

۱- CAPABILITY TITLE : Non-pyro Technique Spool-Type Pin Puller

۲- TYPE OF CAPABILITY

PRODUCT TECHNOLOGY LAB. SERVICE EXPERT ADVICE OTHERS

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۳- CAPABILITY INTRODUCTION & DESCRIPTION:

Pin puller is a type of actuator used for releasing two mechanical components simultaneously, and in a very short period of time. It means that pin puller causes two connected components to get separated when pin is pulled inside, like an electrical fuse. Pin pullers are categorized in two general types, pyrotechnique and non-pyrotechnique. Also the non-pyrotechnique type itself is categorized in several types, such as spool type, paraffin type, shape memory alloy type (SMA), and so on.

Flowing electrical current in link wire causes increase in its temperature and decrease in its strength, this link is ruptured from definite place and lets the wrapping wire release. Releasing wrapping wire from around of spool causes pulling pin which is placed under springs' loads to get pulled inside housing and let the two connected components separate from each other.

Pin puller Application

- Aerospace industries

Release mechanism of solar arrays, Communication antennas, separating of launcher stages, fuel storage container, launcher faring and ...

-Industrial applications

Separation feasibility for all release mechanisms in a very short period of time, such as ejectors, sensitive industrial doors in nuclear, oil and gas gen bank and so on, in extreme environment (high temperature gradient and vacuum)

- Military applications

Ejecting the stage and releasing lock of the missile and launchers .

Technical properties of this pin puller	
Geometrical dimensions	9. x 5. mm
weight	3. gr
Release time	Lower than 100. millisec
stork	15 mm
Environmental conditions	Temp: -65 to +85 °C Vacuum: 10 ⁻⁶ Torr
Current	2 Amp
Voltage	15 Volts