

FREIGHTLINER X-LINE CHASSIS INSTRUMENTATION OPERATORS GUIDE



1. INTRODUCTION

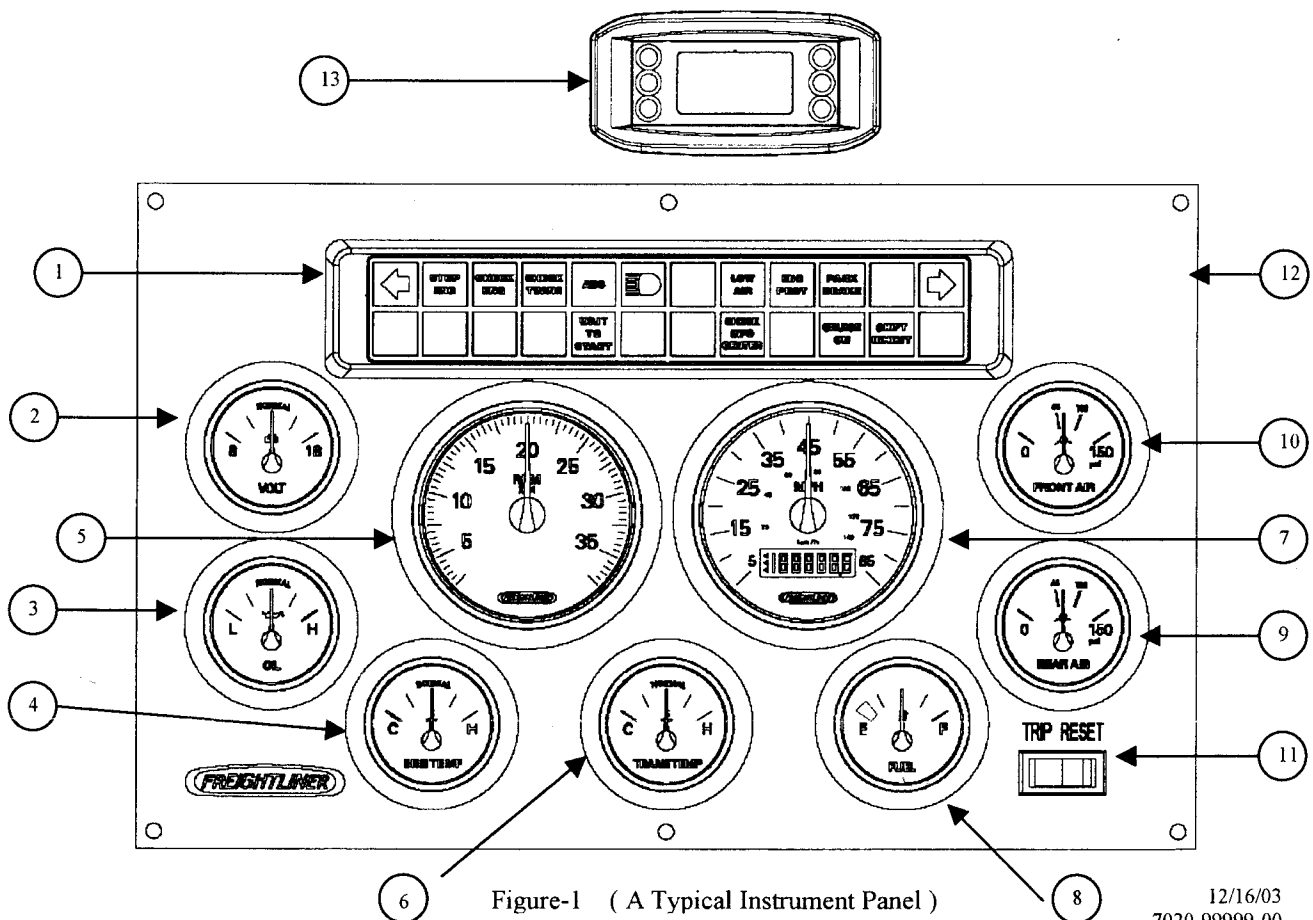
This operator's guide provides the information needed to operate and understand the Medallion Instrumentation System installed on Freightliner X-Line Chassis.

Although Freightliner chassis are equipped with many different types and styles of analog gauges, the system configuration for all X-Line chassis is the same and the data presented in this guide is applicable to all X-Line chassis equipped with the Medallion Instrumentation System.

