

## Purchase Order Supplement

**Note:** To access the supplier web page, go to <http://www.LORD.com/suppliers>.

LORD secure site mailboxes for document submission: <https://sft.lord.com>

Product Ship-To Location	<a href="https://sft.lord.com">https://sft.lord.com</a> recipient
LORD Bowling Green Facility: Bowling Green, KY	DL-LBGRI@LORD.COM
LORD Cambridge Springs Facility; Cambridge Springs, PA	DL-LCSRI@LORD.COM
LORD Dayton Facility: Dayton, OH	DL-LDYRI@LORD.COM
LORD Erie Facility: Erie, PA	DL-LERRI@LORD.COM
Frozen Planning Submission for all facilities	DL-FROZEN_PLANNING@LORD.COM

## Standard Purchase Order Terms and Conditions

**Standard Terms and Conditions of Purchase:** LORD Corporation, Form 0602-03, applies -- see <http://www.LORD.com/suppliers> for text.

## Standard Quality Requirements

To be a supplier to LORD Corporation you shall meet our requirements for Quality. Our Standard Quality Requirements are:	
A.	<b>Quality System:</b> You shall have a documented quality system and agree to on-site assessments. You are required to have a quality system in place that conforms to AS9100, ISO 9001 or Nadcap AC7004. Manufacturers of material used in production manufacturing at LORD are required to maintain third-party certification of your quality system to one of these standards, or have a goal to achieve third-party certification, unless exempted by LORD in writing.
B.	<b>Right of Access:</b> You shall allow review, analysis, and verification (on-site if necessary) of your quality management and inspection system, manufacturing process, and product by LORD, our customer, our customer's representative, or the government (FAA, DoD, etc.), if requested.
C.	<b>Advanced Product Quality Planning (APQP):</b> As requested, you shall have resources available and capable of participating in APQP, including such efforts as Value Engineering/Value Analysis, Feasibility Reviews, FMEAs, Design Reviews, Prototype Production, and Initial Sample Approval/Production Part Approval Process. If you receive a purchase order for a new part or a part number you have not manufactured within the most recent 2 year period, please contact your LORD SQE or Sourcing representative to schedule an APQP review prior to proceeding with the order. For a sub-tier source change, contact the LORD SQE for the opportunity to participate in APQP activity with you and the sub-tier supplier.
D.	<b>Material and Process Specifications:</b> You shall produce LORD product to the specific material and process specifications referenced on the drawing or purchase order. You shall work to the specification revision in effect at the time the purchase order was issued as determined from the specification indexes located in the LORD Secure FTP ( <a href="http://www.LORD.com/suppliers">www.LORD.com/suppliers</a> ). If parts were manufactured to a prior drawing or specification revision, yet still meet all the requirements of the revised drawing or specification, you shall update the certifications per clause W to indicate such and ship as conforming product. Parts that are manufactured using material or process specifications to a later revision than that specified in the LORD Specification Index is allowable, except in the cases where clauses 062 and 402 are specified. In those cases, adherence to 062 and 402 is required. Suppliers may only use alternate materials after submission and approval by LORD of a new first article (see clause H. First Article Inspection Report Approval).
E.	<b>Conflicting Technical Requirements:</b> In the event of conflicting technical requirements, the order of priority you should follow is the purchase order, the drawing, then the specification. You shall bring all conflicting requirements to the attention of your SQE or Sourcing Agent for clarification as soon as possible.

F.	<p><b>Supply Chain Management:</b> You shall be willing to identify and manage your entire supply chain, which includes ongoing monitoring of sub-contractor quality and delivery performance. It is your responsibility to ensure that LORD requirements are met by all your subcontractors used in the entire manufacturing process.</p>
G.	<p><b>Approved Sources:</b> Some special processes such as heat treatment, plating, NDT, etc. shall be performed by a LORD approved processor, Nadcap approved processor, or processor approved by LORD's Customer. This applies when clauses 010, 011, 012, 013, 014, 015, and/or 016 appear on the purchase order. A list of LORD approved processors can be found in the LORD Secure FTP (<a href="http://www.LORD.com/suppliers">www.LORD.com/suppliers</a>).</p>
H.	<p><b>First Article Inspection Report Approval:</b> For products manufactured to LORD engineering drawing requirements (not applicable to metallic raw materials, non-metallic raw materials, and industry standard hardware), you shall perform First Article Inspection (FAI) of all drawing and specification requirements on a sample representative of the first production lot. Unless otherwise specified by clause 195 on the purchase order, the FAI shall be completed and submitted in accordance with the requirements of LORD Standard Operating Procedure SOP 10-10 with results recorded on Form 1010-01, or AS9102 Form 3, or an equivalent. SOP 10-10, Form 1010-01, and LORD - AS9102 Form 3 are available at <a href="http://www.lord.com/our-company/suppliers/key-documents">http://www.lord.com/our-company/suppliers/key-documents</a>. You shall complete and submit a new or updated (delta) FAI for the following conditions:</p> <ul style="list-style-type: none"> <li>• first time manufacture</li> <li>• the part has not been manufactured in 2 years. Note that if there has been a lapse in delivery and not a lapse in production, a copy of the last full FAI report and all subsequent delta FAI reports may be submitted to LORD without re-performing the FAI, as long as all conditions for not requiring a new FAI are met.</li> <li>• revision to the LORD engineering drawing (per LORD purchase order)</li> <li>• change in raw material used (use of an alternate material listed on the drawing if the material was not previously used and approved for this part number previously)</li> <li>• change in tooling (new, replacement, or major modification) at your facility or at your sub-tier suppliers</li> <li>• change in manufacturing process, at your facility or at your sub-tier suppliers, which may affect form, fit, or function of the part</li> <li>• change in the plant of manufacture</li> <li>• change in source of manufacture, including sub-tier supplier</li> </ul> <p>Suppliers shall submit the initial or updated FAI regardless if Special Quality Clause 069 is specified on the purchase order. Certifications are required to be submitted for initial FAI submission, changes to the plant of manufacture, and if the part has not been manufactured within two years. For all changes, certifications are only required to be submitted if the affected change is one for which LORD requires certification through any other 460 clauses.</p> <p>Inspection methods identified on the FAI are the methods to be used by the supplier and LORD for sample and final inspection. Changes shall be approved by the re-evaluation and re-signing of the FAI by both the supplier and LORD.</p> <p>*If a functional gage has been specified and agreed upon as the operating inspection method, actual values are not required. Indicate on the FAI that the functional gage (including gage number) was used for the inspection.</p> <p>The FAI shall include the following (as a minimum):</p> <ul style="list-style-type: none"> <li>• All drawing notes</li> <li>• All drawing title block requirements</li> <li>• Actual high and low measurement values for each individual characteristic*For a drawing feature that indicates more than one location (i.e. "TYP" or "4X"), a measurement reading for each of the individual feature locations.* Example: Drawing states "4X R .28/.23", the FAI shall show a measurement for each of the four feature locations.</li> <li>• Actual measured value for all basic dimensions used in any Geometric Dimensioning and Tolerancing (GD&amp;T) requirement.*For a True Position requirement of a multi-hole pattern, the measured position of each hole including the measured value of each basic dimension for each hole.*</li> <li>• For any process accepted by certification, certifications shall be per the requirements of LWI-0774 and the associated checklist, LWI-0774f1. The Systems Clause Checklist and associated process certifications shall be submitted with the shipment.</li> <li>• Certifications are required for delta FAI with a 069 clause <u>only if</u> the feature for which the delta FAI is being completed is affected by a certification (i.e. special process or material change).</li> <li>• Ensure the FAI sample(s) and shipping container(s) are properly identified.</li> <li>• For classified parts (i.e., Flight Safety, Critical, Primary, Vital, or Critical Safety Item), the applicable part classification shall be indicated on <u>each</u> page of the FAI forms.</li> </ul>
I.	<p><b>Managing Change:</b> You shall notify the LORD SQE or Sourcing representative of any intended significant changes to your process, methods, material, or product and obtain our approval prior to implementation. You shall also make this a condition to your entire supply chain. Samples and documentation may be required as part of the approval process.</p>

J.	<b>Material Obsolescence:</b> You shall notify LORD 6 months prior to obsolescence of any material purchased by LORD within the last three years.
K.	<b>LORD Approved Coolants:</b> If you use coolants, protectants or mold release agents in the fabrication or surface protection of products supplied to LORD, you shall use materials that have been qualified and approved by LORD. When specified on the LORD engineering drawing, refer to LORD specification MTL-S-0136 (located in the LORD Secure FTP ( <a href="http://www.LORD.com/suppliers">www.LORD.com/suppliers</a> )) for a listing of approved materials. <ul style="list-style-type: none"> <li>Manufacturers of Powdered Metal shall refer to PRC-S-0226 and shall only use materials approved specifically for use with powdered metals. For a listing of approved materials for use with powdered metals, refer to appendix MTL-S-0136-004 and MTL-S-0136-005.</li> </ul>
L.	<b>Non-conventional machining such as Electric Discharge Machining, Laser Cutting, Plasma Cutting and Laser Marking or any process that uses heat generating methods for material removal:</b> Suppliers shall obtain written approval via an SR (reference clause P) for any part number using these heat generating methods. <b>Approval via an SR is always required for each individual part number by supplier, regardless of any drawing notes or methods as stated on the quotation to LORD.</b> The SR is required for the first time that a specific part number is shipped using the non-conventional machining method. LORD Specification PRC-S-0230 details additional requirements.
M.	<b>Mercury Contamination:</b> Material furnished shall not contain functional mercury in any form and shall be free from contamination by presence of mercury.
N.	<b>Traceability and Serialization:</b> You shall provide unique identification of product batch number, lot number, or, if required by the drawing, serial number. The batch, lot, and serial number, as applicable, shall be traceable to all raw material, manufacturing, and inspection records. <ul style="list-style-type: none"> <li>If raw material is supplied by LORD, you shall assure that parts supplied are traceable by lot number or serial number to the raw material heat code or LORD assigned traceability number.</li> <li>If items supplied by LORD are serialized, you shall assure that traceability is maintained during processing.</li> <li>If parts are serialized, you shall provide with each shipment a list of the serial numbers in the shipment (either on the packing slip or on an attached sheet).</li> </ul>
O.	<b>Inspection:</b> You shall inspect product to the degree necessary to ensure compliance to all requirements, which may result in higher sampling levels than required by the minimum industry specified sampling plans (i.e. ANSI/ASQ Z1.4) or LORD customer requirements. Sampling plans shall utilize a 1.0 AQL with zero defectives permitted in the sample.  Suppliers shall comply with 100% inspection if specified by the LORD drawing, by clause 052, or another specification referenced on the drawing, 460 clause, or PO.  You shall have an Inspection Check Sheet which lists all drawing attributes (including notes), quantity of parts in the lot and serial numbers of the parts in lot (if applicable). For each attribute listed on the Inspection Check Sheet, the quantity of parts inspected, inspection level (i.e., 100% or specific sampling plan), method of inspection, quantity accepted, quantity rejected and inspection stamp shall be documented. Actual recording of dimensions (by serial number) is not required unless specifically required by the LORD engineering drawing. Unless otherwise specified by the engineering drawing, dimensional limits apply after the application of specified inorganic coatings (e.g., plating and chemical treatments), but before the application of specified organic coatings (primers, paint, solid film lubricants, corrosion preventative compounds, etc.). Chemical treatments include chromic acid anodize, sulfuric acid anodize, hard anodize, chemical conversion coating (chemical film), and passivation. Inspection methods used shall be, at a minimum, the ones established and approved during APQP and used during the FAI. LORD technical standard TS-026, Standard Measuring Methods, available at <a href="http://www.LORD.com/suppliers">www.LORD.com/suppliers</a> , shall be used by the supplier for legacy product in cases where APQP was not performed; however, the following method change note applies.  NOTE: Inspection methods identified on the FAI are the methods to be used by the supplier and LORD for sample and final inspection. Changes shall be approved by the re-evaluation and re-signing of the FAI by both the supplier and LORD.

