

REAFFIRMED

11/91



# AEROSPACE RECOMMENDED PRACTICE

ARP 914

SOCIETY OF AUTOMOTIVE ENGINEERS, Inc.

485 Lexington Ave., New York, N. Y. 10017

Issued 9-15-66

Revised

## GLOSSARY OF ELECTRICAL CONNECTION TERMS

The glossary contained herein is intended to incorporate those terms that are commonly used in conjunction with the use of electrical connections in the Aerospace-Electronics Industries. Many common terms have been omitted because they are either self-explanatory or can be readily found and understood in previously published documents.

\* \* \* \* \*

### ADAPTER

An intermediate device to provide for attaching special accessories or to provide special mounting means.

### AMBIENT TEMPERATURE

The temperature of the environment, usually air, surrounding a connector.

### BACK-MOUNTED

A connector mounted from the inside of a panel or box with its mounting flange inside the equipment.

### BARREL

#### Conductor Barrel

The section of the terminal, splice or contact that accommodates the stripped conductor.

#### Insulation Barrel

The section of the terminal, splice or contact that accommodates the conductor insulation.

### BARREL CHAMFER

Bevel at the end of the conductor barrel for easier entry of the conductor.

### BASIS METAL

Metal from which the connector components are made and on which one or more metals or coatings may be deposited.

### BAYONET COUPLING

A quick coupling device for mating connectors utilizing pins on a connector and ramps on the mating connector. Mating and unmating is accomplished by rotating the coupling ring.

### BELLED MOUTH (BELLMOUTH)

The flared or wide entrance of a terminal, splice or contact barrel to permit easier insertion of the conductor.

### BIFURCATED CONTACT

Describes lengthwise slotting of a flat spring contact as used in a printed circuit edge connector.

### BODY, CONNECTOR

The main portion of a connector to which contacts and other components are attached. This term is not used with connectors incorporating non-integral shells in their construction.

### BOOT

A form placed around the wire terminations of a multiple contact connector as a protective housing or as a container for potting compound.

SAE Technical Board rules provide that: "All technical reports, including standards approved and practices recommended, are advisory only. Their use by anyone engaged in industry or trade is entirely voluntary. There is no agreement to adhere to any SAE standard or recommended practice, and no commitment to conform to or be guided by any technical report. In formulating and approving technical reports, the Board and its Committees will not investigate or consider patents which may apply to the subject matter. Prospective users of the report are responsible for protecting themselves against liability for infringement of patents."

SAEENCRM.COM : Click to view the full PDF of arp914

**BRAID**

Flexible conductor made of a woven or braided assembly of fine wires.

**BUSING**

The joining of two or more circuits.

**BUTT SPLICE**

A device for joining two conductors end to end with their axes in line, and not overlapping.

**BUTTING DIES**

Crimping dies so designed that the nest and indenter touch at the end of the crimping cycle. (Also called bottoming dies.)

**CABLE CLAMP**

A mechanical clamp attached to the cable side of the connector to support the cable or wire bundle, provide strain relief, and absorb vibration and shock otherwise transmitted by the cable to the contact/wire connection.

**CIRCUMFERENTIAL CRIMP**

The type of crimp where the crimping dies completely surround a barrel resulting in symmetrical indentations in the barrel.

**CLOSED ENTRY**

A socket contact or a socket contact cavity design in the insert or body of the connector which limits the size and position of the mating pin contact to a predetermined dimension.

**COLOR CODING**

A system of identification of terminals and related devices.

**CONDUCTOR STOP**

A device on a terminal, splice, contact or tool used to prevent excessive extension of the conductor beyond the conductor barrel.

**CONNECTOR**

A device, either a plug or a receptacle, used to terminate or connect the conductors of individual wires or in cables and which provides a means to continue the conductors to a mating connector.

**CONNECTOR SET, ELECTRICAL**

Two or more separate connectors, plug connector and receptacle connector, designed to be mated together. The set may include mixed connectors mated together, such as one connector, plug and one dummy connector, receptacle and one dummy connector, plug.

**CONTACT**

The conductive element in a connector which makes actual contact for the purpose of transferring electrical energy.

**CONTACT AREA**

The area in contact between two conductors, two contacts, or a conductor and a contact permitting the flow of electricity.

**CONTACT ARRANGEMENT**

The number, spacing and arrangement of contacts in a connector.

**CONTACT ENGAGING AND SEPARATING FORCE**

Force needed to either engage or separate mating contacts.

**CONTACT FEMALE**

A contact located in an insert or body in such a manner that the mating contact is inserted in the unit. This is similar in function to a socket contact.

CONTACT FLOAT

The overall side play and/or angular displacement of contacts within the insert cavity.

CONTACT MALE

A contact located in an insert or body in such a manner that the mating portion extends into the female contact. This is similar in function to a pin contact.