The instrument system consists of 3 major components:

- An Annunciator Module that concentrates all of the warning and indicator lights in one area to facilitate efficient visual scanning of the panel. The Annunciator is illustrated as Item-1 in Figure-1.
- An assortment of individual analog style gauges that display the instantaneous value of specific performance parameters at a glance. The gauges are illustrated as Items 2 through 10 in Figure-1.
- An Interactive Graphical Information Center Display that is capable of communicating more detailed information about the status and performance of the vehicle as needed. The Information Center is illustrated as Item-13 in Figure-1.

The location of these components in the dash may vary from vehicle to vehicle.



2. WARNING AND INDICATOR LIGHTS

The Annunciator Module contains the following warning and indicator lights:

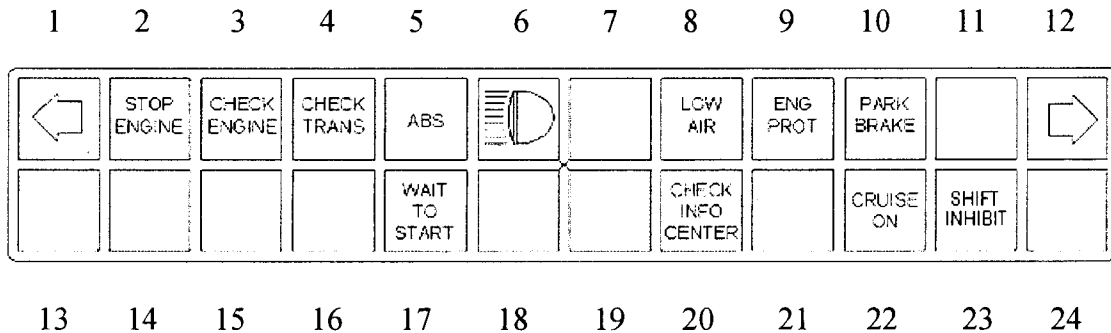


Figure-2 (Location of Warning and Indicator Lights on the Annunciator Module)

- Green Right and Left Turn Signal Indicators, in positions 1 and 12, which flash on and off when the outside turn signals are flashing.
- A Red *CHECK TRANS* Warning Light, in position 4, that will come on during vehicle operation if the Transmission ECU (electronic control unit) has broadcast a diagnostic fault code. Diagnostic codes indicate malfunctions in transmission operation. If this light stays on continuously during operation, have the transmission serviced as soon as possible.
- An Amber *ABS* Warning Light in position 5. The *ABS* Warning Light illuminates when the vehicle is started as a self-test. If an *ABS* fault has been cleared, the vehicle speed must exceed 7 mph (10 km/h), for the light to go off if the *ABS* system is functioning normally.

▲! WARNING !

If the *ABS* warning light does not work as described above or comes on while driving, repair the *ABS* system immediately to ensure full antilock braking capability. Operating the vehicle when the *ABS* needs to be serviced could cause an accident, possibly resulting in property damage, personal injury or death.

- A Blue High-Beam Indicator, in position 6, that illuminates when the headlights are on high beam.
- A Red *LOW AIR* Warning Light, in position 8 that comes on when the air pressure in the air tanks falls below 65 PSI. The warning light will normally come on when you first start the engine, but will go off when the air pressure in the air tanks reaches approximately 65 to 76 PSI.
- A Red *PARK BRAKE* Indicator light, in position 10, that illuminates when the parking brakes are engaged and the ignition switch is in the *ON* position.
- An Amber *WAIT TO START* Indicator, in position 17, that illuminates when intake-air pre-heater is on.
- An Amber *CHECK INFO CENTER* Indicator, in position 20, that illuminates when the Info Center is displaying an Alarm Condition or Warning Message.

- A Green *CRUISE ON* Indicator, in position 22, which illuminates when the Cruise Control is on.
- A Red *SHIFT INHIBIT* Warning Light, in position 23, that illuminates when the Transmission ECU (electronic control unit) is prohibiting shifting.

The annunciator module may also include the following lights: *CHECK ENGINE*, *STOP ENGINE*, and engine protection (*ENG PROT*). See the Caterpillar or the Cummins Operation and Maintenance Manual for more information.

IMPORTANT: When the ignition is turned on all of the Indicator Lights will illuminate for approximately 3 seconds to allow the operator to perform a bulb check.

