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Mr. Timothy Mooney
Regulatory Policy Division
Bureau of Industry and Security
Room 2099B
U.S. Department of Commerce
14th St. and Pennsylvania Ave. N.W.
Washington, D.C. 20037

August 3, 2012

Subject: "Specially Designed" Definition

Reference: RIN 0694-AF66 [Docket No. 120403245-1034-01]

Dear Mr. Mooney:

The General Electric Company, acting through its GE Aviation business unit (GE), submits the following comments for the referenced proposed amendment to 15 CFR Part 772 to add the definition "Specially Designed". GE appreciates the Department's effort to advance Export Control Reform by establishing a "bright line" between the USML and CCL, and believes that this proposed definition goes a long way towards achieving that objective. GE understands that this proposed definition is being published concurrently with a similar proposal by the Department of State, and we will be submitting separate comments to the Department of State on that proposal.

GE believes that the Department's proposal makes significant and positive changes to the prior proposed definition for "specially designed" in the July 2011 Proposed Rule (76 FR 41958), including:

- Providing a clear two step "catch and release" methodology;
- Simplifying and shortening the exclusion or "release" paragraphs;
- Creating a broad exclusion for simple common parts;
- Creating a straight-forward test for exclusion of common or dual use parts and components;
- Providing a simple mechanism for self-determining jurisdiction when developing them for use in both defense articles and commercial items; and
- Striving for consistency between the ITAR and EAR versions of the definition.

The key points and specific comments that we have regarding the "specially designed" definition fall into two general categories:

Those involving the scope of the "catch" and "release" portions of the proposed definition. . .

- Expand the scope of (b)(2);
- Refine the release under (b)(3); and
- Relax the documentation requirement for (b)(4) and (b)(5).

Those necessary for clarification and consistency. . .

- Clarify the meaning of the term "enumerated;"
- Work with the Department of State to clarify the impact on items subject to previous CJ's;
- Clarify 'specially designed' software and software release; and
- Define a process "demoting" items later determined to be eligible for "release."

SPECIFIC COMMENTS ON SCOPE OF CATCH AND RELEASE PROVISIONS

1. Expand the Scope of Proposed (b)(2).

The scope of proposed (b)(2) may be unduly restrictive. There are many simple components "of a type commonly used in multiple types of commodities" that have low technical content, are used in a wide variety of commercial machinery and mechanical devices,[1] and do not warrant being controlled at the level of more significant components. Limiting this release paragraph to single piece parts,[2] may result in over-controlling items and driving licensing volumes that will continue to burden the Department and Industry.

We propose the following 3-part approach which will be less restrictive while still meeting US Government objectives:

First, we urge the Department to define the paragraph (b)(2) release in terms of the purpose or functionality of the parts. Those that have simple defined functions, are of very low technical content, and of no military significance should be released. Parts whose primary purpose is to position or support, fasten, or serve as a conduit for the transfer of fluids, electricity, or signals between other components, meet these three criteria. Components that measure, process, or otherwise directly contribute to the performance of the item enumerated on the U.S. Munitions List or Commerce Control List (e.g. thermocouples, pumps, oil coolers, airfoils, casings, bearings) would not be released by this carve out.[3]

Second, we suggest that using the new definition of a "part" proposed in the July 15, 2011 Federal Register Notice, rather than creating yet another new undefined term, would be simpler and less confusing.[4] This definition already contains the concept of a single unassembled element, which is not normally subject to disassembly without the destruction or the impairment of design use, and Industry is already familiar with its use under the ITAR, but it does not preclude the release of low technology inseparable assemblies.

Third, to add further clarity, we propose providing set of examples that illustrate the range of items that this paragraph is intended to release.[5]

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[1] Examples include a common clamp that is an assembly of a base plate and a strap of different material. Another is a wiring harness, whose only function is to connect two electrical components, and which provides no military function of its own. These type items have been deemed not subject to the licensing jurisdiction of the Department of State in CJ applications and have been readily licensed. Carving them out here would reduce the workload in both Industry and the Department.

[2] The term "single, unassembled part" appears to be drawn from the proposed definition of a "part." However, the examples that are provided in the proposed definition of "specially designed" consist, for the most part, of single piece part types of parts.

[3] We also believe that using this concept along with these classes of parts will be consistent across all defense related industries.