P. **Supplier Requests:** Suppliers shall submit a SR for any nonconformance and for any material that does not meet all the requirements of the LORD purchase order, drawing, or specification. You shall submit all Supplier Requests (SR) to LORD through the FusionOps Supplier Portal located at <http://LORDsp.fusionopscloud.com/>. A copy of the SR shall accompany each shipment for which the SR applies. Multiple purchase orders may be referenced on the same SR.

If you are submitting an SR for a nonconforming category (Type I or Type II nonconformance), obtain concurrence to submit the SR from your assigned SQE prior to submittal.

Supplier Requests shall be submitted using the FusionOps categories listed below. These are the most common reasons for submission, but may not be all inclusive.

- **\*Nonconformance, (Type I, Major) or (Type II Minor):** A nonconformance differing from the requirement where the supplier or supplier's processes are the cause of the nonconformance. Approval to use a material or process specification to a later revision than that specified in the LORD Specification Index, except where allowed per Clause D.
- **Change Request:** Requests for engineering changes (i.e., drawings, specifications).
- **Interpretation Request:** Technical clarification of LORD drawings or LORD customer drawings or other requirements.
- **LORD initiated chg on current order:** A LORD PCN has been received and an open order exists or the PCN has not been processed completely through the LORD system and released, but the change requirement has been reviewed with the supplier.
- **Gage request:** Request to borrow LORD measurement and test equipment
- **Frozen Planning approval:** Submission of frozen and rework planning
- **Obso Inv caused by Dwg/Spec chg at LORD:** The supplier has inventory on-hand at a prior revision.
- **Other LORD needed apprv/LORD info req:** LORD may request information or require a specific approval on the PO or drawing that needs to be submitted for review prior to shipment.
- **Material substit/alt. source request:** Substitution of a material or supply source other than called out on the drawing, specification or purchase order, as well as the use of an alternate material listed on the drawing for which the supplier has not yet previously used in the manufacture of that specific part number.
- **Less complete per LORD request:** LORD may have requested material to be sent in with requirements not being completely fulfilled per the drawing, specification, or PO. Formal approval is required through an SR even though LORD may have made the request verbally or in an email.
- **Melt certs not available:** Melt certs may not be available in the cases of all raw material, particularly standard hardware. If LORD wants the material considered for use, the supplier shall obtain Quality/Engineering approval through an SR.
- **Expired shelf life:** Some rare or frequently unused material may be in inventory, but past its shelf life. If LORD wants the material considered for use, the supplier shall obtain Quality/Engineering approval through an SR.
- **Samples/Request for evaluation:** Samples requested by LORD as part of correlation of inspection methods or other studies, may be sent in on an open, undispositioned SR. Note on the paperwork the SQE and that these are samples.
- **\*Request to strip coating and re-process:** Some drawings indicate LORD approval to strip coating and re-process.
- **NDT Technique Sheet approval:** Approval of process specific techniques, plans, or procedures.
- **LORD furnished material problem:** LORD furnished material that cannot be properly processed at a supplier facility due to LORD material issues or that has been found nonconforming as received from LORD.
- **EDM/Laser/Plasma Methods Approval:** Use of electric discharge machining (EDM), laser cutting, plasma cutting or laser marking per LORD clause L.

\* Indicates a Corrective Action shall be completed per Clause S.

An SR is not required if parts were manufactured to a prior drawing or specification revision, yet still meet all the requirements of the revised drawing or specification. You shall update the certifications to indicate such and ship as conforming product (for example, "Parts manufactured to rev A and meets all requirements of rev B").

If a PCN indicates that LORD supplier inventory is dispositioned "USE AS IS" to the previous revision, supplier current inventory which meets the previous revision, but not the latest revision on the PCN (LORD Product Change Notice), may be shipped to LORD. You shall update the certifications or shipping paperwork to indicate such and may ship as conforming product (for example, "Parts manufactured to rev A and are being shipped per USE AS IS disposition on

	PCN"). Contact your LORD SQE or Sourcing representative for instructions regarding any PCN's that state to scrap or rework product in inventory or in-process.
Q.	<b>LORD Supplied Measurement and Test Equipment:</b> You shall return any borrowed equipment to LORD at least one week prior to the calibration due date. You are not authorized to perform calibration on LORD-owned equipment. Return all equipment to the attention of the "Gage Lab" at the necessary plant. Standard Gages, such as thread gages, plug gages, dial bores, thread indicating gages (i.e.: tri-rolls), should be purchased and maintained by the supplier. Supplier shall review and address these needs before accepting a LORD Purchase Order.
R.	<b>Non-Conforming Product:</b> You shall only ship product that meets all requirements, or obtain a written deviation via a Supplier Request (SR – reference clause P) prior to shipment of any non-conforming product. If a Supplier Request is approved, reference the Supplier Request number on the shipping documents, or LWI-0774f1Systems Clause Checklist if sending this with shipment. A copy of the approved Supplier Request may be required with the shipment. Final material acceptance will depend on the actual verification of the non-conformance and product approval at LORD. If you have reason to believe non-conforming material may have been inadvertently shipped, contact your LORD SQE or Sourcing representative immediately.
S.	<b>Corrective Action:</b> In the event of a non-conformance related to your product, you shall develop a written corrective action report using LORD Form LOP-053F1 (available at <a href="http://www.LORD.com/suppliers">www.LORD.com/suppliers</a> ) addressing the problem definition, containment action, root cause determination, corrective action plan/contingency actions, implementation timing, and system/practice/procedure changes to prevent recurrence. Written corrective action plans are required within 20 calendar days of the notification or as specified by LORD SQE (Supplier Quality Engineer). Within <u>24 hours</u> of being notified by LORD you shall: <ul style="list-style-type: none"> <li>• Take containment action at your facilities and sub-tier facilities</li> <li>• Notify the SQE of <ul style="list-style-type: none"> <li>○ any other lots of the same LORD part number shipped to LORD or in transit to LORD since the non-conforming lot was manufactured</li> <li>○ any other part numbers that may have been affected and their shipment dates and lot quantities.</li> <li>○ Perform 100% inspection on all pieces prior to shipping to LORD until the corrective action is implemented. After the corrective action is implemented, the supplier shall perform 100% inspection on all lots until three acceptable consecutive lots are shipped. Sequential sampling or SPC may be used in lieu of 100% inspection. Sequential sampling includes the sampling of every X number of pieces during sequential manufacture, as long as all pieces are contained between the samples. If a nonconformance is detected, subsequent 100% inspection shall occur between the last accepted piece and the nonconforming piece detected.</li> </ul> </li> </ul>

T.

**Protection Requirements for In-Process, Shipment and Packaging:** You shall comply with all requirements for shipping, packaging and labeling. In the absence of specific requirements, suitable protection from corrosion, contamination and handling damage shall be provided during manufacturing, in-transit to and from your sub-tier processor(s) and during shipment to LORD. Metallic parts shall be protected against corrosion and/or damage, and non-metallic parts against deterioration, damage and/or contamination by other materials.

**General Corrosion Control Requirements Throughout Processing:**

- a) For machined metallic parts, do not allow water-soluble cutting fluid to sit (accumulate) and/or dry on any on surface (especially aluminum alloys) at any stage of the manufacturing process, in packaging, and so forth. This is a known cause of corrosion and shall always be avoided.
- b) Except for the time work is actually being carried out on a metallic part with a non-protected surface, it shall be protected at all times by placement in a VCI bag except where a non-volatile, corrosion protecting oil is used as stated in Item 5 above. If bags are used with oil, they shall be non-porous plastic bags (not VCI bags). VCI bags shall be closed at all times when item(s) are in the VCI bag(s).
- c) Items are to be dry prior to placing in a VCI bag. Filtered air shall be used to blow of any excess coolant after machining.
- d) Unprotected surfaces of parts requiring cleaning to remove residue or contamination are to be alkaline cleaned or cleaned with a non-chlorinated solvent. Examples of non-chlorinated solvents are MEK and isopropyl alcohol.

**Protection Against Damage**

Where not specified, containers used during manufacturing, in-transit to and from your sub-tier processor(s) and for shipment to LORD shall be selected using the following guidelines:

- a) The container/packaging selected shall not permit metal to metal contact
- b) Stacking of parts/assemblies within a container is only permissible for flat parts/assemblies and with adequate separation between parts/assemblies.
- c) Containers used during manufacturing shall have covering adequate to prevent contamination.
- d) Containers shall be sufficiently robust to withstand the shock loads of transportation with appropriate restraint for the parts. Shipments using an ocean liner or courier services will need additional shock load protection to prevent transit damage.
- e) Padding of internal areas of the containers shall be made with suitable materials and shall not cause corrosion.
- f) Parts that are plated and subsequently chromate treated are more sensitive to damage of the chromate. Drying time of the chromate beyond the minimum requirements may be required prior to handling and packaging. Special attention to the types of drying surfaces and packaging material is required at the processing facilities and throughout the chain of custody from processing to delivery to LORD.
- g) All packages shall be inspected for the absence of foreign objects (FOD) prior to sealing package.

**Corrosion Protection Requirements for Packaging and Shipment:**

It is not necessary to protect surfaces of a metallic part from corrosion which are completely anodized, chromate coated, alodined, plated, passivated, or painted and parts made from titanium and inconel alloys. Unprotected surfaces of all other metallic parts shall be protected according to the following as applicable.

- 1) Additional protection may be required if parts are to be held or transported in a particularly humid or corrosive environment (i.e. ocean shipment).
- 2) 303Se or other free machining varieties shall follow requirements of 3) below.
- 3) For the more corrosion-prone metals, such as 4XXX alloy steels, 7XXX series aluminum alloys, 2024 aluminum and 12L14 and other low alloy steels; application of a non-volatile, corrosion protecting oil followed by packaging in non-porous plastic bags may be performed in lieu of packaging in VCI bags. This provides additional corrosion protection as compared to packing in VCI bags alone, and is recommended, especially when time in transit or storage is expected to be long. Only use LORD approved surface protectants identified in MTL-S-0136-002 (per Clause K).
- 4) For powdered metals, use only LORD approved surface protectants identified in MTL-S-0136-004.
- 5) All parts with any unprotected surfaces (not covered by 3) and 4) above) shall be protected by placing in a volatile corrosion inhibitor (VCI) bag. Do not oil parts prior to placing them in VCI bags, as this combination assists in the initiation of surface corrosion. Do not use VCI bags on Zn-plated parts. Corrosion protection as defined in the APQP process may override items 1 through 5, provided they are reviewed and agreed upon by the SQE.
- 6) Cadmium plated parts which are not chromate treated shall be coated with a corrosion inhibiting oil.

