〔Process Quality Control Standard〕

【Core】

1 General Provisions

1.1 Purpose

The purpose of this standard is to facilitate smooth implementation of operations by providing basic requirements for quality control of manufacturing processes to maintain manufacturing quality properly.

1.2 Scope

This standard applies to quality control operations during the production preparation stage of manufacturing at facilities.

1.3 Definitions of Terms

Definitions of terms used in this standard are as follows.

№	Term	Definition
1	Manufacturing section	A section which relates directly to manufacturing (molding, processing, assembly, etc.).
2	Critical item	Control items in manufacturing, which satisfies any of the following. (1) Items identified on the product drawing with a"Ⓠ" mark. (2) Items directly affect inspection items of importance level A identified in the inspection criteria. (3) Quality characteristics and manufacturing conditions might lead to a failure of important vehicle functions (driving, turning, stopping, guarding, insulation, protection, emission control and identification) defined in Honda Engineering Standard (HES A 3050). (4) Items involved in a recall, etc. in the past. (5) Items for which priority management is deemed necessary based on the results of process capability evaluation, past quality review (infomration on market quality, in-house quality or in-process failure) or Manufacturing Quality Standard, etc.
3	Critical process	Process involves critical items, which are deemed by the head of a section employing the process that specific control is required based on the degree of difficulty of operation or problem outflow prevention in order to maintain quality characteristics.
4	Process Quality Control Table	A document describing control items (quality characteristics and manufacturing conditions) and control methods needed to provide quality assurance in the manufacturing process in a systematic manner.
5	Operation Standard	A set of documents describing operating procedures used as reference for operating conditions and methods, control methods, materials and facilities to be used, along with other precautions on safety, quality and so on.
6	Outsourced assembly drawing	A drawing (assembly diagram) developed by a facility and issued to suppliers when outsourcing assembly of parts for the purpose of specifying control points to ensure that assembly procedures are properly followed and quality is maintained.
7	MQS	MQS is short for Manufacturing Quality Standard and a set of documents describing control items and control standards per part, process or operation in a systematic manner based on past quality problems, FTA for new features and new engineering, etc., to prevent quality problems attributable to manufacturing from occurring..

№	Term	Definition
8	Process Assurance Capability	Process assurance capability is the standard used to determine whether or not quality goals and objectives will be or have been constantly achieved throughout the process. Process capability is calculated with formulas (coefficients) specified for each process parameter in the area of manufacturing.
9	PAC-V	PAC-V is short for Process Assurance Capability Verification and a process to perform quality improvement activities in order for quality problems caused by the manufacturing not to occur by verifying process assurance capability of quality requirements set as control items or control standards per part, process and task.

2 Management System

2.1 Management Framework

2.1.1 The quality control system for the manufacturing process is outlined in Attachment-1 " Process Quality Control Flowchart ".

2.1.2 The person responsible for each activity listed in " Process Quality Control Flowchart ” is the head of a section in charge of the activity.

3 Production

3.1 Product Acceptance Inspection

3.1.1 The manufacturing section checks parts, equipment and materials (hereinafter referred to as “Parts”) delivered from related sections or suppliers for the following aspects.

(1) Conformity with required quality standards such as those specified in Process Quality Control Table, Operation Standard, and outsourcing assembly drawing.

(2) Conformity with the labeled quantity.

(3) Conformity with the specifications.

3.1.2 If any nonconformity or abnormality is found during the check required by paragraph 3.1.1., the manufacturing section immediately informs the responsible section for the subject parts and quality section responsible for the nonconformity or abnormality, and requests corrective action based on quality reviews and review results.
Procedures for the handling of quality nonconformity are followed as outlined in G-HQS In-House Quality Information Treatment Standard.

3.2 Preoperational Check

3.2.1 The manufacturing section performs preoperational checks on equipment, jigs, tools, and measuring equipment before use in accordance with HQS ”Equipment Control Standard” and G-HQS “Measuring Equipment Control Standard”.

3.2.2 If any abnormality is found with equipment, jigs, tools, or measuring equipment, the manufacturing section, takes corrective action, as well as investigating the impact on products or parts manufactured.

3.3 Processing and Assembling

3.3.1 The manufacturing section performs processing and assembling of products in accordance with standards such as Process Quality Control Table and Operation Standard.
If there is a change in process operator, the manufacturing section provides relevant training and support for a new operator before assignment to ensure that the new operator is certainly capable of performing the process.

3.3.2 The manufacturing section monitors manufacturing conditions in processing and assembling in accordance with standards such as Process Quality Control Table and Operation Standard, and maintains records.

