VDO

Cluster Installation:

1. Select the desired mounting location for the cluster.
2. Carefully trace gauge mounting stencil in desired mounting location. Proceed to cut around outline carefully.
(See page 5 for mounting options and instructions)

Wiring the Gauge (Illustration A):

1. Route wires from the instrument to:
   a. The battery (+) switched power after the fuse box or user supplied in-line fuse – 1 amp
   b. The light switch after the fuse box or user supplied in-line fuse -1 amp
   c. A dedicated ground location not shared with other electronics
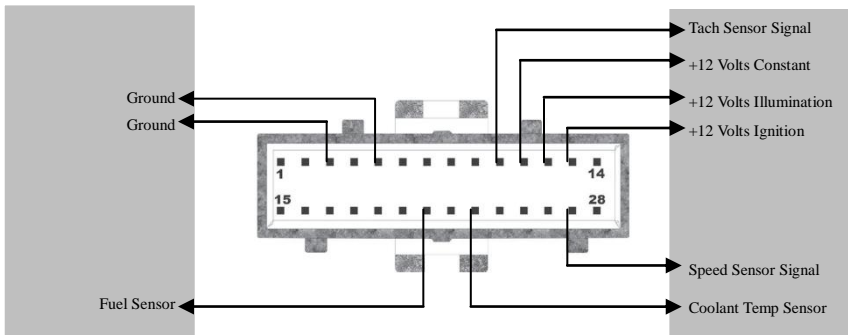   d. From relay box or switches to desired warning indicator lights

Ground
Ground

Tach Sensor Signal
+12 Volts Constant
+12 Volts Illumination
+12 Volts Ignition

1   14
15   28

Speed Sensor Signal

Fuel Sensor
Coolant Temp Sensor

Illustration A

Please see table on next page for Warning Indicator Lights

Read these instructions thoroughly before installation. Do not deviate from assembly or wiring diagram. Always disconnect battery ground before making any electrical connections.

IMPORTANT: Mounting dimensions vary for different gauges. Please be certain to follow the instructions for your specific gauge.

Parts List		
Item	Description	Qty
1	CB-500 Cluster	1
2	Rubber Mounting Band	1
3	Instruction Sheet	1

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2. Connect the harness according to the following wiring Matrix:

Pin	Description	
1	Not Connected	
2	Not Connected	
3	Ground (-)	
4	Not Connected	
5	Ground (-)	
6	Day/Fog Lights (+12V)	
7	Speed Out	
8	Not Connected	
9	Low Oil Pressure (-)	
10	Tach Speed Sensor	
11	Battery constant (+12V)	
12	Illumination (+12V)	
13	Ignition (+12V)	
14	ABS Warning Light (+)	
15	Diagnostic	
16	Alternator (-)	
17	Windshield Washer Fluid (-)	
18	Parking Brake (-)	
19	Check Engine (-)	
20	Not Connected	
21	Fuel Sensor	
22	Indicator Left (+)	
23	Coolant Temp Sensor	
24	Indicator Right (+)	
25	High Beam (+12V)	
26	Seat Belt Warning (-)	
27	Speed Signal Input	
28	Door/Trunk Ajar (-)	
Note - Use 18 AWG for wire harness		

After all connections are hooked up properly there is no further calibration needed if the given VDO Sending units are used with the CB-500. Please see **table 3** for sending unit descriptions.

Warning Light Pictures

Day/Fog Lights	
Low Fuel	
Windshield Washer Fluid Level	
Check Engine	
High Beam	
Parking Brake	
High Coolant temperature	
Seat Belt Warning	
Low Oil Pressure	
Door /Trunk Ajar	
Alternator	
Indicator Left	
Indicator Right	
ABS Warning	

Table 3

The CB-500 is compatible with the following VDO sending units:

Speed	340-786 VDO GPS Speed sender
Fuel	Any VDO 10-180 Ohm fuel sender
Temperature	Any VDO 300F temperature sender
Oil	230-504 VDO Oil pressure switch

