be displayed.

~1Statistics Screen:~2 Operational statistics for the vehicle will be
displayed based on the scans just made.   They are detailed later in
the ~3Statistics~4 section.
~3~4
~3P - Preventative Maintenance and Inspections Next Due Report~4

Press the [P] key to display a list of the date and/or mileage when
each Preventative Maintenance item or Inspection Group is next due.

This screen shows a list of all of the Preventative Maintenance items
and Inspections that are scheduled for your vehicle, along with how
often they are due and when they are next due.

If you have a color display the items will be colored based on when
they are next due, and based on how many days in advance you have asked
C.A.R. to remind you. This is normally 14 days in advance for 1st
Reminder, 7 days in advance for 2nd Reminder. See Program Options menu
on Misc. Functions menu to set them to different values. 1st Reminders
will be bright white, 2nd Reminders yellow, and Overdue will be red. A
first reminder is not given for things done once a month. Monochrome
displays will show soon due and overdue entries as intensified.

If an item is scheduled only by mileage, estimated future odometer
readings will be used to determine when a reminder is due.

The next due date and/or mileage is based on the last time something
was performed. If it never has been, it is based on when the vehicle
was built.
~3~4
~3R - Reports~4

Press the [R] key to enter the Reports Menu. It is described in a
later section.

~3F - Print Inspection or P.M. Form on Printer~4

Press the [F] key to print a copy of a blank form for an Inspection or
Preventative Maintenance item on your printer. The form will remind
you of exactly what to do, or can be given to an Automotive Service
Center to indicate what you want done. Blanks are provided for needed
information, and the information can be easily transferred from the
form to the C.A.R. program.

A list of forms will be displayed when you push [F]. Select the form
you want to print a copy of by pushing the number in front of it.

One of the form selections will be "Preventative Maintenance." If you
select this, a list of all of the P.M. Items for your vehicle will be
presented. Select all of the P.M. items you wish to appear on the form
by pushing the number or letter in front of each of them. An asterisk
in front of an item indicates that it is selected. Push the number or
letter again to un-select an item. The entries on this list will be
marked using color or intensity to show how soon the are due. They
will be marked in the same way as described for the P.M. Report Screen.

~3M - Miscellaneous Functions Menu~4

Press the [M] key to enter the Miscellaneous Functions Menu.

This menu of miscellaneous functions will be described later in the
~3Misc. Functions Menu~4 section of this manual.
~3~4
~3H - Help Screen~4

Press the [H] or [F1] key to display help for the Log Display.

~3X - Switch to a Different Vehicle~4

Press the [X] key to switch from the current log to a different one in
the same subdirectory.

You will be presented with a list of all the logs in the subdirectory
containing the current log. You may select any of them, or the
creation of a new one.

~3Q or Ctrl + Q - Quit Program~4

Press the [Q] key or [Ctrl] + [Q] keys to terminate the C.A.R. program
and return to the operating system.

Pressing the [Q] key will immediately exit the program.

Pressing the [Ctrl] + [Q] keys will cause C.A.R. to copy the C.A.R.
files for the current vehicle to another disk directory. If the Backup
Directory entry on the Defaults Menu is not blank, that directory will
be used. If it is blank, a directory name will be asked for.
~1~3~2~4
    ~1~3~2~4~1~3Adding, Inserting, or Editing an Entry in the Log~2~4

When Add function is selected you will be presented with a menu listing
all the different types of entries that make up the log. This list is
customized for the vehicle selected. Select the type of entry from the
list by pushing the letter or number listed before it.

If you select "PREVENTATIVE MAINTENANCE", you will be asked to select a
specific Preventative Maintenance item from a second list. You will
also be offered a "MISC. (Not Scheduled)" entry. This is used for
Preventative Maintenance that is not on your schedule. Examples might
be cleaning your cassette player, or cleaning the engine. Do not
confuse these with the Repair of something broken.

A customized entry form will be displayed to be filled out. When done,
push the [F10] key to save the new Entry. If you do not want the new
entry and wish to discard it, push the [Esc] key instead.

The new entry will be placed wherever you have the highlighted entry
set on the log display screen. The entry will be inserted where the
highlight is, and the top of the log, including the highlighted entry,
will be shifted up.

If you want to add a new entry to the end, you should make sure the
highlighted entry is the last entry in the log. The exception to this:

    If C.A.R. can tell from the Date or Odometer that the new record
    obviously goes at the end of the log, it will always place it there.

When you add a Fuel Entry, the fuel usage will be recorded and the MPG
calculated if it was a fill-up and an odometer is supplied. When you
add an Inspection or P.M. entry, next due dates & odometers will be
updated.

If the New Odometer Adder entry of the Defaults Menu is nonzero, the
entry will be added to the odometer reading you entered (with a low
beep).
~1~3~2~4

˜3Filling Out the Form˜4

A form that is customized for the type of entry you have selected will
be displayed. When filling out or editing the form you may move from
blank to blank by using these keys:

 ˜1(down arrow)˜2 or ˜1Tab˜2   or ˜1Enter˜2   to move to the next bl
 ˜1(up arrow)˜2   or ˜1Shift+Tab˜2   to move to the previous bl

To edit the entry in a blank use these keys:

  ˜1<— (left arrow)˜2 to move the cursor to the left
  ˜1<— (right-arrow)˜2 to move the cursor to the right
  ˜1<—— (backspace)˜2 to delete the character left of the cursor
  ˜1Del˜2   to delete the character at the cursor
  ˜1Ins˜2   to switch between Insert and Overwrite modes

In ˜1Insert˜2 mode, characters you type will be inserted where the cursor
is. In ˜1Overwrite˜2 mode, characters you type will replace what is
already there.

