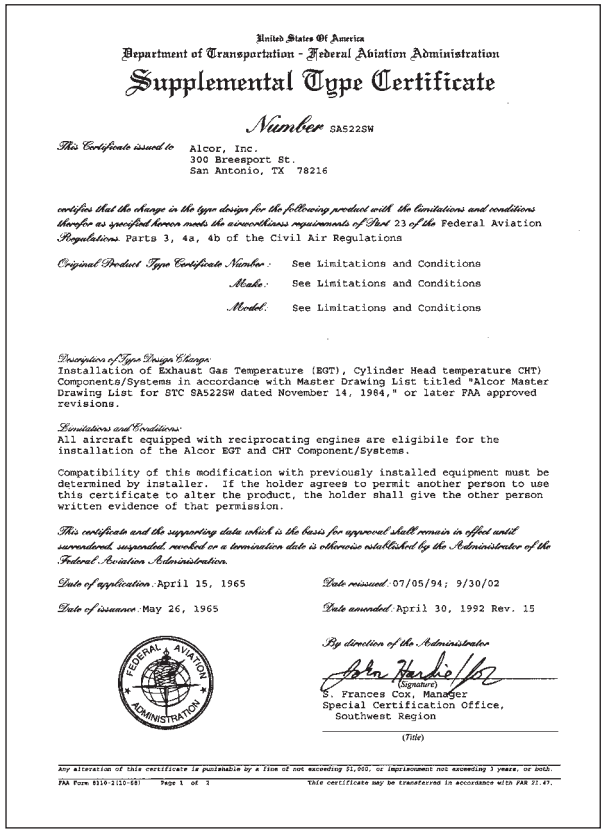
WARRANTY INFORMATION

Alcor©, Inc. warrants all parts in all new ***Alcor©, Inc.*** products to be free from defects in material and workmanship under normal use and under the following conditions: ***Alcor©, Inc.'s*** obligation under this warranty is limited to the repair or exchange of any defective part, if the part is returned and return shipping prepaid, within **FIVE YEARS** of the date of manufacture.

Alcor©, Inc. is not responsible for any service charges, including removal and reinstallation costs, or any other consequential damages. This warranty is void as to any product damaged as a result of misuse, accident, negligence, unauthorized repairs or handling in transit. If the ***Alcor©, Inc***. product's serial number or inspection date label has been altered, the warranty is void.

Questions concerning all ***Alcor©, Inc.'s*** products should be directed to Customer Support at **1-800-FLI-SAFE (1-800-354-7233)** or email: **support@alcorinc.com.**



United States Of America
Department of Transportation - Federal Aviation Administration

Supplemental Type Certificate

Number SA522SW

This Certificate issued to: Alcor, Inc.
300 Breesport St.
San Antonio, TX 78216

certifies that the change in the type design for the following product with the limitations and conditions thereto as specified hereon meets the airworthiness requirements of Part 23 of the Federal Aviation Regulations. Parts 3, 4a, 4b of the Civil Air Regulations

Original Product Type Certificate Number: See Limitations and Conditions
Make: See Limitations and Conditions
Model: See Limitations and Conditions

Description of Type Design Change:
Installation of Exhaust Gas Temperature (EGT), Cylinder Head temperature CHT) Components/Systems in accordance with Master Drawing List titled "Alcor Master Drawing List for STC SA522SW dated November 14, 1984," or later FAA approved revisions.

Limitations and Conditions:
All aircraft equipped with reciprocating engines are eligibile for the installation of the Alcor EGT and CHT Component/Systems.

Compatibility of this modification with previously installed equipment must be determined by installer. If the holder agrees to permit another person to use this certificate to alter the product, the holder shall give the other person written evidence of that permission.

This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, revoked or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.

Date of application: April 15, 1965 Date reissued: 07/05/94; 9/30/02

Date of issuance: May 26, 1965 Date amended: April 30, 1992 Rev. 15

By direction of the Administrator

(Signature)
S. Frances Cox, Manager
Special Certification Office,
Southwest Region

(Title)

Any alteration of this certificate is punishable by a fine of not exceeding $1,000, or imprisonment not exceeding 3 years, or both.

FAA Form 8110-2(10-68) Page 1 of 1 This certificate may be transferred in accordance with FAR 21.47.