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LCD Display Calibration:

1. Odometer and Tripmeter (Illustration B)

   a. Odometer will display up to 999,999km
   b. Tripmeter will display up to 999.9km
   c. The tripmeter can be reset by "longpressing" (**< 2 seconds**)

Illustration B

2. Setting the Clock (Illustration C)

   a. With a long pressing of the Reset switch when clock is displayed on the LCD will enter the Clock Setting mode.
   b. This is indicated by hours (or minutes) and the colon flashing at a frequency of 1Hz.
   c. When entering the Clock setting mode the hours will flash, indicating that hours can be set.
   d. In Hour Setting mode, hour digits will increment by one upon a short press of the Reset switch.
   e. If the switch is held down for more than 1s, hour is incremented continuously at 5 increments / second.
   f. If the switch is not activated for more than 5 seconds, display switches automatically to minutes setting mode (minutes flashing).
   g. Operation is the same as for Hour Setting mode.
   h. If the minute value is changed, the seconds are also set to 0.
   i. If the switch is not activated for more than 5 seconds, display switches automatically to back to normal clock mode.

Illustration C

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VDO

Tech Support   1-800-265-1818
http://usa.vdo.com

CentroBase 500

Instruction Sheet #A2C59519884   Rev. -

Troubleshooting:

Tachometer:
Problem: **Tachometer showing an incorrect RPM either higher or lower.**
Solution: The cluster factory setting is set to 8-cylinder engines. Sometimes tachometer signals need to be on a different setting depending on the application. The gauge may need further programming if this is the case.
Problem: **Tachometer does not move at all even when engine is running.**
Solution: Signal wire may have a fray in it. Check along wire to make sure the wire coating is not broken anywhere. Make sure the connection is hooked up to the negative side of the ignition coil.

Speedometer:
Problem: **Speedometer does not indicate MPH at all.**
Solution: Make sure all wire connections are secure and correct based on wiring diagram. After all wiring connections are checked proceed to run the following tests
  a.   Make sure gauge is hooked up to a VDO GPS sender. If it is not the gauge will not work.
  b.   Make sure GPS sender indicator light is green. This means it has connected to a satellite and is sending information to the gauge.
  c.   If GPS indicator light is not on then check wiring to GPS sender. If indicator light is on but red, it is not connecting to the satellite. Try mounting the sender in a different location to see if it connects to the satellite. Remember it takes up to a minute sometimes to connect with satellite.
Problem: **Speedometer does not read correctly. May be reading to high or to low.**
Solution: The cluster may be programmed improperly. Try reprogramming the speedometer and check again to see if that works. If not then check all wiring. Sometimes it may read low because there is not a true 12 volts in the system. Use a voltmeter to check the voltage of the system. After that check the ground wire; a poor ground wire can through the whole system off and could led to a faulty cluster.

Fuel:
Problem: **Fuel gauge reads empty when the tank if full and full when the tank is empty.**
Solution: This is usually due to the fact that when the sending unit was installed the swing arm was installed on the incorrect side. Simply pull the sending unit out and check that the swing arm is on the correct reading side.
Problem: **Pointer does not move at all when gauge is hooked up or pegs to one side.**
Solution: Check the sending wire. If there is a fray in it the gauge may be grounding out. This would result in a gauge that pegs to empty or does not move at all. On the other hand if the gauge pegs to full this means there is some type of voltage in the system. Check the sending wire to make sure it is not touching any voltage and is hooked up properly.

Temperature:
Problem: **Gauge does not read at all when engine is heated up.**
Solution: Be sure that there is no Teflon tape on the sender threads. This makes the sender not ground out properly and the gauge will not read at all. Also check that the sender wire is continuous and hooked up to the proper wire on the cluster.
Problem: **Gauge pegs to hot or to cold.**
Solution: Make sure that the sender wire is hooked up properly. If there is voltage in the system the temperature gauge will read to hot. If the sender wire is grounding out somewhere the gauge will read to cold. Follow the sending wire throughout the system to make sure none of this is happening.

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