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Category VIII – Military Aircraft and Associated Equipment

A. End Items, Systems, Accessories, Attachments, Equipment, Parts and Components

1. Fighter, bomber, attack, or specialized fixed or rotary wing aircraft, and military equipment as follows:
 - a. (T1) Aircraft “specially designed” for deploying “weapons of mass destruction.”
 - b. (T1) Aircraft “specially designed” to mount or contain any system designated as Tier 1 from any other Category.
 - c. (T1) Aircraft and military equipment that contain any technology, weapon or system designated as Tier 1 from any other Category.
 - d. (T1) Aircraft and military equipment that contain integrated weapon, sensor and communication systems designated as Tier 2 or Tier 3 from any other Category, where the integrated systems provide enhanced capability compared to the stand-alone systems.
 - e. (T2) Aircraft manufactured or upgraded after 19XX with any of the following:
 - (a). A weapon designated as a Tier 2 defense article;
 - (b). Thrust vectoring;
 - (c). Integrates weapon and sensor systems into the aircraft platform;
 - (d). High strength metals;
 - (e). A fire control system or sensors designated as a Tier 2 defense article;
 - (f). Armored components or materials designated as Tier 2 defense articles;
 - (g). Countermeasures (e.g., radar jamming, infrared tailored smoke, electromagnetic pulse generator) designated as Tier 2 defense articles.
- e. (T3) Aircraft not specified in VIII.A.1. and manufactured or upgraded after 19XX.
2. Cargo, transport, utility fixed or rotary aircraft as follows:
 - a. (T2) Aircraft installed with defense articles designated as Tier 2 for command, communications, control, intelligence, sensor or radar operations.
 - b. (T3) Aircraft installed with:
 - i. air-to-air refueling systems

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ii. advanced airdrop systems

Note:

1. Cargo, transport, utility aircraft that do not contain defense articles are controlled on the CCL.
2. The export jurisdiction of cargo, transport, and utility aircraft may be determined separately from the export jurisdiction of the military systems installed on the aircraft (e.g., a transport aircraft controlled on the CCL while the defense systems installed on the aircraft controlled as a USML item).
3. Unmanned aircraft, including drones, remotely piloted aircraft, and optionally piloted aircraft, except those controlled VIII.A.1.a to c, VIII.A.2. a and b, or in other Categories, that:
 - i. (T2) Have mission systems, data links, sensors, or other defense articles designated as Tier 2;
 - ii. (T2) Mount firearms or other weapons not designated as Tier 1;
 - iii. (T3) Is an aircraft otherwise export controlled as a military aircraft that has been modified for unmanned operation.

Technical Notes:

- 1.) As used in this paragraph, unmanned vehicles include vehicles which are fitted with controls for either manned or unmanned operation.
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4. Propulsion systems “specially designed” for aircraft in this Category as follows:
 - a. (T2) Turbojet and turbofan gas turbine engines with any of the following:
 - i. Thrust augmentation (afterburner);
 - ii. Thrust or exhaust nozzle vectoring;
 - iii. Low observable structures, coatings, or materials;
 - iv. Combat survivability features (beyond commercial aircraft safety equivalents)
 - b. (T2) Ramjets, scramjets, pulse jets or combined cycle engines

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5. (T3) Launching and recovery equipment for the articles in paragraph (a) of this category, if the equipment is specifically designed or modified for military use. Fixed land-based arresting gear is not included in this category.

6. Components, parts, assemblies and associated equipment for the end-item aircraft and propulsion systems controlled by this Category as follows:

a. fuselages and major components for military aircraft controlled in this Category as follows:

- i. (T2) fuselages and major components incorporating armor controlled in another tier 2 category
- ii. (T2) fuselages and major components configured for low observability
- iii. (T2) Active protection systems;

b. (T2) Components, parts, and assemblies for propulsion systems controlled by this Category as follows:

- i. Augmentors (afterburners)
- ii. Vectoring exhaust nozzles
- iii. Augmentor and exhaust nozzle liners and panels
- iv. Inlets and exhaust nozzles configured for low observability
- v. Engine control systems (i.e., Full Authority Digital Engine Controls or Digital Electronic Engine Controls) hardened for combat survivability

c. (T3) Built-in test equipment (BITE) “developed especially” to evaluate the condition of weapon or other mission systems for the vehicles designated as Tier 2 or above in this Category.

i. (T2) Kits to convert a vehicle specified in this Category into either an unmanned or a driver optional vehicle. At minimum, such a kit includes equipment for remote or autonomous steering, acceleration and braking and a control system.

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Notes:

1. Parts or components are controlled in this Category only to the extent listed in VII.A.5. It does not include any “part” as defined in 121.8(d) of this subchapter that is not specifically listed. For the purposes of export or reexport, a parts “kit” that contains the unassembled elements of a component is considered a component.

2. Any part or component of the vehicles controlled in this Category that is common to a vehicle “subject to the EAR” is under the export jurisdiction of the Department of Commerce. A part or component “is common” if it is interchangeable on a one-for-one replacement basis with an item “subject to the EAR” without more than minor adjustments or minor modifications to its form or fit.

