

TurboGauge



USER MANUAL

CONTENT

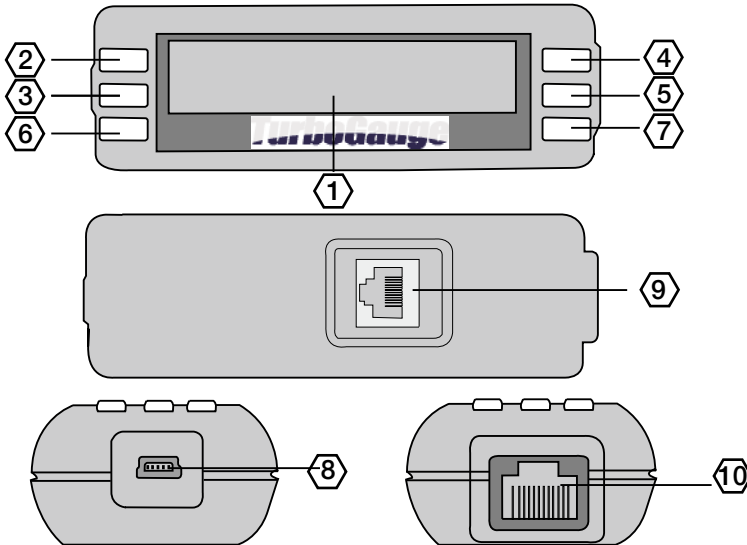
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1. Safety Precautions and Warnings

To prevent personal injury or damage to vehicles and/or the auto computer, read this instruction manual first and observe the following safety precautions at a minimum whenever working on a vehicle:

- Always keep attentive while driving.
- DO NOT try to make any adjustments while driving.
- DO NOT mount the auto computer in a position which can obstruct the view of the driver.
- DO NOT mount the auto computer in a manner which could cause it to be propelled through the vehicle during an accident causing injury, such as over or near an airbag.
- DO NOT route the cable in a manner which would interfere with the operation of the vehicle controls.
- Keep the auto computer dry, clean, free from oil/water or grease. Use a mild detergent on a clean cloth to clean the outside of the auto computer, when necessary.

2. Using the Auto Computer



2.1 Tool Descriptions

1. LCD Display Displays retrieved data.
- 2.3.4.5 Menu Selection Buttons -- When there is ► or ◀ icon on the screen next to the button, press it to perform what is displayed next to it.
6. Button -- Moves to next screen; it is also used to enter time setup screen.
7. Button -- Return to previous screen, exit a menu or wake up the tool from sleep mode.
8. USB Port -- Connects the tool to a computer with the USB cable supplied to update the tool.
- 9.10. OBD2 Connector Port -- Connects the tool to vehicle's DLC with the OBD2 cable supplied.

2.2 Specifications

- 1). Display: Backlit, 2 lines * 16 character display
- 2). Operating Temperature: 0 to 50°C (32 to 122 F°)
- 3). Storage Temperature: -20 to 70°C (-4 to 158 F°)
- 4). Power: 8 to 18 volts provided via vehicle battery
- 5). Dimensions:

Length

126 mm (5 in) * 41.6 mm (1.61 in)* 26.6 mm (1.05 in)

Width

- 6). NW: 0.70kg (1.54lb), GW: 1.0kg(2.20lb)

2.3 Accessories Included

- 1). User manual -- Instructions on tool operations
- 2). OBD2 cable -- Provides power to tool and communicates between the tool and vehicle.
- 3). USB cable -- Connects the tool to a computer for software updates.

2.4 Navigation Characters

Characters used to help navigate the auto computer are:

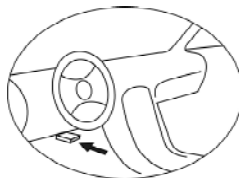
- 1). ► or ◀ -- Indicates the button next to it can be used and presses it to do what is displayed next to it.
- 2). ◀ or ► -- Indicates more information available on previous or next screens.
- 3). "Pd" -- Identifies a pending code when viewing DTCs.
- 4). "←" Moves to previous digit.
- 5). "→" Moves to next digit; Indicates an option is selected.
- 6). "+" -- Increase digit value.
- 7). "-" -- Decrease digit value.
- 8). "Ⓢ" -- Indicates average speed and average fuel consumption.
- 9). "Ⓢ" Indicates oil volume.
- 10). "---" Indicates invalid data.

2.5 Connection to the Vehicle

Follow the below steps to connect the tool to the vehicle:

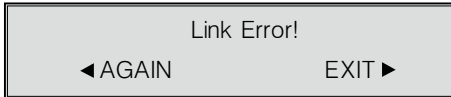
- 1). Connect the OBD2 cable to the tool.
- 2). Place the tool to the position you have chosen.
- 3). Locate DLC on vehicle.