[4] A reading of (b)(2) and the definition of "part" together, would be parsed as "... a single unassembled [*single unassembled element of a major or a minor component, accessory, or attachment which is not normally subject to disassembly without the destruction or the impairment of design use*] that is of a type commonly used in multiple types of commodities not enumerated on the U.S. Munitions List or the Commerce Control List ... ."

[5] The current language in proposed (b)(2) provides a series of examples, all of which have very low technical content. Most of the examples are single piece part hardware items. But, as these are examples, and not defining criteria, it is unclear whether the intention is to limit application of this language to items that are single piece parts. It should be noted that at least one example, 'nut plate', is a minor

Applying these criteria, GE recommends rewording paragraph (b)(2) and adding a new note as follows (deletions as strikethrough's and additions in bold):

> "(2) Is a ~~single unassembled~~ **"part"** that is of a type commonly used in multiple types of commodities not enumerated on the U.S. Munitions List or the Commerce Control List, **whose primary purpose is to fasten** ~~such as threaded fasteners~~ (*e.g.*, screws, bolts, nuts, **rivets, pins, solder, clips, clamps,** nut plates ~~studs, inserts~~), ~~other fasteners (e.g., clips, rivets, pins), basic hardware~~ **position or support** (*e.g.*, washers, spacers, insulators, grommets, bushings, **rings, gaskets, packing, studs,** springs, **inserts, brackets, blocks, mounts, ferrules, connectors**), **or serve as a conduit for the transfer of fluids, electricity, or signals between other components (e.g. tubes, conduits, hoses, cables, conductors, fuel lines, oil lines, air lines,** wire, **wire harnesses)."**
>
> **"Note to paragraph (b)(2): A "part" whose purpose is to perform any function other than to fasten, position, support or serve as a conduit for the transfer of fluids, electricity, or signals between other components, does not meet the criteria for "release" and would therefore not be released under paragraph (b)(2)."**

2. Refine the definition under paragraph (b)(3).

The scope of proposed (b)(3) may be unnecessarily limited to items that share exact dimensions.[6] While we understand and appreciate that the Department does not want this paragraph to focus solely on function, also requiring identical form and fit will result in capturing items that are insignificant and have performance characteristics and technology that are equivalent to items that are not controlled on the ITAR or for reasons other than AT on the EAR. Modifications by the application of commonly available commercial technology in the fit or form of an item that result in the part functioning for the exact same purpose without enhancing performance or otherwise adding performance criteria should not cause the part or component to be included.[7]

Therefore we propose that the exclusion be based on the equivalence in function of the items and the technology behind the performance, and not require that the items have the same exact dimensions. The Department should change the language to allow a part or component to fall within the (b)(3) release if differences are limited to dimensional variations that do not enhance performance.

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assembly of piece parts including a plate and a series of nuts. GE proposes to expand the examples provided to more clearly identify an 'upper limit' of the types of items not addressed by this carve-out.

[6] GE believes this exclusion has great potential to further the USG interest of higher fences around fewer items. However, in order for this exclusion to reach its full potential, GE recommends a few adjustments that will reduce the administrative burden of reviewing items that can safely be excluded without detriment to national security.

[7] An engine mounting fitting with dimensions unique to a particular aircraft used by the Air Force but otherwise no different, in terms of size, strength, materials, from many other commercial mounting fittings used on a commercially certified aircraft not on the USML, should not be captured in the 600 Series ECCN's simply because of specific dimensions that do not change or enhance the level of performance of that fitting. If the mounting fitting were modified to enable vertical flight, or a booster device were added to strengthen signals or power in the examples above, under the approach outlined above these articles would not qualify for release under (b)(3) because the performance in each case would have It should be noted that if the above mounting fitting is modified to enable vertical flight, or a booster device were added to strengthen signals or power in the examples above, under the approach outlined above these articles would not qualify for release under (b)(3) because the performance in each case has been enhanced. been enhanced.

Another example is an engine cable harness whose primary function is to transfer control signals. The harness does not process or enhance the signal. A change in dimension or shape may have no effect on the performance of the harness's function.

One more example is a coffee maker designed for use on a commercial aircraft that is adapted for a military transport aircraft by the lengthening of the cable and/or changing in shape of the outer shell. These modifications do nothing to enhance the device's coffee-making, nor do they add any other performance capabilities.