3. GAUGES

Speedometer/Odometer

The speedometer registers vehicle speed in miles per hour or kilometers per hour (mph/kph). See Figure-1 Item-7. Standard speedometers are equipped with a combination odometer/trip odometer that records total distance traveled and trip distance. Resetting the trip odometer will erase the current display and start counting at 0000.0 miles. A short press of the trip reset (less than 3seconds) will toggle the display between trip mode and odometer mode. A long press of the trip reset (greater than 3 seconds) while in trip mode will reset the trip odometer. The trip odometer can also be reset using the Information Center (See Section 5). The odometer in the gauge will be displayed with six numbers and no decimal (000000), while the trip odometer will be displayed with 4 numbers and one decimal (0000.0).

Tachometer

The tachometer indicates the revolutions per minute (rpm) of the engine. See Figure-1 Item-5.

Coolant Temperature Gauge

During normal engine operation, the coolant temperature gauge should read in the normal range. See Figure-1 Item-4. If the temperature remains below or exceeds the normal range, inspect the cooling system to determine the cause. See the engine Operation and Maintenance Manual for normal range of operation.

Fuel Gauge

The fuel gauge indicates the amount of fuel in the fuel tank. See Figure-1 Item-8.

Turbo Boost Gauge (optional)

The turbo boost gauge indicates the boost pressure at the turbo. See the engine Operation and Maintenance Manual for normal range of operation.

Engine Oil Pressure Gauge

The oil pressure gauge should read in the normal range. See Figure-1 Item-3. See the engine Operation and Maintenance Manual for normal range of operation.

▲! CAUTION !▲

A sudden decrease or absence of engine oil pressure may indicate mechanical failure. Bring the vehicle to a safe stop and turn off the engine. Do not operate the engine until the cause has been determined and corrected.

Voltmeter

The voltmeter indicates the vehicle charging system voltage when the engine is running and the engine starting battery voltage when the engine is stopped. See Figure-1 Item-2. By monitoring the voltmeter, the driver can become aware of potential charging system problems and have them repaired before the batteries discharge enough to create starting difficulties. The voltmeter should indicate voltage in the normal range when the engine is running. The voltage of a fully charged battery is 12.7 to 12.8 volts when the engine is stopped. A completely discharged battery will produce only about 12.0 volts. The voltmeter will indicate lower voltage as the vehicle is being started or when electrical devices in the vehicle are being used. If the voltmeter shows an undercharged or overcharged condition for an extended period, have the charging system and batteries checked at a repair facility

NOTE: Some vehicles may be equipped with a battery isolator system and a gel cell battery by the body builder. On these vehicles, the voltmeter measures the average voltage of all of the batteries when the engine is running. When the engine is stopped, the voltmeter indicates only the engine starting batteries.

Air Pressure Gauges

IMPORTANT: Two separate air pressure gauges indicate air pressure in the primary and secondary air systems. See Figure-1 Items 9 and 10. Build up air pressure in both systems between 95 and 120 psi (620 to 827 kPa) before moving. It is normal to observe fluctuation in these gauges during operation of the vehicle. An alarm will sound if the pressure drops below a safe operating range.

Transmission Temperature Gauge (optional)

The transmission temperature gauge indicates the temperature of the transmission oil. See Figure-1 Item-6. See the transmission Operation and Maintenance Manual for normal range of operation.

▲! CAUTION !▲

If the transmission continues to overheat during normal operation, have it checked and repaired. Continued operation may cause damage to the transmission.

4. AUDIBLE ALARMS

The Instrumentation System provides for the following Audible Alarms:

- A rapidly pulsating buzzer sounds anytime the Red *STOP ENGINE* Warning Light is illuminated.
- A rapidly pulsating buzzer sounds anytime the Red *LOW AIR* Warning Light is illuminated. On the air system, the *LOW AIR* light/buzzer activates when the system air pressure is low. The light/buzzer will normally come on when you first start the engine, but will go off when the air pressure in the air tanks reaches approximately 65 to 76 psi (448 to 524 kPa). The parking brakes will not disengage until the air pressure has reached 65 psi (448 kPa).
- A chirping buzzer sounds under the following conditions:
 - The ignition key is in the ON position, the vehicle is not in Neutral (N), and the parking brakes are applied.
 - The ignition key is in the ON position, the transmission is in Neutral (N), the service brake is not depressed, or the parking brakes are not applied.
 - The ignition key is switched to the OFF position and the parking brakes are not applied.
- The buzzer sounds continuously anytime the ignition is turned off when the panel lamps are still illuminated.

At key on the buzzer sounds for 3 seconds to indicate that the system is operating correctly.

5. THE INFORMATION CENTER

Introduction







The Info Center is an interactive Liquid Crystal Graphical Display that is capable of displaying text messages and graphics to communicate vital real-time information about the status and performance of the vehicle to the operator. This information is organized in a menu driven format.