The date field of the entry can be changed using the [+] and [-] keys.

When everything is correct, push [F10] to store the entry in the log.
If you don't want to put the entry in the log, or you don't want the
changes you have made editing an entry, push [Esc].
˜3˜4
  ˜3Restrictions˜4

Most items are optional and may be left blank, except:

  · An entry must have at least a date or an odometer reading.

  · Certain items must have an odometer reading, such as a P.M. Item
    that is scheduled by mileage.

  · Certain items must have a date, such as a P.M. item that is
    scheduled by months.

  · Dates must be entered in ˜1MM/DD/YY˜2 format, example: ˜112/25/91˜2
    The "European" date format, ˜1DD/MM/YY˜2, may also be selected. See
    ˜3Change How the C.A.R. Program Works˜4 in Chapter 7 of this manual.

  · Do not enter a dollar sign ($) in front of dollar amounts.

˜3Fuel Purchase Entries˜4

When making an entry for a Fuel Purchase, there are two special blanks
to be filled out (or ignored). These are:

  ˜1Enter [Y] for Fill-up˜2 - Always enter a "Y" if you filled the tank up.

  ˜1Enter [Y] to Skip Calculation˜2 - Enter a "Y" if you missed logging
  some previous fuel purchases and an MPG calculation would generate a
  bogus number.

                ~1Chapter 6 - Reports, Statistics, & Data Export~2

~1~3~2~4~1~3~2~4~1~3Reports Menu~4~2

This menu produces reports about your vehicle or machine to your screen
or printer. You can also export log data to a text (ASCII) file for
import by other programs such as Databases or Spreadsheets.

~3Display or Print Statistics Report~4

This will display overall statistics for this vehicle. This is the
same report generated at the end of the Scan function of the Log
Screen, but without waiting for the sorting. The exact meaning of the
statistics is detailed in the section ~3Statistics~4 of this manual.

You can produce a printed report of the statistics by pressing the [R]
key. The [G], [A], and [F] keys may be pushed for graphic reports.
See the section ~3Graphics~4 of this manual for details.
~3~4
~3Print Log On Printer~4

This will print a report of all or selected Log entries on your printer
in one of two formats. The Compact format is similar to the log screen
display, with one line per log entry. The Full format is similar to
the screen produced by the View function for each entry.

Options of Color or Black & White will be given. If you have an Epson
compatible color printer and you wish the log to be color coded, select
Color. This can add considerable time to printing the Compact listing.

You may have all entries between a pair of dates printed, or select any
combination of Entry types to be printed.

~3Print Fuel Consumption Report On Printer~4

This will print a report of all of the data, both entered and
calculated, for fuel consumption.

~3Print PM & Inspection Due Report On Printer~4

This will print a report of all the PM and Inspection items, their
intervals, when last done, and when next due.

˜3Export Log To File˜4

This will list all or selected Log entries to a disk file, in one of
two fixed-field formats. A field delimiter can also be specified,
making the file suitable for import as fixed field ASCII or delimited
ASCII. This file can then be imported into a database or spreadsheet
program, such as Lotus 123. The following entries are made:

˜1   Starting Date˜2: Enter the date of the first log entry you wish to
        export printed, such as 7/4/90. Just press [Enter] to use the
        date already shown, which is the very first entry.

        ˜1Ending Date˜2: Enter the date of the last log entry you wish to
        export, such as 7/4/90. Just press [Enter] to use the date
        already shown, which is the very last entry.

        ˜1Select (F)ull or (C)ompact˜2: Two formats are offered. Press [C]
        for a Compact format similar to the log screen display, with one
        line per log entry. Press [F] for a Full format similar to the
        screen produced by the View function for each entry.

        ˜1File Name to write report to˜2: Enter a legal disk file name that
        you want the data written to.

        ˜1Enter Field Delimiter Character, Press [Enter] for a blank˜2:
        If you enter a blank, the file output will be of a "fixed-field-
        length" format. See ˜3File Export Format˜4 in Chapter 8 for details.
        If you would prefer a "delimited ASCII" format, enter the
        character you want used as a delimiter. Be careful not to use a
        character used in any of the log entries.

        ˜1Press [Enter] for all entries, Press [S] to select entry types˜2:
        You may press [S] if you want to be given a list from which to
        select the types of Entries to be exported. Press [Enter] to
        export all entry types.

˜3Export MPG Information To File˜4

This will list all of the data, both entered and calculated, for Fuel
Consumption calculations to a disk file in a fixed-field format. This
file can then be imported into a database or spreadsheet program.

~1~3Statistics~2~4

At the end of the Sort function of the Log Screen, or when a Statistics
Report is asked for, a screen of statistics for the vehicle will be
displayed:

~1Statistics Starting Date & Odometer:~2 This is the date and odometer from
when you bought the vehicle, or what you entered for the Expense
Calculation Starting point on the Misc. Functions menu.

~1Miles Traveled:~2 This is (Today's estimated odometer) minus the
(Statistics Starting Odometer).

~1Years:~2 The number of years since the Statistics Starting Date.

~1Miles Per Year Average:~2 (Miles Traveled) / (Years)

~1Miles Per Day Average:~2 (Miles Per Year) / 365

~1Gallons of Fuel Used:~2 Total of all fuel purchases since Statistics
Starting Odometer.