The DLC (Data Link Connector or Diagnostic Link Connector) is a standardized 16-cavity connector where diagnostic auto computers interface with the vehicle's on-board computer. The DLC is usually located 12 inches from the center of the instrument panel (dash), under or around the driver's side for most vehicles. If Data Link Connector is not located under dashboard, a label should be there telling location. For some Asian and European vehicles, the DLC is located behind the ashtray and the ashtray must be removed to access the connector. A plastic DLC cover may be found for some vehicles and you need to remove it before plugging the OBD2 cable. If the DLC can not be found, refer to the vehicle's service manual for the location.



- 4). Plug OBD2 cable to the vehicle's DLC.
- 5). Turn the ignition on. Engine can be off or running.
- 6). The auto computer starts to communicate with the vehicle.

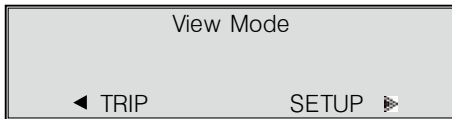
● If the auto computer fails to communicate with the vehicle's ECU (Engine Control Unit), a "Link Error" message shows as below:



Use the button next to "AGAIN" to try to connect to the vehicle, and the tool re-attempts to communicate with the ECU. If there is still no communication between them, a "CHECK MANUAL" message comes up prompting you to refer to the tool's user's manual for troubleshooting tips.

Follow steps below to troubleshoot:

- √ Verify that the ignition is ON;
 - √ Check if the OBD2 connector is connected to the vehicle's DLC well;
 - √ Verify that the vehicle is OBD2 compliant;
 - √ Turn the ignition back to on and repeat the procedure from step 5.
- If the auto computer still fails to communicate with the ECU, contact the manufacturer or local distributor.



7). When communication has been established, it shows the **HOME** screen.



● The **HOME** screen is defaulted to display 4 menu options as shown in the figure above. It can be set to show the **CURRENT** trip information also. **HOME** screen hereafter in the manual refers to the default setting.

3. Trip Computer

The auto computer records information about CURRENT, TODAY, TOTAL and TANK trips.

3.1 Current Trip:(Home>Trip>current)

">" means to press the button next to "◀" or "▶".

Displayed data are as follows:

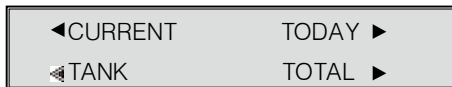
- | | |
|---|-------------------------------------|
| 1. Maximum Speed (Unit: KHM) | 2. Average Speed (Unit: KH ϕ) |
| 3. Current speed (Unit: KPH) | 4. Driving Time (Unit: __:__) |
| 5. Driving Distance (Unit: KM) | 6. Fuel Used (Unit:L) |
| 7. Trip Fuel Economy (Unit: LK ϕ) | 8. Current fuel economy (Unit: LPH) |
| 9. Distance to Empty (Unit: KM ⏏) | |

NOTE: Definition of one trip is the time from engine ignition to engine turn-off must be > 30 minutes.

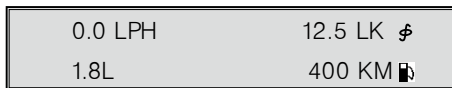
- 1). Press the upper left button next to TRIP from home screen.



- 2). Press the button next to "Current" to enter current trip screen

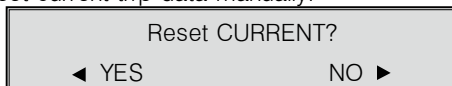


- 3). View detailed trip information on the screen.



● Use the upper four buttons next to any of the items or use lower-right button to view additional data on next screen(s). if you want to return or get to the previous page. please press the lower-right button.

- 4). When viewing current trip information, hold lower-left button about 3 seconds to reset current trip data manually.



● Only current trip information can be reset.

- 5). Press YES to clear data of current trip or use the button next to NO to exit.

3.2 Today Trip:(Home>Trip>Today)

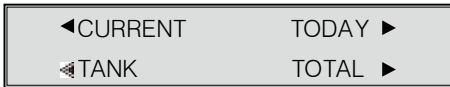
The Today trip shows the following items:

1. Maximum Speed (Unit: KHM)
2. Average Speed (Unit: KH ϕ)
3. Driving Time (Unit: __:__)
4. Driving Distance (Unit: KM)
5. Trip Fuel Economy (Unit: LK ϕ)
6. Time fuel economy (Unit: LH ϕ)
7. Fule Used (Unit: L)

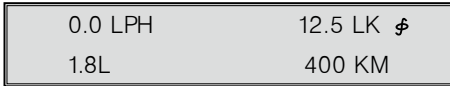
1).Press the upper left button next to TRIP from home screen.



2).Press the button next to "TODAY" to enter today trip screen



3).View detailed trip information on the screen.



● Use the upper four buttons next to any of the items or use lower-left button to view additional data on next screen(s). if you want to return or got to the previous page. please press the lower-right button.