In addition, GE recommends clarifying paragraph (b)(3)(ii) and Note 1 as relates to AT-only controlled ECCNs with "catch all" paragraphs. The current language supports the conclusion, which appears to be BIS intent, that a part/component that would be "specially designed" for military end use, but has the same form/fit/performance characteristics as a part/component that is (1) in production and (2) is controlled in a catch all paragraph controlled for AT-reasons only (for example, 9A991.d), would be "released" by (b)(3). However, the interplay of (b)(3)(ii) and Note 1, make the concept not as clear as it could be. BIS should clarify that (b)(3)(ii) does not prevent exporters from relying on items that are controlled under a "catch all" paragraph of an AT-only ECCN for the (b)(3) release.

GE recommends changing (b)(3) as follows (deletions as strikethrough's and additions in bold):

> "~~Has the same~~ **Is equivalent in** form, fit and performance capabilities ~~as~~ **to** a part, component, accessory, or attachment used in or with a commodity that:
> (i) Is or was in "production" (*i.e.*, not in "development"); and
> (ii) Is either not enumerated on the CCL or USML, or is ~~enumerated~~ **described** in an ECCN controlled only for Anti-Terrorism (AT) reasons;
>
> **Note 1:** 'Enumerated means any item (i) on either the USML or CCL not controlled in a 'catch all' paragraph and (ii) when on the CCL, controlled by an ECCN for more than AT-only reasons~~, except in the context of paragraph (b)(3) where an item in an ECCN controlled only for AT reasons is considered enumerated when it is not controlled in a 'catch all' paragraph~~.
>
> **Note 3 to paragraph (b)(3). An article is equivalent for purposes of (b)(3) if it is identical in performance capability, and the same, except for differences that do not enhance or upgrade its performance capability, in form (i.e. configuration, including the geometrically measured configuration, density, and weight or other visual parameters which uniquely characterize the article) and fit."**

3. Relax the Documentation Requirement for (b)(4) and (b)(5).

The documentation requirement for (b)(4) and (b)(5) should be relaxed when there is a long history of use of parts, components, accessories or attachments in or with commercial or civil production items with regard to jurisdiction determinations and classifications.[8] GE proposes that the Department adopt a grandfather provision for handling such cases, where, as of the date of the implementation this rule, a commodity has actually been used in or with a commodity that is not controlled on the USML and is or was in production.

GE proposes rewording the Note to paragraphs (b)(4) and (b)(5) as follows (changes in bold):

> "Note to paragraphs (b)(4) and (b)(5): For a defense article . . . may not be excluded from being "specially designed" by either paragraph b)(4) or (b)(5). **The only exception to this documentation requirement is where an item that as a result of paragraph (a) is controlled as "specially designed" has actually been used in or with an item that is not controlled in a 600 Series ECCN and is or was in production prior to [the effective date of this rule]."**

[8] For example, a company may have been utilizing certain equipment in connection with the development and improvement of a commercial item that was also used for a similar military item, but (unlike in an actual product for sale) may not have documentation that specifically addresses the elements of (b)(4) or (b)(5) with regard to the equipment.

4. Higher Fences around Fewer Items.

GE's understanding of the US Government's proposals for export reform is that one of the goals is to have "higher fences around fewer items" and to remove as many items from the higher levels of export control as possible without detriment to national security. To assist the Department and its interagency partners in its deliberations of our above comments along with other comments from industry, we attach to this letter a list of gas turbine engine-related components. This list contains the types of parts and components we believe should be removed from those higher control levels. This list includes components not enumerated on the USML or CCL, and that are low technology, tend to consist of more than a single piece part, are not listed on the Department's proposed list of paragraph (b)(2) examples,[9] and may not be the same exact dimensions from one engine to another. Many of the components on this list, subject to interpretations, would not be "released" under either paragraphs (b)(2) or (b)(3). We request that the administration consider this list in the context of the comments received to inform its decisions on the final definition of "specially designed."

SUGGESTED CHANGES FOR CLARIFICATION AND CONSISTENCY

GE recommends the following clarifications and other changes to the proposed rule:

1. Note 1 defines the term "enumerated" differently than the Department of State version. As this term is critical to the sequential analysis process in 772.1 "specially designed", and it is important that exporters be able to take a consistent approach to this analysis across both regulatory regimes, we suggest that the two definitions be substantially the same and the term be defined as a modifier. We propose the following for the first part of the note:

> The term 'enumerated' refers to any item (i) on either the U.S. Munitions List or the Commerce Control List that is not controlled in a 'catch-all' paragraph, and (ii) when on the Commerce Control List, is controlled by an ECCN for more than AT-only reasons. ~~(except in the context of paragraph (b)(3), where an item in an ECCN controlled only for AT reasons is considered enumerated when it is not controlled in a 'catch-all' paragraph).~~ An example of an 'enumerated' ECCN is 2A226 . . ..