3. Pursuant to Note 2, the following categories of parts, components and systems are subject to the export jurisdiction of the Department of Commerce:

- a. turboprop, turboshaft and reciprocating engines;
- b. aircraft and ground auxiliary power and engine start units;
- c. propellers and propeller system parts and components;
- d. aircraft landing gear, tires and wheel brakes;
- e. fuel system parts and components (e.g., bladders, pumps, lines, valves, quantity indicators, switches and pressure regulators);
- f. hydraulic system parts and components (e.g., reservoirs, containers, pumps lines, valves, actuators, accumulators, and pressure indicators);
- g. electrical system parts and components (e.g., generators, constant speed drives, ram air turbines, aircraft batteries, buses, wiring, switches, and voltage indicators);
- h. pneumatic/air handling/pressurization system parts and components (pumps, valves, manifolds, ducts, heat exchangers, pressure regulators/indicators, and supplemental aircrew/passenger oxygen generators/supply systems);
- i. aircraft flight instruments and manned aircraft autopilot systems;
- j. lighting for anti-collision, position, navigation and landing;
- k. fire detection and suppression systems, parts and components;

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l. brackets, clamps, connectors, fasteners, bushings, grommets, seals, gaskets, O rings, screws, bolts, and washers.

4. Developmental aircraft and propulsion systems that achieve or exceed the controlled functions or characteristics of items in this Category are controlled at the highest tier associated with the functions or characteristics proposed for that vehicle or propulsion system.

5. The following obsolete military aircraft manufactured before 19XX and no longer in the inventory of the United States [or foreign government] military forces are subject to the jurisdiction of the Department of Commerce: [list TBD]

B. Test, inspection and production equipment

1. (T2) Production equipment, tooling, and test equipment “specially designed” for aircraft and propulsion systems designated as Tier 1 or 2 in this Category.

2. (T3) Test or calibration equipment “specially designed” for the articles controlled in this Category.

3. Equipment and tooling for Operation, Maintenance and Repair of end items controlled by this Category required to:

i (T1) Support Depot-Level maintenance or repair for an end item controlled as Tier 1 by this Category.

ii (T2) Support Intermediate-Level maintenance or repair for an end item controlled as Tier 1 by this Category.

iii (T2) Support Intermediate-Level or Depot-Level maintenance or repair for an end item controlled as Tier 2 by this Category.

iv (T3) Support Intermediate-Level or Depot-Level maintenance or repair for an end item controlled as Tier 3 by this Category.

v (T3) Support Operational-Level maintenance for all end items controlled by this Category.

Note:

1. This control does not apply to test, inspection and production equipment “specially designed” for a subsystem or component not specifically controlled in this Category.

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C. Materials

1. Low observable (signature control) materials (e.g., parasitic, structural, coatings, screening, etc.) “specially designed” to alter the signature (e.g., radar, infrared, visual, laser/EO, acoustic, etc.) of defense articles controlled by this Category.

D. Software

1. (T2) Software “specially designed” for the integration or control of aircraft combat systems or subsystems, both offensive and defensive, that is not controlled in other Categories.
2. (T2) Software containing the control laws or algorithms for unmanned air vehicles controlled in this Category.
3. (T2) Built-in test and diagnostic software “specially designed” for built-in test equipment for aircraft designated as tier 2
4. (T1) Software “specially designed” for the design, production, or use of articles controlled in this Category that are designated as Tier 1.
5. (T2) Software “specially designed” for the design, production, or use of articles specified in this Category that are designated as Tier 2.
6. (T2) Engine control system software “specially designed” for the control of propulsion systems controlled in this Category that enable the following functions:
 - a. integrated aircraft and propulsion system control (total aircraft control approach);
 - b. augmented thrust (afterburner);
 - c. vectored thrust;
 - d. combat survivability;
 - e. algorithms implemented in software that enable high altitude and high power extraction (greater than 50% of engine thrust) at altitudes greater than 55,000 feet;
 - f. anti-jamming and anti-spoofing techniques employed on the aero gas turbine engines;

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E. Technology

1. Design or manufacturing technology “required” for the articles controlled in this Category as follows:
 - a. (T1) Design or manufacturing technology “required” for articles controlled in this Category designated as Tier 1.
 - b. (T2) Design or manufacturing technology “required” for articles controlled in this Category and not elsewhere specified.
2. Test technology as follows:
 - a. (T1) Test technology directly related to defense articles designated as Tier 1 and controlled in this Category.
 - b. (T2) Test technology directly related to developmental aircraft controlled in this Category or to other aircraft designated as Tier 2 that are controlled in this Category.
 - c. (T3) Test technology, not elsewhere specified, directly related to defense articles controlled in this Category.
3. Technology “required” for the operation, maintenance, and repair of the articles controlled in this Category as follows:
 - a. (T1) Technology “required” for maintenance or operation on any defense article designated as Tier 1 and controlled in this Category.
 - b. (T2) Technology “required” for depot level maintenance of any defense article designated as Tier 2 or 3 and controlled in this Category.
 - c. (T3) Intermediate, operator or organizational level maintenance or repair technology “required” for any defense article controlled in this Category.
 - d. (T3) Operation manuals for any defense article controlled in this Category.

Note: This Category does not control technology for major systems or subsystems or subsystems controlled in other Categories or incorporated into the end item. For controls of major systems or subsystems of the vehicles specified in A of this Category, see USML Categories I, II, III, IV, XI, XII, XIII, XIV, XV, and XVIII. See also controls on related simulation and training items in Category IX.

F. Defense Services

1. (T1) Providing assistance in the design, development, production or depot level maintenance on any defense article designated as Tier 1 in this Category.

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2. (T2) Providing assistance in the design, development, production or intermediate or depot level maintenance on any defense article designated as Tier 2 in this Category.
3. (T2) Providing training or advice in the tactical employment of the vehicles designated as Tier 1 or Tier 2 and controlled in this Category.

G. Manufacturing or production

1. (T1) Granting a right or license to manufacture any defense article designated as Tier 1 in this Category.
2. (T2) Granting a right or license to manufacture any defense article designated as Tier 2 in this Category.
4. (T3) Granting a right or license to manufacture any defense article designated as Tier 3 in A in this Category.