CONTACT RESISTANCE

Electrical resistance of a pair of engaged contacts. Resistance may be measured in ohms or millivolt drop at a specified current over the engaged contacts.

CONTACT RETAINER

A device either on the contact or in the insert to retain the contact in an insert or body.

CONTACT RETENTION

The axial load in either direction which a contact can withstand without being dislodged from its normal position within an insert or body.

CONTACT SIZE

An assigned number denoting the size of the contact.

CONTACT WIPE

The distance of travel (electrical engagement) made by one contact with another during its engagement or separation or during mating or unmating of the connector halves.

COUPLING RING

That portion of a plug which aids in the mating or unmating of a plug and receptacle and holds the plug to the receptacle.

COVER, ELECTRICAL CONNECTOR

An item which is specifically designed to cover the mating end of a connector for mechanical and/or environmental protection.

CREEP DISTANCE

The shortest distance on the surface of an insulator separating two electrically conductive surfaces.

CRIMP

The physical compression (deformation) of a contact barrel around a conductor in order to make an electrical connection.

CRIMPING

A pressure method of mechanically applying a terminal, splice or contact to a conductor.

CRIMPING DIES

Portion of the crimping tool that shapes the crimp.

CRIMPING TOOL

Mechanism used for crimping.

CUTOUT, CONNECTOR

The hole, usually round or rectangular, cut in a metal panel for mounting a connector. May include holes for mounting screws or bolts.

DEPTH OF CRIMP

The distance the indenter penetrates into the barrel.

DIELECTRIC

A material having electrical insulating properties.

DUMMY CONNECTOR ASSEMBLY, ELECTRICAL

Two or more electrical dummy connectors having a common mounting or mounted on each other, each one capable of being independently replaced. Excludes items which are furnished as mated pairs or sets.

DUMMY CONNECTOR, PLUG

An item especially designed to mate with another connector to perform one or more special functions. It is not designed to attach directly to a cable, and cannot be used as a connector plug, electrical.

DUMMY CONNECTOR, RECEPTACLE

An item specifically designed to mate with a plug connector to perform one or more special functions. It does not have provisions for attaching a cable.

DUST COVER

(See COVER, ELECTRICAL CONNECTOR)

ENVIRONMENTALLY SEALED

A device that is provided with gaskets, seals, grommets, potting or other means to keep out moisture, dirt, air or dust which might reduce its performance. Does not include non-physical environments such as RF and radiation.

EXTRACTION TOOL

A device used for removing removable contacts from a connector. A device used for removing taper pins from taper pin receptacles.

FERRULE

A short tube. Used to make connections to shielded or coaxial cables. Also used in connectors to reduce transmission of torque to grommet.

FLAG TERMINAL

Terminal having a tongue protruding from the side of the barrel.

FLANGE, CONNECTOR

A projection extending from or around the periphery of a connector with provisions to permit mounting the connector to a panel.

FLANGED SPADE TERMINAL

Having the ends of the tongue turned up to the plane of the tongue.

FRONT MOUNTED

A connector mounted on the outside of a panel or box with its mounting flange outside the equipment.

FULL CYCLING CONTROL

Controls placed on the crimping cycle of crimping tools forcing the tool to be closed to its fullest extent completing the crimping cycle before the tool can be opened.

GANG DISCONNECT

A connector that permits the rapid and simultaneous connection and disconnection of two or more electrical circuits.

GRID SPACED

When contacts in a multiple contact connector are spaced in a geometric pattern.

GROMMET, CONNECTOR

An elastomeric seal used on the cable side of a connector to seal the connector against moisture, dirt and air.

GUIDE PIN

A pin or rod extending beyond the mating faces of a connector designed to guide the closing or mating of the connector to ensure proper engagement of contacts.

HERMAPHRODITIC CONNECTOR

A connector design which utilizes pin and socket contacts in a balanced arrangement such that both mating connectors are identical. The contacts may also be hermaphroditic, and may be arranged as male and female contacts as for pins and sockets. Hermaphroditic contacts may also be used in a manner such that one half of each contact mating surface protrudes beyond the connector interface and both mating connectors are identical.

HERMAPHRODITIC CONTACT

A contact design which is neither pin or socket and which mates with other contact of the same design.

HOOK TERMINAL

Terminal with a hook shaped tongue.

HOUSING, CONNECTOR, ELECTRICAL

Connector less insert, but with insert-retaining and positioning hardware required by standard construction.

INDENTOR

That part of a crimping die, usually the moving part, which indents or compresses the contact barrel.

INSERT, ELECTRICAL CONNECTOR

An insulating element with or without contact(s), designed to position and support contacts in a connector.

INSERTION TOOL

A device used to insert contacts into a connector.

A device used to insert taper pins into taper pin receptacles.

INSPECTION HOLE

A hole placed at one end of a barrel to permit visual inspection to see that the conductor has been inserted to the proper depth in the barrel prior to crimping.