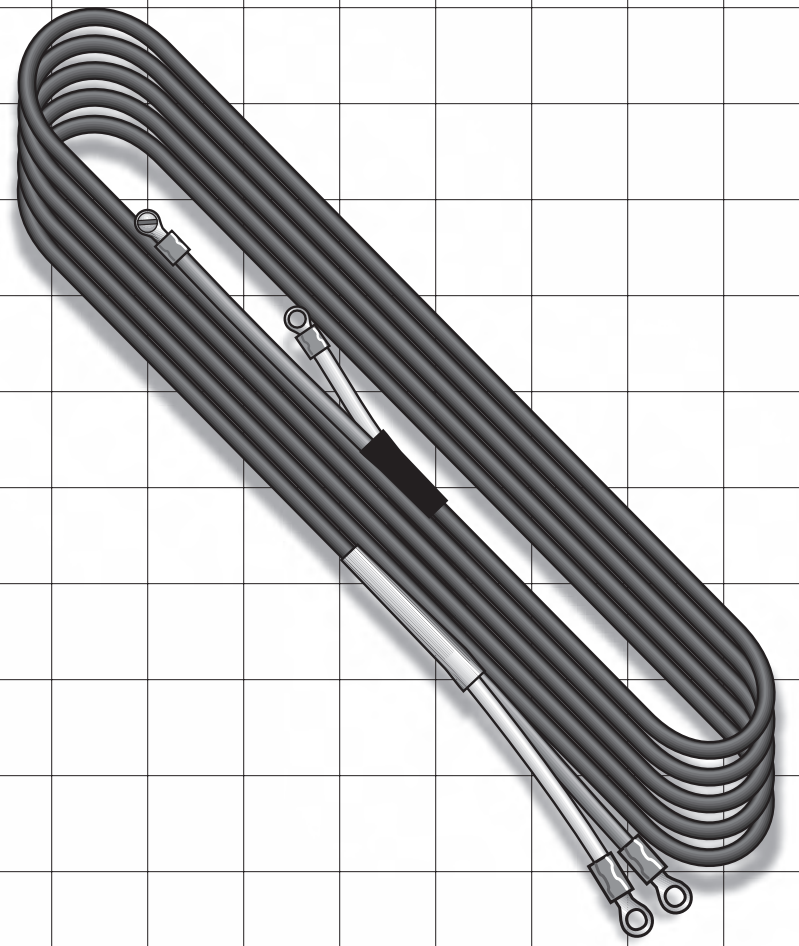
FAA-PMA/STC SA 522 SW: This product is FAA approved for installation on **ALL** piston engine aircraft. After installation of complete system, return aircraft to service via Form 337 referencing STC SA 522 SW. This is not required for replacement parts. All piston powered aircraft, regardless of make are covered by this STC.

PN 59181
REV. E, 01/08

Lead Wire

Installation Instructions

FAA/PMA Approved



Web site: www.alcorinc.com
E-Mail: support@alcorinc.com

Alcor INCORPORATED

GENERAL INFORMATION

Ensure lead and thermocouple (probe) used are same color code/type. Leads have staggered connecting terminals on probe end to ensure correct polarity. To avoid stray induction current into lead wire, do not route lead wires next to high current/voltage carrying wires (alternator, battery, spark plug, bus cables, etc.) Maintain at least one-inch clearance from these wires as well as controls and cables. See **Figure 1** for basic single engine installation. All work to be done in accordance with FAA Advisory Circular 43.13-1B or later revision.

UN-AMPLIFIED METERS

The lead resistance affects the instrument (meter) reading. If the lead length is altered for any reason, the meter must be re-calibrated in order to maintain the same relative pointer position. CHT leads have an integral resistor that makes all leads, regardless of length, a total of 8 ohms including the probe (old CHT systems were 2 ohm). This is because CHT meters must read actual true temperature whereas EGT is without numbers on the dial and gives an indication relative to where temperature peaks. The lead has different sized terminals on meter end to ensure correct polarity when mated to terminal studs on back of meter.

AMPLIFIED METERS

The exact length/resistance of the lead wire is unimportant for electronically amplified meters. After installing probe(s) and lead wire(s), the excess wire may be cut off for a neater installation. Ensure that correct polarity is maintained.

MULTI-PROBE ANALYZERS

Make sure identifying cylinder numbers are attached to each lead during installation.

