

| APPLICATION | | REVISIONS | | | | |
|-------------|----------|-----------|------------------------|------|----------|----------|
| NEXT ASSY | USED ON | SYM | DESCRIPTION | CN | DATE | APVD |
| | NUMEROUS | | RELEASED PER A/R 4120. | ---- | 05/09/12 | S. MYERS |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

WARNING: This document contains technical data, the export of which is restricted by the Arms Export Control Act or the Export Administration Act of 1979, as amended. Export/transfer to foreign persons without prior U.S.G. authorization is subject to severe criminal penalties.

| | | | |
|--------------|-----------|----------|---|
| WRITER | S. MYERS | 05/09/12 | SARGENT FLETCHER INC. 2734 HICKORY GROVE RD. – DAVENPORT, IA 52804 |
| CHK | S. MYERS | 05/09/12 | |
| ENGR | P. PERDAN | 04/18/12 | |
| APPROVED | P. PERDAN | 04/18/12 | CLASSIFICATION OF CHARACTERISTICS, SPECIFICATION FOR |
| CONTRACT NO. | | | |
| APPROVAL | | | |

THIS DOCUMENT CONTAINS INFORMATION PROPRIETARY TO SARGENT FLETCHER INC. ANY REPRODUCTION, DISCLOSURE, OR USE OF THIS DOCUMENT IS EXPRESSLY PROHIBITED EXCEPT AS SARGENT FLETCHER INC. MAY OTHERWISE AGREE IN WRITING.

| | | |
|----------------|--------------|-----------------|
| SIZE | CAGE CODE | |
| A | 99251 | SP436125 |
| REVISION LEVEL | SHEET | 1 OF 4 |

1. SCOPE

This specification establishes the classification of key characteristics to be used with drawings of all products manufactured by SFI. SFI, as used herein, refers to Sargent Fletcher Inc.

2. APPLICABLE DOCUMENTS

American Society of Mechanical Engineers (ASME)

Y14.100 (Latest)

Engineering Drawing Practices

Society of Automotive Engineers (SAE)

AS9100
Rev. C, 2008

Quality Management Systems Requirements for Aviation,
Space and Defence Organizations.

3. REQUIREMENTS

3.1 Item definition. Key characteristics are used to identify and classify those features which, from the perspective of customer satisfaction, have the most probable effect on the fit, performance, producibility, or service life of a completed part or of a subassembly of a finished product. See AS9100 for terms and definitions not specified herein.

3.2 Definitions of characteristics. The selection of characteristics shall be the responsibility of SFI. Characteristics shall be classified by one of the following definitions:

| | |
|-------------------------|--|
| Critical Characteristic | A characteristic which, through judgment and experience, indicates that if not maintained in accordance with drawing specifications, would cause an unsafe condition; or a characteristic which is essential to the function of the end product. |
| Major Characteristic | Any dimension, tolerance, finish, or material; any installation, assembly, manufacturing, or inspection process; or any other characteristic which, if not in conformance with drawing specifications, would affect fit, form, or function of the end item. |
| Minor Characteristic | Characteristics other than critical or major which, if not maintained in accordance with drawing specifications, would not reduce the suitability of the product and would have no adverse effect on safety. Such characteristics may be important for correct assembly, but do not impact function. |

3.3 Responsibilities. The Integrated Product Team (IPT) shall be responsible for assigning characteristics per the definitions contained herein. SFI shall determine the appropriate characteristics to use on SFI product drawings.

When it is desirable to impose these requirements on existing designs, an IPT will be established and the entire product or major assembly shall be reviewed for critical or major characteristics, which will be added by Change Request. This IPT shall consist, at a minimum, of personnel from Design Engineering, Manufacturing Engineering, and Quality Engineering.

THIS DOCUMENT CONTAINS INFORMATION PROPRIETARY TO SARGENT FLETCHER INC. ANY REPRODUCTION, DISCLOSURE, OR USE OF THIS DOCUMENT IS EXPRESSLY PROHIBITED EXCEPT AS SARGENT FLETCHER INC. MAY OTHERWISE AGREE IN WRITING.

| | | |
|------------------|---------------------------|-----------------|
| SIZE A | CAGE CODE 99251 | SP436125 |
| REVISION LEVEL | | SHEET 2 |

While SFI shall have overall responsibility to identify critical and major characteristics, subcontractors shall be responsible for the quality, conformity, and integrity of parts supplied to SFI. For Vendor Item Drawings, the subcontractor shall be responsible for identifying characteristics as appropriate.

