

## RUN at RATE GP-9

- THIS GP-9 PROCEDURE APPLIES TO**
- **RUN AT RATE AT TIER-1 SUPPLIERS**
  - **BUILD AT RATE AT TIER-1 SEQUENCERS**

## 1. Purpose

The purpose of the Run at Rate/Build at Rate activity is to verify that a supplier's actual manufacturing/sequencing process, while operating under normal operating conditions, and under Total Customer Requirement, is:

- A. Capable of producing/sequencing quality components/systems/modules, as stated in the Production Part Approval Process (PPAP) (reference Attachment B - Process Control Audit), and...
- B. Capable of meeting or exceeding the "daily contracted capacity within one production day," on a sustained basis (reference Capacity Analysis Worksheets - Attachments C, C-1, C-2, C-3, S-1, S-2)

Note: It is expected that the daily contracted capacity is equal to or greater than the daily LCR.

Note: "Total Customer Requirement" Includes All customer requirements (other GM Service Parts/After-Sales and other OEM's.)

## 2. Scope

This procedure applies to all manufacturing, assembly and sequencing processes contracted to General Motors to:

- A. Produce/sequence new components/systems or modules
- B. Increase existing capacity on previously contracted volume
- C. Tool and equipment moves to new manufacturing/sequencing locations

The application of this procedure may be required for changes to existing processes where it is deemed that the capability and/or capacity of the system have been altered.

Note: An exemption from this process can only be granted with the written approval of the Quality and Purchasing Directors of the procuring division.

**RUN at RATE GP-9****3. Type Of Run at Rate / Build at Rate**

GM Supplier Quality will confirm the type of Run at Rate / Build at Rate. The supplier will be notified of the need to perform a "Customer Monitored" or "Supplier Monitored" Run at Rate / Build at Rate as early in the Advanced Product Quality Planning Process as possible.

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**SECTION .1. TIER-1 SUPPLIER RUN AT RATE PROCESS****1. General Information****A. Duration Of Run at Rate**

The duration of the Run at Rate will be sufficient to verify that the process can meet the contracted capacity while producing the Total Customer Requirement. The default length of the Run at Rate will be equal to the daily contracted hours. However, the authorized Customer Representative (SQE) may deviate from the default duration (upon approval from their manager) after taking into consideration the following factors:

- Product Complexity
- Shelf Life
- Storage & Packaging
- Cost
- Production Day Length

**B. Timing Of Run at Rate**

The Run at Rate should be performed after the supplier has attained a PPAP status of “Full”, “Saleable”, or “Non-Saleable” (when pre-approved by GM Supplier Quality Manager or above), and no later than eight weeks prior to start of regular production.

**C. Supplier Preparation For A Customer Monitored Run at Rate**

1. To ensure readiness **before** the Run at Rate is performed, the supplier will conduct a practice Run at Rate and/or production simulations, as well as complete the following Run at Rate worksheet attachments:
  - Attachment B (GM1927-16) – Process Control Plan Audit
  - Attachments C, C-1, C-2, and C-3 – Capacity Analysis Worksheets
2. Requests for changes to the Run at Rate schedule must be submitted to the authorized Customer Representative (SQE) at least two (2) weeks prior to the Run at Rate.

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**RUN at RATE GP-9****F. Inventory**

Finished parts inventory resulting from production runs to prepare for or complete a Run at Rate, will be the responsibility of the supplier. This inventory will be held until scheduled for shipment by General Motors. The contracting division must approve exceptions to the above.

**2. Run at Rate Content Review**

1. During the Run at Rate the Supplier's actual manufacturing process will be assessed to verify its ability to meet the quality and capacity requirements as contracted and detailed in Attachments B (Quality) and C (Capacity), C-1, C-2 and/or C-3.

**3. Approval**

Upon completion of the Run at Rate study, and a formal review of the completed Process Control Plan audit and Capacity Analysis worksheets (Attachments B, C, C-1, C-2, C-3), the Run at Rate will be assessed with one of the following five results:

**A. Pass**

A Status of "Pass" indicates that all Run at Rate requirements have been met. The Process Control Plan Audit (Attachment B) and Capacity Analysis (Attachments C, C-1, C-2 and/or C-3) have passed. Subcontractors' abilities to meet the capacity and quality requirements have been confirmed in writing by the supplier, and all parts produced meet GM's quality requirements as stated in the requirements.

**B. Staged**

A Status of "Staged" implies that the supplier is meeting the approved Plan for the gradual introduction of tooling, machinery, and/or shifts required to meet the full contracted capacity.

**C. Customer Fail**

A Status of "Customer Fail" indicates that the Supplier passed all Run at Rate requirements based on the contracted capacity, or agreed to staged implementation plan; however, customer requirements (LCR) exceed contracted capacity.

**RUN at RATE GP-9****D. Pending PPAP**

A Status of "Pending PPAP indicates that all capacity related elements have been met and the status "Pass" is pending due to:

- i. PPAP status is "Non-Saleable", **or...**
- ii. In the judgment of the customer's SQE or supplier there are incomplete PPAP issues which may impact the capacity of the production system. (Example: Low volume or temporary tools being used.)