3.3 Tank Trip:(Home>Trip>Tank)

The TANK trip shows the following items:

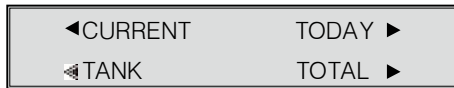
1. Fuel used since last fill-up (Unit: L)
2. Distance driven since last fill-up (Unit: KM)
3. Distance remaining before tank is empty (Unit: KM \blacksquare)
4. Time Driven since last fill-up (Unit: __:__)
5. Time remaining before tank is empty (Unit: __:__ \blacksquare)
6. Trip fuel economy since last fill-up (Unit:LK ϕ)
7. Time fuel economy (Unit: LH ϕ)
8. Fuel remaining (Unit: L \blacksquare)

1).Press the upper left button next to TRIP from home screen.





2). Press the button next to "TANK" to enter tank trip screen



3). View detailed trip information on the screen.



● Use the upper four buttons next to any of the items or use lower-left button to view additional data on next screen(s). if you want to return or got to the previous page. please press the lower-right button.

3.4 Total Trip:(Home>Trip>Total)

The Total trip shows the following items:

1. Maximum Speed (Unit: KHM)
2. Average Speed (Unit: KH ₹)
3. Driving Time (Unit: __: __)
4. Fuel Used (Unit:L)
5. Driving Distance (Unit: KM)
6. Trip Fuel Economy (Unit: LK ₹)
7. Time fuel economy (Unit: LH ₹)

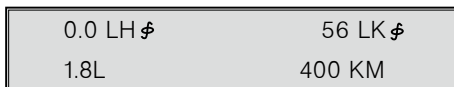
1). Press the upper left button next to TRIP from home screen.



2). Press the button next to "TOTAL" to enter total trip screen



3). View detailed trip information on the screen.



● Use the upper four buttons next to any of the items or use lower-left button to view additional data on next screen(s). if you want to return or got to the previous page. please press the lower-right button.

4. Gauges (Option)

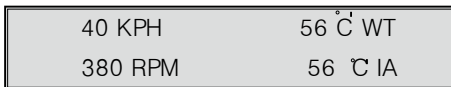
The auto computer can be configured to measure and monitor up to four different sets of information simultaneously, providing real-time engine performance analysis to allow you to adjust driving behavior and improve fuel economy.

- | | |
|----------------------------|-------------------------------------|
| 1. Vehicle speed (KPH/MPH) | 2. Manifold pressure (MAP) |
| 3. Battery voltage (VLT) | 4. Engine load (LOD) |
| 5. Fuel Pressure (FPR) | 6. Throttle position (TPS) |
| 7. Ignition timing (IGN) | 8. Intake air temperature (FIA/CIA) |
| 9. Engine speed (RPM) | 10. Closed/open loop (CLSD/OPEN LP) |
| 11. Engine power (HPR/KW) | 12. Water temperature (FWT/CWT) |

- 1). Press the button next to GAUGE to view gauge readings.



- 2). View currently selected gauges on screen.



- The information available varies from vehicle to vehicle. If the information is not available for a certain gauge, the trip computer shows " _ _ ".

- When the selected gauges are displayed for about 12 seconds, the trip computer records them automatically. It shows these 4 gauges directly when viewing gauges readings next time.

- 3). Use the upper four buttons next to any of the items or use lower-left button to view additional data on next screen(s).
- 4). Press the lower-right button to exit.

5. Scan Tool

5.1. Reading Codes (Home>Scan>DTC)

5.1.1. Erasing Codes (Option) (Home>Scan>DTC)

- 1). Press the button next to SCAN to start scanning.

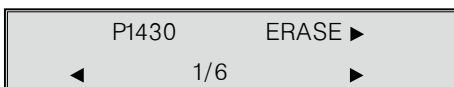


2). Press the button next to DTC to view codes.

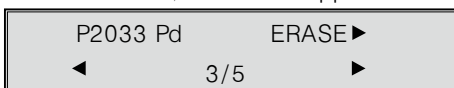


If no codes are found, the screen will show "No Codes Found!"

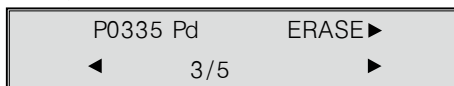
3). If more than one code is detected, use the button next to ◀ and ▶ to view previous or next codes.



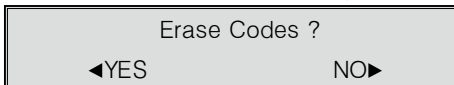
If a pending code is detected, a "Pd" icon appears.



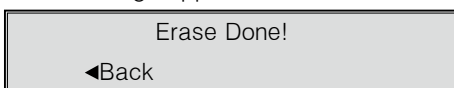
4). To erase codes, use the button next to ERASE.



5). A warning message comes up asking for your confirmation.