Power On Initialization

When the ignition is turned on, the Info Center will illuminate with the Freightliner Custom Chassis Logo then display the Home Screen or the Favorite Screen if a favorite screen is set up.

Navigating the Menu Screens

The menu structure is navigated using six buttons located on the face of the Info Center. The names and functions of the navigation buttons are:

Symbol	Name	Purpose
	Scroll Up	Highlights the line above
	Scroll Down	Highlights the line below
	Enter	Selects highlighted line
	Toggle	Cycles through screens within a menu
	Red Button	Jumps to Favorite Screen
	Home	Returns to the previous menu

Menu Structure

The menu structure is organized around 3 Top Level Menu Screens, the Home Screen, the Setup Screen, and the Alarm Screen. Each of these screens contains lists of Sub-Menu screens that may be accessed by highlighting the desired Sub-Menu and pushing the Enter Button.

1. Home Screen Features

- The following Real Time Trip Computer Data is found in the Trip Computer and Trip Meter Sub-Menus of the Home Screen:
 - Instantaneous Fuel Economy
 - Average Fuel Economy
 - Fuel Remaining
 - Odometer
 - Multiple Trip Odometers
- The following Vehicle Performance Data is found in the Engine Sub-Menu of the Home Screen:
 - (E – Info) A screen that simultaneously displays Speed, RPM, and Gear
 - RPM
 - Speed
 - Engine Temperature
 - Oil Pressure
 - Battery Voltage
- Service and Diagnostic Screens are found under the Service Sub-Menu of the Home Screen. These password protected Sub-Menus are for FCCC Dealer use only.

Menu Structure Continued

2. Setup Screen Features

From the Setup Screen you can:

- Adjust the contrast of the display
- Switch between English and Metric Mode
- Designate a Favorite Screen that the display will jump to when the ignition is turned on or when you push the Red Button. The Clock Display is the default.

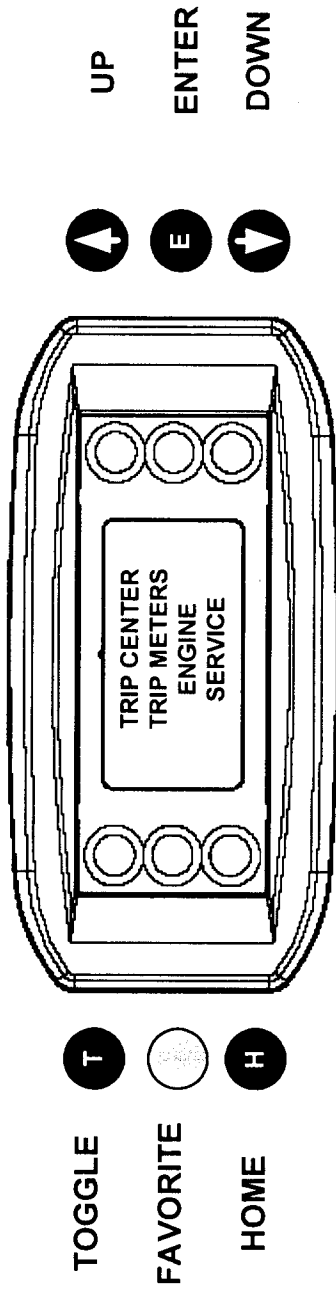
3. Alarm Screen Features

- Alarm Sub-menu
Alarm Messages have priority over other display screens. Pushing the “E” button temporarily clears the alarms. But if the alarm is still active after 5 minutes, the Info Center will display the Alarm Screen again.
- Time/Date Sub-menu
This sub-menu allows you to set the clock.

