



MILITARY AND AEROSPACE DIVISION
General Administrative Procedure (GAP)

Title: DETAILED INSPECTION PLAN REQUIREMENTS
For Department(s): Purchasing, Quality
Document #: GPS-PR-PPOTC-0002
Rev. #: 0
Rev Date: 4/20/06

Revision History

Rev.	Date	Revised By	Change Description
0	4/20/2006	Ed Osciak	Initial Release

Document Reviewed and Approved By:		
Originator:	<u>SIGNATURE ON FILE</u> Ed Osciak	Date: 4/10/06
Quality Assurance Manager:	<u>SIGNATURE ON FILE</u> Ed Osciak	Date: 4/10/06
General Manager:	<u>SIGNATURE ON FILE</u> Estro Vitantonio	Date: 4/20/06



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Purpose

The purpose of this document is to define an inspection plan that is required for all Pulse Military and Aerospace Division suppliers that identifies and verifies that all engineering drawing characteristics and notes are inspected and documented.

Scope

Suppliers shall identify, in writing, the methodology for controlling and recording inspection of all design characteristics.

Detailed Inspection Plan

A detailed inspection plan (DIP) shall be documented to record the inspection plan for a part to ensure that all engineering drawing characteristics and notes are subject to inspection or control by appropriate methods. DIPs are documented:

1. On a form that meets the intent of the sample / supplied Pulse DIP / FAIR form.
2. To the same measured system as the drawing (standard-to-standard, metric-to-metric).
3. With ALL dimensional characteristics and all engineering drawings being accurately accounted for.

The DIP may be used as a record, or may reference supporting records such as routings, receiving or in-process inspection sheets, final test/inspection records, or statistical data. The DIP or supporting records shall have measurements or results for all Pulse drawing characteristics. Results shall be recorded as actual or ranges of data if taken with a variable gage, or attribute if taken with an attribute gage (Attribute gaging may be used when variable gaging is not feasible).

The DIP shall define the manufacturing operation at which the characteristic is inspected and the inspection method used, including the type of tooling/gaging instrumentation used. Characteristics that are subject to change after in-process acceptance (e.g., growth, shrinkage, and/or distortion) must be re-inspected prior to final acceptance.

DIPs for products which contain characteristics that are "tool controlled" (castings, molded parts, etc...) may contain less than 100% of the Pulse drawing characteristics provided the following conditions are met:

1. A number of characteristics shall be selected as "control" dimensions. Control dimensions shall be of quantity and type such that inspection of these characteristics will give the supplier enough information (based on tool construction, assembly, process variation, and drawing tolerance) to assure that all other drawing characteristics are in conformance.
2. The supplier shall submit a plan which clearly documents for all design characteristics the proposed control dimension.



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- 3. The supplier shall obtain written approval from a Pulse Quality representative (QE or Quality Manager) for its suggested DIP control dimensions.
- 4. The control dimensions are then subjected to the sampling requirements detailed below.

Alternate Characteristic Accountability plans which do not meet the above requirements must be approved by the Quality Manager of the Pulse site issuing the PO.

5. Sampling Plan:

5.1 The following general characteristic terminology will be used for all Pulse Military and Aerospace Division sampling plans. Where not specifically noted, the characteristic and remarks will apply universally. Dimensional tolerances stated below are the total tolerance width (+/- .005 = .010 total tolerance)

a. Critical characteristics

- i. Structural Characteristics (SC)
- ii. Hardness Characteristics (HC)
- iii. Any characteristic defined as Critical.

b. Major characteristics

- i. Dimensional total tolerances equal to 0.010 or less.
- ii. Any characteristic classified as Major
- iii. Angular characteristics tolerance of +/- 0 degrees, 30 minutes.

c. Minor Characteristic

- i. Dimensional total tolerances equal or greater than 0.0101 inch
- ii. All characteristics not classified.

d. Non-Linear Characteristics – Inspected to 100 percent

- i. All notes, materials, processes, functional testing, part marking and traceability related evidence.

CRITICAL CHARACTERISTICS

Critical Characteristics	IRR = 100% Reliability
Lot Size	Sample Size
ALL	100% - No exceptions.



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MAJOR CHARACTERISTICS

Characteristic	IRR = 97% Reliability
Lot Size(s)	Sample Size(s)
Up to 9	All
10	9
11	10
12 to 13	11
14 to 15	12
16 to 17	13
18 to 20	14
21 to 24	15
25 to 29	16
30 to 35	17
36 to 44	18
45 to 57	19
58 to 78	20
79 to 118	21
119 to 233	22
234 to 2536	23
2537 and up.	24

MINOR CHARACTERISTICS

Minor Characteristics	IRR = 92% Reliability
Lot Size(s)	Sample Size(s)
Up to 5	All
6 to 7	5
8 to 11	6
12 to 19	7
20 to 53	8
54 and up.	9

NON-LINEAR CHARACTERISTICS

- Inspected to 100 percent.