2. In the Note 1 to paragraph (b)(3), the language and criteria is generally clear, and we agree with the simplification of removing the term "serial production," which was utilized in the previous proposed rule.

3. An express clarification on the treatment of items that have been previously determined through the DDTC commodity jurisdiction process to be on the Commerce Control List (CCL) is needed. While the Department has publicly stated that there is no intent to pull such items back to the USML through this definition, and objective number (ix) in the Supplementary Information states that nothing merely as a result of a definition should cause historically EAR controlled items to become ITAR controlled, a plain application of the proposed definition in the revised USML categories could result in such a situation.

GE recommends adding clarification confirming that the proposed rule will not reverse existing commodity jurisdiction determinations (CJs). The language should be consistent with the EAR proposed rule change (RIN 0694-AF36), published November 7, 2011. Further, BIS should add clarifying language that preserves prior formal classification analysis issued by the US Government.

[9] Please note that this list also contains an industry definition for some of the items that are listed in the (b)(2) examples.

Because the impact could be quite substantial on programs that are still in development, GE includes a detailed example that relates more to the proposed ITAR definition of "specially designed" and the operation of proposed new USML Category XIX[10] for BIS' consideration:

- In a commodity jurisdiction issued late last year (CJ-704-11), the Department of State determined that the CPX38-1BTP Development engine, which shares many parts with the GE38 military engine, is subject to Department of Commerce jurisdiction and on the CCL.
  - As part of the CJ, the Department of Commerce advised that the ECCN for the engine would be 9A001.a.
- The proposed new USML Category XIX(f)(1) describes components and parts "specially designed" for the GE38 engine,[11] among other engines.
  - As such, those parts common to both the CPX38-1BTP and the GE38 must be analyzed through the sequence.
- These parts will be "caught" under paragraph (a)(2) as they are necessary for the GE38 engine to function as designed.[12]
- However, many of these parts do not fall into any of the paragraph (b) "release" paragraphs.[13]
- The result is that there will be mixed jurisdiction between State and Commerce, contrary to what is stated in the issued CJ letter.
  - The common parts will be USML XIX(f)(1).
  - The engine and remaining parts will be classified under the CCL.
  - When the CPX38-1BTP engine goes into production, the parts can then be "released" under (b)(3).

To address this issue, GE is recommending to the Department of State that it include an additional "release" paragraph in the proposed definition with language and corresponding notes such as the following:

> **(6) Is an item that is covered by a Commodity Jurisdiction Determination issued by the Department of State, which is deemed thereunder to be not subject to the licensing jurisdiction of the Department of State.**
>
> **Note to paragraph (b)(6): Previously issued Commodity Jurisdiction determinations for items deemed to be subject to the EAR shall remain valid and their parts, components, accessories and attachments covered in the CJ determination shall remain subject to the jurisdiction of the Department of Commerce.**

The suggested addition will preserve the validity of previous CJ determinations. This is particularly important for situations where a precedent CJ included a CCL classification in addition to a jurisdiction assessment.

There could also be situations in which previously issued CCATs would also be called into question as a result of the operation of the "specially designed" definition in the EAR. GE requests that a similar note should be added to the EAR definition preserving the ability of exporters to rely on previously issued CJs and CCATs. Whether outlined in CJs or in CCATs, exporters should be permitted to rely on previously issued formal jurisdiction and classification decisions issued by the US Government. Without this

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[10] This is one example, but a review of the CJ list on the DDTC web site suggests that there are more than a few other similar situations.

[11] GE draws the Department's attention to our comments made to the Department of State's proposed Category XIX(f)(1) where we indicated our belief that the final regulation should not call out specific engine model families, and that many of the components, etc. not falling into Category XIX(f)(2) should not be considered "specially designed" in this subparagraph. In those comments GE proposed language that would reference the capabilities and technologies list enumerated under XIX(a) as a more appropriate descriptor.

[12] Many of the same parts would also be "caught" under (a)(1). Discussion of which paragraph "catches" the parts is not necessary here, as the focus is on the release under paragraph (b) of any parts that should be released.