~1Overall MPG Average:~2 (Gallons of Fuel Used) divided by (Odometer at
Last Fuel Purchase - Starting Statistics Odometer). Today's estimated
odometer is not used since you have yet to buy the fuel used since the
last purchase. The last purchase odometer will be estimated if not
supplied.

~1Last 3 Fill-up Average:~2 This is (the total of all fuel purchase gallons
from 3 fuel fill-ups ago until the last fill-up) divided by (the total
miles between the odometer 4 fill-ups ago and the last fill-up). This
gives a better indication of your vehicle's current economy than the
MPG calculated for each purchase because it is less affected by
"filling up" your tank to random levels. If you don't tend to fill your
tank when purchasing fuel, this may not have any valid meaning.

~1Total Fuel Cost:~2 Total of all fuel purchase costs since the Statistics
Starting Odometer.

~1Fuel Cents/Mile:~2 (Total Fuel Cost) / (Miles Traveled)

~1Quarts of Oil Used:~2 Total of all oil top-offs since Statistics Starting
odometer. This is a measure of oil consumption, and does not include
oil changes.

~1Miles per Quart Overall:~2 Miles Traveled / Quarts of Oil Used

~1MPQ Last 90 Days:~2 (Quarts of Oil Used in the last 90 Days) / (Mi. Per
Day * 90), after Statistics Starting Date.

~1Oil Consumption Total Cost:~2 Total cost of all oil top-offs since
Statistics Starting Date and Cents Per Mile.

~1Other Cost Totals:~2 The total cost of each of these entry types and the
Cents Per Mile average for each.
~1~2
~1Total Operating Cost:~2 Total of all Costs since Statistics Starting
Odometer.

~1Total Cents Per Mile:~2 (Total Operating Cost) / (Miles Traveled)
Other displayed CPM's are rounded to 1/10 cent and may not add up to
this total.

~3~1~4~2~3Fuel Consumption Statistics~4

Every time you fill-up with fuel and give an odometer, the program will
calculate your Miles-Per-Gallon since the last fill-up. Intermediate
fuel purchases that were not fill-ups are included in the calculations.
The program will also display a last 4 fill-up average MPG and an
overall average MPG.   Comparing the two can give an indication of any
excessive fuel consumption problems. Averages are true averages, i.e.:

100 miles on 5 gallons = 20 MPG   210 miles on 7 gallons = 30 MPG

    WRONG: Overall average = (20 + 30) / 2 = 25

  CORRECT: Overall average = (100 + 210) / (5 + 7) = 25.8

When you purchase fuel for your vehicle but do not fill-up the tank,
there is really no information on MPG than can be calculated. C.A.R.
keeps a total of the amount of fuel purchased between fill-ups and adds
them to the fuel amount for the next fill-up when calculating.

When you fill-up your tank, you are replacing the fuel you just used to
drive the miles since the last fill-up. As you drive around after the
fill-up and use the fuel just purchased, you do not have any way of
telling what the MPG is for these new miles. When you fill-up again,
you will then see how much fuel was consumed for the miles you drove.

Your vehicle probably had a full tank of fuel when you purchased it,
and it will not have an empty tank when you sell it (hopefully!). It
is best to think of your fuel tank as a "bank" from which you borrow
fuel as you drive, and then replace when you fill-up. C.A.R. assumes
that the fuel tank was full on the day you purchased it. It is not
necessary to record this fill-up - if you do, enter "0.0" for the
number of gallons, as you did not "use" this fuel, either the previous
owner did (used purchase) or you are setting up the "bank" (new
purchase).

When calculating overall MPG averages, it is important to use the
odometer reading at the last fill-up, not the current odometer. Let's
see what happens if we use the current odometer to check our MPG
between fill-ups:

	Odometer	Total Miles Driven	Total Gallons Purchased	Overall MPG
Fill-up at purchase	1000	0	0	-----
Fill-up of 10 gallons	1200	200	10.0	20.0
Check of MPG	1300	300	10.0	30.0
Check of MPG	1400	400	10.0	40.0
Fill-up of 15 gallons	1500	500	25.0	20.0

The simplest way to put all of this; you can calculate your MPG right
after a fill-up, and then not till you fill-up again.

When asked to calculate the overall average MPG, C.A.R. calculates the
total miles driven using the odometer from your last fuel purchase. It
would be more correct to use the odometer reading of the last fill-up,
not purchase,and ignore all fuel purchases since the last fill-up.
However, if a user rarely filled-up his/her tank, the overall MPG up
till the last fill-up of 9 months ago would not be very helpful. Since
this is an overall average, little harm is done in using the last
purchase. Those who always fill-up are not affected, and those who do
not will get the best estimate available.

If the last fuel purchase was not a fill-up, and an odometer was not
entered, C.A.R. will estimate what the odometer reading was based on
the date entered.

˜3˜1Graphics˜4˜2

When the Statistics Report is being displayed, several keys may be
pushed to display graphic reports. The program will automatically
detect a VGA, EGA, CGA, AT&T6300, or Hercules graphics card and adapt
accordingly. The graph will be automatically scale itself to your
log's data. One or both ends of the fuel consumption graph range can
be fixed. See˜3 Set MPG Calculation Limits˜4 on page 36.

If you have a VGA display, the graph background can be either gray or a
red/blue pattern showing the seasons. See ˜3Misc. Options˜4 on page 39 for
details.

