

INSTRUCTIONS

CAT. # 2DA3-8 DUAL INSTRUMENT

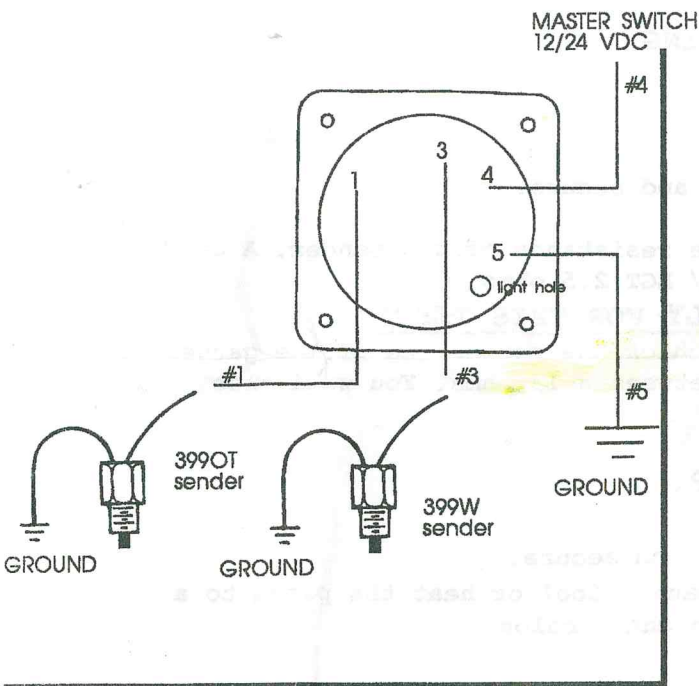
AIR TEMP. / CARB. TEMP.
- 50 to + 50 c

! IMPORTANT !

For use with 399(series) temp. senders.

For lighting, order light kit # 1862A2.

If no reading: Check all connections. Make certain that 12/24 VDC is on pin #4. And that all grounds are grounded properly.



Install the instrument in a 2-1/4 inch hole for behind panel or (2-1/16 hole for in front of panel). Use four corner screws to hold in place. Mount instrument in convenient operating place at least 12 inches from compass.

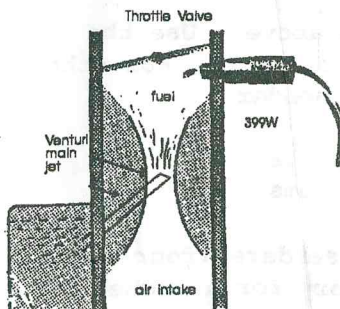
Install the carb. temperature sender into the carburetor. Install the air temp. sender to any surface that will give exterior exposure to the sender tip. Route wires away from spark plug wires and hot manifolds and support with wire ties every 12-15 inches. Use rubber grommets when going through metal.

On the rear of the Instrument there are connecting pins with corresponding numbers.

Use patch cable provided to connect the instrument to the appropriate sender and power source. See illustration.

Connect pin #3 to either of the carb. temp. sender leads and ground the remaining sender lead to a ground buss. Connect pin #1 to either of the outside air temp. sender leads and ground the remaining sender lead to a ground buss. Connect pin #5 to a ground buss. Connect pin #4 to main power switch. 12 volts D.C. See illustration.

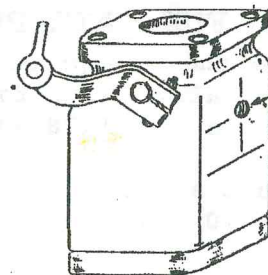
Patch cable may be shortened or lengthened without affecting accuracy of unit. Using 20-22 gauge stranded wire is



Sensor installation:

Remove the plug in the carburetor housing just below the throttle valve. On 4 cylinder engines using Marvel Schebler carburetor MA-3, the plug will be found on the forward side. On 6 cylinder carburetor MA-4 series, the plug will be found on the rear.

If the carburetor has not been drilled and tapped for this plug, remove the carburetor from the engine and drill out the lead plug. Tap this hole with a 1/4-28 tap. Prior to re-installation, be certain to remove all burrs and chips from the carburetor.



WARRANTY

WESTACH INSTRUMENTS are made with the highest quality material and workmanship. With reasonable care, instruments will give long and satisfactory service. WESTACH INSTRUMENTS are guaranteed against defective material and workmanship for 1 year of service or 18 months from the manufacturing date.

WARRANTY REPAIR: No charge will be made for labor and material consumed in affecting repairs in units which are covered by our warranty. Package carefully including description of malfunction and type of engine unit is used on. Include your correct return address and phone number. Our obligation is limited to correct and return instruments prepaid and covers no liability for damage from shipment, improper installation, excessive vibration, rough handling or if opened, tampered with or modified by customer. WESTBERG MFG. INC. WILL NOT REIMBURSE CUSTOMER FOR COST(S) INCURRED IN REMOVING AND/OR REINSTALLING REPLACEMENT PARTS. The manufacturer reserves the right to make changes at any time in the design and price of its equipment without notice. (For quick returns UPS- next day, send \$20. or 2nd day, send \$10.)

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TROUBLE SHOOTING

CHT and EGT

No or LOW readings

A. To check the sender.

1. Make certain all connections are clean and secure.
2. Reverse connections.
3. Disconnect sender from gauge, check the resistance of the sender. A cold probe on the senders should be approx. CHT 1.5 / EGT 2.5 ohms.

B. To check the gauge. USE OHM METER ONLY FOR THIS TEST!

1. Disconnect the gauge from the sender, check the resistance of the gauge. Depending on the scale the resistance will be between 8-15 ohms. You will also notice a needle deflection on the unit.

WATER, OIL, AIR and CARB. TEMP.

A. To Check the sender.

1. Make certain all connections are clean and secure.
2. Disconnect the sender leads from the gauge, Cool or heat the probe to a known temperature then check the resistance. See chart below.

32 deg f = 9800 ohms

70 deg f = 3570 ohms

100 deg f = 1740 ohms

212 deg f = 212 ohms

- B. To test the operation of the unit, disconnect the sender leads from the gauge and substitute the sender with a resistor of the appropriate value that you wish to check from the list above. Such as 615 ohms is 150 deg f.

C. If sender lead goes to ground, meter should peg full scale.

D. If sender lead is open (broken) or sender is open internally meter should peg hard to the left. Slight needle movement to the left is normal when the temperature is below the starting point of the gauge.

E. If Pin #5 is ungrounded with sender attached correctly, meter will read full scale.

OIL, FUEL, AIR PRESSURE and FUEL LEVEL

- A. Follow the same procedure as for the temperature gauges above. Use the resistance values below for 240 ohm pressure and fuel level senders. For other value senders ie. 30, 78, 90 ohm then use resistance for that sender.

E or 0 scale
230-240 ohms

MID scale
90-100 ohms

FULL scale
27-37 ohms

- B. For capacitance type fuel senders and MM type pressure senders (four wire connector) it is recommended to return the unit to the factory for a recheck.

C. Do not use a battery charger or water as a medium to calibrate the capacitance type fuel level probes as this will make the gauge read full scale.

D. Do not use a battery charger to bench check the MM type pressure senders as this will cause an erratic reading at best on the gauge.

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