U.	<p><b>ESD Sensitive Items:</b> When packaging materials that are sensitive to damage from electrostatic discharge (ESD), you shall use ESD protective containers or bags. Identify each container or bag with an ESD warning label and label the external shipping package "Contains Static Susceptible Item" or equivalent. Parts classified as ESD parts on the LORD drawing or specification, shall be handled in accordance with SOP 15-05, "<i>Electrostatic Sensitive Devices (ESD)</i>", available at <a href="http://www.LORD.com/suppliers">www.LORD.com/suppliers</a>.</p>
V.	<p><b>Age Control:</b> You shall assure that any items provided which have shelf life limitations, have at least 5/6 of the shelf life remaining at time of shipment.</p>
W.	<p><b>Certification:</b> All documents submitted shall accurately reflect the manufacturing and inspection processes of the supplier and their sub-tier suppliers. Unless clause 069 is stated on the purchase order and applies per the instructions listed in clause 069, you shall submit all applicable certifications (raw material, special process, etc.) and certified test reports for each shipment. Certifications shall be in English, or translated to English. Translations shall include the name, title, and signature of the authorized representative of the company making the translation. Certifications shall be submitted using Form LWI-0774f1 System checklist as part of the certification package. The Process checklist is a tool to be used to guide you through the submission of process certifications. Certifications and certified test reports shall include the following information as applicable per the checklist; however, note the instructions on the checklist for the required information to be submitted per clause:</p> <ul style="list-style-type: none"> <li>• Name/address of facility that manufactured the material, or performed the process or test</li> <li>• LORD Purchase Order Number</li> <li>• LORD Part Number and Revision. LORD part number revision is the revision listed on the LORD Sheet 1 drawing.</li> <li>• LORD Customer Part Number, revision and contract number, only when it appears on the purchase order or LORD Drawing</li> <li>• Process performed or material provided, including type/class/grade, as applicable</li> <li>• Specification number including revision level, along with any applicable amendments and deviations</li> <li>• Quantity accepted/rejected (for Certified Test Reports)</li> <li>• Quantity shipped</li> <li>• Date shipped</li> <li>• Name and/or title of authorized representative from the company that manufactured the material, or performed the process or test. For suppliers who utilize electronic signatures, the Quality Manager title is sufficient.</li> <li>• Unique traceability number (certification number, heat code number, batch number, melt number, etc.)</li> <li>• Part serial numbers, if applicable.</li> <li>• Statement certifying that articles covered by the certification are in compliance with the applicable purchase order, drawing and specification requirements.</li> <li>• If parts were manufactured to a prior drawing or spec revision, yet still meet all the requirements of the revised drawing or spec, you shall update certifications to indicate such and ship as conforming product (for example, "Parts manufactured to rev A and meets all requirements of rev B"). Reference SR clause P for more detail for more detail regarding shipment to prior LORD drawing revisions.</li> <li>• If parts were manufactured to a prior drawing or spec revision and the PCN states "Use As Is" for the previous revision, the certifications or shipping paperwork to indicate such and may ship as conforming product (for example, "Parts manufactured to rev A and are being shipped per USE AS IS disposition on PCN"). Reference SR clause P for more detail regarding shipment to prior LORD drawing revisions.</li> <li>• For Classified Parts, any product shipments will require the frozen planning revision stated on the LWI-0774f1 System checklist.</li> </ul> <p>Note: If <u>both</u> clause 069 is invoked on the purchase order <u>and</u> this is not a First Article Inspection (FAI) shipment, certifications are not required.</p> <p>For clauses 090 and 140, follow the instructions listed in those clauses for certification requirements. Section b in 090 and 140 allows for the use of documentation in place of LWI-0774f1, as long as the minimum requirements as listed in b are met.</p> <p>The preferred method for submitting quality related documentation, such as certifications, test reports, and inspection reports, is electronically via secure site <a href="https://sft.lord.com">https://sft.lord.com</a>. Enter the recipient as the LORD Receiving Inspection mailbox matching the shipment location as shown at the beginning of this document. See the LORD Supplier Webpage at <a href="http://www.lord.com/our-company/suppliers/key-documents">http://www.lord.com/our-company/suppliers/key-documents</a> for Form LWI-0774f1 with instructions.</p>
X.	<p><b>Records:</b> You shall maintain production and quality-related records for a minimum of ten years from date of shipment, unless a longer period is specified by a clause on the purchase order. If you are going out of business or no longer intend to manufacture the part, you shall contact LORD Corporation to obtain instructions with respect to records.</p>

Y.	<p><b>Rework and Repair:</b> Rework and Repair are distinctly different processes.</p> <ul style="list-style-type: none"> <li>• Rework: A process where a non-conformance to the drawing, specification, or contract requirement can be made to conform using processes equivalent to those originally used in the manufacturing of the product. Suppliers are not required to obtain approval to rework product unless Special Quality Clause 021 is specified on the Purchase Order, which requires rework approval. Per Special Clause 171, any violations of the Frozen Planning process always require approval for rework.</li> <li>• Repair: A process that reduces but does not completely eliminate a non-conformance, or when a process is used that is NOT equivalent to those originally used in the manufacturing of the product. Suppliers shall obtain prior approval from LORD via a SR(Supplier Request) to perform repair work and to ship repaired product, due to the still nonconforming condition and/or the repair method used.</li> <li>• Reworked/repared parts shall be re-inspected using the same methods and equipment that originally identified the non-conformance, as well as re-inspection of any other features that may have been affected by the rework.</li> <li>• For electronic items that require Acceptance Testing as part of their original quality requirements, the same Acceptance Testing will be required after rework/repair of the product.</li> <li>• When returning reworked/repared parts to LORD, the shipping or certification paperwork shall identify that rework or repair was performed and shall make reference to either the approved Supplier Request or the Discrepancy Report (notification) that authorized the rework/repair (as applicable). If outside processes were required to be re-processed, the process certifications shall also reflect the rework/repair status of the parts.</li> <li>• In some instances, LORD may decide to rework or repair supplied product, in which case LORD will contact the supplier to discuss the costs of the rework and potential chargeback to the supplier.</li> </ul>
Z.	<p><b>Classified Part Suppliers/Processors:</b> If you are a supplier of classified parts (i.e. FLIGHT SAFETY, CRITICAL, PRIMARY, VITAL, CRITICAL SAFETY ITEM, etc.) or a special process provider that creates or affects a Critical "&lt;C&gt;" or Significant "&lt;V&gt;" characteristic, you shall provide initial and annual classified part awareness training to all personnel involved in the manufacture and inspection of that part number (i.e. engineering, manufacturing, quality, shipping, etc). You shall also conduct an annual internal audit to the classified part requirements. It is acceptable to use LORD Form 0601-16 "Supplier Assessment Classified Parts" available at <a href="http://www.LORD.com/suppliers">www.LORD.com/suppliers</a> for the internal audit. All training and audit results shall be documented and maintained for a minimum of ten years. If you are going out of business or no longer intend to maintain a classified part approval status, you shall contact LORD Corporation to obtain instructions with respect to records.</p>

AA.	<p><b><u>Counterfeit Part Prevention – Electronics/Non-electrical standard parts:</u></b>  Suppliers that are purchasing parts and materials for inclusion into a product or assemblies being delivered to LORD shall establish and maintain a system to prevent the purchase of counterfeit and/or substandard parts. The system shall ensure item traceability to the OCM/OEM records and these records shall be supplied to LORD upon request. When procurement is going to be made from an Independent Distributor/ Broker, LORD approval is required. Supplier shall obtain a written deviation via a Supplier Request (SR- reference clause P) prior to shipment. Supplier shall have traceability for non-electrical standard parts (fasteners, nuts, washers, o'rings, etc.) and electronic component parts to the Original Component Manufacturer (OCM), Original Equipment Manufacturer (OEM), Authorized Aftermarket Manufacturer (AAM) or authorized distributor. Certification of product being purchased shall include name and location of all supply chain intermediaries from the original manufacturer to final source providing product.</p> <p>If suspect/counterfeit parts are furnished under a purchase order and/or are found in any goods, the goods delivered hereunder and the items furnished will be impounded by LORD. The seller shall promptly replace such suspect/ counterfeit parts with parts that are acceptable to LORD. The seller shall be liable for all costs relating to the removal and replacement of said parts. LORD reserves all contractual rights and remedies to address grievances and detrimental impacts caused by suspect/counterfeit parts</p> <p><b><u>OCM=Original Component Manufacture/OEM = Original Equipment Manufacture</u></b> – The supply chain entity who designs and controls the manufacture of an item. The OCM/OEM warrants performance of the item to its published specifications</p> <p><b><u>Franchised/Authorized Distributor</u></b> – A seller that has a contractual relationship with the OCM/OEM to buy, stock, re-package and sell its product lines. A Franchised/Authorized Distributor offers the OCM/OEM’s full flow through warranty including failure analysis and corrective action support.</p> <p><b><u>Independent Distributor/Broker</u></b> – Any seller that does not have a contractual relationship with the OCM/OEM to stock and sell its products.</p>
AB.	<p><b><u>Conflict Minerals</u></b>  Supplier agrees to make good faith, reasonable inquiries to ascertain whether any products provided to LORD Corporation (the "Product(s)") contain Conflict Minerals from Covered Countries, as those terms are defined by and consistent with the Securities and Exchange Commission’s final rule on Conflict Minerals, 17 CFR Parts 240 and 249(b), promulgated pursuant to Section 1502 of the Dodd-Frank Wall Street Reform and Consumer Protection Act (the "Rule").  Should Supplier identify a regulated Conflict Mineral in any Product(s), you will communicate this finding to LORD Corporation and will make all reasonable attempts to find an alternate source identified to be in compliance with the Rule requirements. Supplier agrees to certify and warrant that all Product(s) are Democratic Republic of the Congo ("DRC") Conflict Free, as defined by and consistent with the Rule. Supplier further agrees that they will continue to make good faith inquiries to determine whether any product(s) contain Conflict Minerals should their source of supply change or if the product(s) include recycled or scrap sources, as defined in the Rule. Supplier shall require its own subcontractors and suppliers (at any tier in the supply chain for Product(s)) to flow down this requirement. Supplier shall maintain records of their inquiry process and will provide these to LORD upon request. Supplier understands that LORD may utilize and disclose Conflict Minerals information provided by you in order to satisfy supply chain inquiries received by LORD. Should LORD determine that any certification made by Supplier is inaccurate, incomplete or purposely misrepresented, LORD may terminate any affected LORD purchase order(s) or agreement as default by Supplier.</p> <p><b>Note:</b> The term "conflict mineral" is defined in Section 1502(e)(4) of the Act as (A) columbite-tantalite, also known as coltan (the metal ore from which tantalum is extracted); cassiterite (the metal ore from which tin is extracted); gold; wolframite (the metal ore from which tungsten is extracted); or their derivatives; or (B) any other mineral or its derivatives determined by the Secretary of State to be financing conflict in the Democratic Republic of the Congo or an adjoining country.</p>

# Special Quality Clauses

**In addition to our Standard Purchase Order Terms and Conditions and Standard Quality Requirements, Special Quality Clauses may be invoked on individual Purchase Orders. Our Special Quality Clauses are:**

- 001 PO Supplement Applies (Form 460):** This clause is listed on every purchase order for the sole purpose of invoking the requirements of this document, "Purchase Order Supplement, Form 460". All Standard Purchase Order Terms and Conditions and Standard Quality Requirements listed above apply. Special Quality Clauses enlisted below apply only if listed on individual purchase orders.
- 002 Form 460- see [www.LORD.com/suppliers](http://www.LORD.com/suppliers):** This clause is listed on every purchase order for the sole purpose of communicating the website address to obtain the current released version of this document, "Purchase Order Supplement, Form 460".
- 010 LORD Approved Processors:** When a special process specification is listed in the "Process Table" section of the LORD engineering drawing and "LORD" is indicated under "Source Control", you shall use only LORD approved processors. The approved processors are listed in LORD specification MP-APS-001, "Approved Process Sources" located in the LORD Secure FTP ([www.LORD.com/suppliers](http://www.LORD.com/suppliers)). If the particular specification is not listed in MP-APS-001, the process does not require the use of a LORD approved processor.
- 011 LORD Customer Approved Processors:** When a special process specification is listed in the "Process Table" section of the LORD engineering drawing and a LORD customer name is indicated under "Source Control", you shall only use a processor approved by the LORD customer. Contact your LORD Sourcing representative if you cannot locate a special process source approved by the applicable LORD customer or if you do not have access to a LORD customer's secure site.
- For Bell Helicopter, use sources listed in QPS 101.
  - For Boeing, use sources listed in D1-4426, which can be found at [www.boeing.com](http://www.boeing.com)
  - For Sikorsky Aircraft, use sources listed in the Sikorsky Approved Supplier Listing (ASL).
  - For Lockheed-Martin, use sources listed in [http://supplier.external.lmco.com/supplier/specproc\\_certs/specification\\_list.html](http://supplier.external.lmco.com/supplier/specproc_certs/specification_list.html)
  - For Airbus Helicopters (formerly Eurocopter) use sources listed on MP-APS-001 and if the process is an available Nadcap process, the supplier used shall also be Nadcap accredited.
- 012 LORD Classified Part Approved Processor:** This purchase order is for a special process that is to be performed on a part that is classified as Critical, Vital, or Flight Safety. This special process generates or affects a critical characteristic. As such, you shall be approved as a LORD Classified Part Approved Processor and be listed in LORD specification MP-APS-001, "Approved Process Sources" for the process to be performed. LORD Classified part approval is indicated in MP-APS-001 by the symbol {CP}.