Upon satisfactory correction of the above conditions and assurance the capacity has not been affected, the status can be changed to "Pass".

**E. Fail**

A Status of "[Fail](#)" indicates that a serious nonconformance exists in the [Process Control Plan Audit](#) (Attachment B) or [Capacity Analysis](#) (Attachment C) that requires [significant action by the supplier to correct](#), or if supplier fails to provide written confirmation of the subcontractor's abilities to meet the Quality, Capacity, and Delivery requirements.

**4. [Corrective Actions](#)**

[Should the](#) Run at Rate results fail to meet the requirements of this procedure for quality and/or capacity a corrective action plan (as outlined in the attachments) must be submitted to and approved by the authorized Customer Representative (SQE) within two days following the completion of the Run at Rate.

Upon full implementation of the corrective action plan, the Customer Supplier Representative will determine the method of verification, which may require an on-site review and/or a new Run at Rate study.

Following verification of successful implementation, the Run at Rate status will be changed to a Pass, or other appropriate level.

**Required Levels of GP-9 Documentation for Submission and Retention**

Document Type	Attachment	Document Number	Customer Monitored	Supplier Monitored
Run at Rate Summary	Attachment A	GM 1960-A	S	S
Process Control Plan Audit Worksheet	Attachment B	GM 1927-16	S	S

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Capacity Analysis Worksheet	Attachment C	GM 1960-C	S	S
Run at Rate Manufacturing Flow Diagram	Attachment C1	GM 1960-C1	S	S
Manufacturing System Capacity Estimate	Attachment C2	GM 1960-C2	S	S
Constraint Capacity Estimate	Attachment C3	GM 1960-C3	S	S
Customer "on-site" verification			Yes	No

**S – Submit document to Customer / SQE**

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## SECTION .2.

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**2. Build at Rate Content Review**

2. During the Build at Rate the Sequencer's actual manufacturing/sequencing process will be assessed to verify its ability to meet the quality and capacity requirements as contracted and detailed in Attachments B (Quality), and S-2 (Capacity).

**3. Approval**

Upon completion of the Build at Rate study, and a formal review of the completed Process Control Plan audit and Capacity Analysis worksheets (Attachments B, S-1, and S-2), the Build at Rate will be assessed with one of the following six results:

**A. Pass**

A Status of "Pass" indicates that all Build at Rate requirements have been met under GM Plant steady state condition. The Process Control Plan Audit (Attachment B) and Capacity Analysis (Attachments S-1 & S-2) have passed. Subcontractors' abilities to meet the capacity and quality requirements have been confirmed in writing by the sequencer, and all parts produced meet GM's quality requirements as stated in the requirements.

**B. ManVal Pass**

A Status of "ManVal Pass" indicates that all Build at Rate requirements have been met during the Manufacturing Validation Build event. The Process Control Plan Audit (Attachment B) and Capacity Analysis (Attachments S-1 & S-2) have passed. Subcontractors' abilities to meet the capacity and quality requirements have been confirmed in writing by the sequencer, and all parts produced meet GM's quality requirements as stated in the requirements

**C. Customer Fail**

A Status of "Customer Fail" indicates that the Supplier passed all Build at Rate requirements based on the contracted capacity, or agreed to staged implementation plan; however, customer requirements (LCR) exceed contracted capacity.

**D. Pending PPAP**

A Status of "Pending PPAP" indicates that all capacity related elements have been met and the status "Pass" is pending due to:

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- i. PPAP status is “Non-Saleable” or...
- ii. In the judgment of the customer’s SQE or supplier there are incomplete PPAP issues which may impact the capacity of the production system. (Example: Low volume or temporary tools being used.)

Upon satisfactory correction of the above conditions and assurance the capacity has not been affected, the status can be changed to “Pass”.

**E. Fail**

A status of “Fail” indicates that all Build at Rate requirements have NOT been met under GM Plant steady state condition. A Status of “Fail” indicates that a serious nonconformance exists in the Process Control Plan Audit (Attachment B) or Capacity Analysis (Attachment S-1 and/or S-2) that requires significant action by the sequencer to correct, or if sequencer fails to provide written confirmation of the subcontractor’s abilities to meet the Quality, Capacity, and Delivery requirements.

**F. ManVal Fail**

A status of “ManVal Fail” indicates that all Build at Rate requirements have NOT been met during the Manufacturing Validation Build event. A Status of “ManVal Fail” indicates that a serious nonconformance exists in the Process Control Plan Audit (Attachment B) or Capacity Analysis (Attachment S-1 and/or S-2) that requires significant action by the sequencer to correct, or if sequencer fails to provide written confirmation of the subcontractor’s abilities to meet the Quality, Capacity, and Delivery requirements.

**4. Corrective Actions**

Should the Build at Rate results fail to meet the requirements of this procedure for quality and/or capacity a corrective action plan (as outlined in the attachments) must be submitted to and approved by the authorized Customer Representative (SQE) within two days following the completion of the Build at Rate.

Upon full implementation of the corrective action plan, the Customer Supplier Representative will determine the method of verification, which may require an on-site review and/or a new Build at Rate study.

Following verification of successful implementation, the Build at Rate status will be changed to a Pass, or other appropriate level.