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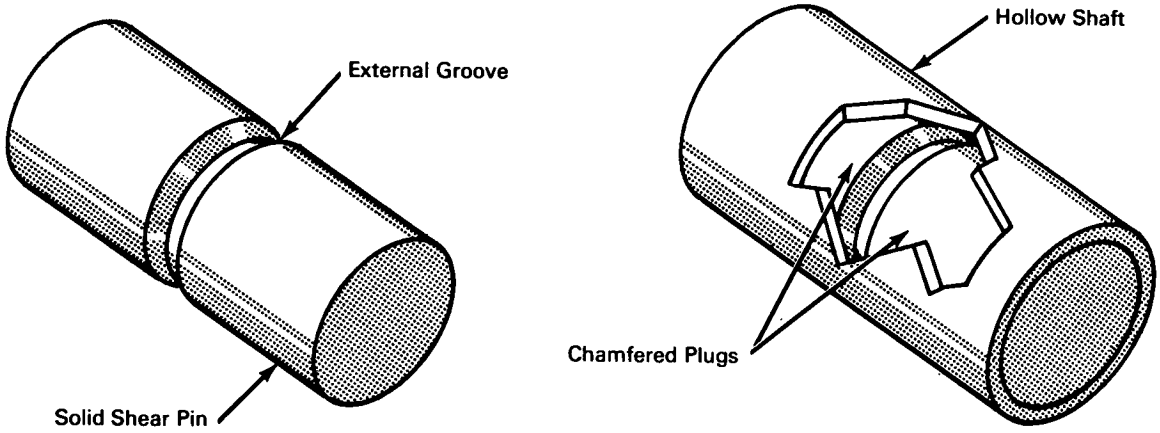
NASA TECH BRIEF

Plugged Hollow Shaft Makes Fatigue-Resistant Shear Pin



The problem:

Past experience has shown that shear pin couplings of the external groove type are subject to failure due to fatigue rather than overloading.

The solution:

A shear pin coupling design that employs the external groove basic idea in modified form.

How it's done:

A hollow shaft is fitted with two plugs with chamfered ends that meet at the point where shear is to occur on overload.

Notes:

1. This design provides the required load capacity for shaft protection and has no groove to induce fatigue failure.
2. Several years satisfactory service indicates that this type shear pin has solved the problem of fatigue failure in this application while furnishing the desired protection against shaft overloading.
3. Inquiries concerning this innovation may be directed to:

   Technology Utilization Officer
   Langley Research Center
   Langley Station
   Hampton, Virginia, 23365
   Reference: B66-10077

Patent status:

No patent action is contemplated by NASA.

Source: T.W.E. Hankinson
(Langley 195)
Category 05