3.3.3 The manufacturing section takes corrective action if an abnormality is detected as a result of the monitoring manufacturing conditions, as well as investigating the impact on products or parts manufactured.

3.3.4 The manufacturing section processes and assembles products and parts on a first-in, first-out basis in principle.

3.3.5 The manufacturing section performs lot control for lot control specified parts.
Procedures for the lot control are outlined in G-HQS “Lot Control Standard”.

3.4 Change Point Control

3.4.1 The manufacturing section starts processing and assembling after having determined that quality of products is ensured, if there is any change made to product specification, process layout, production equipment, manufacturing condition, etc.
If it is found that process assurance capability may be affected by such changes, the manufacturing section performs PAC-V to assess and improve the process assurance capability.

3.4.2 Procedures to be followed for the first lot of products or parts after a change, which is described in paragraph 3.4.1, are outlined in G-HQS “IPP Control Standard”.

3.5 Manufacturing Quality Confirmation

3.5.1 The manufacturing section confirms quality of products and parts in accordance with standards such as Process Quality Control Table or Operation Standard, and maintains records.
For critical items, the manufacturing section monitors them with a technique such as trend management to prevent nonconformity from occurring.

3.5.2 The manufacturing section takes corrective action if nonconformity is detected as a result of the quality conformation, as well as investigating the impact on products or parts manufactured.
Procedures for the handling of the detected quality nonconformity are outlined in G-HQS “In-House Quality Information Treatment Standard”.

3.6 Control of Critical Process

3.6.1 The manufacturing section assigns qualified personnel, who have completed training for the control of the concerned critical process, if there is a change in process operator of a critical process.

3.6.2 If there is a change in control method of a critical process, the manufacturing section changes the control method after having determined process assurance capability by performing verification techniques such as PAC-V.

3.7 Process Stability Confirmation

The manufacturing section verifies the stability of processes by utilizing quality records of daily process control, and if necessary, updates the process control.

3.8 Release Control

3.8.1 The manufacturing section releases products and parts on a first-in, first-out basis in principle in accordance with a production schedule issued by the production control section.

3.8.2 The manufacturing section releases products or parts with identification means, which allow easy identification, such as quantity or specification of the products or parts, attached, and maintains records of the release.
Procedures for the identification and release of products and parts are outlined in G-HQS “Lot Control Standard”.

3.9 Quality Improvement

3.9.1 The manufacturing section takes necessary improvement action on a process with approaches such as PAC-V, if it is determined from daily process control or process stability confirmation that the process needs to be improved.

3.9.2 The manufacturing section takes remedial action on a problem, if so requested by related sections based on the results of operations, such as processing, assembly or inspection of products and parts, or market quality information analysis results.
Also the manufacturing section takes necessary improvement action on a process with approaches such as PAC-V, if it is determined that the process needs to be improved.
Procedures for the handling of detected problems are outlined in G-HQS “In-House Quality Information Treatment Standard” and G-HQS “market Quality Information Treatment Standard”.

3.10 Manufacturing Quality Standard Update

3.10.1 The manufacturing section proposes a revision of the current MQS, if it is determined from the results of Change Point Control in paragraph 3.4 or Quality Improvement in paragraph 3.9 that the MQS needs to be revised.

3.10.2 The quality control section revises and issues revised MQS to related sections, if it is determined that a revision is necessary after review of the proposal for revision of MQS submitted by the manufacturing section.

3.10.3 The manufacturing section and related sections confirm the revised content of MQS.

3.11 Maintenance of Quality Standards

3.11.1 The manufacturing section, if any of the following changes occur, revises and establishes related standards such as Process Quality Control Table or Operation Standard and outsourced assembly drawing.

(1) Product drawing change
(2) Inspection criteria change
(3) Change in process layout, production facilities, etc.
(4) Change in control methods of quality characteristics.
(5) Change in manufacturing conditions and control methods.
(6) Change in manufacturing such as in-house or outsourced, maker layout, etc.
(7) Revision of MQS.

3.11.2 The manufacturing section records revised details and revision history in the relevant standard document, if revising or establishing a new standard document such as Process Quality Control Table, Operation Standard or Outsourced assembly drawing.

3.11.3 The manufacturing section revises and establishes Process Quality Control Table after receiving approval for revised content from the head of the manufacturing section.
If revising Process Quality Control Table which was approved by the inspection section at the time of its establishment, a preliminary confirmation on the content to be revised from the inspection section

is required prior to revision.