[13] They are not released under (b)(3) because the CPX38 is not yet in production, and (b)(4) may or may not be useful based on interpretation of the paragraph and its corresponding note.

clarification, exporters may suddenly discover items previously assessed as "EAR99," or other CCL entry, are transitioned to the "600-Series" with corresponding increased levels of control. Further, this note will clarify that exporters do not need to start again with assessments of products that were subject to prior CJs and CCATs and would eliminate the potential for parts and components of an end item that was previously determined to be Commerce pursuant to a CJ from potentially being subject to the ITAR.

4. Currently we understand the definition to say that if software is captured in a "catch all" paragraph, it will be "specially designed" if it meets the criteria in (a)(1).[14] We request that BIS confirm this when issuing the final rule.

5. Inevitably there will be articles that will be initially captured in the 600 Series ECCN's by application of the definition of "specially designed" that are later determined by the Department to be of such a kind that they should be released from their applicable "catch-all" paragraph. We urge the Department, when finalizing the CCL categories and this definition, to define a process involving Industry input and US Government analysis for determining that such specific items are not "specially designed" without the need to change the definition itself.

Thank you for the opportunity to provide you our comments. If you have any questions or require additional information concerning this submission, please contact the undersigned at (202) 637-4206 or by e-mail at: kathleen.palma@ge.com or Mr. George Pultz at (781) 594-3406 or by email at george.pultz@ge.com.

Sincerely,

Kathleen Lockard Palma
Executive
International Trade Compliance

[14] Neither (a)(2) nor (a)(3) applies to software.

ATTACHMENT

Gas Turbine Engine-related Components

Adapter or Fitting - A modifying part designed to permit the use of a given item with another item when the two items are not designed for direct mating to each other.

ALTERNATOR - See GENERATOR, ALTERNATING CURRENT

Amplifier - A device which by means of electron tube(s), transistor(s), or similar items in conjunction with associated circuits controls a local source of power. Its output characteristics are related to the input signal(s), but are of greater amplitude with respect to current or voltage.

ANNUNCIATOR - A signaling apparatus which operates electromagnetically and serves to indicate visually and audibly, whether a current has flowed, or has changed direction of flow in one or more circuits.

Armature - The rotating part of an electrical machine which generally includes the winding and the commutator.

Aspirator - A device designed to produce a movement of fluids by suction or vacuum. May be a mechanical pumping type, a venturi, or the like.

Attenuator - A device for reducing the strength of an alternating current signal, without causing appreciable signal distortion by maintaining correct impedance match.

Block - A piece of material, usually with one or more plane or approximately plane faces, used to strengthen or sustain. Also Clamp, Shoe, and Stop.

Bolt - A cylindrically shaped, externally threaded fastener, having a head designed to be held or driven by a wrench or other external gripping device. The head is not designed to be driven or held by an inserted driver or by thumb and fingers. See also Screw.

BOOT, DUST AND MOISTURE SEAL - A flexible, protective covering over a joint opening, or terminal. See also Cover and Cap.

Boss - A locally thickened area integral with a casting or forging, or fabricated to a sheet metal surface, etc., designed to increase strength around a hole or inserted part. Example: Material added for a screw thread, bolt, bushing, or bearing.

BRACE - A structural part serving primarily to increase the rigidity between two or more parts.

Bracket - A projecting part serving primarily to support another part.

BRAID, WIRE - An item formed by interwoven strands of metallic material, designed to surround and protect hoses, tubes, cables, and the like.

BRUSH, ELECTRICAL CONTACT - An item specifically designed to transfer electrical energy to or from another conducting surface. Either the brush or the surface is moving during the transfer of energy.

Cabinet - A structure designed to enclose, mount and/or support electrical or mechanical equipment.

Cable - A group of wires bound or twisted together and used for transmitting a force.

Clamp - A device partially or wholly surrounding one or more parts, which holds or positions them by compression. The compression is obtained from an appropriate screw, toggle, or the like. Also Clip.

Clip - A device partially or wholly surrounding one or more parts, which holds or positions them by compression. The compression is obtained from the spring action of the clip material. See also Clamp.

Coil - An item generally consisting of one or more turns of wire or similar conductive material, specifically designed to concentrate magnetic flux generated by the flow of an electric current induct in itself an electromotive force; or add or subtract inductive reactance in a circuit.