**013 Bell Helicopter Classified Part Approved Processor:** This purchase order is for a special process involving a Significant "<V>" or Critical "<C>" characteristic that is to be performed on a Bell Helicopter QPS 100 or QPS 102 part that is classified as Primary, Critical, or Flight Safety. You shall be approved by Bell or LORD to process classified parts at the designated classified level of this part, meet the requirements of Bell Specification QPS 300, and your quality management system shall be in compliance to the requirements of AS9003. Accreditation to AS9100 or Nadcap AC7004 may be used to represent compliance with AS9003. The hierarchy for Bell classified parts processing approval is as follows:

Flight Safety - Approved to process Flight Safety, Critical, Primary and non-classified parts.

Critical - Approved to process Critical, Primary and non-classified parts.

Primary - Approved to process Primary and non-classified parts.

Bell BPS Specification Process. For a special process performed to a Bell Process Specification (BPS) that requires facility approval, you shall be listed in Bell Specification QPS 101 for the process to be performed and have the classified level approval of the part or higher.

Non-BPS Specification Process. For a special process performed to a specification other than a Bell Process Specification (BPS), such as a Military or Industry specification, you shall be approved per the following:

- For QPS-100 Product, you shall be approved as a BHTI classified part processor and have the classified level approval of the part or higher. Additionally, the subcontracted special processor shall be listed in LORD specification MP-APS-001, "Approved Process Sources" for the process to be performed. Classified part approval is indicated in MP-APS-001 by the symbol {CP}.
- For QPS-102 Product, you shall be approved as a LORD classified part processor and be listed in LORD specification MP-APS-001, "Approved Process Sources" for the process to be performed. Classified part approval is indicated in MP-APS-001 by the symbol {CP}.

**014 Bell Helicopter Approved Source List (Report No. 299-099-900):** Part to be procured from an approved manufacturer or value added distributor listed in Bell Helicopter Report No. 299-099-900 (Approved Source List). Certification and identification in accordance with Report No. 299-099-900 is to accompany each shipment. Part may be procured from any distributor provided the required certification from the approved manufacturer accompanies the shipment and the exterior of each package is marked in accordance with Report No. 299-099-900. Instructions to reference the Bell purchase order in report No. 299-099-900 should actually reference the LORD purchase order.

**015 Bell Helicopter Approved Metallic Material Source List (Report No. 299-100-837):** The metallic material used to make the part is to be produced from an approved manufacturer listed in Bell Helicopter Report No. 299-100-837 (Approved Metallic Material Source List). The metallic material may be procured from any distributor provided the required material certification from the approved manufacturer accompanies the shipment.

**016 Nadcap Accredited Special Processor:** When the use of an approved special processor is required per clauses 010, 011, 012, or 013, you shall only use a processor who is Nadcap accredited for that process and provide the Nadcap accreditation on the process certification. Nadcap accreditation is only required for industry controlled special processes (i.e. MIL, AMS, ASTM, etc specifications) that are listed on the LORD drawing in the Process Table. Nadcap accreditation is not required for special processes to customer specifications where the customer specifically approves the special processor or a special process to a LORD specification (i.e. PRC-S-0002, PRC-S-0050). Refer to <http://www.pri-network.org/Special-Processes.id.858.htm> for further information/definition of Nadcap special processes.

**021 Approval Req'd – Rework Method:** You shall submit your rework planning for any reworkable non-conformances occurring on product against this purchase order to LORD for review and approval prior to starting rework. The rework planning is to be electronically submitted with a Supplier Request (SR), general clause P. You shall not make any changes to rework planning after LORD approval has been granted without the prior written approval of LORD Quality.

**030 LORD Source Inspection:** LORD source inspection is required prior to shipment of any item on this purchase order. Contact your LORD Sourcing representative a minimum of 5 days prior to the time the items will be ready for inspection.

**031 LORD Witness of Test:** LORD witness of functional testing of the items on this purchase order is required. Contact the LORD Sourcing representative a minimum of 5 days prior to the time the items will be ready for testing.

- 032 Customer Source Inspection:** First article inspection by LORD's customer is required prior to shipment from your plant to LORD. Contact your LORD Sourcing representative prior to the scheduled shipment date to arrange the customer inspection. Evidence of customer inspection approval shall accompany the initial shipment to LORD.
- 040 Government Source Inspection:** Government source inspection is required prior to shipment of any item on this purchase order. Upon receipt of this purchase order, promptly furnish a copy of this purchase order to the Government Representative that normally services your facility and arrange for the source inspection. Do not begin work on the parts until the government has communicated to you what requirements they will need to witness. Contact the LORD Sourcing representative immediately if you cannot locate a government representative. Evidence of GSI (acceptance stamp or signature on shipping documentation) shall accompany shipment.
- 041 Government Process Review:** This particular LORD purchase order is fulfilling a government contract and may be subject to additional process review by the local Government Quality Assurance Representative (QAR). You *may* be contacted by the Government QAR to review or witness a specific process; however, this is not intended to interfere with the regular manufacturing process. This is not intended as a hold point and the QAR *does not* have to stamp or signoff the paperwork as indicated in clause 40.
- 043 Non-U.S. Sources:** The part on this order is an FAA Parts Manufacturer Approval (PMA) part (or component thereof) and shall not be manufactured outside the United States without prior approval of LORD Quality. If the part ordered is an assembly, then all components in the assembly shall not be manufactured outside the US. For FAA-PMA parts, a supplier in any jurisdiction outside the United States which would inhibit the FAA from evaluating the supplier shall not be used. This requirement does not apply to standard parts manufactured in compliance to an established U.S. Government or industry-accepted specification containing all necessary information to produce and conform the part. Examples include, but are not limited to National Aerospace (NAS), Air Force-Navy Aeronautical Standard (AN), Society of Automotive Engineers (SAE), SAE Aerospace Standard (AS), Military Standard (MS), etc. This requirement does not apply to the raw material used to manufacture the FAA-PMA parts.
- 044 Drop Shipment:** LORD furnished material (i.e.: castings, forgings, or raw stock) will be drop shipped to you under this purchase order. Upon receipt of the material, you shall assure that all test reports and certifications required by the applicable specifications have been received and that all requirements have been met. When shipping finished items to LORD, include these test reports and certifications with the shipment.
- 045 FAA Anti-Drug and Alcohol Misuse Prevention Program:** You are required to maintain an anti-drug and alcohol misuse prevention program in accordance with 14 CFR Part 120. All employees who perform a safety-sensitive function (i.e., maintenance) shall be tested under a FAA regulated drug and alcohol testing program. If you are a certificated repair station under Federal Aviation Regulation (FAR) Part 145, your Operations Specification paragraph A449 shall state that you have implemented a FAA regulated anti-drug and alcohol misuse prevention program. If you are a non-certificated maintenance source, you shall have a document that registered your FAA regulated anti-drug and alcohol misuse prevention program with the Drug Abatement Division of the FAA. Each shipment of parts on which maintenance has been performed shall be accompanied by evidence that you have a FAA regulated anti-drug and alcohol misuse prevention program. This evidence can be provided by one of the following:
- Listing your FAA Drug Abatement Division assigned plan identification number on your certificate of conformance for the work performed
  - Including a copy of your FAA Part 145 Operations Specification paragraph A449
  - Including a copy of your document that registered your FAA regulated anti-drug and alcohol misuse prevention program with the Drug Abatement Division of the FAA
- 046 Authorized Release Certificate:** You are required to provide a completed and signed original FAA Authorized Release Certificate FAA Form 8130-3 or EASA Authorized Release Certificate Form 1 with each shipment of parts. The FAA Form 8130-3 or EASA Form 1 is required with each shipment even if clause 069 is specified on the purchase order.
- 047 Repair Station Duty Time Limitations:** This part is supplied to LORD's Outsource Maintenance Program which requires you to have a verifiable procedure, policy or program that relieves each person performing maintenance or preventative maintenance from duty for at least 24 consecutive hours during any seven consecutive days or the equivalent thereof in any one calendar month, Ref. 14 CFR 121.377.
- 050 Submit Supplier Inspection Checklist:** You shall complete and submit your inspection checklist with each shipment. For each characteristic inspected, the inspection checklist shall indicate the characteristic, the quantity inspected, and the quantity accepted/rejected. Report the actual inspection results if required by the LORD drawing or purchase order.

- 051 Capability Study and Gage R&R:** You shall provide results of the Capability Study, the Gage Repeatability and Reproducibility (R&R), or other data as requested by the LORD Supplier Quality Engineer, performed on the measurement for KEY Characteristics identified on the drawing or as identified by the LORD Supplier Quality Engineer. The results shall be submitted with the initial FAI/PPAP submittal or re-submittals. On-going results are to be provided with each shipment unless clause 069 is specified on the purchase order, where in that case submission is required only on FAI/PPAP re-submittals.
- 052 100% Inspection Req'd:** You shall perform 100% inspection of all parts and of all drawing characteristics and drawing notes.
- 054 Serialization (Bell Helicopter):** You shall issue and control part serialization in accordance with Bell specification BPS 4050. When assigning and applying serial numbers, use your Bell Helicopter assigned alpha code (prefix) designation.
- 057 Assembly Contains Classified Part(s):** This purchase order is for a Bell Helicopter QPS 100 or QPS 102 assembly that contains a part (or parts) classified as Primary, Critical, or Flight Safety.

**058 Manufacture/Subcontracting of Classified Parts (Bell Helicopter):** This purchase order is for a Bell Helicopter QPS 100 or QPS 102 part that is classified as Primary, Critical or Flight Safety and shall meet the requirements of Bell Specification QPS 300. In order to manufacture this part or perform a manufacturing operation involving a Significant "<V>" or Critical "<C>" characteristic, you shall be approved by Bell or LORD to manufacture classified parts at the designated classified level of this part. The hierarchy for Bell classified parts manufacturing/processing approval is as follows:

Flight Safety - Approved to manufacture/process Flight Safety, Critical, Primary and non-classified parts.

Critical - Approved to manufacture/process Critical, Primary and non-classified parts.

Primary - Approved to manufacture/process Primary and non-classified parts.

Subcontracted Processes.

- For QPS 100 or QPS 102 product, any processor providing a service/process to a BPS specification is identified within the BHT Approved Processor Listing, QPS 101, and the processor is a BHT approved controlled item source. Additionally, the subcontracted special processor shall be listed in LORD specification MP-APS-001, "Approved Process Sources" for the process to be performed. Classified part approval is indicated in MP-APS-001 by the symbol {CP}.
- For QPS 100 product, any processor providing a service/process to a specification other than a BPS, such as MIL-SPECS or industry processing specifications, involving a "Significant" or "Critical" characteristic shall require the source to be BHT approved controlled item source. Additionally, the subcontracted special processor shall be listed in LORD specification MP-APS-001, "Approved Process Sources" for the process to be performed. Classified part approval is indicated in MP-APS-001 by the symbol {CP}.
- For QPS 102 product, any processor providing a service/process to a specification other than a BPS, such as MIL-SPECS or industry processing specifications, involving a "Significant" or "Critical" characteristic shall require the source to be LORD classified item source and be listed in LORD specification MP-APS-001, "Approved Process Sources" for the process to be performed. Classified part approval is indicated in MP-APS-001 by the symbol {CP}.
- The processor shall have a quality management system shall be in compliance to the requirements of AS9003. Accreditation to AS9100 or Nadcap AC7004 may be used to represent compliance with AS9003.
- Contact your Procurement Agent (Erie & Dayton) if you cannot locate a special process source approved by LORD or Bell Helicopter.

