PURPOSE: To define the procedure for conducting a High Volume Production Trial

SCOPE: Applies to all suppliers as deemed necessary by TMI Purchasing

EXPLANATION: The High Volume Production Trial is the method used to identify and countermeasure any quality or productivity problems prior to start of production by simulating mass production conditions. The intent is to conduct HVPT early enough to allow adequate time for improvements and countermeasure confirmation.

HVPT may be conducted only after receipt of Provisional Approval from TMI QC unless otherwise specifically instructed by TMI QC.

RELATED DOCUMENT(S):

TMI QUALITY ASSURANCE PROJECT PLAN (TMI SQAM Section 25)
PROVISIONAL / FINAL APPROVAL (TMI SQAM Section 14)

REQUIRED DOCUMENT(S):

HIGH VOLUME PRODUCTION TRIAL STATUS SHEET - TMI APPENDIX 15A
PROBLEM FOLLOWUP SHEET (PFS) - TMI APPENDIX 15B

RESPONSIBILITIES:

1) TMI proposed timing for HVPT will be specified per QAPP and will be targeted after TMI's granting of Provisional Approval. TMI Purchasing will make formal notification of suppliers as to the need and timing for HVPT. The supplier must include this timing on the Quality Assurance Schedule (QAS) when submitted. The HVPT may be attended by representatives of TMI Purchasing, Production Control, and Quality (Assurance and / or Control).

2) The supplier must run an HVPT that represents mass production conditions as detailed below. (Any deviation from this requirement must be approved in advance with TMI Purchasing. Any processes that have to be run "off line" due to build out or change over requirements must be specially noted.)

   A) Facilities, tooling, and equipment must be complete.
   B) Operators must be trained and be those used in mass production.
   C) Trials must encompass all machinery, dies, tooling, molds, assembly lines, etc. slated for mass production.
   D) Production method must be at mass production level with the following items in place:

      a) Written standardized work
      b) Mass production quality control system
      c) Tool changes and setups
      d) Line speed / takt times

   E) Materials must be mass production level and should be produced at a quantity equivalent to mass production scale.

NOTE: Parts produced during an HVPT may be used to support mass production shipments providing no late ECI changes are required and parts are produced after Provisional Approval is granted. These parts must be identified as HVPT parts or be traceable by date code.

3) The supplier must clearly specify the targets for both quality and quantity. Target definitions are as follows:

   A) Quality is defined as parts produced which satisfy the approved part inspection standard, the mass production level part drawing, and applicable boundary samples.

   B) Quantity is defined as the rate of direct run good parts (no reworked parts) which satisfy TMI's demand at mass production volume requirements.

4) During the trial, production must be continuous at mass production speed with the output of the process constantly recorded. The process must run for a minimum of one hour. At the end of one hour, the process stops. The outcome is reviewed, problems identified, and countermeasures implemented. A second one hour process run is completed, and evaluation is repeated. This cycle is to be repeated until the targets are met. The results are recorded on the HIGH VOLUME PRODUCTION TRIAL STATUS SHEET (TMI Appendix 15A).

5) The supplier must record all problems found, countermeasures, and followup activity on a PFS (Problem Followup Sheet - TMI Appendix 15B).

6) When the trial is completed, the supplier must submit the HVPT Status Sheet and the PFS to TMI Purchasing and QC. Any other support documentation requested by TMI must also be submitted at this time.

7) If the supplier is unable to achieve target levels after implementing process countermeasures, the supplier will be required to submit improvement plans for achieving target to TMI Purchasing and QC, and further HVPT will be scheduled.

REVISION	REVISION DATE	SECTION	CHANGE DESCRIPTION
0	07/09/01	ALL	Initial release
1	05/20/03	ALL	Added revision record
2	08/09/04	RESP – 1:	Added reference to QAPP