Conductor - A wire or combination of wires (solid, stranded, or tinsel) or other materials not insulated from each other suitable for carrying electric current.

CABLE - A random length of insulated conductor(s).

WIRING HARNESS, BRANCHED - An item conforming to the definition of WIRING HARNESS, with branches or forks. Conduit - A tubular part, rigid or flexible, used to enclose a conductor(s) or lead(s).

Connector - An item serving to make a junction or attachment of a part, such as cable or wire, to another part or parts.

Coupler - A component which provides a means of transfer of electrical energy between two items or components while providing for impedance matching or balancing between the lines.

Coupling - A device designed to connect two parts together or facilitate attaching one part to another part

Cover - A part which partially encloses an object or closes, partially or completely, an opening. A cover does not have its own means of attachment.

Distributor - A device for controlling or accomplishing the distribution of electricity or fluid.

Doubler - A reinforcing piece generally used on sheet metal devices to strengthen areas around openings.

DYNAMOTOR - An item which combines both electric motor and generator action in one magnetic field, either with two armatures on one shaft or one armature having two or more windings.

Elbow - A fitting which forms an angle of less than 180 degrees.

ELECTRODE - An item of electrically conductive material which acts as a terminal through which an electric current enters or leaves a liquid or gas.

EXCITER, IGNITION - An assembly of component parts which provides a means of changing low voltage alternating current or low voltage direct current to a condition suitable to provide (with or without additional devices) a spark discharge for ignition purposes.

Fairing - A stationary member or structure whose primary function is to produce a smooth surface. It serves to cover projecting parts that would offer resistance to fluid flow.

Fastener - A device used to secure two parts together and to provide for their rapid attachment and detachment, as snap fasteners and cowl fasteners.

Ferrule - A part fitting over the end of a circular part to assist in attaching or in sealing at a connection.

Flange - An integral portion of a part, or an attached part, having a flat outer face at an angle to the surface from which it projects. Flanges are generally used for attaching or locating the part from which they project.

Fuse - An item designed for protection against the flow of current in a circuit exceeding specified values by utilizing the low melting point of a fusible element to open the circuit.

GASKET - A thin, flat part designed for use as a seal which is made to predetermined dimensions and is used between mating surfaces. See also Seal, Packing.

Grommet - A flanged, self-retaining part, usually nonmetallic used for protection of a part passing through a hole.

Gusset - A structural plate used to strengthen an angle within a part or the angle joint between parts.

Hanger - A device (loop, strap, hook, or the like) used to support or suspend another item.

Hinge - An item consisting of two halves fastened together by means of a pin(s) and knuckles. It is used to connect a movable object such as a door, lid, or the like to an adjoining member which may be movable or stationary, as HINGE, COVER PLATE.

Hose - A hollow, generally cylindrical, flexible part used to convey a fluid.

Igniter - An electrical or other device used to ignite a combustible mixture.

INSERT, SCREW THREAD - An internally threaded item whose outside diameter is threaded, knurled, finned, or otherwise designed for retention. It may be a one-piece precision formed coiled wire, having a tang designed for driving the insert into position.

Insulator - An item of non-conducting material used to separate electrical circuit parts from each other and structural parts. See also INSULATION TAPE, ELECTRICAL. For heat insulation,

Joint - A place where two or more parts are connected together. Use only with a modifying term in a phrase, as COUPLING, UNIVERSAL JOINT and EXPANSION JOINT.

Lever - A rigid part mounted on a pivot and serving to transmit forces or motions which are parallel, or nearly parallel, to each other.

Link - A rigid member flexibly connected only at the ends and used to transmit axial force from one part to another.

Lock - A means or device for securing a part in place. Preferably used as a modifying term, as RING, LOCK and WASHER, LOCK. An exception is LOCK, VALVE SPRING RETAINER.

Nipple - A straight fitting, having both ends externally threaded and of the same type and size, used to connect two internally threaded fittings.

Nut - A part having an internally threaded hole for fitting around an externally threaded part such as a bolt, shaft, screw, or the like, to restrain other parts from axial movement.

Packing - A pliable part or substance used to prevent leakage between parts which compress and confine it in all directions.

Pad - A portion of a casting or forging, or a piece fabricated to a sheet metal surface, which is generally raised and machined flat to provide for the attachment of another part or parts.

