

THE FOLLOWING SPECIFICATION DEFINES THE REQUIREMENTS FOR SPECIAL CHARACTERISTICS (CRITICAL & SIGNIFICANT) FOR DOUGLAS AUTOTECH CORPORATION

CRITICAL CHARACTERISTICS

CONTROL OF CHARACTERISTICS IDENTIFIED AS CRITICAL MUST ADHERE TO REQUIREMENTS OF THE CUSTOMER, OR DOUGLAS AUTOTECH CORP. WHERE CUSTOMER REQUIREMENTS ARE NOT SPECIFIED. LOT CONTROL AND LONG TERM RECORD RETENTION MUST BE MAINTAINED. CLASSIFICATION OF THE ITEMS AS CRITICAL CHARACTERISTICS WILL BE REQUIRED WHEN THE FOLLOWING CONDITIONS EXIST ON THE PFMEA (PROCESS FAILURE MODE EFFECT ANALYSIS):

- FAILURE MODE/CAUSE COMBINATIONS HAVING A SEVERITY RATING OF 9 OR 10 AND SPECIAL CONTROLS TO REDUCE THE DETECTION RATING TO 1
- DIRECT DOUGLAS AUTOTECH CORP. PRODUCT ENGINEERING TO ADD CRITICAL CHARACTERISTICS TO THE DRAWINGS.

CRITICAL CHARACTERISTICS ON FKK DRAWINGS WILL BE IDENTIFIED BY THE USE OF DARK LINED BOXES AROUND CHARACTERISTICS OR (A) BESIDE CHARACTERISTICS ON DRAWINGS MARKED VITAL PART

- NOTE:
- CUSTOMER DESIGNATED CRITICAL CHARACTERISTICS ARE INCLUDED IN THIS CATEGORY.
 - GOVERNMENT OR OUTSIDE REGULATORY CONTROL (ie: FMVSS) ARE INCLUDED IN THIS CATEGORY.

SIGNIFICANT CHARACTERISTICS

CONTROL OF CHARACTERISTICS IDENTIFIED AS SIGNIFICANT MUST ADHERE TO REQUIREMENTS OF THE CUSTOMER, OR DOUGLAS AUTOTECH CORP. WHERE CUSTOMER REQUIREMENTS ARE NOT SPECIFIED. CLASSIFICATION OF THE ITEMS AS SIGNIFICANT CHARACTERISTICS WILL BE REQUIRED WHEN THE FOLLOWING CONDITION EXISTS ON THE PFMEA (PROCESS FAILURE MODE EFFECT ANALYSIS):

- FAILURE MODE/CAUSE COMBINATIONS HAVING A SEVERITY RATING BETWEEN 5 AND 8 (INCLUSIVE), AN OCCURRENCE RATING GREATER THAN OR EQUAL TO 4.
- SPECIAL CONTROLS SHOULD BE STATED ON THE CONTROL PLAN WITH THE INTENT TO REDUCE THE OCCURRENCE RATING TO LESS THAN 4.
- SPECIAL CONTROLS SHOULD BE STATED ON THE CONTROL PLAN TO REDUCE THE DETECTION RATING TO 1 OR 2, IF THE OCCURRENCE RATING CANNOT BE REDUCED TO LESS THAN 4.
- IF THE APPROPRIATE REDUCTIONS ARE OBTAINED, THEN THE REQUIREMENT FOR SPECIAL CONTROLS AND DOCUMENTATION IS ELIMINATED.
- CORRECTIVE ACTIONS ARE REQUIRED FOR ANY CHARACTERISTIC WITH AN RPN VALUE EQUAL TO OR GREATER THAN 120 ON THE PFMEA.

NOTE:

- CUSTOMER DESIGNATED SIGNIFICANT CHARACTERISTICS ARE INCLUDED IN THIS CATEGORY.

PART NUMBER
DS1005

LET	REVISIONS	DATE	TRUCK APP	AUTO APP	ECO #
-	RELEASE FOR PRODUCTION	081788	BEE	---	9794-4
A	REDRAWN & REVISED ON CAD	060691	BEE	---	9794-11
B	UPDATED & REVISED ON B SIZE	051094	JAK	---	10728
C	APPROPRIATE PROCESS CONTROLS... WAS APPROVED METHODS... ADDED DIAMOND (◆), ID.	050396	JAK	---	11988
D	ADDED LABEL IDENTIFICATION	011497	JAK	---	12397
E	REVISED, CHANGES PER REQUEST OF HOPK.	050197	JAK	---	12618
F	REMOVED LABEL: REVISED CRITICAL CHAR.	012000	JAK	---	14142
G	ADDED SIGNIFICANT CHARACTERISTICS TRIANGLE, REVISED SIG. CHARACTERISTICS NOTES PER HOPK.	061804		---	16723

- NOTE:
1. ALL CRITICAL AND CONTROL CHARACTERISTICS WILL ALLOW CONTROL AT THE SUBASSEMBLY OR COMPONENT LEVEL.
 2. NO CRITICAL OR CONTROL CHARACTERISTICS WILL BE IDENTIFIED AS REFERENCE.

SHORT TERM STUDIES:

A. MACHINE CAPABILITY STUDY: NORMALLY REQUIRES MINIMUM OF 30 CONSECUTIVELY RUN PIECES AFTER MACHINE SETUP, WARM UP, AND ADJUSTMENT IS COMPLETE. PRODUCTION METHODS, MATERIALS, AND POSSIBLE PROCESSES ARE UTILIZED.

B. PROCESS POTENTIAL STUDY: NORMALLY REQUIRES A RUN OF 300 OR MORE PIECES WITH 25 SUBGROUPS TOTALING A MINIMUM OF 100 PIECES USED FOR ANALYSIS. PRODUCTION MATERIALS, METHODS, AND PROCESSES MUST BE UTILIZED. SAMPLES DO NOT HAVE TO BE CONSECUTIVE, BUT SHOULD BE RECORDED IN THE ORDER THAT THEY ARE RUN.

SHORT TERM REQUIREMENTS

OUT OF CONTROL	Cpk < 1.67	Cpk > 1.67
IN CONTROL	100% SORT	100% SORT
	100% SORT	PER CONTROL PLAN

LONG TERM STUDIES:

INITIAL LONG TERM STUDIES WILL USE CONTROL LIMITS AND OTHER VALUES FROM THE PRELIMINARY PROCESS STUDY. ONCE A MINIMUM OF 20 DAYS PRODUCTION WITH CONTINUOUS CHARTING (25 SUBGROUPS MINIMUM) IS COMPLETED, CONTROL LIMITS CAN BE RE-CALCULATED

LONG TERM REQUIREMENTS

OUT OF CONTROL	Cpk < 1.33	Cpk > 1.33
IN CONTROL	100% SORT	100% SORT
	100% SORT	PER CONTROL PLAN

THIRD ANGLE PROJECTION

TOLERANCE
UNLESS SPECIFIED



DOUGLAS AUTOTECH CORP.

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DRAWING NAME
CONTROL DIM SPEC

PAGE	OF	MATERIAL:	SEE NOTE	DRAWING NUMBER	PART NUMBER
SCALE:	FULL	STANDARD UNITS:	mm		
NAME		DRL		BEE	
DATE		070588		071888	
BY	DESIGN	DRAWN	CHECK	APP.	

DS1005

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LEV
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