Inspection Check Sheet. You shall prepare and use an Inspection Check Sheet to document the inspections performed on the part. The Inspection Check Sheet shall provide a listing of all drawing attributes (including notes), quantity of parts in the lot and serial numbers of the parts in lot (if applicable). For each attribute listed on the Inspection Check Sheet, the quantity of parts inspected, inspection level (i.e., 100% or specific sampling plan), method of inspection, quantity accepted, quantity rejected and inspection stamp shall be listed/documented. Actual recording of dimensions (by serial number) is not required unless specifically required by the LORD or Bell engineering drawing. Significant "<V>" or Critical "<C>" characteristics require 100% inspection and shall be annotated by the applicable symbol. The Inspection Check Sheet shall have the part classification listed on each page. All measurement and test equipment used to inspect classified parts shall be discriminate to within ten percent (10%) of the total tolerance spread for the feature being inspected. For total tolerance spreads of less than .001 inch, measurement equipment is discriminate to twenty percent (20%) of the spread. Equipment less discriminate shall only be used with the specific approval of LORD Quality.

**059 Bell QPS 100 Marking Required.** Parts and assemblies shall be identified and serialized as specified by the BHT engineering drawing. Per Bell Helicopter specifications QPS 100 and BPS 4050, parts are to be identified with the Bell part number, physical change, calendar date of manufacture (MM/DD/YYYY) and final inspection acceptance stamp. The date of manufacture is to be the date of final acceptance and is optional for serialized parts. Rubber stamp with marking ink is acceptable for additional identification not specified on the Bell drawing.

**061 Bell Helicopter Standard Hardware:** Parts to be manufactured to the latest revision of the Bell Standard (as posted on the Bell Secure Website), however parts may be provided to a previous revision unless otherwise indicated on the Bell Standard. Contact the LORD Sourcing representative to obtain the latest revision to the Bell Standard if you do not have access to the Bell Secure Website. Supplier Certificate of Conformance to indicate the actual manufacturer of the parts and revision level of parts shipped. LORD Standard Quality Clauses C, D, E, H, K, and O do not apply to this purchase order.

- 062 For Bell Helicopter End Use:** Parts are for Bell Helicopter. This purchase order is for products or services intended for Bell Helicopter end use.
- a) For all industry specifications, the supplier/processor shall comply with the latest released revision of the applicable specification requirements. If the specification is cancelled/obsoleted/superseded by another industry specification, migration to the replacement specification is not permissible without authorization from LORD Corporation. A Supplier Request (SR), per general clause P, available via the Supplier Workplace link found at [www.LORD.com/suppliers](http://www.LORD.com/suppliers) shall be submitted to obtain authorization. Suppliers/processors are permitted to process and certify to the released revision of the specification or the revision(s) listed in the LORD Supplier Specification indexes located in the LORD Secure FTP.
- b) Suppliers utilizing test reports to verify conformance of raw material to applicable specification requirements shall periodically validate the reports through independent testing. This requirement is not required for parts made from forgings, castings and/or extrusions that have unique part numbers (i.e. LORD or customer part number). Results to be maintained on file per the record retention requirements specified for the part number.
- 069 Certifications - Maintain at Supplier:** When certification clauses are specified on the purchase order, certifications are to be submitted with the First Article Inspection (FAI) report only. After FAI approval, and unless otherwise specified, you shall maintain all applicable certifications for subsequent shipments at your facility for the entire record retention period. Certifications shall be maintained so that they can be retrieved and submitted to LORD within the time frame requested.
- 070 Certification Req'd - NDT:** Submit certification with each shipment unless clause 069 is stated on the purchase order and applies per the instructions listed in clause 069. Use LORD Form LWI-0774f1 Process Cert Template or your equivalent certification. If radiography is required, the radiographs shall be furnished with each shipment unless supplier personnel are certified by LORD as Radiographic Interpreters. For FPI, the use of a higher sensitivity level than that required by the drawing is acceptable except that sensitivity level 4 shall not be used if clause 402 is specified on the purchase order. Where 200% magnetic particle inspection or penetrant inspection is required by the engineering drawing, two different inspectors are to each perform the process and evaluation. The two-person inspection shall be clearly indicated on the submitted certification. Unless otherwise specified by the engineering drawing, for 200% inspection an acceptance symbol is to be marked on the part for each 100% inspection by the method and in the location specified by the drawing. For classified parts (i.e., Flight Safety, Critical, Primary, Vital, or Critical Safety Item), the applicable part classification shall be indicated on each page of the certification.
- 071 Approval Req'd – NDT Technique:** You shall submit your part-specific NDT technique sheet to LORD for approval, prior to testing. The technique sheet is to be electronically submitted with a Supplier Request (SR), per general clause P. You shall not make any changes to the technique after LORD approval has been granted without the prior written approval of LORD Quality. Evidence of personnel qualification shall be available upon request when such qualification is a requirement.
- 080 Visual Inspection:** Visual inspection of parts shall be performed in accordance with LORD technical specification PRC-T-0010 "Requirements for Visual Inspection of Aerospace Products". PRC-T-0010 is available at <http://www.lord.com/our-company/suppliers/key-documents>.

**090 Certification Req'd – Certificate of Conformance (C of C):**

Submit certification with each shipment unless clause 069 is specified on the purchase order and 069 can be applied per the instructions as stated in 069. For classified parts (i.e., Flight Safety, Critical, Primary, Vital, or Critical Safety Item), the applicable part classification shall be indicated on each page of the certification.

- a) Metallic and Plastic Materials: Requires submission of Certificate of Conformance (C of C) to the part number specified on the LORD PO. Use LORD Form LWI-0774f1 System Checklist as the C of C.
- b) Chemicals and materials other than metallic and plastic: Requires submission of Certificate of Conformance (C of C) to the LORD purchase order (PO). LORD Form LWI-0774f1 may be used to provide the information listed below; however, other formats are acceptable for certification of conformance. Compliance with Clause 140 b) in lieu of clause 90 b) is acceptable. Any combination of C of C or shipping document shall include the following:
  - LORD Purchase Order (PO) number
  - Name/address of facility that manufactured the material, or performed the process or test
  - Quantity shipped
  - Date shipped
  - Name and/or title of authorized representative from the company that manufactured the material, or performed the process or test. Electronic signatures are acceptable.
  - Unique traceability number (batch number).
  - Statement certifying that articles covered by the certification are in compliance.
  - Expiration date, manufacturing/production date, or recommended use by date and any special storage conditions other than room temperature shall be noted on the material packaging/containers, packing list, or certification.

**100 Certification Req'd – Plating:** Submit certification with each shipment unless clause 069 is specified on the purchase order and 069 can be applied per the instructions as stated in 069. For classified parts (i.e., Flight Safety, Critical, Primary, Vital, or Critical Safety Item), the applicable part classification shall be indicated on each page of the certification. Use LORD Form LWI-0774f1 Process Cert Template or your equivalent certification.

**101 Certification Req'd – Heat Treat:** Submit certification with each shipment unless clause 069 is specified on the purchase order and 069 can be applied per the instructions as stated in 069. Certificate shall include mechanical properties. For classified parts (i.e., Flight Safety, Critical, Primary, Vital, or Critical Safety Item), the applicable part classification shall be indicated on each page of the certification. Use LORD Form LWI-0774f1 Process Cert Template or your equivalent certification document.

**102 Certified Test Report – Hardness Testing:** Submit certification with each shipment unless clause 069 is specified on the purchase order and 069 can be applied per the instructions as stated in 069. The test shall be performed and reported using only the hardness scale specified on the drawing. The test report shall include the hardness test specification, high and low hardness values, and sample size. If the part hardness is designated by the drawing as a Significant "<V>" or Critical "<C>" characteristic, documentation of the actual hardness reading for each part is required on the test report. If no hardness test specification is listed on the engineering drawing, the hardness testing is to be performed per ASTM E10, ASTM E18 or ASTM E92 as applicable. For classified parts (i.e., Flight Safety, Critical, Primary, Vital, or Critical Safety Item), the applicable part classification shall be indicated on each page of the certification. Use LORD Form LWI-0774f1 Process Cert Template or your equivalent document.

**105 Certification Req'd – Chemical Process:** Submit certification with each shipment unless clause 069 is specified on the purchase order and 069 can be applied per the instructions as stated in 069. For classified parts (i.e., Flight Safety, Critical, Primary, Vital, or Critical Safety Item), the applicable part classification shall be indicated on each page of the certification. Use LORD Form LWI-0774f1 Process Cert Template or your equivalent certification document.

**106 Certification Req'd – Anodize:** Submit certification with each shipment unless clause 069 is specified on the purchase order and 069 can be applied per the instructions as stated in 069. For classified parts (i.e., Flight Safety, Critical, Primary, Vital, or Critical Safety Item), the applicable part classification shall be indicated on each page of the certification. Use LORD Form LWI-0774f1 Process Cert Template or your equivalent certification document.

- 107 Certification Req'd – Shot Peen:** Submit certification with each shipment unless clause 069 is specified on the purchase order and 069 can be applied per the instructions as stated in 069. Shot peen almen strips are required to be maintained at the shot peen supplier's facility and do not need sent to LORD with the certification and/or parts. For classified parts (i.e., Flight Safety, Critical, Primary, Vital, or Critical Safety Item), the applicable part classification shall be indicated on each page of the certification. Use LORD Form LWI-0774f1 Process Cert Template or your equivalent certification document.
- 108 Certification Req'd – Painting/Coating:** Submit certification with each shipment unless clause 069 is specified on the purchase order and 069 can be applied per the instructions as stated in 069. For classified parts (i.e., Flight Safety, Critical, Primary, Vital, or Critical Safety Item), the applicable part classification shall be indicated on each page of the certification. Use LORD Form LWI-0774f1 Process Cert Template or your equivalent certification document.
- 109 Certification Req'd – Welding:** Submit certification with each shipment unless clause 069 is specified on the purchase order and 069 can be applied per the instructions as stated in 069. For classified parts (i.e., Flight Safety, Critical, Primary, Vital, or Critical Safety Item), the applicable part classification shall be indicated on each page of the certification. Use LORD Form LWI-0774f1 Process Cert Template or your equivalent certification document.
- 111 Certification Req'd – Other:** Submit certification with each shipment unless clause 069 is specified on the purchase order and 069 can be applied per the instructions as stated in 069. For classified parts (i.e., Flight Safety, Critical, Primary, Vital, or Critical Safety Item), the applicable part classification shall be indicated on each page of the certification. Use LORD Form LWI-0774f1 Process Cert Template or your equivalent certification document.
- 112 Certification Req'd - UL(Underwriters Laboratory):** Submit certification with each shipment unless clause 069 is specified on the purchase order and 069 can be applied per the instructions as stated in 069. For classified parts (i.e., Flight Safety, Critical, Primary, Vital, or Critical Safety Item), the applicable part classification shall be indicated on each page of the certification. Use LORD Form LWI-0774f1 Process Cert Template or your equivalent certification document.
- 120 Certified Test Report – Chem/Mech Prop:** Submit certification with each shipment unless clause 069 is specified on the purchase order and 069 can be applied per the instructions as stated in 069. Include actual results of all chemical analyses, mechanical property tests, and mechanical testing, as required by the applicable specification for each heat or lot of material.
- Limit certifications for chemical properties are acceptable for aluminum only.
  - Certification(s) shall state the starting size of the material when the raw material size is specified on the drawing.
  - You shall submit test reports from the original producer of the material, unless re-melting or re-rolling occurred, in which case you shall submit test reports from the producer of the re-melted or re-rolled material. If the material receives subsequent processing (i.e. heat treat, etc.), you shall also submit test reports for the material in its final condition. A chain of custody (traceability) of material, including original certification from the last re-melt or re-roll supplier, to each time the material was sold, up to delivery to LORD shall be maintained and copies of the certifications shall be provided with shipment to LORD.
  - For Raw Material supplied by LORD (i.e. forgings and castings), supplier need only provide a copy of the LORD shipping document for the material provided, including reference to any heat code or serial numbers. Copies of the LORD certifications and receiver are not required to be supplied with the shipment.
  - If more than one lot of raw material is packaged together, raw material suppliers are required to physically segregate and identify raw material lots and to specify quantities of each lot of raw material on the certified test reports.
- 122 Yield Strength** - For materials where the Yield Strength is specified to be determined by the "Offset" method, a stress-strain (load/elongation) recorder and curve is required. The Yield Strength shall be determined as defined by material specification and in ASTM E8, A370, B557 or F606 as applicable. The Supplier shall include a statement on his certification to the effect that Yield Strength was determined using a stress-strain curve.