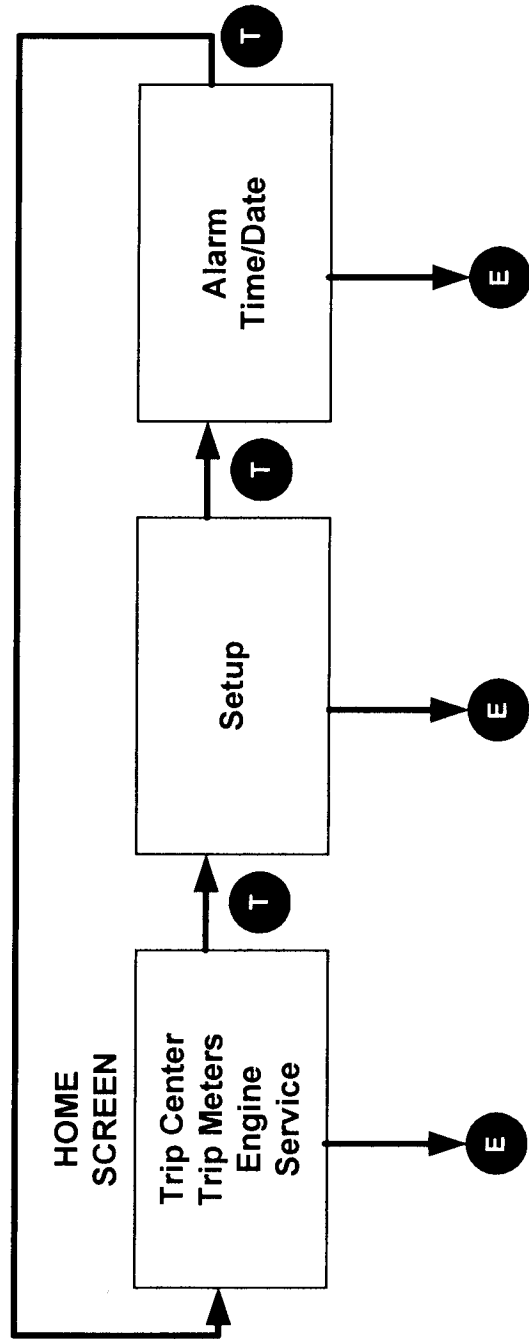
Menu Structure Roadmap

The menu structure road map is provided below that illustrates the screens that are available in the Info Center, the path to specific screens, and the details of each individual screen. Comments are included where necessary for added clarification.





Use the "UP" or "DOWN" arrows to highlight the desired menu option.
 To enter the selected menu option press "E".
 To return to the previous menu, press "H".



Next Drop Down Menu

Trip Center
Submenu

E

Average
Economy
8.0

T

Instant
Economy
12.3

T

Fuel
FUEL
Normal

T

Back to Average
Economy

Trip Meters
Submenu

E

Tripmeter 1
378.0
MI
RESET

E

Reset Tripmeter 1

"E" must be held until the
Trip Odometer resets

T

Tripmeter 2
123.0
MI
RESET

E

Reset Tripmeter 2

T

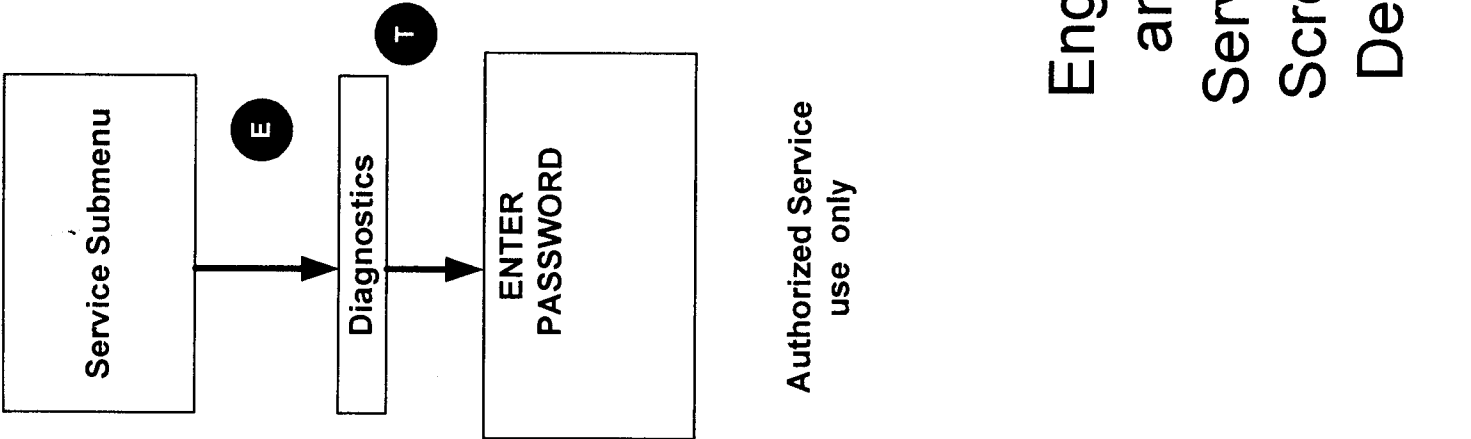
Odometer
4265.8
MI

T

Tripmeter1 is the same as
Trip odometer in the Gauge
LCD display. They can both
be reset by remote trip reset
switch and Info Center

