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NASA TECH BRIEF



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Reidentifying Hardware After Loss of Serial Number

Problem:

Many engineering drawings bear a general note which requires "complete traceability" of parts. A system is needed which makes it possible to trace fabrication and inspection records of these special parts all the way to the raw material. In one system, the heat number marked on the raw material is recorded on the manufacturing document, and the corresponding serial number of the document is stamped on the part (or on a tag attached to the part). Occasionally, however, during operations such as machining, heat treating, and blasting, serial numbers stamped on parts (or tags) are accidentally obliterated or removed from several identical parts at the same time, making it impossible to match each part with its manufacturing document. This loss of identification can result in scrapping expensive parts.

Solution:

Nearly all castings, forgings, and welded parts which require traceability are X-rayed, and film control numbers are recorded on corresponding serialized manufacturing documents. Variations in size or location of normal porosity, inclusions, width or thickness

of welds, etc. (which are easily detected in processed X-ray film), are never exactly the same in any two parts. When the serial numbers are lost from several identical parts, their identity can usually be reestablished by X-raying all parts again and comparing the new film with the original film whose numbers were previously recorded on the serialized documents.

Note:

No further documentation is available. Inquiries may be directed to:

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Patent status:

No patent action is contemplated by NASA.

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