Hercules users must run the program MSHERC (included with MS-DOS)
before running C.A.R. in order to use graphics.

Here are the graphs provided by this version. More will be added in
the future. However, the best way to get any fancy graph you want is
to export the log (see ˜3Export Log To File˜4), import it into a program
like Harvard Graphics or Lotus 123, and graph the data there.

When first displayed, the graph will end at your last fill-up and will
show as many prior fill-ups as it can fit. If they don't all fit, "<--
MORE" will be displayed at the top of the graph. The keyboard [<--]
and [-->] keys will scroll through the graph a year at a time.
˜3˜4
˜3[G] - Fuel Consumption Graph˜4

Press the [G] key, and you will see your fuel economy graphed for each
fill-up.

˜3[A] - Average Fuel Consumption Graph˜4

This is the same as the previous, except that a blue line showing the
running average will be added to the graph.

˜3[F] - Fuel Cost Graph˜4

Press the [F] key, and you will see the unit cost of fuel graphed for
each fill-up.

~3~1~4~2
    ~1   Chapter 7 - Using Advanced Features of C.A.R.~2

    ~1~3~2~4~1~3Misc. Functions Menu~2~4

    This menu can be called up by pushing "M" on the Log Screen. From this
    menu you may select one of several different miscellaneous functions of
    this program. They really don't have anything to do with each other;
    they are gathered here so as to not clutter up the Log Screen:
~3~4
    ~3Change The Setup For The Current Vehicle~4

    ~3~4This menu selection is fully described in it own section later.~3~4

    ~3Change How The C.A.R. Program Works~4
~1~2
    ~1~2This menu selection is fully described in it own section later.~3~4
~3~4
    ~3Change Your Address & Telephone for Forms~4~3~4
~3~4
    This menu selection will display a form upon which you can enter your
    name, address, and telephone numbers. This information will be printed
    on maintenance & inspection request forms.
~3~4
    ~3~4~3Compress Log Files~4

    Most of the time, you will only add items to a log, and the log file
    (.CAR file) will grow with each new entry.

    When you delete an entry from the log, the size of the log file does
    not automatically shrink. This is not normally a problem, as the space
    will be used by the next entry added.

    If you should delete a large number of log entries and want the log
    file to be as small as it can be, select this entry from the Misc.
    Functions menu.

    ~1~3~2DOS Shell~4

    This menu selection will give you an MS-DOS prompt without leaving the
    C.A.R. program. When done entering MS-DOS commands, entering ~3EXIT~4 will
    return to the C.A.R. Log Screen.

~1~3Change The Setup For The Current Vehicle~2~4

This menu is selected off of the Misc. Functions Menu. The entries on
this menu allow you to change the setup for the current vehicle or
machine. These things can be set differently for each vehicle or
machine.
~1~3~2~4
~3Change How Your Odometer is Estimated~4

The current odometer reading for your vehicle is estimated based on
today' date. This program looks back and averages how many miles you
drove each day since a certain date, and then calculates what today's
odometer reading is likely to be.

This function sets the date and mileage used as the starting point for
the calculation of the estimated current mileage for each day. You
will want to use this if a change in your driving habits significantly
changes the rate at which you accumulate miles on your vehicle. For
example, you may change jobs and drive much further each day. Just set
the odometer reading and date of when your usage habits changed.

This will not effect other statistics, such as cost per mile.

~3Change the Date When Expense Calculations Begin~4

This function sets the date and mileage used as the starting point for
the calculation of the overall fuel economy and costs per mile. The
totals of all the expenses and fuel amounts you report after the date
selected are divided by the number of miles you have driven since the
mileage specified to get cost per mile and overall MPG.

When this program was set up for your vehicle, it set this date and
mileage to the date and mileage when you purchased the vehicle.

You may want to change the date and mileage if you do not have complete
cost or maintenance records from the date when you purchased the
vehicle. Just set the odometer reading and date of when your records
start.

˜3Set Default Values for Entry Blanks˜4

If you wish, you can have certain items pre-entered for you on new Log
Entry forms, things that are often the same time after time. This is
called a ˜1default˜2. For example, if you always buy the same type of
fuel, you could have this type already entered on the fuel entry form.
You are not forced to use it, however, and can always change it to what
you want. Different defaults can be set for each log.

If you make this selection off of the˜1 ˜2˜3Change The Setup For The Current
˜3Vehicle˜1˜4˜2 menu, you will be given a form upon which you can enter
defaults for most entry form blanks.

If you put a [Y] next to ˜1Use Today's Date˜2, the current date will appear
as the date entry on new log entry forms.

If you make an entry for ˜1Backup Directory˜2 then both C.A.R. files for
the current vehicle will be copied to that directory when the program
is exited using the [Ctrl] + [Q] keys.
˜1˜2
   ˜1˜2If you make an entry for ˜1New Odometer Adder Entry˜2, the value you ent
will be added to the odometer value entered on all NEW entries.
Odometer entries on edited entries are left unchanged. This has two
uses. One, if your odometer is replaced with a new one reading zero,
just enter the mileage at which it was replaced. Two, if your odometer
turned over at 100,000, enter 100000 and then just enter the actual
odometer reading when making entries.

˜3Change PM Schedule or Vehicle Information˜4

With this selection off of the ˜3Change The Setup For The Current Vehicle˜1˜
menu, you can change most of the information you provided when you set
up this vehicle. You may change General Information you have entered.
You may add or delete PM Items, add or delete Inspection Groups.