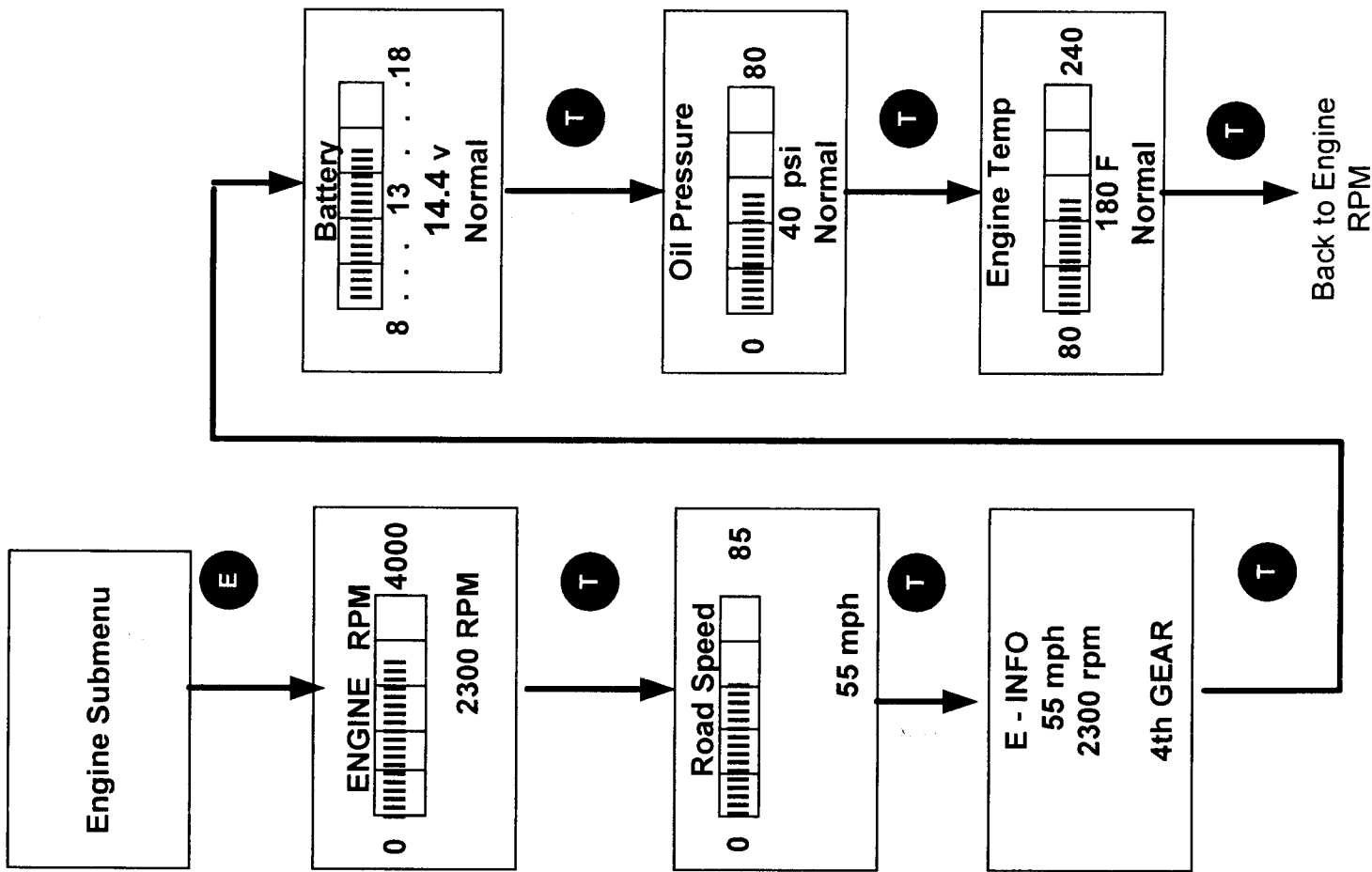
Tripmeter2 is only
displayed and reset
in the Info Center