3.4 Guidelines for selection of characteristics. Characteristics shall be selected based upon the specific function of the part or subassembly. Determining factors shall be the product's fit, performance, service life and manufacturability. Critical and major characteristics shall be identified on the appropriate drawing. If characteristics are not identified as critical or major, they shall be considered minor and shall not be identified on the drawing.

3.4.1 Mechanical parts. The following list of potential critical or major characteristics is not intended to be all-inclusive. SFI and the subcontractor shall consider dimensional, functional, process, and other features when selecting characteristics.

- Dimensional features:
 - Bearing journal diameters
 - Pilot diameters
 - Press fit diameters in structural lugs
 - Seal ride surfaces
 - Valve seat diameters
- Functional features:
 - Balance data/shaft concentricity
 - Presence of lubrication holes not readily obvious
 - Features affecting end item interchangeability
 - Valve geometric tolerancing
- Processing features:
 - Heat treat surface temper
 - Surface treatments
 - Surface finish
 - Structural adhesive bonding
 - Oxygen Cleanliness
 - Deburring

3.4.2 Electrical/electronic parts or systems. The following list of potential critical or major characteristics is not intended to be all-inclusive. SFI and the subcontractor shall consider dimensional, functional, process, and other features when selecting characteristics.

- Relay or power contact device
 - Operate and release time
 - Contact transfer time
 - Contact voltage drop at full load
 - Coil pull-in voltage
- Electronic power supply
 - Output voltage over load range
 - Output voltage over range of input voltage
 - Output voltage over control range
 - Output waveform/ripple
 - Input current waveform

THIS DOCUMENT CONTAINS INFORMATION PROPRIETARY TO SARGENT FLETCHER INC. ANY REPRODUCTION, DISCLOSURE, OR USE OF THIS DOCUMENT IS EXPRESSLY PROHIBITED EXCEPT AS SARGENT FLETCHER INC. MAY OTHERWISE AGREE IN WRITING.

| | | |
|------------------|---------------------------|-----------------|
| SIZE A | CAGE CODE 99251 | SP436125 |
| REVISION LEVEL | | SHEET 3 |

- Efficiency
- Output of monitoring circuits
- Case grounding resistance

- Lamp/lighted panel
 - Output light intensity at specific power conditions
 - Output light intensity over control range
 - Output light chromaticity or spectral power density
 - Output light spatial distribution
 - Lighting contrast ratio and uniformity

- Amplifier
 - Transfer characteristics including gain and phase margins
 - Bandwidth at specified signal amplitude
 - Dynamic range
 - Efficiency/power dissipation

- Circuit breaker or power controller
 - Time to trip at specified load currents
 - Response to control inputs (mechanical or electrical)
 - Output of status indications (if applicable)
 - Off-state output indications (if applicable)
 - Off-state output voltage (if applicable)

3.5 Critical characteristic drawing note. Critical characteristics shall be identified on the Engineering Drawing by a note symbol. The accompanying note shall read, "Critical Characteristic per SP436125."

3.6 Major characteristic drawing note. Major characteristics shall be identified on the Engineering Drawing by a note symbol. The accompanying note shall read, "Major Characteristic per SP436125."

3.7 Minor characteristic drawing note. If critical or major characteristics are not required on the Engineering Drawing, a note shall be added that reads, "Characteristics have been deemed Minor per SP436125."

3.8 Note symbols. When more than one feature is attached to a leader line, the note symbol shall be located to the left or right of each feature, note, geometric characteristic, etc., which has been identified as major or critical. Note symbols for single features shall be located within the proximity of the feature.

3.9 Critical Safety Item (CSI). Critical safety items shall be identified on the engineering drawing by symbol(s) per Y14.100. A critical characteristic note symbol shall be assigned to identify CSI status.

4.0 NOTES

Changes to this document shall be made using the applicable practices described in ST1637815.

THIS DOCUMENT CONTAINS INFORMATION PROPRIETARY TO SARGENT FLETCHER INC. ANY REPRODUCTION, DISCLOSURE, OR USE OF THIS DOCUMENT IS EXPRESSLY PROHIBITED EXCEPT AS SARGENT FLETCHER INC. MAY OTHERWISE AGREE IN WRITING.

| | | |
|------------------|---------------------------|-----------------|
| SIZE A | CAGE CODE 99251 | SP436125 |
| REVISION LEVEL | | SHEET 4 |