6). If you wish to erase codes, press YES. When codes are cleared successfully, an "Erase Done!" message comes up. If codes are not cleared, a "Failed!" message appears.



7). Choose the "Back" to return

8). If you do not wish to erase code, press NO button to exit.



CAUTION: Erasing the Diagnostic Trouble Codes may allow the trip computer to delete not only the codes from the vehicle's on-board computer, but also "Freeze Frame" data and manufacturer enhanced data. Further, I/M Readiness Monitor Status for all vehicle monitors are reset to Not-Ready or Not-Complete status. Do not erase the codes before the system has been checked completely by a technician.

9). Press the lower-right button return previous menu.

5.2. Retrieving I/M Readiness Status (Home>Scan>I/M)

I/M Readiness function is used to check the operations of the Emission System on OBD2 compliant vehicles, including the belows,

1. Malfunction Indicator Lamp Status (MIL)
2. Misfire monitoring (MIS).
3. Fuel System Monitoring (Fuel)
4. Comprehensive Component Monitoring (CCM)
5. Catalyst Monitoring (CAT)
6. Heated Catalyst Monitoring (HCAT)
7. Evaporative System Monitoring (EVAP)
8. Secondary Air System Monitoring (AIR)
9. A/C System Refrigerant Monitoring (ACRF)
10. Oxygen Sensor Heater Monitoring (O2S)
11. Oxygen Sensor Heater Monitoring (HTR)
12. EGR System Monitoring (EGR)

Besides, the below world show these monitors status:

√ "OK" -- Indicates that a particular monitor being checked has completed its diagnostic testing.

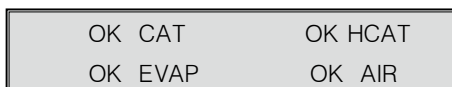
√ "NC" -- Indicates that a particular monitor being checked has not completed its diagnostic testing.

√ "NA" -- The function is not supported on that vehicle.

1). Press the button next to I/M to view I/M readiness status.



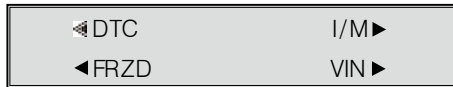
2). View I/M readiness status on screen.



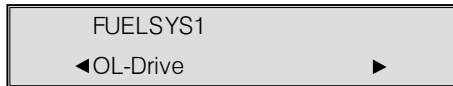
- 3). Use the upper four buttons next to any of the items or use lower-left button to view additional data on next screen(s).
- 4). Press lower-right button to exit.

5.3 Reading Freeze Frame Data (Home>Scan>FRZD)

- 1). To view freeze frame data,press the button next FRZD.



- 2). Use the button next to ◀ and ▶ to view previous or next PID data.



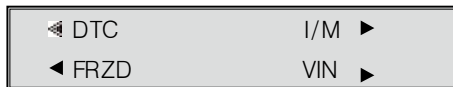
If there is no freeze frame data available,a "No FRZD" message shows on the screen. Press BACK or wait a few seconds to return.

- 3). Press the lower-right button to exit.

5.4 Viewing VIN Number(Home>Scan>VIN)

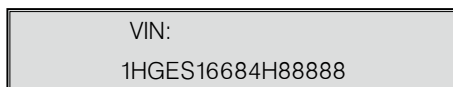
The tool is able to retrieve Vehicle Identification number on 2002 and newer vehicles that support Mode 9.

- 1). Press the button next to VIN to view vehicle information.



If the vehicle does not support this mode,a "Not Supported!" message comes up on the display. Press BACK or wait a few seconds to return.

- 2). View VIN no. on screen.



- 3)Press the lower-right button to exit.

6. CBB-Car Black Box (Home>>CBB)

(">>" means to press the lower-left button)

The tool is able to save up to 300 hours of driving data. Data from each trip is recorded the following categories:

- Time and date for each trip starts and ends
- Distance travel each trip
- Maximum speed during trip
- Time over speed
- Number of times of extreme acceleration during trip
- Number of times of extreme deceleration during trip
- Number of times of hard acceleration
- Number of times of hard brake
- Average Speed Average Fuel Consumption

1). Press the lower-right button from home screen.



2). Press the button next to CBB.

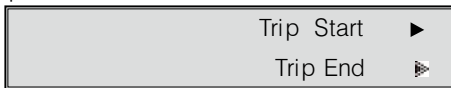


3). Select a set of trip information to view.

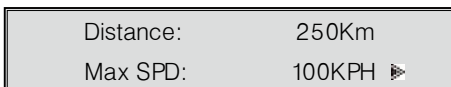


4). Use lower-left button to view detailed trip information.

Trip Start and Trip End



Distance and Max SPD



Time Over limited Speed

00:00 Over	
Limited Speed	▶

Number of times of hard brake,
 Number of times of extreme deceleration during trip

Hard Brakes:	0
Ext. Brakes:	0

Number of times of hard acceleration
 Number of times of extreme acceleration during trip

Hard Acl:	0
Ext. Acl:	0

Average Fuel Consumption and Average Speed

AVG LHK	12
AVG KPH:	50

5). Press the lower-right button, it returns to the previous screen.