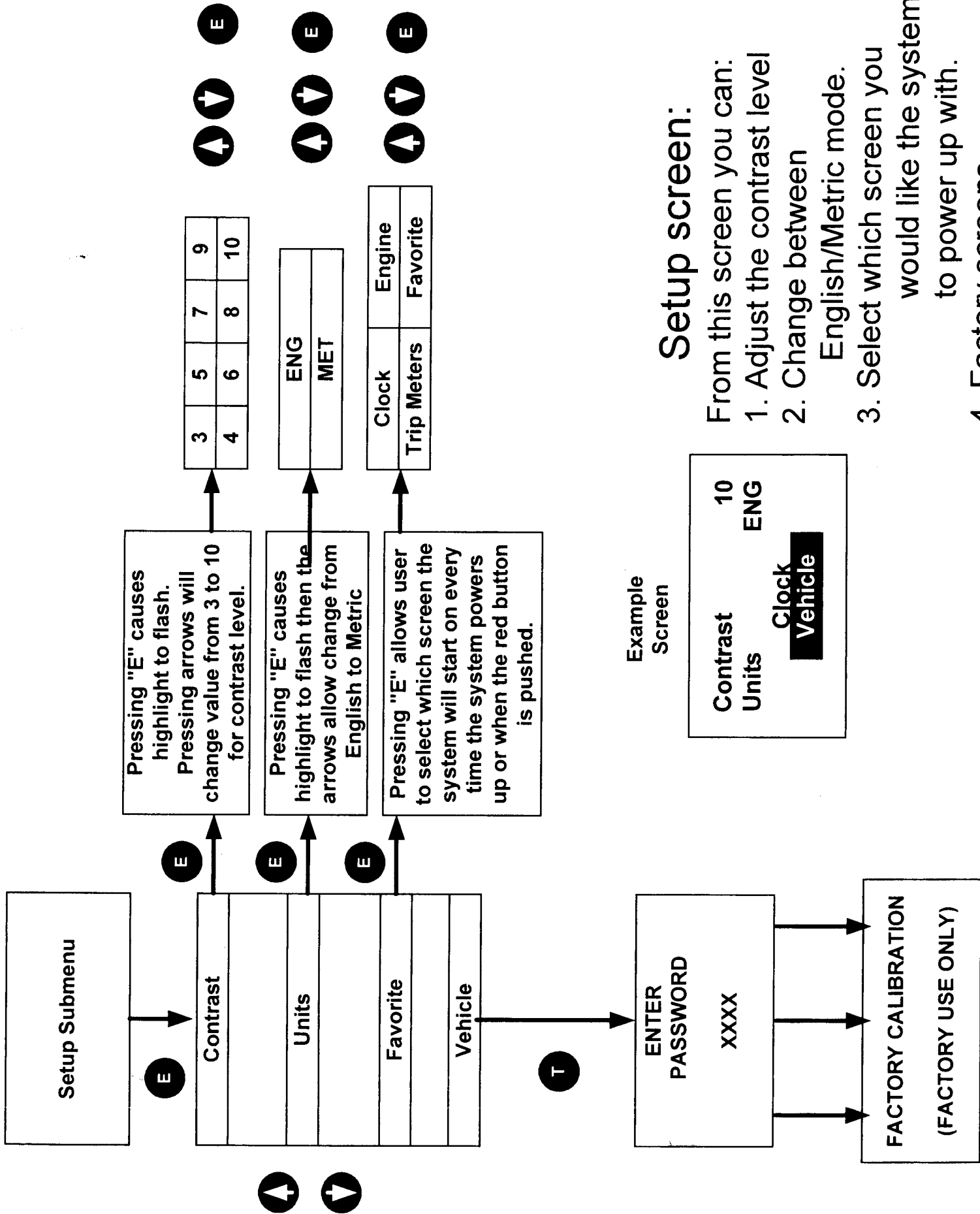
Trip Center
Trip Meter
Screen Detail



Authorized Service
use only

Engine
and
Service
Screen
Detail



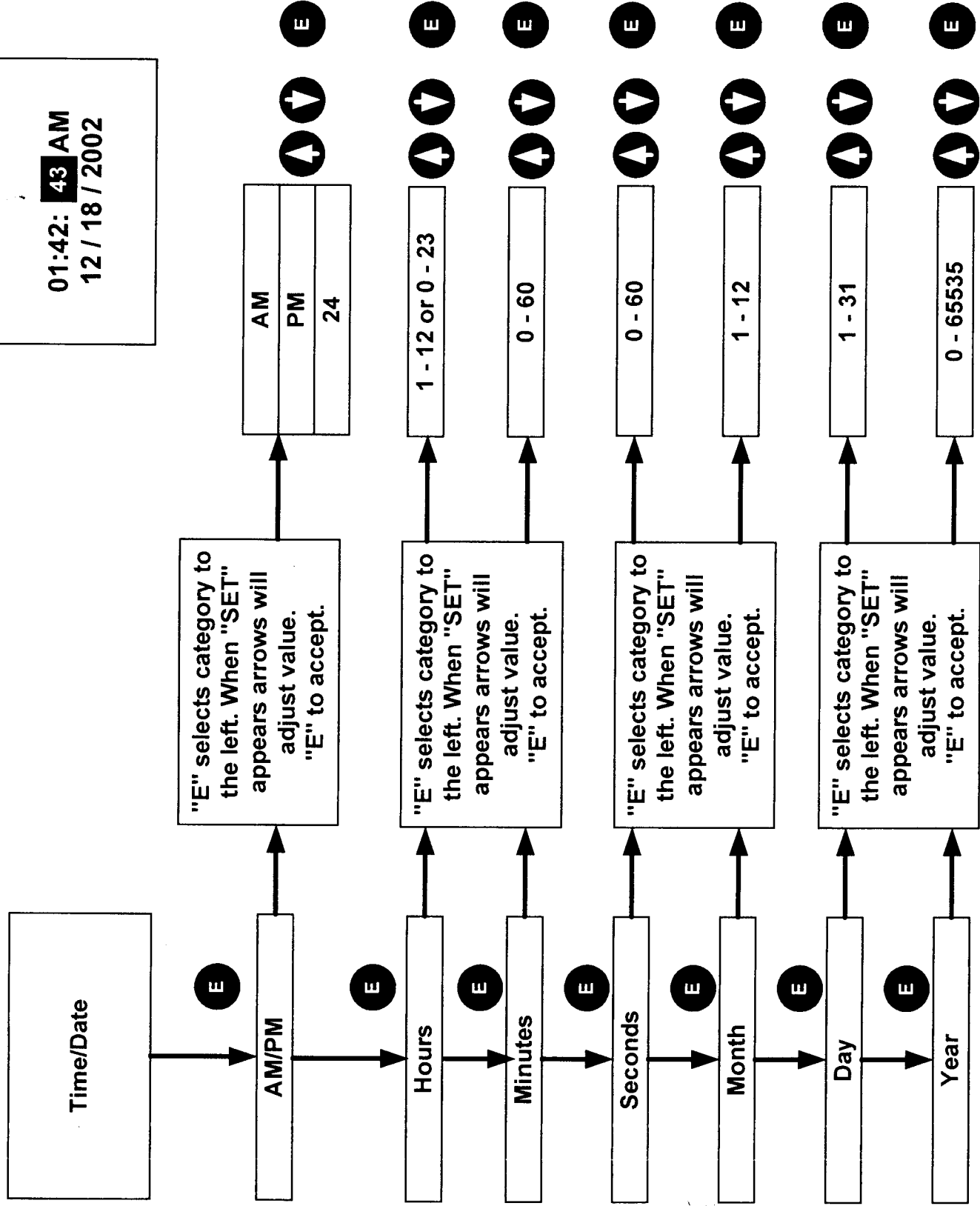
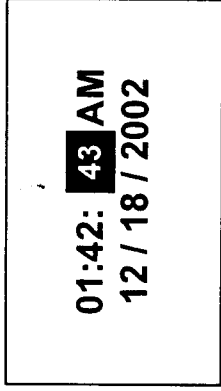


Setup screen:

From this screen you can:

1. Adjust the contrast level
2. Change between English/Metric mode.
3. Select which screen you would like the system to power up with.
4. Factory screens

Example Screen



Clock set screen

Alarm

E

ENG ECU
NO DATA
Over 25
Seconds

Oil LOW
4 psi
Threshold
5 psi

Brake Fuse
0.0 volts
Threshold
7.0

WAIT
TO
START

AirP3 Low
0 psi
Threshold
65

Temp HIGH
240 deg F
Threshold
220°F

Headlights
Are
On

NEUTRAL
NO BRAKE

AirP4 Low
0 psi
Threshold
65

Fuel LOW
10.0 gallons
Threshold
22.5

AUTO IDLE
10.0 volts
Threshold
13.4v

PARK SET
IN GEAR

Batt LOW
10.0 volts
Threshold
11.5 15.5

TranT Norm
285 deg F
Threshold
275

ENG BRAKE

TRANS ECU
NO DATA
Over 25
Seconds



The alarm screens indicate:

- 1st The item in alarm state
- 2nd Current value
- 3rd The threshold that needs to be met to eliminate the alarm.