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APPENDIX B

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The Issues of Complying with Federal Motor Vehicle Safety Standards and Other Requirements

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Excerpt

It is abundantly clear that no form of statistical sampling by the bureau, no matter how cleverly conceived, could be reasonably implemented to handle a situation where the bureau assumed the responsibility for validating the manufacturers' certification. Further, the legislation is clearly written to exclude any inference, no matter how remote, that the government is putting, in any way, to the manufacturers' certification.

Within this framework, functions the compliance activities of the bureau. One job, so to speak, is to find the "bad guys." It is a well-known axiom in quality control circles that "you cannot inspect quality into a product." This is particularly true in our case, and accordingly, the bureau's compliance testing program is better defined as an audit-type operation to provide a measure of assurance that manufacturers are, themselves, diligently pursuing the type of programs that will provide the consumer with products that meet, as a minimum, the requirements of the Federal Motor Vehicle Safety Standards.

Having recognized that the requirements exemplified by the Federal Motor Vehicle Safety Standards are minimum requirements, it is a false conclusion that we do not talk in terms of an acceptable quality level relative to those standards. We are not talking about 100% compliance.

We do, however, expect that industry itself must, as part of the production process, think in terms of a workable AQL. The notion of "perfection in production" just cannot be expected to exist in the manufacture of such a high volume and complex item as the automobile. But, it is also just as true to expect that as the Federal Motor Vehicle Safety Standards establish minimum requirements, they should not be interpreted as nominal design values.

Fig. 7 is a schematic portrayal of three possible approaches illustrating the relationship between FMVSS (Federal Motor Vehicle Safety Standards) and the establishment of nominal design values.

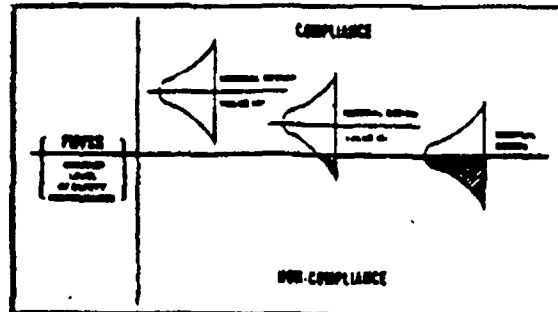


Fig. 7 - Relationship between FMVSS and nominal designs

Design value (A) has been established recognizing the effect that normal production variance would have on the compliance status of the finished product. The nominal design value, in this example, exceeds the requirements of the standard to the degree that all products manufactured within the normal quality spread attainable in actual production would be in compliance with the standard.

Design value (B), while exceeding the minimum safety performance requirements of the standard, fails to recognize, sufficiently, the effect of normal production variance on the compliance status of the finished product. Accordingly, as part of the inevitable facts of production life, some measure of noncompliance must certainly exist.

Design value (C), on the other hand, has been established using the federal standard as the mean or central tendency of the normal statistical distribution of quality output under production conditions. Under these circumstances, the incidence of noncompliance would, of course, be quite high.

From my earlier remarks establishing 100% compliance as the only AQL acceptable to the bureau, it is obvious that only the example depicting "nominal design value (A)" typifies conditions that could realistically be expected to achieve acceptable compliance performance by industry. The bureau is not concerned with design for design's sake. The manufacturer must, of course, retain complete freedom of design in meeting the performance requirements of the individual standards. It is up to the manufacturer to determine the degree of overdesign, relative to the minimum requirements of the standard, necessary to establish and maintain an "in compliance" status for his product. The degree of overdesign necessary for any one product, be it vehicle or equipment, can, and probably will, vary from manufacturer to manufacturer. Certainly, it will be directly related, among other things, to the manufacturers' ability to monitor and control his production process.