7. Setup (Home> Setup)

The auto computer allows you to make following adjustments and settings:

- 1). Fuel: Selects the fuel type your vehicle uses.
- 2). Size: Sets tank size of the vehicle.
- 3). Engine: Sets up engine size.
- 4). Units: Changes unit of measure.

● The auto computer uses flash memory to save settings, so the data will not be lost if the unit is disconnected from the vehicle.

To enter setup menu (Home> Setup)

Press the button next to SETUP to perform various setups.

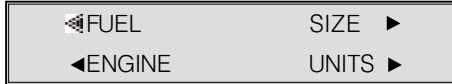
◀ TRIP	GAUGE ▶
◀ SCAN	SETUP ▶▶

NOTE: In order to get accurate data of fuel consumption, distance to empty, time to empty and etc., always perform setup like it is the first time using the auto computer in a vehicle. For example, if you use it in

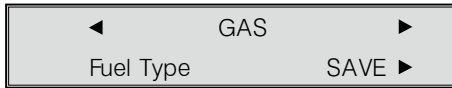
another vehicle and return it back to original one, or if the unit is reset to factory settings.

7.1 Fuel (Home>Setup>Fuel)

1). Press the button next to **FUEL** to enter fuel setup menu.

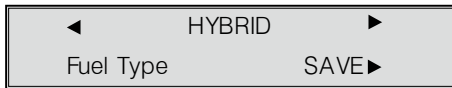


2). Use the button on the upper left or upper right to select the fuel type your vehicle uses.



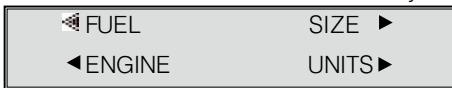
There are **DIESELa**, **DIESELb**, **HYBRID**, **GAS**, **LPG** fuel types to choose as different cars. **DIESELa** and **DIESELb** do not refer to different types of diesel fuel. They only affect the way fuel consumption is computed and are selected based on the way the vehicle computer reports its sensor information. Most diesel vehicles use **DIESELa**.

3). Press SAVE button and an "→" icon appears on the screen indicating the type is selected. then it returns the "Setup" Menu



7.2 Tank Size (Home> Setup>Size)

1). Press the button next to **SIZE** to set the tank size of your vehicle.

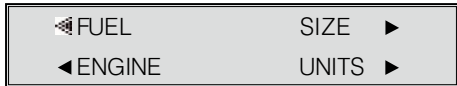


2)Use the button next to "-" or "+" to change the tank size, and press SAVE button to save, then it returns the "Setup" Menu.



7.3 Engine (Home>Setup>Engine)

1). Press the button next to **ENGINE**.



2). Use the button next to " - " or " + " to change engine size, and press SAVE button., then it returns the "Setup" Menu



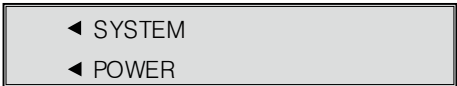
7.4 Units of Measure (Home> Setup> Units)

Press the button next to UNITS to change units of measure.

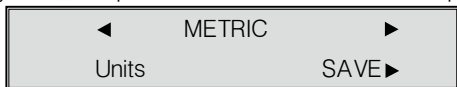


7.4.1. System Units.

1). Use the left button to choose the "SYSTEM" Menu after entering the Units Menu.



2). Use the upper left or upper right button to change between metric and English unit of system, and press SAVE. then it returns the previous menu.

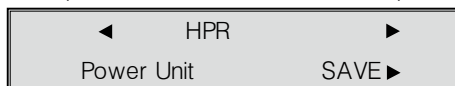


7.4.2. Power Unit.

1). Use the left button to choose the "POWER" Menu after entering the Units Menu.



2). Use the upper left or upper right button to change between HPR and KW of power unit, and press SAVE. then it returns the previous menu.



8. Tool Information

Tool information includes the follows,

- 1). Record: The Trip Recorder.(please see the previous item 6.)
- 2). Time: Changes time displayed by the auto computer.
- 3). FILLUP: Used to refuel the vehicle every time
- 4). Rate: Sets sampling and recording rate.
- 5). Speed: Adjust and limit the speed
- 6). Display: Sets contrast,display mode and home screen of the tool.
- 7). About: The version and conversion.
- 8). Default: Resets all units,engine displacement,engine type,tank size, gauge settings,trip data and screen settings to manufacturer defaults.

8.1 CBB(Home>>CBB)

See the item 6

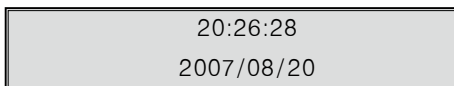
8.2 Time (Home>>Time)

- 1).press the lower-left button from HOME screen.