If you delete a PM item or Inspection Group, your log will have all
remaining entries of that type automatically deleted.

If you change the name of a PM item or Inspection Group, your log will
have the names of corresponding entries automatically changed.

Be ˜1sure˜2 to make at least one backup copy of your log files before
editing its configuration. It is easy to make a mistake and
accidentally delete a bunch of log entries.

If you want to delete a PM item and also to add one, blank out the name
of the one to be deleted, and add the new one at the bottom of the
list. If you just type the new one in where the deleted one was,
C.A.R. will think you are renaming the old one and not deleting it.

~3Setup Custom Log Entries For This Vehicle~4

C.A.R. has a powerful feature called Custom Log Entries. In addition
to the log entry types supplied with C.A.R. (Fuel, Tires, Repairs,
Inspections, etc.) you may add up to four more types of log entries of
your choosing. Examples might be: Parking, Tolls, Tickets, Insurance,
Cleaning & Detailing, Towing.

Be careful. If you want to compare your operating costs, in cents per
mile, to other vehicles, or to those tested on TV, you don't want to
include any types of costs they don't.

It is a particularly bad idea to add the purchase cost of the vehicle
or machine to the log. This would really mess up your ~3operating~4 cost
statistics. You could calculate and log monthly depreciation, but heed
the warning in the previous paragraph.

~1Adding a Custom Entry~2

Push the [F10] key until a blank form is displayed.

Enter a name in the Entry Name blank, and a shorter or abbreviated
version in the Short Name blank. This short name will be used where
space is limited.

You may enter up to 7 labels for Entry Blanks that you will fill out
when you make this new type of log entry. When you make a log entry,
the contents of the first blank will be shown in the single line log
entry on the Log Screen, so use it carefully.

All blanks that you mark "Y" for Cost will expect costs to be entered
in them. They will all be added up and entered into the log as the
cost for the log entry.

If all the blanks are marked "N", then a single cost for the log entry
will entered at the top of the entry form in the usual way.

~1Editing a Custom Entry~2

To change the name of a Custom Entry, or the labels for the entry
blanks, first push [F10] until the entry you want to change is
displayed. Then just change them on the screen and push [F10].

~1Deleting a Custom Entry~2

To delete a Custom Entry, first push [F10] until the entry you want to
remove is displayed. Then blank out the Entry Name and push [F10].

~3Set How Many Days-In-Advance Warnings Will Be Given~4
~1~2
~11st Reminder Entry:~2 You may set how many days-in-advance reminders are
to be given for a P.M. item. An entry of "0" days will disable a
reminder. The 1st reminder causes an item to appear in bold white on
the P.M. report. No beep or warning message will be given, and CAR
called for just a P.M. check will not list it or display it. A
suggested number of days is 14. You will not be given a 1st reminder
for things due less than every 60 days.

~12nd Reminder Entry:~2 The 2nd Reminder causes an item to appear in bold
yellow on the P.M. report. A beep and warning message will be given,
and CAR called for just a P.M. check will list it and pause. A
suggested number is 7 days.

~3Set MPG Calculation Limits~4

If these are left blank, C.A.R. will do two things. It will always
display the results of an MPG calculation, no matter how high or how
low. Second, it will automatically change the limits and scale of the
MPG graph reports to fit the range of MPG's calculated. (Also see
~3Enter [Y] to ~1~4~2~3Skip Calculation~4 on page 25.)

If you set either a high limit, a low limit, or both, it will do two
different things. MPG calculation results will not be shown if they
are outside the limits. The limit or limits will be used as the limits
of any MPG graph reports.~1~3~2~4~1~3~2~4~1~3~2~4

~1~3Change How the C.A.R. Program Works~2~4

This selection is made off of the Misc. Functions Menu. It displays a
form upon which you can make changes in how the program operates.
These affect the overall operation of C.A.R., and all log files used
with it. The options are grouped and detailed below:

~3Display Options~4

     ~1Force Mono Display (Y/N)~2: If "Y" is entered the program will make
     itself viewable on a Monochrome monitor even if a color card (CGA,
     EGA, or VGA) is sensed.

     ~1Don't Use Blue Text (Y/N)~2: If "Y" is entered the program will not
     use blue text for headings and other uses. This is useful for
     those users whose monitors do not produce readable blue text, and
     to eliminate underlined text on Mono Displays.
~3~4
   ~3Printer Options~4

     ~1Line Drawing Characters (Y/N)~2: If "Y" is entered the program will
     print forms and logs using the "┌──────┬──────┐" characters. Set
     this to "N" if italic characters appear on printed reports.

     ~1Printer (Epson or Laserjet or Other)~2: Enter "E" if you have an
     Epson or compatible printer. Enter "L" if you have a LaserJet or
     compatible printer. Enter "O" for all Others.

     Feel free to experiment with all three options for the best
     looking printouts.

     ~1Lines Per Page~2: Enter the number of lines you want to appear on
     printouts and reports.

     ~1Printer Port~2: Enter the Printer Port you want printed output to go
     to: LPT1, LPT2, or PRN.

   ~3Date Style Options~4

     ~1European Dates (Y/N)~2: If "Y" is entered the program will display
     and accept dates only in the DD/MM/YY (Day/Month/Year) format.
     Otherwise, the USA MM/DD/YY format is used.