TWIN ENGINE

The preferred routing is to follow wire bundles from the engine nacelle to the fuselage and up to the instrument panel. See **Figure 2**.

PRESSURIZED AIRCRAFT

It will be necessary to route the lead wire(s) into the pressurized cabin by means approved by the airframe manufacturer. Suitable existing bulkhead fittings with spare positions may already be available on the aircraft.

INSTALLATION

1. After probe installation (ref EGT Probe Installation 59180/CHT Probe Installation 59188), slide fiberglass insulation sleeve over lead and connect probe and lead terminals together with correct stagger using screws and nuts. Slide sleeve over connection and secure with supplied nylon ties or equivalent.
2. Make a finger-sized loop in probe lead and route lead to instrument panel towards firewall over engine or along engine mount. Create a minimum 1 inch slack in lead where it crosses rubber engine mount to allow for movement. Securely attach lead at least every 10 inches.
3. Use hole for existing electrical harness in firewall to route lead into cabin. If space is not available then drill an approximately 3/16-inch hole (for single lead) and install grommet. Lead may be cut to correct length if meter is amplified. If un-amplified, do not cut and coil excess behind panel away from electrical bus, cables, or controls.
4. Attach lead to meter/instrument and mount into instrument panel. Inspect installation for proper support, areas of chafing, and clearance from exhaust pipe, electrical wiring and flammable fluid-carrying lines.

FREQUENTLY ASKED QUESTIONS

What do I do when the probe terminal stagger does not match the stagger of the lead?

Pull wires together keeping color codes matched or use stagger adapter, P/N 42523, available from ***Alcor***®.

Can I splice an extension to the lead?

Yes, providing you use the same kind of thermocouple wire and the connections are not located at a bulkhead. If connection is at a bulkhead, then ends of lead connection will be different temperatures (engine compartment vs. cabin) and that temperature differential will show on meter. This can also be caused when a mismatched lead type is used with meter and probe. Standard terminals or crimp connections can be used if connection is not at a bulkhead.

Why does the meter read full scale?

The problem may be one of the following: 1.) Meter out of calibration 2.) Type E probe in a Type K system or 3.) Lead is routed near high current carrying bus or cables and is receiving stray EMF induction. To verify problem #3, turn off master/alternator switch while engine is running to see if needle drops. If it does, then trace entire lead from meter to probe to isolate wire. If it does not, then suspect problem #1 or #2.

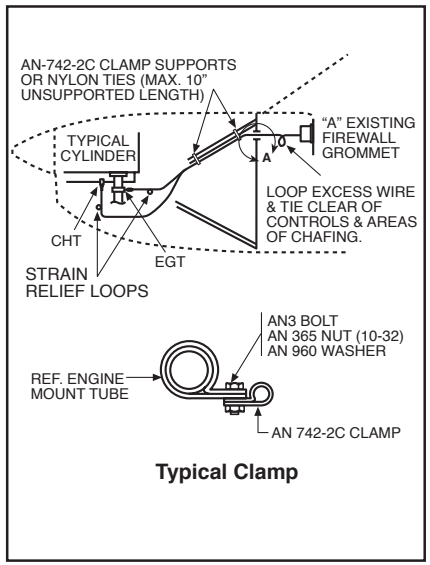


Figure 1. Typical Single Engine Installation

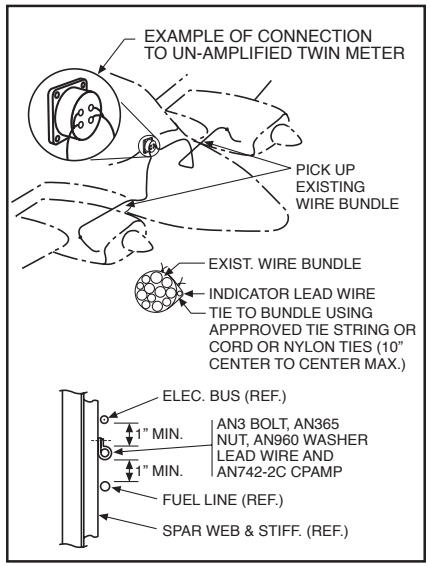


Figure 2. Typical Twin Engine Installation

Take a Flight to Our Website
www.alcorinc.com

300 Breesport
San Antonio, TX 78216
Office: (210) 349-6491
Fax: (210) 308-8536
Toll Free: (800) 354-7233