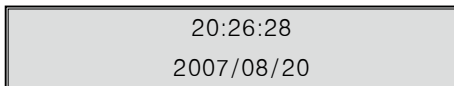


● If the HOME screen is set to display information of current trip, press the lower-right hand buton to enter HOME screen and then to Tool Informations

- 2). Press the button next to TIME.



- 3). Press the lower-left button to enter time adjustment screen.



4). Use the button next to " ← " or " → "to select a digit,and then use the button next to " - " or " + " to increase or decrease value.

5). Press the lower-left button to finish and save the setup,or press the lower-right hand button to exit without saving the settings.

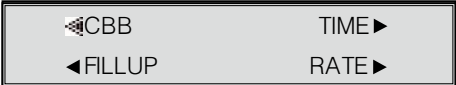
8.3. Fill-up (Home >> Fillup)

NOTE: In order to get more accurate fuel consumption readings, and to get valid TANK information, use the FILLUP function every



time when your vehicle is refueled. Make sure the tank size and the fuel type are properly set before use this function.

- 1). Fill the tank in gas station and let the pump shut off automatically.
- 2). Press the button next to FILLUP, and press SAVE without adjusting the indicated fuel on the first after connecting the trip computer to the vehicle.



- 3). Drive your vehicle normally with the auto computer connected.
- 4). When the tank is around 1/4 full, drive to the same gas station, use the same fuel pump, fill up the tank at the same rate and let it shut off automatically.
- 5). Press the button next to **FILLUP**.



- 6). Use the button next to " - " or " + " to change the adjustment factor in 0.1% step till the number to the right of "→" agrees with the value reported by the fuel dispenser.



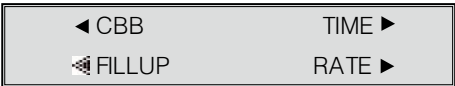
● The number to the left of "→" is the amount of fuel the auto computer believes was used since last fill-up; the number to the right of "→" is the amount of fuel reported by fuel dispenser. Before changing the adjustment factor, these two numbers should be the same.

- 7). Press SAVE to finish the adjustment, and the fuel economy will be immediately affected by the adjustment.

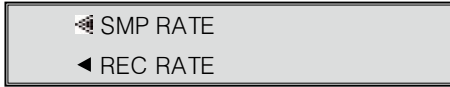
Record the adjustment factor for your vehicle if you use it in another vehicle and then return it back to this one, so you can later adjust it back to this one without repeating the steps above.

8.4 Rate (Home>>>Rate)

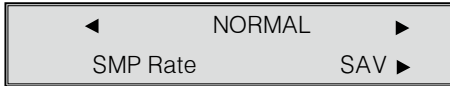
- 1). Press the lower-left button from HOME screen.



2). Press the button next to **RATE**.



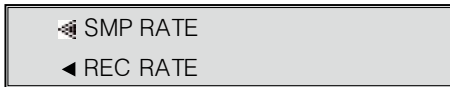
3). To change system management processor rate,press the button next to SMP RATE.



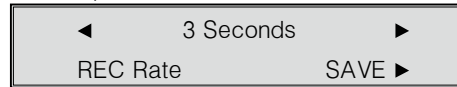
4). Use the upper-left and upper-right button to select a sampling rate between NORMAL and SLOW,and press SAVE button to save the setup. it returns to RATE Menu.

NORMAL is the factory default rate. If this causes some updates to be skipped or irregular operation,SLOW should be used.

5). To change recording rate,press the button next to REC RATE.



6). Use the upper-left and upper-right button to change, and press SAVE button to save the setup. and returns to Rate menu.



8.5. Speed (Home>> >> speed)

Double press the lower-left button will enter the below menu.

To Do Speed Correction (Home>> >> speed>Adjust)

Speed and distance adjustments are used to compensate for changes in tire size,gears,tire wear,etc...

1). Press the button next to SPEED.

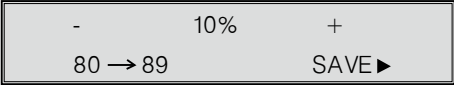


2). Use the button next to ADJUST to enter speed correction screen.





3). Use the button next to " - " or "+" to adjust in 1% step till the adjustment factor reaches the computed percentage, and press SAVE button.



The lower-left number is the speed reported by the vehicle. The lower right number is the speed which is displayed by the auto computer by applying this correction.

A. To set the speed accurately, you need a handheld GPS. One person observes the speed displayed on the GPS and adjusts the percentage till the lower right value agrees with the speed indicated on the GPS while the other is driving. Set both the GPS and the auto computer to display the same unit of speed (KPH or MPH) to make more accurate adjustments.

B. Drive at an auto computer indicated speed of 60 MPH and measure the time between mile marker posts on a highway. For every second more than 60 it takes to go 1 mile, subtract 1% from the adjustment with the upper left button. Repeat this a few times until it takes 60 seconds plus or minus a second to go 1 mile.

