

CARLTON FORGE WORKS

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CODE	SUBJECT	REVISION DATE:
13	STATISTICAL PROCESS CONTROL MACHINE SHOPS	11/11/96
REVISIONS: ADDED REVISIONS BOX		

NOTE: WHEN QUALITY CODE #13 IS REFERENCED IN THE PURCHASE ORDER THE FOLLOWING REQUIREMENTS SHALL BE COMPLIED WITH BY SUB-TIER MACHINE SHOPS.

- A. CAPABILITY STUDIES SHALL BE CONDUCTED ON ALL MACHINES USED TO MACHINE C.F.W. PARTS. EVIDENCE OF THESE STUDIES SHALL BE MAINTAINED BY THE SUPPLIER FOR REVIEW BY CARLTON QUALITY REPRESENTATIVES. CAPABILITY STUDIES MUST SHOW THE MACHINE CAPABLE OF MAINTAINING A STATE OF STATISTICAL CONTROL AND THE ± 3 STANDARD DEVIATION CAPABILITY MUST BE USED TO DETERMINE THE CAPABILITY OF A MACHINE TO HOLD TOLERANCES DURING MACHINING OPERATIONS.
- B. IF KEY CHARACTERISTICS ARE NOT IDENTIFIED BY C.F.W., THE SUB-TIER MACHINE SHOP SHALL (AFTER REVIEWING DRAWING REQUIREMENTS) SELECT KEY CHARACTERISTICS TO CONTROL DURING MACHINING. KEY CHARACTERISTICS SHALL BE THOSE MOST LIKELY TO DETERMINE IF A PART WILL BE ACCEPTABLE. CONTROL CHARTS SHALL BE SUBMITTED TO C.F.W. QUALITY WITH DELIVERED PARTS. MAINTAINING A STATE OF STATISTICAL CONTROL IS NOT SUFFICIENT FOR LOT ACCEPTANCE. ALL PARTS IN THE LOT MUST ALSO BE WITHIN BLUEPRINT TOLERANCES.
- C. IF CARLTON FORGE WORKS DESIGNATES KEY CHARACTERISTICS THEY SHALL BE CONTROLLED PER PARAGRAPH (B) ABOVE.
- D. PRODUCING PARTS WITHIN BLUEPRINT TOLERANCE WILL BE THE SHORT-TERM GOAL. OUR LONG-TERM OBJECTIVE IS TO CONTINUALLY REDUCE VARIATION IN OUR PROCESSES. A CPK OF 1.33 IS CONSIDERED THE MINIMUM ACCEPTABLE WHEN EVALUATING A MACHINING PROCESS. ALL SUB-TIERS SHOULD MAKE THIS THEIR GOAL.
- E. EACH MACHINING SUPPLIER SHALL DOCUMENT THEIR S.P.C. SYSTEM AND SHALL FURNISH CARLTON WITH A COPY SIGNED AND DATED BY THE COMPANY GENERAL MANAGER, PRESIDENT, OR OWNER. ELEMENTS OF THE SYSTEM SHOULD INCLUDE BUT NOT BE LIMITED TO TRAINING, SOFTWARE USED, PLANNED INTEGRATION OF S.P.C. METHODS INTO PLANNING, MANUFACTURING, AND QUALITY ASSURANCE OPERATIONS AND CURRENT SHOP FLOOR IMPLEMENTATION STATUS. ANY SIGNIFICANT CHANGES TO THE SYSTEM SHOULD BE DOCUMENTED AND SENT TO THE CFW QUALITY MANAGER.