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Manufacturing Process Instructions and Assembly Aids

Revision	Description of Change	Date Effective	Author
A	Initial Release	03/17/99	S. Gomez
B	Revised most paragraphs	8/25/99	D. Wu
C	Updated Sections 3, 7, 8 and 9	3/25/2025	Noor Kaiser

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Originator   Vice President of   Vice President of
                                    Operations   Quality
                                    John Nguyen   Dior Wu

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1.0 Purpose

1.1   This procedure describes the production and control of Manufacturing Process Instructions and assembly aids.

2.0 Scope

2.1   This procedure applies to all documents created and controlled by Engineering and used in production assembly in all facilities. Documents covered by this procedure are not used for product acceptance. This procedure does not apply to customer documents or any other documents controlled by Document Control and used for product acceptance.

3.0 Reference

3.1   SOP05   Document Control

3.2   SOP06   Engineering New / Change Control

3.3   SOP12   Product Released to Production

3.4   DOC002   Control and Distribution of Customer Documentation

3.5   MFG041   Tooling Acceptance

3.6   SOP29   Quality Records

4.0 Definitions

4.1   Manufacturing Process Instruction (MPI) - a document produced by Engineering that describes the manufacturing process flow, assembly steps, and tooling, equipment and programs used for assembly and test of products.

4.2   Assembly Aid - a visual representation of work instructions produced by Engineering. Assembly aids include but are not limited to defect recognition posters, visual aids, process diagrams, templates, set-up sheets, overlays, reference sheets, and pictures. Assembly aids may be process instructions divided by operator or work station in an assembly line.

4.3   Visual Aid - any supplementary picture, notes or diagrams that assist the manufacturing process.

5.0 Responsibilities

5.1   It is the responsibility of the Engineering Manager to implement this procedure consistently at the assigned facility.

5.2   Engineering is responsible for developing process documentation, tooling, and methods used by Manufacturing to assemble and test product.

5.3   Engineering is responsible for generating, distributing and maintaining MPI and assembly aids. Only Engineering has the authority to change MPI and assembly aids

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5.4 It is the responsibility of Engineering to provide timely MPI and assembly aids to Manufacturing in accordance with SOP12 to enable Manufacturing to produce consistently high quality products in accordance with customer requirements.

5.5 It is the responsibility of Manufacturing to assemble and test/inspect products in accordance with MPI and assembly aids and to communicate any questions about MPI and assembly aids or their use to Engineering.

6.0 <u>Equipment</u>

6.1 N/A

7.0 <u>Materials</u>

7.1 N/A

8.0 <u>Records</u>

8.1 The total retention period for the records below is referenced on the Master Forms Listing under the column heading Record Retention. Inactive records will be forwarded to Document Control and filed/maintained in accordance with SOP29.

8.2 Manufacturing Process Instruction – PMFG036

8.3 New/Change Order – PDOC014

9.0 <u>Procedures</u>

9.1 Generation of new (or modification of existing) MPI and assembly aids will be performed by Engineering in response to any of the following events:

9.1.1 Release of a new product to production in accordance with SOP12.

9.1.2 Processing of a Customer New/Change Order in accordance with SOP06 if any aspect of the changes impact the manufacturing process.

9.1.3 Engineering may, at the discretion of any Engineer, produce or modify any MPI or assembly aid to improve product quality.

9.1.4 Manufacturing may request that specific MPI or assembly aids be modified at any time during the production of any product.

9.2 To create an MPI, the Engineer will:

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9.2.1 Open Manufacturing Process Instruction (PMFG036) from the Released Docuentation drive.

9.2.2 Enter the Customer Name, Assembly Name, Assembly P/N, Date Issued and Current Revision of MPI. MPI revisions will be numbered '00', '01', '02…' and so on.

9.2.3 Start by updating the 'Checklist' in the MPI, and continue on to update each process listed in the MPI. In case a process is not required by the current assembly, Engineer will indicate as such by adding an N/A to that field or worksheet.

9.2.4 Assembly or Visual Aids will be prepared by engineers as necessary but will solely be under Engineering's control. These aids can be added to the MPI directly, or added to the Released Documentation for an assembly via Document Control.

9.3 Engineering will complete the New / Change Order (PDOC014) and release it with the completed MPI to Document Control.

9.4 Document Control will process and release the MPI in accordance with SOP06 and DOC002. Additionally, Document Control will add the completed PDOC014 to PMFG036 – the first worksheet is reserved for this document.