**140 Certified Test Report - NonMetallic Mat'l:**

Submit certification with each shipment unless clause 069 is specified on the purchase order. For classified parts (i.e., Flight Safety, Critical, Primary, Vital, or Critical Safety Item), the applicable part classification shall be indicated on each page of the certification.

- a) **Metallic and Plastic Materials:** Requires submission of Certificate of Conformance (C of C) to the part number specified on the LORD PO. Use LORD Form LWI-0774f1 System Checklist as the C of C. Requires submission of a Certified Test Report stating the actual results of all testing required by the material specification as stated on the drawing or in the specification.
- b) **Chemicals and materials other than metallic and plastic:** Requires submission of a Certified Test Report stating the actual results of all testing required by the material specification as stated on the LORD purchase order (PO). LORD Form LWI-0774f1 may be used to provide the information listed below; however, other formats are acceptable for certification of conformance. Any combination of C of C or shipping document shall include the following:
  - LORD Purchase Order (PO) number
  - Name/address of facility that manufactured the material, or performed the process or test
  - Actual test results and specification limits
  - Quantity shipped
  - Date shipped
  - Name and/or title of authorized representative from the company that manufactured the material, or performed the process or test. Electronic signatures are acceptable.
  - Unique traceability number (batch number).
  - Statement certifying that articles covered by the certification are in compliance.
  - Expiration date, manufacturing/production date, or recommended use by date and any special storage conditions other than room temperature shall be noted on the material packaging/containers, packing list, or certification.

**171 Supplier Planning Approval Req'd:** Frozen planning shall be prepared in accordance with LORD WI-05-02-02 and the requirements of the applicable LORD engineering drawing. All planning shall be submitted in English.

Frozen planning shall be submitted and approved prior to the start of manufacturing or per the schedule agreed upon between LORD and the Supplier for both original and revised planning. All planning submittals require submission of a Supplier Request (SR), per general clause P. The SR shall have Frozen Planning chosen as the reason for request and the SR Item Description block completed with a statement as to why the planning is being submitted for approval. If the submission is for a proposed revision to an existing approved frozen plan, the reason shall include a requested effectivity date and justification for the revision. LORD will review the proposed revision and provide a response indicating if the change is denied or if LORD will allow the revised frozen planning package to be submitted. No changes to the frozen planning or manufacturing process shall be implemented without LORD approval to proceed.

The supplier shall upload the actual planning package to the LORD SFT (Secure File Transfer) Site at <https://sft.lord.com> and specify the recipient as DL-Frozen\_Planning@lord.com, unless directed otherwise.

Any subsequent product shipments will require the frozen planning revision stated on the Certification System Checklist form LWI-0074F1. The Part Number, Frozen Planning Number (if different than part number) and Planning Revision (Letter/Number or Date) shall be identified (Example: Part Number: Y-35027-1-1, Company ABC Planning Number: FP 83, Planning Revision B, 3/31/00).

**191 Approval Req'd – Control Plan:** You shall submit your control plan to LORD for review and approval prior to starting production. The Control Plan is to be electronically submitted to the quality engineer who reviewed the requirements of the Supplier Quality Plan (Form 0400-01) with you. You shall not make any changes to the control plan after LORD approval has been granted without the prior written approval of LORD Quality. The control plan shall identify in chronological order, each step in your manufacturing process, including the items checked, and the method, frequency, acceptance standard, responsibility and documentation for each check. The control plan should also include a process flow chart keyed to the control plan.

- 192 Approval Req'd – PFMEA:** You shall submit your Process Failure Mode and Effect Analysis to LORD for review and approval prior to starting production. The PFMEA is to be electronically submitted to the quality engineer who reviewed the requirements of the Supplier Quality Plan (Form 0400-01) with you. The PFMEA shall identify potential failure modes and address their associated causes. It shall take into account all manufacturing operations, including individual components and assemblies. The PFMEA should also include a process flow chart keyed to the PFMEA.
- 193 Submit PPAP:** You shall submit a PPAP (Production Part Approval Process) in accordance with the AIAG PPAP Manual, or as otherwise specified by LORD, prior to shipment of production parts. Contact your LORD Sourcing representative for submittal requirements and/or required submission level.
- 194 Quality System Registration Req'd:** You shall maintain third party registration of your quality system to ISO 9001 certification with the eventual goal of TS16949 certification by an accredited registrar, or meet LORD's eligibility requirements for Specially Designated Small Suppliers.
- 195 First Article per AS/EN/SJAC 9102 Req'd:** You shall submit a first article inspection (FAI) report and any subsequent update/partial inspection reports in accordance with the requirements of AS/EN/SJAC 9102 prior to or with the first shipment of parts. All forms of the AS/EN/SJAC 9102 are required to be submitted. The LORD Form 3 shall be used in lieu of the Form 3 in AS/EN/SJAC 9102. A copy of the LORD Form 3 is available at <http://www.lord.com/our-company/suppliers/key-documents>. Unless otherwise approved by LORD Quality, all inspection methods must be in accordance with LORD specification TS-026 "Standard Measuring Methods" and stated for each characteristic on the form. Units of measure are those that are specified on the LORD engineering drawing. Record the variable measurement of all characteristics in the "Actual Measure" block (or equivalent) of the row corresponding to the item number noted on the drawing. All dimensional, hardness, and test requirements must be reported with a measurement value.
- 230 Approval Req'd – Test Plan:** You shall submit your functional test and acceptance plan to LORD for review and approval prior to starting testing. The test plan is to be electronically submitted with a Supplier Request (SR), per general clause P. You shall not make any changes to the test plan after LORD approval has been granted without the prior written approval of LORD Quality. Evidence of personnel qualification shall be available upon request when such qualification is a requirement (e.g., NDT).
- 241 Approval Req'd – Welding Procedure:** You shall submit your welding procedure to LORD for review and approval prior to start of any welding. The welding procedure is to be electronically submitted with a Supplier Request (SR), per general clause P. You shall not make any changes to the procedure after LORD approval has been granted without the prior written approval of LORD Quality. Welding shall be performed by certified welders. Evidence of personnel qualification shall be available upon request.
- 250 Certified Test Report – Performance Test:** Submit certification with each shipment unless clause 069 is specified on the purchase order and 069 can be applied per the instructions as stated in 069. Include results for all testing required by the drawing or specification. Report actual values of quantitative test results. Test reports shall be traceable to the articles submitted.
- 252 Certified Test Report – Performance Test:** Submit test report with each shipment. Include results for all testing required by the drawing or specification. Report actual values of quantitative test results. Test reports shall be traceable to the articles submitted. Note: Submittal of test data required even though clause 069 may be invoked.
- 260 Age Control – Cure Date:** You shall maintain cure date control for elastomeric products in accordance with the following (unless otherwise specified by the LORD engineering drawing):
- All articles shall be marked with the cure date in the format of "MM/YYYY".
  - Marking shall be ink stamp, legible, and located on a surface not detrimental to the operation of the part. If necessary, contact LORD supplier quality for further clarification for the appropriate marking surface.
  - Parts too small to be marked with 1/16" characters may be bagged and a tag or label (marked with the cure date) inserted into the bag.
  - Assemblies which contain elastomeric parts shall have the cure date of the oldest part marked on the assembly.
  - No articles shipped to LORD shall have a cure date over 1 year old at the time of receipt.

- 261 Age Control – Cure Date:** You shall maintain cure date control for elastomeric products in accordance with the following (unless otherwise specified by the LORD engineering drawing):
- All articles shall be marked with the cure date in the format of "MM/YYYY".
  - Marking shall be ink stamp, legible, and located on a surface not detrimental to the operation of the part. If necessary, contact LORD supplier quality for further clarification for the appropriate marking surface.
  - Parts too small to be marked with 1/16" characters may be bagged and a tag or label (marked with the cure date) inserted into the bag.
  - Assemblies which contain elastomeric parts shall have the cure date of the oldest part marked on the assembly.
  - Product shall have at least 5/6 of the shelf life remaining at time of receipt.
- 349 Record Retention - 15 Years:** You shall retain all production and quality-related records for a period of 15 years from date of shipment.
- 350 Record Retention - 20 Years:** You shall retain all production and quality-related records for a period of 20 years from date of shipment.
- 351 Record Retention - 30 Years:** You shall retain all production and quality-related records for a period of 30 years from date of shipment.
- 352 Record Retention - 25 Years:** You shall retain all production and quality-related records for a period of 25 years from date of shipment.
- 354 Record Retention - 40 Years:** You shall retain all production and quality-related records for a period of 40 years from date of shipment.
- 355 Record Retention - 50 Years:** You shall retain all production and quality-related records for a period of 50 years from date of shipment.
- 400 Boeing PSD/SSD:** Boeing PSD or SSD documents may be applicable to this part number. You shall review the PSD: Part Number cross reference list for the applicable Boeing specification and part number to determine if PSD or SSD documents apply. If the PSD or SSD applies to a process which requires a process certification, the PSD or SSD shall also be referenced on the certification. The applicable PSD/SSD for each Boeing specification is available at [www.LORD.com/suppliers](http://www.LORD.com/suppliers).
- 401 For Pratt & Whitney End Use:** Parts are for Pratt & Whitney (Canada or US). This purchase order is for products or services intended for Pratt & Whitney, a United Technologies Company (UTC), end use. Compliance with UTC Specification ASQR-01 is required, except the requirements of paragraph 1.2.1 shall apply to LORD Corporation only. Inspection requirements (sampling) are per UTC Specification ASQR-20.1, as a minimum, and do not override any drawing requirements (i.e. a drawing note that requires 100% inspection).
- 402 For Sikorsky End Use:** Parts are for Sikorsky Aircraft. This purchase order is for products or services intended for Sikorsky Aircraft, a United Technologies Company (UTC), end use. Compliance with UTC specification ASQR-01 is required with the following exceptions:
- a) Paragraph 1.2.1 shall apply to LORD Corporation only.
  - b) ASQR-20.1 inspection requirements (sampling) are only applicable when specified on the LORD drawing and do not override any specific or unique LORD drawing requirements (i.e. a drawing note that requires 100% inspection).
  - c) If SS7777 appears in the process table, it shall apply to all material specifications and process specifications listed under the Process Spec column of the process table. In the cases where a LORD specification (i.e. "PRC", "PRD", or any other LORD internal document) is listed under the Process Spec column of the process table, then SS7777 is not invoked for that specific process.
- 403 For Hamilton Sundstrand End Use:** Parts are for Hamilton Sundstrand. This purchase order is for products or services intended for Hamilton Sundstrand, a United Technologies Company (UTC), end use. Compliance with UTC Specification ASQR-01 is required, except the requirements of paragraph 1.2.1 shall apply to LORD Corporation only. Inspection requirements (sampling) are per UTC Specification ASQR-20.1, as a minimum, and do not override any drawing requirements (i.e. a drawing note that requires 100% inspection).
- 404 Mfr/Subco Flight Safety – Boeing Mesa:** This purchase order is for a Flight Safety Part. Boeing Helicopter Mesa, AZ Flight Safety Parts Program Specification EPB17-119 applies. The complete manufacture of this part or a manufacturing operation involving a critical characteristic can only be performed by (or subcontracted to) a Boeing Helicopter Mesa, AZ approved supplier.