     ~1European Values (Y/N)~2: If "Y" is entered the program will display
     and accept numbers in the "European" format, example:

        1.234.567,89   vs.   1,234,567.89

     ~1Date Separator (/ or .)~2: Enter either "/" or "." depending on
     how you want to enter and display dates, ~311/12/91~4 or ~311.12.91~4.

˜3Currency Options˜4

˜1˜3˜2˜4C.A.R. can be modified with the ˜3Change How the C.A.R. Program Work
˜3˜4selection of the ˜3Misc. Functions˜4 menu to use the currency of most
countries.

All of the following is based on my best information in hand. It is
hard to make these instructions general enough to cover all countries
and still be clear. If C.A.R. doesn't quite "fit" your currency
system, please drop a note to C.A.T. and tell us what would be
required. Thanks very much.

˜1Which Type of Currency System Do You Use?˜2

The currency system that your country uses may or may not be a Decimal
System. Look at the following examples, and decide which system you
use. Then pick the corresponding section that follows:

In the USA we do use a Decimal System. Our expenditures are shown as
Dollars and are always shown with a decimal point and 2 decimal places.
        Example: $45.12
The same is true of Canada, United Kingdom, Australia, and others.

Japan does not use a Decimal System. Their costs are shown as a whole
number of Yen without any decimal point or places.
        Example: ¥1200
The same is true of Italy, Greece, Mexico, and others.

    You may push these keys to get special symbols: [F5] [F6] [F7] [F8]
˜1˜3˜2˜4˜1˜3˜2˜4

˜1Setting up C.A.R. for Decimal Systems˜2

The ˜3Change How the C.A.R. Program Works˜4 screen has three entries for
currency:

˜1Currency Symbol˜2 - First, pick the one or two characters you want shown
in front of money amounts you enter. This should be an abbreviation or
a special symbol for your country's unit of money.
Examples: $ DM Fr £ ¥   ₧

˜1Fractional Currency Symbol˜2 - Your country should also have a smaller
unit of money. This would be the name for the fractional part of money
amounts. In the USA we use "cents", each cent is .01 dollar. $12.34
is 12 dollars and 34 cents. Pick a one or two character abbreviation
or a special symbol for this smaller unit.
Examples :   C   p. (the cents sign, which may not be printable)

˜1Currency Divider˜2 - Enter how many of the fractional units make up the
whole one. In most cases this will be 100. For example, in the USA
100 cents equals 1 dollar. This setting also sets how many decimal
places will be displayed. 100 will show 2 decimal places, 1000 will
show 3, etc.

˜1Setting up C.A.R. for Non-Decimal Systems˜2

˜1˜2The ˜3Change How the C.A.R. Program Works˜4 screen has three entries for
currency:

˜1Currency Symbol˜2 - Pick the one or two characters you want shown in
front of expenses you enter. This should be an abbreviation or a
special symbol for your country's unit of money.
Examples: $ DM Fr A$ £ ¥   ₧

˜1Fractional Currency Symbol˜2 - Leave this entry blank.

˜1Currency Divider˜2 - Leave this entry blank, or enter "1". This will
cause all money amounts to be displayed without a decimal point
˜1˜2

˜3Misc. Options˜4

˜1Hemisphere (N or S or -)˜2: If you tell C.A.R. which hemisphere you live
in and have a VGA display, it will show graphs on a colored background.
It will be reddish to show warm weather, bluish to show cold.
Enter "N" for Northern Hemisphere, "S" for Southern. An entry of "-"
will force gray backgrounds.

˜1Sound On (Y/N)˜2: Enter "Y" for C.A.R. to use sounds to warn or due or
overdue service. Enter "N" for beeps ONLY for user entry errors.
˜3˜1˜4˜2

˜1˜2˜3˜1Command Line Options˜2˜4
˜3˜1˜4˜2
   As was explained in an earlier section, the Log File name, or the name
   of a directory containing Log Files can be specified on the command
   line when starting C.A.R. Other options can also be specified:

   ˜3P.M. Scan Only Mode˜4

   If you run C.A.R. and supply a vehicle file name and "/PM", a scan will
   be made of that vehicle to see if anything is due to be performed.
   Examples:

       CAR Pinto /PM   CAR A:Truck12 /PM   C:\CAR\CAR C:\CAR\Yugo /PM

   The last example assumes that both the C.A.R. program files and your
   vehicle files are located in a directory called "CAR" on your C: disk
   drive. The last example is also an excellent addition to your
   AUTOEXEC.BAT file, and will check for maintenance due every time you
   turn on your computer.

   When C.A.R. is run in this fashion, a very quick check of what things
   reminders are due on will be made. If no reminders or only first
   reminders should be given, the program will not pause and will end
   displaying only "No PM Due". If any Second reminders are due, or some
   things are overdue, a list of only those items will be displayed, a
   whoop given, and the program will pause for acknowledgement.
˜3˜4

~3Batch File Input~1~4~2

C.A.R. can process multiple requests by reading a batch input file.
This is useful for purposes such as scanning for PM due on multiple
vehicles, recording the fueling or inspection of a fleet of vehicles or
machines, etc.

Create an ASCII file using EDIT or a word processor (be sure to store
as an ASCII file). On each line of this file, put the parameters that
you would normally put after "CAR" to run the program. For example, a
file to scan if PM is due on three trucks might contain:

C:\car\truck1 /PM
C:\car\truck2 /PM
C:\car\truck3 /PM

Then run C.A.R. by typing "CAR" and the batch file name with any needed
path, followed by "/B".   If the above listed file was named PMTRUCKS,
you would type:

CAR PMTRUCKS /B

If PMTRUCKS was not in the current directory, you might type:

CAR D:\FLEET\PMTRUCKS /B

The /B tells C.A.R. that it is a batch file, not a vehicle name.