C. Use distance measurements to adjust the auto computer, and use highway mile markers to check the setting.

1). From the home screen, press TRIP.



2). Select CURRENT.

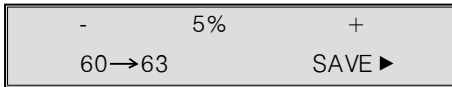


3). Use any of menu selection buttons to select current distance and hold the lower-left button for about 3 seconds to reset current trip data while passing a mile marker.



4). After passing the mile marker, observe the MILES changes on screen, and record the indicated distance between two markers.

5). Use upper left or right button to adjust the speed in 1% step till the lower right figure agrees with the indicated distance and press SAVE.



The adjustment does not affect the vehicle speedometer or odometer readings, but the auto computer indicated speed and distance only.

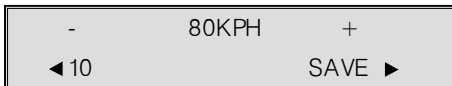
To Set Speed Limit (Home>> >> speed>Limited)

To make the TIME OVER SPEED data in RECORD valid, you need to set a speed limit for the vehicle being tested.

1). Use the button next to LIMITED.



2). Use the button next to - or + to adjust in 1KPH(MPH) step or use the button next to 10 to change in 10 KPH(MPH) step till the limit reaches your desired one and press SAVE button.

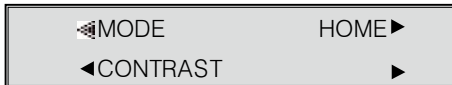


8.6 Display (Home>> >> Display)

1). Press the lower-left button from home screen doubly.

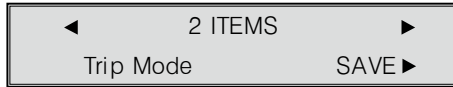


2). Press the button next to DISPLAY.



A. Enter Mode Menu

1). To change the display mode of trip items, press the button next to MODE.

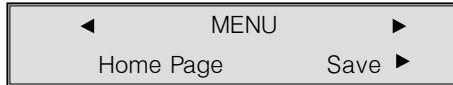


2). Use the upper left or upper right button to change between "2 ITEMS" and "4 ITEMS",and press SAVE. and return to Display menu.

● X ITEMS indicates how many items are displayed in one screen when viewing trip information.

B. Enter Home Menu

1). To change the display of home screen,press the button next to HOME.



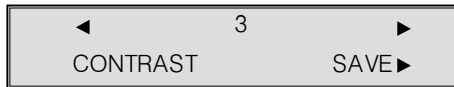
2). Use the upper left or upper right button to select MENU to show 4 menu options in one screen,or to set the screen to show current trip information by selecting CURRENT TRIP,and press SAVE.

● It is advisable to set the home screen to show current trip information if you use the trip computer in one vehicle only.

● If the trip computer is set to show information of current trip,use the lower-right button to exit current trip display before viewing other information,or performing setups.

C. Enter Contrst Menu

1). To change the contrast of display,press the button next to CONTRAST.

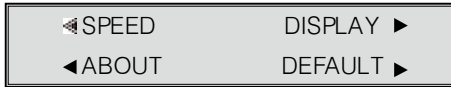


2). Use the button next to " - " or " + " to adjust the contrast,and press SAVE.

8.7 About (Home>> >> About)

This function is used to view software version of the tool and look up unit conversions between metric and English unit of measure.

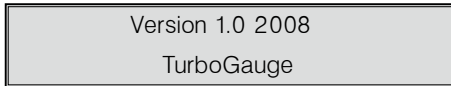
1). Doubly press the lower-left button from the home menu,it will enter the below menu.



2). Use the button next to ABOUT.



3). Press the button next to VERSION to view software version on screen.

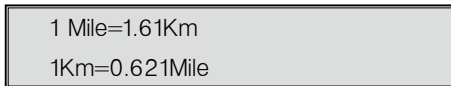


4). Press the lower-right button to exit.

5). To look up unit conversions, press the button next to **CONVERSION**.



6). View the conversion results on screen.

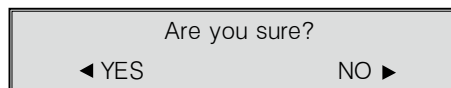


8.8 Default (Home>> >> Default)

1). To reset the auto computer to original factory settings, press lower-right button from HOME screen doubly.



2). Press the button next to DEFAULT.



3). Press YES to reset the tool to factory defaults, or press NO to exit.