**405 Hamilton Sundstrand Flight Safety Part:** This purchase order is for a product or service that involves a Flight Safety Part intended for Hamilton Sundstrand end use. Compliance with UTC Specification ASQR-09.1 and Hamilton Sundstrand Specification HS15000 is made a contractual requirement of this purchase order. All supplier documents, including Packing List, Certificate of Conformity, etc., shall contain the following text: "FLIGHT SAFETY PART. HANDLE AND PACKAGE WITH CARE."

**406 Counterfeit Work for Lockheed Martin:**

- a) Seller shall establish and maintain a Counterfeit Parts / Material Prevention and Control Plan using AS-5553 (reference elements of Section 4) and/or AS6174 (reference elements of Section 3) to ensure that Counterfeit Work is not delivered to the LORD.
- b) For purposes of this clause, Work consists of those commodities delivered under this Contract that are the lowest level of separately identifiable items (e.g., articles, components, standard hardware, goods, raw materials, and assemblies). "Counterfeit Work" means Work that is, or contains, items misrepresented as having been designed and/or produced under an approved system or other acceptable method. The term also includes approved Work that has reached a design life limit or has been damaged beyond possible repair, but is altered and misrepresented as acceptable.
- c) SELLER shall only purchase products to be delivered or incorporated as Work to LORD directly from the Original Component Manufacturer (OCM)/Original Equipment Manufacturer (OEM), OCM/OEM authorized distributor chain, Aftermarket Manufacturer, or Authorized Reseller. These products shall have verification that Work is traceable to OCM/OEM, OCM/OEM authorized distributor chain, Aftermarket Manufacturer, or Authorized Reseller that identifies the name and location of all the supply chain intermediaries from the part manufacturer to the direct source of the product for the SELLER. Work can only be acquired from independent distributors or brokers in cases of diminishing material supply (DMS) or obsolescence and shall be subjected to a screening process appropriate to the commodity in accordance with the Counterfeit Parts / Material Prevention and Control Plan. If traceability is not attainable, written notice shall be provided to LORD prior to the delivery with records of evidentiary tests and inspections performed and conformance of the product to specified acceptance criteria that ensures verification activities taken to assure authenticity. Written notice is not required for raw material and standard hardware purchased from independent distributors or brokers, but products shall be able to provide commodity level traceability to the Original Manufacturer.
- d) SELLER shall immediately notify LORD with the pertinent facts if SELLER becomes aware or suspects that it has furnished Counterfeit Work. When requested by LORD, SELLER shall provide the supply chain traceability to an Original Manufacturer or authorized distributor chain that identifies the name and location of all the supply chain intermediaries from the part manufacturer to the direct source of the product for the SELLER.
- e) SELLER shall include paragraphs (a) through (d) of this clause or equivalent provisions in lower tier subcontracts for the delivery of items that will be included in or furnished as Work to LORD.
- f) SELLER agrees and shall ensure that Counterfeit Work is not delivered to LORD.

**407 Sikorsky Flight Safety Part:** This purchase order is for a product or service that involves a Flight Safety Part intended for Sikorsky Aircraft end use. Compliance with UTC Specification ASQR-09.1 and Sikorsky Specification SS9211 is a contractual requirement of this purchase order. Supplier shall provide certification to the Sikorsky SS9211 certification, including the current revision of the specification.

**408 Boeing Supplied Tooling:** This purchase order is for a product that uses Boeing supplied tooling. Compliance with Boeing specification D950-11059-1 applies and compliance with specification D950-11059-1 is a contractual requirement of this purchase order.

**410 Restriction on Acquisition of Certain Articles Containing Specialty Metals - DFAR 252.225-7009 (Oct 2014)**

(a) *Definitions.* As used in this clause—

"Alloy" means a metal consisting of a mixture of a basic metallic element and one or more metallic, or non-metallic, alloying elements. (i) For alloys named by a single metallic element (e.g., titanium alloy), it means that the alloy contains 50 percent or more of the named metal (by mass). (ii) If two metals are specified in the name (e.g., nickel-iron alloy), those metals are the two predominant elements in the alloy, and together they constitute 50 percent or more of the alloy (by mass).

"Assembly" means an item forming a portion of a system or subsystem that—

- (i) Can be provisioned and replaced as an entity; and
- (ii) Incorporates multiple, replaceable parts.

"Commercial derivative military article" means an item acquired by the Department of Defense that is or will be produced using the same production facilities, a common supply chain, and the same or similar production processes that are used for the production of articles predominantly used by the general public or by nongovernmental entities for purposes other than governmental purposes.

"Commercially available off-the-shelf item"—

- (i) Means any item of supply that is—

(A) A commercial item (as defined in paragraph (1) of the definition of "commercial item" in section 2.101 of the Federal Acquisition Regulation);(B) Sold in substantial quantities in the commercial marketplace; and (C) Offered to the Government, under this contract or a subcontract at any tier, without modification, in the same form in which it is sold in the commercial marketplace; and

- (ii) Does not include bulk cargo, as defined in 46 U.S.C. 40102(4), such as agricultural products and petroleum products.

"Component" means any item supplied to the Government as part of an end item or of another component.

"Electronic component" means an item that operates by controlling the flow of electrons or other electrically charged particles in circuits, using interconnections of electrical devices such as resistors, inductors, capacitors, diodes, switches, transistors, or integrated circuits. The term does not include structural or mechanical parts of an assembly containing an electronic component, and does not include any high performance magnets that may be used in the electronic component.

"End item" means the final production product when assembled or completed and ready for delivery under a line item of this contract.

"High performance magnet" means a permanent magnet that obtains a majority of its magnetic properties from rare earth metals (such as samarium).

"Produce" means—

- (i) Atomization; (ii) Sputtering; or (iii) Final consolidation of non-melt derived metal powders.

"Qualifying country" means any country listed in the definition of "Qualifying country" at 225.003 of the Defense Federal Acquisition Regulation Supplement (DFARS).

"Required form" means in the form of mill product, such as bar, billet, wire, slab, plate, or sheet, and in the grade appropriate for the production of—

- (i) A finished end item to be delivered to the Government under this contract; or
- (ii) A finished component assembled into an end item to be delivered to the Government under this contract.

"Specialty metal" means—

- (i) Steel—
  - (A) With a maximum alloy content exceeding one or more of the following limits: manganese, 1.65 percent; silicon, 0.60 percent; or copper, 0.60 percent; or
  - (B) Containing more than 0.25 percent of any of the following elements: aluminum, chromium, cobalt, molybdenum, nickel, niobium (columbium), titanium, tungsten, or vanadium;
- (ii) Metal alloys consisting of—

- (A) Nickel or iron-nickel alloys that contain a total of alloying metals other than nickel and iron in excess of 10 percent; or
  - (B) Cobalt alloys that contain a total of alloying metals other than cobalt and iron in excess of 10 percent;
  - (iii) Titanium and titanium alloys; or
  - (iv) Zirconium and zirconium alloys.
- "Steel" means an iron alloy that includes between .02 and 2 percent carbon and may include other elements.
- "Subsystem" means a functional grouping of items that combine to perform a major function within an end item, such as electrical power, attitude control, and propulsion.
- (b) *Restriction.* Except as provided in paragraph (c) of this clause, any specialty metals incorporated in items delivered under this contract shall be melted or produced in the United States, its outlying areas, or a qualifying country.
- (c) *Exceptions.* The restriction in paragraph (b) of this clause does not apply to—
- (1) Electronic components.
  - (2)(i) Commercially available off-the-shelf (COTS) items, other than—
    - (A) Specialty metal mill products, such as bar, billet, slab, wire, plate, or sheet, that have not been incorporated into COTS end items, subsystems, assemblies, or components;
    - (B) Forgings or castings of specialty metals, unless the forgings or castings are incorporated into COTS end items, subsystems, or assemblies;
    - (C) Commercially available high performance magnets that contain specialty metal, unless such high performance magnets are incorporated into COTS end items or subsystems; and
    - (D) COTS fasteners, unless—
      - (1) The fasteners are incorporated into COTS end items, subsystems, assemblies, or components; or
      - (2) The fasteners qualify for the commercial item exception in paragraph (c)(3) of this clause.
  - (ii) A COTS item is considered to be "without modification" if it is not modified prior to contractual acceptance by the next higher tier in the supply chain.
    - (A) Specialty metals in a COTS item that was accepted without modification by the next higher tier are excepted from the restriction in paragraph (b) of this clause, and remain excepted, even if a piece of the COTS item subsequently is removed (e.g., the end is removed from a COTS screw or an extra hole is drilled in a COTS bracket).
    - (B) Specialty metals that were not contained in a COTS item upon acceptance, but are added to the COTS item after acceptance, are subject to the restriction in paragraph (b) of this clause (e.g., a special reinforced handle made of specialty metal is added to a COTS item).
    - (C) If two or more COTS items are combined in such a way that the resultant item is not a COTS item, only the specialty metals involved in joining the COTS items together are subject to the restriction in paragraph (b) of this clause (e.g., a COTS aircraft is outfitted with a COTS engine that is not the COTS engine normally provided with the aircraft).
    - (D) For COTS items that are normally sold in the commercial marketplace with various options, items that include such options are also COTS items. However, if a COTS item is offered to the Government with an option that is not normally offered in the commercial marketplace, that option is subject to the restriction in paragraph (b) of this clause (e.g., - An aircraft is normally sold to the public with an option for installation kits. The Department of Defense requests a military-unique kit. The aircraft is still a COTS item, but the military-unique kit is not a COTS item and shall comply with the restriction in paragraph (b) of this clause unless another exception applies).
- (3) Fasteners that are commercial items, if the manufacturer of the fasteners certifies it will purchase, during the relevant calendar year, an amount of domestically melted or produced specialty metal, in the required form, for use in the production of fasteners for sale to the Department of Defense and other customers, that is not less than 50 percent of the total amount of the specialty metal that it will purchase to carry out the production of such fasteners for all customers.
- (4) Items manufactured in a qualifying country.
- (5) Specialty metals for which the Government has determined in accordance with DFARS 225.7003-3 that specialty metal melted or produced in the United States, its outlying areas, or a qualifying country cannot be acquired as and when needed in—
- (i) A satisfactory quality;
  - (ii) A sufficient quantity; and
  - (iii) The required form.
- (6) End items containing a minimal amount of otherwise noncompliant specialty metals. (Not applicable).
- (d) *Compliance for commercial derivative military articles.* (Not applicable).

(e) Subcontracts.

(1) The Contractor shall insert this clause, **as written herein**, in subcontracts for items (including commercial items) that contain specialty metals.

(2) When inserting this clause in subcontracts, the Contractor shall not further alter the clause other than to identify the appropriate parties.

**Qualifying Country - DFAR 225.003 (10) (December 2012)**

"Qualifying country" means a country with a reciprocal defense procurement memorandum of understanding or international agreement with the United States in which both countries agree to remove barriers to purchases of supplies produced in the other country or services performed by sources of the other country, and the memorandum of agreement complies, where applicable, with the requirements of section 36 of the Arms Export Control Act (22 U.S.C. 2776) and with 10 U.S.C. 2457. Accordingly, the following are qualifying countries:

Australia  
Austria  
Belgium  
Canada  
Czech Republic  
Denmark  
Egypt  
Finland  
France  
Germany  
Greece  
Israel  
Italy  
Luxembourg  
Netherlands  
Norway  
Poland  
Portugal  
Spain  
Sweden  
Switzerland  
Turkey  
United Kingdom of Great Britain and Northern Ireland.