3.11.4 The manufacturing section revises and establishes outsourced assembly drawings after receiving confirmation from the quality control section as well as approval from the head of the manufacturing section

3.11.5 The manufacturing section revises and establishes Operation Standard after receiving approval from the head of the manufacturing section

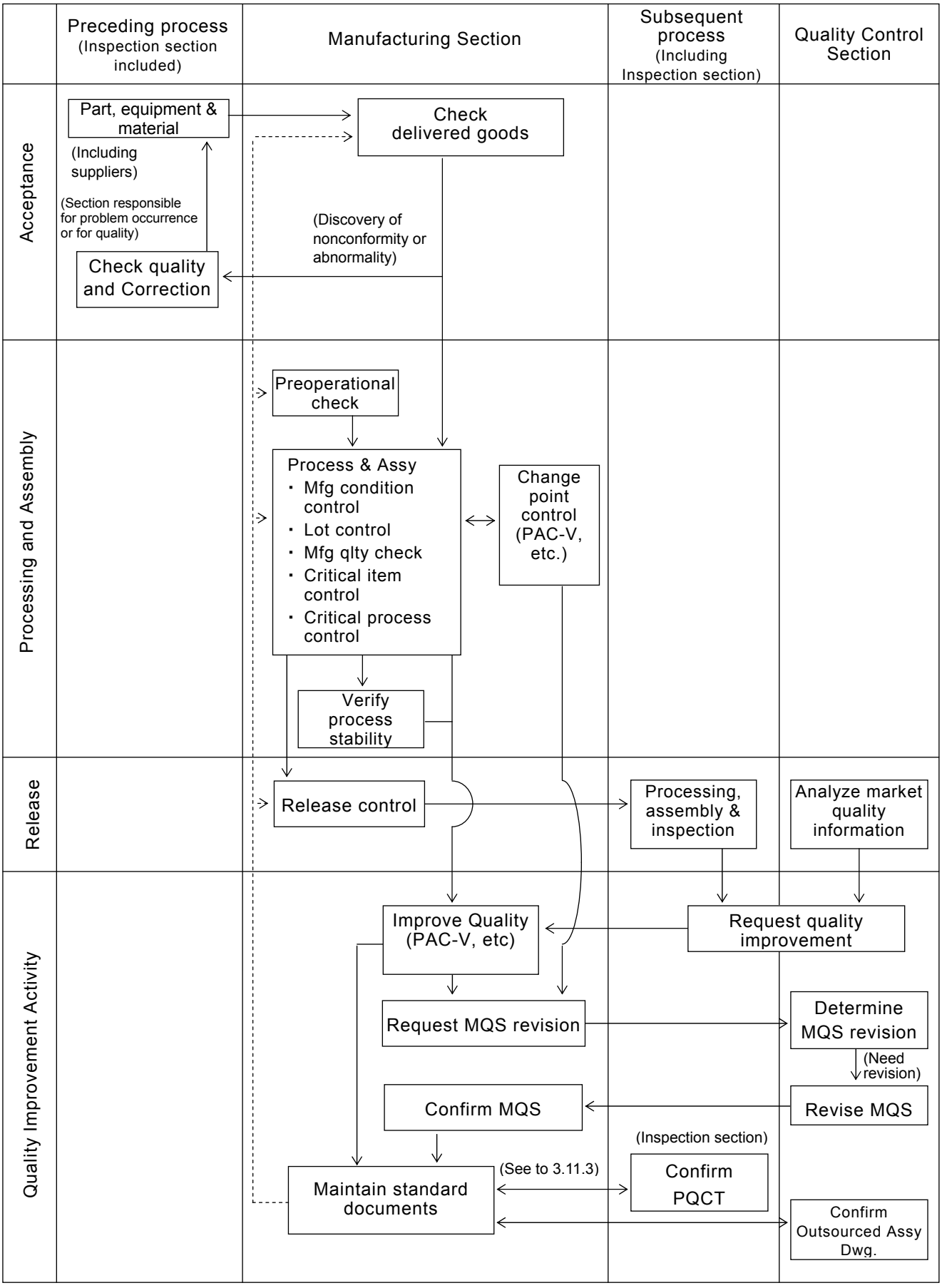
4 Supplementary Provision

4.1 Application of the Standard

Matters relating to establishment, revision and implementation of this standard are outlined in G-HQS [Quality Management Standards Control Standard].

Attachment -1

Process Quality Control Flowchart



Establishment and Revision

Date of Establishment, Revision or Enactment (MM/DD/YYYY)			Description (MM/DD/YYYY)	Approved by:
0	Est. Enact.	03/26/2010 04/01/2010	First issue. This document becomes effective as of 04/01/2010.	Y.Otobe (Signed on original)