9. Appendix

9.1. Appendix 1

GAUGE ABBREVIATIONS

SCAN ABBREVIATIONS

CLSD LP OPEN LP	Fuel system loop status (loop closed or open)	MIL	Malfunction Indicator Lamp Status
FIA CIA	Intake-Air-Temperature	MIS	Misfire Monitoring
FWT CWT	Water Temperature	FUEL	Fuel System Monitoring
FPR	Fuel-Pressure	CCM	Comprehensive Component Monitoring
GPH	Gallons-per-Hour	CAT	Catalyst Monitoring
LPH	Liters-per-Hour	HCAT	Heated Catalyst Monitoring
IGN	Ignition Timing	EVAP	Evaporative System Monitoring
LOD	Engine Loading	AIR	Secondary Air System Monitoring
MPG	Miles/Gallon	ACRF	A/C system refrigerant Monitoring
KPG	Km/Gallon	O2S	Oxygen Sensor Monitoring
MPL	Miles/Liter	HTR	Oxygen Sensor Heater Monitoring
LHK	Liters/100Km	EGR	EGR System Monitoring
MPH	Miles-per-hour	FRZD	Freeze Data
KPH	Kilometers-per-Hour	VIN	Vehicle No.
MAP	Manifold-Absolute-Pressure	ACL	Acceleration
RPM	Revolutions/Minute	DTC	Diagnostic Trouble Code
TPS	Throttle-Position-Setting	Ext. Acl	Extreme Acceleration
VLT	Battery Voltage	SMP Rate	Systems Management Processor Rate



9.2. Appendix 2

No	Item	Unit			
		Metric	Definition	English	Definition
Current Trip					
1	Maximum Speed	KHM	Kilometer/Hour Max.	MHM	Mile /Hour Max.
2	Average Speed	KH	Kilometer/Hour	MH	Mile /Hour
3	Current speed	KPH	Kilometer Per Hour	MPH	Mile Per Hour
4	Driving Time	__:__	__:__	__:__	__:__
5	Driving Distance	KM	Kilometer	MI	Mile
6	Fuel Used	L	Liter	GAL	Gallon
7	Trip Fuel Economy	LK	Liter /100 kilometers	MG	Mile / Gallon
8	Current fuel economy	LPH	Liter Per Hour	GPH	Gallon Per Hour
9	Distance to Empty	KM	Kilometer	MI	Mile
Today Trip					
1	Maximum Speed	KHM	Kilometer/Hour Max.	MHM	Mile /Hour Max.
2	Average Speed	KH	Kilometer/Hour	MH	Mile /Hour
3	Driving Time	__:__	__:__	__:__	__:__
4	Driving Distance	KM	Kilometer	MI	Mile
5	Trip Fuel Economy	LK	Liter /100 kilometers	MG	Mile / Gallon
6	Time fuel economy	LH	Liter /Hour	GH	Gallon / Hour
7	Fuel Used	L	Liter	GAL	Gallon
Tank Trip					
1	Fuel used since last fill-up	L	Liter	GAL	Gallon
2	Distance driven since last fill-up	KM	Kilometer	MI	Mile
3	Distance remaining before tank is empty	KM	Kilometer	MI	Mile
4	Time Driven since last fill-up	__:__	__:__	__:__	__:__
5	Time remaining before tank is empty	__:__	__:__	__:__	__:__
6	Trip fuel economy since last fill-up	LK	Liter /100 kilometers	MG	Mile / Gallon
7	Time fuel economy	LH	Liter /Hour	GH	Gallon / Hour
8	Fuel remaining	L	Liter	GAL	Gallon
Total Trip					
1	Maximum Speed	KHM	Kilometer/Hour Max.	MHM	Mile /Hour Max.
2	Average Speed	KH	Kilometer/Hour	MH	Mile /Hour
3	Driving Time	__:__	__:__	__:__	__:__
4	Driving Distance	KM	Kilometer	MI	Mile
5	Fuel used	L	Liter	GAL	Gallon
6	Trip Fuel Economy	LK	Liter /100 kilometers	MG	Mile / Gallon
7	Time fuel economy	LH	Liter /Hour	GH	Gallon / Hour

10. Warranty and Service

10.1 Limited One Year Warranty

TurboGauge warrants to its customers that this product will be free from all defects in materials and workmanship for a period of one (1) year from the date of the original purchase, subject to the following terms and conditions:

- 1). The sole responsibility of TurboGauge under the Warranty is limited to either the repair or, at the option of TurboGauge, replacement of the auto computer at no charge with Proof of Purchase. The sales receipt may be used for this purpose.
- 2). This warranty does not apply to damages caused by improper use, accident, flood, lightning, or if the product was altered or repaired by anyone other than the Manufacturer's Service Center.
- 3). TurboGauge shall not be liable for any incidental or consequential damages arising from the use, misuse, or mounting of the auto computer. Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply.
- 4). All information in this manual is based on the latest information available at the time of publication and no warranty can be made for its accuracy or completeness. TurboGauge reserves the right to make changes at any time without notice.

10.2. Service Procedures

If you have any questions, please contact your local store, distributor or visit our website. (www.roadico.com)

If it becomes necessary to return the auto computer for repair, contact your local distributor for more information.