**411 FAR/DFARS Flow Down:** LORD Corporation FAR / DFARS Flowdown for Commercial Items or LORD Corporation FAR / DFARS Flowdown for Non-Commercial Items apply to this order. See [www.LORD.com/suppliers](http://www.LORD.com/suppliers) for text.

**412 Counterfeit Work for Bell Helicopter:** Supplier shall establish requirements, practices, and methods to mitigate the risk of receiving and providing Bell with counterfeit parts. These requirements shall meet the intent of SAE6174: "Counterfeit Material; Assuring Acquisition of Authentic and Conforming Material" and SAE AS5553 "Counterfeit Electronic Parts; Avoidance, Detection, Mitigation and Disposition." Supplier shall have traceability for non-electrical standard parts (fasteners, nuts, washers, o'rings, etc.) and electronic component parts to the Original Component Manufacturer (OCM), Original Equipment Manufacturer (OEM), Authorized Aftermarket Manufacturer (AAM) or authorized distributor. Certification of product being purchased shall include name and location of all supply chain intermediaries from the original manufacturer to final source providing product.

- 425 BUY AMERICA - US Material Only:** Purchase Order is for parts that are covered by 49 CFR Part 661 and 49 U.S.C. 5323(j), BUY AMERICA REQUIREMENTS\_SURFACE TRANSPORTATION ASSISTANCE ACT OF 1982, AS AMMENDED. As such, all iron, steel and manufactured products used in the parts which are the subject of this Purchase Order shall be produced in the United States. The term "United States" includes the several states, the Commonwealth of Puerto Rico, the District of Columbia, Guam, American Samoa, the Virgin Islands and the Commonwealth of the Northern Mariana Islands. The addition of this clause 425 requires Material certifications (clause 120) to specify country of origin of the material or any country where re-melting occurred.
- 426 Country of Origin:** The Country of Origin shall be stated in English on the Packing List for each line item shipment. The words "Country of Origin" shall be specifically referenced with the name of the country. The packing list shall accompany the parts when shipped to any LORD facility or when parts are drop shipped to a location noted on the purchase order by LORD.
- 427 AS5553 Counterfeit Electronic Parts:** Avoidance, Detection, Mitigation and Disposition: Supplier/Seller shall develop and implement a comprehensive counterfeit parts and assembly prevention control plan to prevent introduction of counterfeit parts and assemblies into items delivered to LORD Corporation. The plan shall comply with requirements of AS5553 Counterfeit Electronic Parts, Avoidance, Detection, Mitigation and Disposition. The program shall include a plan that describes methods to assure component parts and assemblies are procured only from OCM/OEM or a franchised/authorized distributor. The plan shall include a process for assuring integrity of procurements made from sources such as independent distributors, brokers or after market sellers. Incorporation of components or assemblies purchased from a source other than the OCM/OEM or a Franchised/Authorized distributor requires LORD approval. Supplier shall obtain a written deviation via a Supplier Request (SR- reference clause P) prior to shipment. Supplier Request shall be accompanied by a plan to assure product integrity prior to delivery of the product.
- OCM=Original Component Manufacture/OEM = Original Equipment Manufacture** – The supply chain entity who designs and controls the manufacture of an item. The OCM/OEM warrants performance of the item to its published specifications
- Franchised/Authorized Distributor** – A seller that has a contractual relationship with the OCM/OEM to buy, stock, re-package and sell its product lines. A Franchised/Authorized Distributor offers the OCM/OEM's full flow through warranty including failure analysis and corrective action support.
- Independent Distributor/Broker** – Any seller that does not have a contractual relationship with the OCM/OEM to stock and sell its products
- 428 Certification Req'd – REACH:** Submit certification indicating compliance with Regulation (EC) No 1907/2006 - Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) unless clause 069 is specified on the purchase order and 069 can be applied per the instructions as stated in 069. Compliance indicates that all supplied components contain no Substances of Very High Concern (SVHC) in accordance with Regulation (EC) No 1907/2006. If certifying an assembly, all components must be compliant with REACH. REACH applies to ***all*** supplied material, including chemical substances.
- 429 Certification Req'd – RoHS:** Submit certification indicating compliance to Directive 2011/65/EC, Restriction of Hazardous Substances (RoHS), unless clause 069 is specified on the purchase order and 069 can be applied per the instructions as stated in 069. RoHS restricts the use of the following six hazardous materials to the indicated levels: Lead (Pb) <0.1%, Mercury (Hg) <0.1%, Cadmium (Cd) <0.01%, Hexavalent Chromium (Cr VI) <0.1%, Polybrominated Diphenyl Ethers (PBDE) <0.1%. If certifying an assembly, all components shall be compliant with RoHS.
- 430 Materials for Elastomeric Compounds:** Supplier shall maintain an approved source list for any house code raw materials used in LORD compounds. This source list shall be revision controlled and requires LORD approval via an SR prior to making additions or subtractions of approved vendors. A house code raw material shall be identified by MTL-P-XXXX specification where the vendor on the PO is listed as the raw material supplier on the qualified product list for the raw material.

**431 High Strength Fasteners for Hamilton Sundstrand (HS)** : Fastener manufacturers producing externally threaded fasteners with a minimum ultimate tensile strength of 150,000 pounds per square inch or greater shall be AS9100 registered and Hamilton Sundstrand approved. This includes high strength fasteners produced to Hamilton Sundstrand drawings, military, federal and industrial specifications. Approved suppliers are listed in Hamilton Sundstrand's Report #80 under "*Fastener Manufacturers, High Strength*". All special processes and non-destructive testing of Hamilton Sundstrand, military, federal and industrial specifications (externally threaded fasteners) with a minimum ultimate tensile strength of 150,000 pounds per square inch or greater shall be performed by a Hamilton Sundstrand approved supplier (HS Report 80/85).

Revision(06/01/2015)

- AB - Added Conflict Minerals clause AB
- 412 - New counterfeit parts requirement resulting from Bell Helicopter Textron Inc. - Supplier Quality Requirements Manual (SQRM-001 rev -)
- 430 - Added to ensure that supplier maintains an approved source listing for any house code raw materials used in LORD compounds.
- 431- New requirement regarding high strength fasteners resulting from Hamilton Sunstrand - Specification No. HSM17
- 112 - Certification requirement for UL(Underwriters Laboratory).
- AA - expanded the scope of the clause to include non-electrical standard parts.
- T - Added item 6 to address cadmium plated parts without chromate treatment.
- 090 - Revised to clarify the requirements for Certificate of Conformance for chemicals and materials other than metallic and plastics.
- 140 - Revised to clarify Certified Test Report requirements for chemicals and materials other than metallic and plastics.
- 11 - Name Eurocopter replaced with Airbus Helicopters
- 10 - Updated in accordance with latest revision of DFAR 252.225 – 7009 (Oct 2014)

Revision (03/27/14)

- Added Clause 041.

Revision (Dec/03/2013)

- Added the LORD secure site and the LORD Receiving Inspection and Frozen Planning recipients to be used for transmission of documents.
- H - Changed from using TS-026 to state that inspection methods identified on the FAI are the methods to be used by the supplier and LORD for sample and final inspection. Added that changes shall be approved by the re-evaluation and re-signing of the FAI by both the supplier and LORD. Clarified that if a functional gage has been specified and agreed upon as the operating inspection method, actual values are not required. Indicate on the FAI that the functional gage (including gage number) was used for the inspection. Clarified conditions when a first article is required. Added the use of the LWI-0774f1 as a replacement for 460-001 form. Added that certifications are required for delta FAIs with a 069 clause only if the feature for which the delta FAI is being completed is affected by a certification (i.e. special process or material change).
- L - Added that approval via an SR is always required for each individual part number by supplier, regardless of any drawing notes or methods as stated on the LORD quotation. The SR is required for the first time that a specific part number is shipped using the non-conventional machining method.
- O - Clarified minimum sampling plans to state that higher sampling levels than required by the minimum industry specified sampling plans (i.e. ANSI/ASQ Z1.4) or LORD customer requirements may be necessary. Added that inspection methods used shall be, at a minimum, the ones established and approved during APQP and used during the FAI. Clarified that LORD technical standard TS-026 shall be used by the supplier for legacy product in cases where APQP was not performed; however, the following method change note applies. NOTE: Inspection methods identified on the FAI are the methods to be used by the supplier and LORD for sample and final inspection. Changes shall be approved by the re-evaluation and re-signing of the FAI by both the supplier and LORD.

- P - Added that if you are submitting an SR for a nonconforming category (Type I or Type II nonconformance), obtain concurrence to submit the SR from your assigned SQE prior to submittal. Added definitions for FusionOps choices for selecting the submission code.
- T - Added General corrosion requirements to be applied throughout processing and guidelines for protecting parts against damage during manufacturing, in-transit to and from sub-tier processors, and for shipment to LORD. Corrosion protection requirements for packaging and shipping have been clarified and expanded.
- W - Added that all documents submitted shall accurately reflect the manufacturing and inspection processes of the supplier and their sub-tier suppliers. Added that Form 460-001 has been replaced with Form LWI-0774f1 System Checklist. Clarified the application of LWI-0774f1 for clauses 090 and 140. Added that submission of certifications packages needs to be through the LORD secure site.
- 040 - Clarified to not begin work on the parts until the government has communicated to you what requirements they will need to witness.
- 058 - Removed the 200% hardness test requirement. Hardness testing shall be conducted per the requirements of the drawings and specifications. Removed 100% thread inspection requirement. Threads shall be inspected per the drawing/specification requirements and the agreed upon inspection method as established during APQP, or per the guidelines in TS-026 for legacy product. This clause was updated to match the revised Bell requirements.
- 090 - Clarified requirements by type of product since chemical suppliers/distributors receive certifications from the original material manufacturers. Added the use of LWI-0774f1 System Checklist for metallic and plastic materials. Chemicals and materials other than metallic and plastic may use LWI-0774 System Checklist or another form of Certificate of Conformance with the minimum requirements listed in the clause.
- 120 - Added that the certification shall state the starting size of the material when the raw material size is specified on the drawing. For raw material supplied by LORD, a copy of the LORD shipping document for the material provided is required. A C of C per clause 090 is not required.
- 140 - Clarified requirements by type of product since chemical suppliers/distributors receive certifications from the original material manufacturers. Added the use of LWI-0774f1 System Checklist for metallic and plastic materials. Chemicals and materials other than metallic and plastic may use LWI-0774 System Checklist or another form of Certificate of Conformance with the minimum requirements listed in the clause.
- 171 - Clarified frozen planning submission for changes. Added that submission of frozen planning needs to be through the LORD secure site.
- 402 - Clarified application of UTC specification ASQR-01 to state that it shall not override any specific or unique LORD drawing requirements. Clarified application of SS7777 as follows: If SS7777 appears in the process table, it shall apply to all material specifications and process specifications listed under the Process Spec column of the process table. In the cases where a LORD specification (i.e. "PRC", "PRD", or any other LORD internal document) is listed under the Process Spec column of the process table, then SS7777 is not invoked for that specific process.
- 406 - Replaced the clause with the current requirement being flowed down from Lockheed Martin.
- 410 - Updated references to documents, noted non applicable items, and updated the list of Qualifying Countries per DFAR 225.003 (10) (December 2012).
- Deleted Clause 420 because it is a duplicate of information provided on the LORD POs and drawings.
- Added Clause 428 - Certification Req'd - REACH.
- Added Clause 429 - Certification Req'd - RoHS.
- Replaced "must" with "shall" throughout much of the document.
- Replaced 460-001 with LWI-0774f1 throughout the document.
- Replaced LORD contacts throughout the document as necessary to represent the correct point of contact within LORD.
- Made minor editorial changes.

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