Pin - A rod, sometimes tubular and usually short, which encounters principally shearing forces without carrying torque. Some uses will involve only axial compression.

Plug – Fill a hole in a structure, like a boroscope plug.

Rake - A tube or series of tubes extending into the flow and having several spaced holes so arranged as to sense pressure or temperature.

Reducer - A straight fitting having two ends of different size, used for connecting in the same line two tubes or hoses of different size.

Ring - A thin, circular part having an opening of nearly its own diameter.

Rivet - A short, headed pin used as a fastener which is secured by upsetting the plain end.

Rod - A rigid bar. Use with a modifying term in a phrase, as CONNECTING ROD and BEARING, MASTER ROD, or with modifiers, as ROD, STRAIGHT, HEADLESS.

Roller - A conical or cylindrical part which functions by rolling on a surface.

Screw - A cylindrically shaped, externally threaded part having a head designed to be held or turned by a screwdriver or some other tool fitting into it. The head is not normally designed to be held or driven by an external gripping device.

Seal - An item designed to restrict fluid leakage around a part which passes through an opening. A seal differs from a gland in that a seal is not adjustable when assembled. See also Fireseal.

SHIM - A thin, flat, metal item, solid or laminated, designed to maintain a predetermined distance between two surfaces. A shim is too thin to have its spacing dimension altered by machining

Sleeve - A tubular part whose purpose is to protect the outside diameter of a cylindrical part, or to increase the diameter of, or to reinforce the part it surrounds.

Socket - A part whose shape and principal function involves a recess serving to hold another part or device fitting into it.

Spacer - A part designed to maintain a predetermined distance between two surfaces by its length, width, or the thickness.

Splitter - An item designed to fit into a fluid stream, and to divide and redirect the flow of the fluid.

Spring - An elastic mechanical device designed to absorb recoil or shock, to exert tension, or store up energy. It may possess the added characteristics of a supporting, guiding or controlling member; generally manufactured from metal but may be manufactured from a combination of metal or other elastic materials.

Stem - A slender connecting shaft-like device used to transmit torque or axial force (e.g., a winding stem, valve stem, or the like).

Stiffener - A protruding separate portion of a part serving to increase its rigidity.

Stop - A part whose primary function is to limit the travel of another part.

Strainer - A device serving to remove solid particles from a flowing fluid by passing it through a screen.

Strap - A strip designed to partially surround an item and act as a retainer or reinforcement of that item.

Strip - A thin, flat, narrow piece usually used for reinforcement.

Stud - A headless fastener, in the form of a cylindrically shaped rod, not exceeding twelve inches in length, threaded at the stud end for permanent assembly in a tapped hole and threaded at the other end to receive a nut.

Support - A structure that serves to hold in position and to act as a proper foundation by bearing the weight or stress of another part.

Switch - A device which completes, interrupts, or changes the connections in one or more electrical or electronic circuits by manual or mechanical actuation or as a result of changes in ambient temperature.

Tee - A fitting having three connections, the branch of which is fixed at 90 degrees to the run.

Terminal - An electrically conductive item designed to be attached to a circuit or device for convenience in making electrical connections.

TUBE, FLEXIBLE NONMETALLIC, ELECTRICAL - An exception to the concept of a rigid part. A bulk tubular item of nonspecific material so designed and constructed as to afford adequate mechanical protection to an insulated wire or cable to be contained therein.

TUBE AND HOSE - A combination of tube and hose which must be joined together simultaneously with the attachment of their mating fittings.

TURNBUCKLE - A metal loop, sleeve, or solid body with end pulls, having right hand and left hand screw threads on opposite ends; or having one end threaded and the other end designed to accommodate a swivel.

Valve - A device capable of permitting, stopping, and regulating fluid flow in a single passage by moving an obstruction into the flow passage.

Vent - An opening in the wall of a compartment for the primary purpose of relieving or equalizing pressure. See also Breather.

Washer - A usually flat disk having a hole in the center and used primarily to distribute pressure over an area surrounding a hole in another part, or to increase the wear resistance of that area.

Weight - A part whose primary function is to provide a concentrated mass in a desired location.

FLYWEIGHT - A movable weight on a rotating part which serves to produce some desired effect by means of centrifugal forces.

WIRE - For mechanical purposes other than WIRE, SAFETY.

Yoke - A forked member which guides, or is guided by, another part. A yoke differs from a clevis in that a yoke is not attached to its mating member.