INSULATED TERMINAL

Terminal having its barrel and insulation support or grip, if used, covered with a dielectric material.

INSULATION CRIMP

Shape combination of insulation sleeve to terminal or splice and wire insulation after crimping.

INSULATION GRIP

The portion of the barrel which is closed or compressed around the conductor insulation.

INSULATION PIERCING TERMINAL

A terminal having a device which cuts through the insulation of the wire and makes contact with or enters into the conductor.

INSULATION SUPPORT

The portion of a barrel similar to an insulation grip except that it is not compressed around the conductor insulation.

INTERFACE

The two surfaces on the contact side of mating connectors or plug-in component (e. g. , relay) and receptacle, which face each other when mated.

INTERFACIAL SEAL

A sealing of mated connectors over the whole area of the interface to provide sealing around each contact.

JACKET

The outermost layer of insulating material of a cable or wire.

JACKSCREW

A screw attached to one half of a two piece multiple contact connector used to draw and hold both halves together and to separate them.

KEY

A short pin or other projection which slides in a mating slot, hole, groove or keyway to guide two parts being assembled. Generally used in shell-enclosed connectors to obtain polarization.

KEYWAY

The slot or groove in which a key slides.

LAP JOINT (See PARALLEL SPLICE)

Two conductors joined by placing them side by side so that they overlap.

LOCATOR (See STOP PLATE)

Device for positioning terminals, splices or contacts in crimping dies.

LOCKING SPRING

(See CONTACT RETAINER)

LUG

(See TERMINAL LUG)

MATE

The joining of two connectors.

MOLD, POTTING, ELECTRICAL CONNECTOR

An item, solid or split, designed to be used as a hollow form into which potting compound is injected and allowed to cure or set to seal the back of an electrical connector. The potting may eliminate the need for a back shell of the connector. The form may or may not be removable after potting.

NEST

The portion of a crimping die which supports the barrel during crimping.

NICK (Notch)

A cut or notch in conductor strands or insulation.

OFFSET TERMINAL

Terminal whose tongue is forward of, and whose stud hole is offset from centerline of terminal barrel.

OPERATING TEMPERATURE

The maximum internal temperature resistant capabilities of a connector in continuous service.

PANEL

The side or front of a piece of equipment, usually metal, on which connectors are mounted.

PARALLEL-SPLICE (See LAP JOINT)

A device for joining two or more conductors in which the conductors lie parallel and adjacent.

PIGTAIL

A short wire extending from an electric or electronic device to serve as a jumper or ground connection.

PIN CONTACT

A contact having an engagement end that enters the socket contact.

PLUG CONNECTOR

An electrical fitting with male, female, or male and female contacts, constructed to be affixed to the end of a cable, conduit, coaxial line, cord, or wire for convenience in joining with another electrical connector(s), and not designed to be mounted on a bulkhead, chassis or panel.

PLATING

The overlaying of a thin coating of metal on metallic components to improve conductivity, provide for easy soldering or prevent rusting or corrosion.

POLARIZE

The arrangement of mating connectors such that the connector can be mated in only one way.

POLARIZING PIN, KEY OR KEYWAY

A device incorporated in a connector to accomplish polarization.

POST INSULATE

To insulate a connection after assembly.

POTTING

The permanent sealing of the cable end of a connector with a compound or material to exclude moisture and/or to provide a strain relief.

POTTING FORM

(Not Preferred - See MOLD, POTTING, ELECTRICAL CONNECTOR)

PRE-INSULATE

The insulation of a connector prior to assembly of the contact or terminal on the conductor.

PRE-TINNED

Solder applied to either or both the contact and conductor prior to soldering.

PULL-OUT FORCE

Force necessary to separate a conductor from a contact or terminal, or a contact from a connector, by exerting a tensile pull.

QUICK DISCONNECT

A type of connector or splice which permits relatively rapid locking and unlocking of mating parts.

RACK

A type of structure used to house electronic components which permits convenient removal of portions of equipment.

RAM

The moving portion in the head of a crimping tool.

RANGE, WIRE

The sizes of conductors accommodated by a particular barrel. Also the diameters of wires accommodated by a sealing grommet.

RATCHET CONTROL

A device to ensure the full crimping cycle of a crimping tool.

RECEPTACLE, CONNECTOR

An electrical fitting with contacts constructed to be electrically connected to a cable, coaxial line, cord, or wire to join with another electrical connector(s), and is designed to be mounted on a bulkhead, wall, chassis, or panel.

RECTANGULAR TERMINAL

Terminal whose tongue is rectangular in shape.

RING-TONGUE TERMINAL

Round-end tongue terminal with hole to accommodate screw or stud.

SEAMLESS TERMINAL OR SPLICE

Terminal or splice conductor barrel made without an open seam.

SERRATIONS

Deformation of the inside surface of a conductor barrel to provide better gripping of the conductor or on the outside of the connector body to provide better gripping of the connector.