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Probes

[• Can I use an anti-seeze compound on the installing of your CHT bayonet probes?](#)

Yes you can.

[• Can Alcor probes be used with EDM-700/800?](#)

Yes, if the wires are yellow and red. (K type)

[• Probe polarity?](#)

Red is negative(-) (Alumel), yellow is positive(+) (Chromel)

[• What crimp tool for probe eye terminals?](#)

Crimp tool recommendation AMP p/n 48518

[• Can Alcor probes be used with the EDM's?](#)

Yes, if the wires are yellow and red. [K type]

You can contact Alcor at:

Alcor Inc.
300 Breesport,
San Antonio, TX 78216.

Phone#: 800-354-7233. [www.alcorinc.com/sensors]

• Parts that come with temperature probes?

Probe with ring terminals
Thermocouple wire (8 ft) with female pins to insert into option connector.
Two each ring terminals, screws, nuts and washers.
Insulated sleeve.
Applicable mounting hardware.
Firmware use license.

• How long does a probe last?

EGT and TIT last 600-1000 hours, CHT, OIL, last longer.

• Can you splice the thermocouple probe wires?

YES. Temperature probes must be extended with thermocouple wire.

Do not use copper wire. (However, tach and fuel flow wires can be extended with copper wire.)

If you add wire, be sure it is the same thermocouple wire and use zinc chloride solder such as “Nokorode” brand. Rosin core solder and Nokorode flux.

**** IT is better to use good quality Butt Splices instead. Drill out center hole bigger if necessary, so both wires will ‘mesh’ inside better.

• Do the copper eye terminals affect reading of ‘sensing’ thermocouple?

NO. Each place different metals join, such as in these connectors, another thermocouple is formed which puts out voltage. These terminals are in series with the ‘sensing’ thermocouple and add to or subtract from the output. It is fortunate that these put out a negative voltage on one lead and a positive voltage on the other, so that the net result is no change in the reading of the ‘sensing’ thermocouple. Inaccurate reading can occur if one connector is hotter than the other. This can occur when one of the junctions (eye terminals) is close to an exhaust stack and the other one is somewhat removed. They must be in the same temperature environment.

• What is the millivolt values per different temperatures?

These values are the same for EGT, TIT, CHT, OIL, OAT, IAT, CDT, and CARB.

32 F = 0.132 mV;
60 F = 0.619 mV;
100 F = 1.521 mV;
212 F = 4.096 mV;
300 F = 6.094 mV;
400 F = 8.316 mV;
500 F = 10.561 mV;
1200 F = 26.978 mV;

1300 F = 29.315 mV;
1400 F = 31.628 mV;
1500 F = 33.912 mV;
1600 F = 36.166 mV;
1650 F = 37.281 mV;
1800 F = 40.575 mV;
**Accuracy of +/- 2 F.

• Resistance measurement for temperature probes?

About 1 to 2 ohms at the probe at ambient with both the red and yellow wire unattached.

And about 10 ohms from the instrument P2 EGT/CHT connector back to the probe. [One(1) ohm per foot. The probe needs to be attached to the wire. Probe temp is ambient. 'Red' is negative(-) (Alumel), 'yellow' is positive(+) (Chromel).] Ex: 8' of wire with probe attached would give around 8 ohms plus one or two ohms for the attached probe. Around 10 ohms.

• How to tell if probes are grounded or ungrounded?

Disconnect the probe from the instrument and measure the resistance between the probe body and the red wire. Also measure between probe body and yellow wire. 'Ungrounded' probes will show open circuit. 'Grounded' will show 5 – 10 ohms. Units built after 1985 are grounded. SN's less than 1400 are ungrounded.

• What is the polarity for probe thermocouple connector?

Red is negative(-) (Alumel), yellow is positive(+) (Chromel).

• What is the thermocouple wire/probe type?

JPI uses K-type thermocouple wire. ANSI* color code of Red and Yellow in a Yellow jacket:

'Red' (-) (Nickel-Aluminum or just "Alumel")
'Yellow' (+) (Nickel-Chromium or just "Chromel").

GEM/INSIGHT uses J-type –ANSI* color code of White and Red in a Black jacket: 'White' -Iron –positive (+) magnetic

'Red' – Copper-Nickel – negative (-) "Constantan" –non-magnetic.

*[American National Standards Institute]

• Probe weight?

EGT, CRB, IAT, TIT, OAT — 2.0 oz
CHT ————— 1.5 oz

(See "Weight and Balance Data" in each install manual.)

• Size of the CHT Bayonet probe – p/n 5050T

The bayonet probe 5050T has the 3/8-24 boss as part of the probe and is screwed into the base of the cylinder

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