Do not specify the /PM option when also specifying a batch file.
Instead put it on each line of the batch file as shown above.
~1~3~2~4
   ~1~3Environmental Variables~2~4

   ~3C.A.R. File Locations~4
   C.A.R. normally expects the CAR.HLP and the three .FON files to be in
   the same disk directory that the log files are kept in. Instead, you
   may wish to tell C.A.R. where the files can be found by putting the
   following line in you AUTOEXEC.BAT file:

      SET CARDIR=<path>   where <path> is the location of the files
~1~3~2~4
   In this way only one set of files is required for multiple log file
   directories or disks.

   ~3Video Mode~4
   C.A.R. automatically finds the best screen mode to display graphics
   with. It tries modes until one is acceptable to your graphics card in
   this order: 12, 9, 4, 1, 3. If you want it to start trying with a mode
   other than 12, enter this command or put it in your AUTOEXEC.BAT file:

      SET CARVIDEOMODE=<mode>   where <mode> is the screen mode

˜1˜3˜2˜4
                           ˜3˜1Chapter 8 - Miscellaneous˜2˜4
˜3˜4˜1˜3˜2˜4
    ˜3˜1Important Note for Users of Versions Prior to 9.2˜4˜2

The Backup File entry on the Defaults menu has been changed to Backup
Directory. Both C.A.R. files will now be copied to this directory.
Example entries for this field:

              A:\\   B:\\   C:\\CARBACK\2

If you don't know about this optional entry and did not make one, this
does not concern you.

˜3˜1Important Note for Users of Versions Prior to 11.0˜4˜2

Files for vehicles created by versions of C.A.R. prior to Version 11.0
must be converted before use with Versions 11.0 and later. To do this,
run the program as you normally would. C.A.R. will notice that the
file needs conversion, and will ask you if you wish to do so. If you
reply "Y" then the vehicle files will be converted.

C.A.R. will not delete your old vehicle files, they will be renamed to
˜1vehicle.OLD˜2 and ˜1vehicle.SAV˜2. They may be deleted once you are sure
the conversion has been successful.˜1˜3˜2˜4˜1˜3˜2˜4

~1~3File Export Formats~2~4

~3Full Log Listing~4

The first three lines:

Log Listing   C.A.R. 13.2
<Full vehicle or machine name>
<VIN or Serial Number>

The remainder of the file consists of ASCII records, one per log entry.
Each record is terminated by an ASCII carriage return. They have the
fields listed in the following table. Whatever character was selected
as the "Field Delimiter", if any, will appear between fields.

```
       Field Name          Width        From Column - To Column
       -------------------------------------------------------
       Record Type         31           1-31
       Brief Entry         50           33-82
       Odometer            7            84-90
       Date                8            92-99
       Provider            40           101-140
       Cost                9            142-150

       Item #1 Name        41           152-192
       Item #1 Value       30           194-223
       Item #2 Name        41           225-265
       Item #2 Value       30           267-296
       Item #3 Name        41           298-338
       Item #3 Value       30           340-369
       Item #4 Name        41           371-411
       Item #4 Value       30           413-442
       Item #5 Name        41           444-484
       Item #5 Value       30           486-515
       Item #6 Name        41           517-557
       Item #6 Value       30           559-588
       Item #7 Name        41           590-630
       Item #7 Value       30           632-661

       Notes               80           663-742
```

~3Compact Log Listing~4

The first three lines:

Log Listing   C.A.R. 13.2
<Full vehicle or machine name>
<VIN or Serial Number>

The remainder of the file consists of ASCII records, one per log entry.
Each record is terminated by an ASCII carriage return. They have the
fields listed in the following table.

Field Name	Width	From Column - To Column
Date	8	1-8
Odometer	7	10-16
Brief Entry	50	19-68
Cost	11	70-80

~3Fuel Usage Report~4

The first seven lines:

C.A.R. 13.2
<Full vehicle or machine name>
<VIN or Serial Number>

Purchase Date	Odometer	Fill-up?	Purchased Gallons	Total Gallons	Total Miles	MPG

The remainder of the file consists of ASCII records, one per log entry.
Each record is terminated by an ASCII carriage return. They have the
fields listed in the following table.

Field Name	Width	From Column - To Column
Purchase Date	8	1-8
Purchase Odometer	8	10-17
Fill-up?	1	23
Purchased Gallons	9	30-38
Total Gallons	9	41-49
Total Miles	8	51-58
MPG	11	60-70

Total Gallons & Total Miles will list the miles and gallons accumulated
between fill-ups.

~1~3Common Questions About C.A.R.~2~4
~1~3~2~4
~1Q: Why are all my CPM's zero or too low?~2

A: Costs per mile (or KM, or hour) are calculated starting at a certain
date & odometer reading. These are called the Statistics Starting Date
and Statistics Starting Odometer.

They should be set to the day the records you have entered into C.A.R.
start. If they are set before your records begin, your CPM's will be
too low.   If you set them to a later day, you will miss expenses.

C.A.R. set them to the purchase date & odometer when it set up the log.
You may change them by selecting ~3Change the Setup for xxxxx~4 off of the
Misc. Functions Menu.

