



DEFENSE

PIN PULLERS / PUSHERS

Pyroalliance designs and manufactures pyrotechnic Pin Pullers and Pin Pushers. Those are dedicated to maintain the holding position of a mechanism aiming to be deployed or ejected after the pin is activated. In most cases it will prevent the linear or rotational motion of an object.

For example helicopter rocket canisters use Pin Pullers as an arming signal confirmation and allow the rocket to be operated once removed. Pin Pushers, at the opposite, will create a movement to push or break another mechanical piece such as missile inlet cover or gas bottle cap for fire suppression.

The overall dimensions as well as piston strokes are adjusted depending on the application.

More generally, Pyroalliance delivers complete pyrotechnic chains adapted to its customers' needs. They are designed and manufactured under Pyroalliance design authority.

PIN PULLER / PUSHER

Operating mode

A Pin Puller/Pusher is a locking device that can be implemented on several hold and release or position maintaining functions.

It is triggered upon reception of a secured electrical order and is part of a succession or pyrotechnical events during a missile operational mission.

The electrical order activates the igniter located inside the cartridge. The generated deflagration creates a gas pressure inside the chamber that will move the piston along the metallic housing of the Puller/Pusher.

Benefits

- Compact with high energetic density
- High speed operation: < 5ms (Essential to synchronize functions)
- High reliability level ≥ 0.9998 (@90% CL)
- Hermeticity: contained effects, no fragments or flame

Applications

Military applications include:

- Missile or rocket launch tube
- Protection/cover removal for:
 - Air intake
 - Optical instrument
- Fins and wings release
- Fuse arming
- Emergency door release

Classification

- ONU Number: 0323
- Transportation class: 1.4S
- Not subject to any ITAR constraint

For more information

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Typical performances and features

Operating time	5ms to 10ms (depending on the model)
Temperatures	Adapted to typical airborne military climatic environment
Size*	Length : ≤ 40 mm Diameter : ≤ 10 mm
Reliability	$\geq 0,9998$ @90% CL
Life Time	Adapted to the mission and life profile
Firing Current	$\geq 1A - 10ms$
Non Firing Current	1A / 1W / 5min @ ambient temperature
Connector	Various termination available

* Larger value falls into "Actuators" category please refer to dedicated product sheet.

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