~1Q: Why do my printouts look strange?~2

A: If you didn't change any of the ~3Change How the C.A.R. Program~4
~3Operates~4 entries when you first ran C.A.R., the program set itself up
to use a 100% IBM compatible and 100% Epson compatible printer. Yours
might not be. See ~3Change How the C.A.R. Program Operates - Printer~4
~3Options~4 in this manual.

~1Q: Why are the MPG calculations wrong?~2

A: Read the manual section ~3How are MPG's Calculated?~4

~1Q: Why is my "Today's Estimated Odometer" so far off?~2

A: If your log was started only a few weeks ago, relax and give the
program a change to learn your driving habits. This is especially true
if the past few weeks were not your typical driving weeks - you took
the new van on a trip, etc.

If the log has been used for some time, and your Estimated Odometer
becomes way off, you must have changed your driving habits - a longer
trip to work in the morning for a new job, etc. See ~3Change How C.A.R.~4
~3Estimates Your Odometer~4 in this manual.

~1~3~2~4~1Q: Why can't I change the color of everything?~2

A: C.A.R.'s use of color is complex, and full custom colors would be
difficult. A newer version may include this.

Right now, the ~3Change How the C.A.R. Program Operates~4 menu will allow
you to kill off blue text if you can't see it on your monitor.

~1~3~2~4~1Q: Why can't I use "-" in dates instead of "/" and "."?~2

A: I decided it was more helpful to use the "+" and "-" keys for a
quick date change function.

~1~3~2~4~1~3~2~4~1Q: Why don't you have a log entry for Insurance or Parking

A: You can set one up! See ~3Set Up Custom Entries~4 in the manual.

~1Q: I need about 20 more PM Entries (a request).~2

A: Have you carefully read the beginning of Chapter 4 of this manual
and have you set up Inspection Groups. A common error is to ignore
them and set everything up as PM Entries.

~1Q: Why can't I totally change all the entry types and set the program~2
~1to work completely differently?~2

A: I would like to think that a good part of the value of C.A.R. is the
"setup" of the program. It isn't just a general purpose database that
collects information. It is "pre-configured" in a way that I think you
will find good for logging your vehicles or machines. It is more like
buying a Vehicle Log Book with blanks to fill in, as opposed to just a
blank notebook.

A great deal of thought and user experiences has gone into they way it
is organized. Give it a try!

~1Q: Why do I have to reenter the PM schedule each time for identical~2
~1vehicles?~2

A: You don't anymore! You are now given the option to copy another
schedule when starting a log.

~1Q: Must I sort the log just to see statistics? It takes so long.~2

A: Yes, it used to. Two changes have been made to help:
First, the sorting and scanning has been sped up.
Second, if you select the Reports menu from the Log Screen, and select
Statistics from there, the sort will be skipped. Only the scan will
take place.
~1~2
~1~3~2~4
  ~1Q: Why don't you have overall statistics for a Fleet of vehicles?~2

A: I hope to soon. What would you want to see? How would you want to
group your vehicles for reports?

~1Q: Why can't I record mileage for business trips & other usage?~2

A: This also may be a future feature. What would you want? How would
it work? What entries would you make? What reports would you get?

~1~2
~1~3~2~4~1Q: Why don't you have a way to remind me of when my License Plates
~1due, or my Driver's License, or some special maintenance due one time~2
~1only in two months, etc.?~2

A: These things are best handled by a "tickler" or "reminder" type
program. Such a program can remind you of all these things, plus
birthdays, anniversaries, etc. I recommend Dr. Memory (DRM), also from
C.A.T. It can be found on Compuserve's IBMSYS forum, or directly from
C.A.T. A free copy is found on C.A.T. C.A.R. disks.

~1Q: Why is the MPG Graph scale so small? It makes my graph look like~2
~1the Alps! How about a longer scale?~2
~1~2
A: The scale is automatically set to the range of the MPG values that
have been calculated. If you don't like this, you can set MPG limits
for each vehicle, which will override the automatic scaling and set the
range of the graph. See section ~3Set MPG Calculation Limits~4 on page 36.

~1Q: Why is the scale on the MPG Graph so big, or wrong?~2
~1~2
A: The scale is automatically set to the range of the MPG values that
have been calculated. Do you have any bogus MPG values displayed in
the log? If so, set the "Skip Calculation" to "Y" for them.

You can set MPG limits for each vehicle by selecting the Misc. menu,
which will override the automatic scaling and set the range of the
graph. See ~3Set MPG Calculation Limits~4 on page 36. Have you set these?

~1Q: Why can't I see any graphics on my monochrome display?~2
~1~2
A: If you have a true IBM Brand MDA display card, it does not have the
capability to display graphics. If you have a Hercules or "Hercules
compatible" display card, you can get graphics provided you run the
program MSHERC before running C.A.R. MSHERC should be supplied with
your MS-DOS operating system. Just type MSHERC at a DOS prompt.

~1Q: When will you have a Windows version?~2

A: This is (hopefully, again) the last MS-DOS version of C.A.R. Look
for a Windows version in mid-1994.

~1Q: I use Quicken and have to enter data both here in C.A.R. and in~2
~1Quicken. Can't you exchange info?~2

A: I have written to them twice, sent them a copy of the program, and
telephoned once. They have never given me the courtesy of a reply.

~1Q: When I do a number of things that need to be entered into the log,~2
~1why do I have to enter the milage, date, etc. for each?~2

A: Changing this would be a major change. If this seems to be a
problem for you, are you using Inspection Groups wisely? Do you have
Defaults for entry blanks set?

→