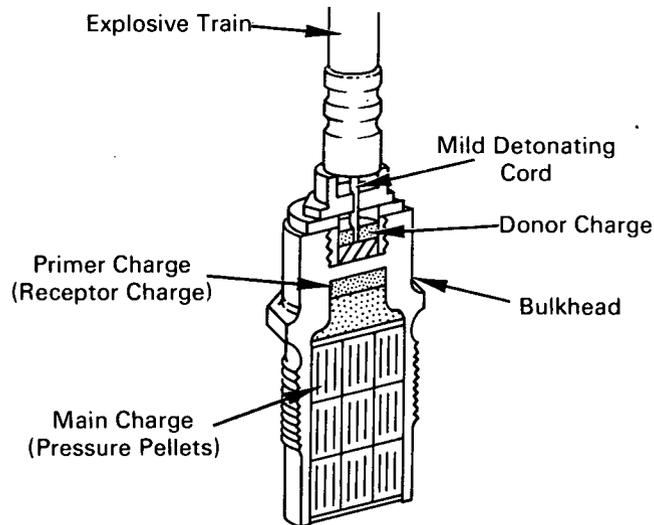


NASA TECH BRIEF



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Explosive-Train Initiated through Solid Bulkhead by Pressure Cartridge



(TYPICAL THROUGH-BULKHEAD TYPE)

The problem:

To ignite a main charge of explosive through a solid bulkhead without destroying or damaging the seal or the bulkhead. Existing methods require precise electrical sequencing for ignition of a pressure cartridge at a specific time.

The solution:

An explosive-train initiated pressure cartridge, which transmits a shock wave through a solid bulkhead.

How it's done:

During ignition, the explosive-train initiated pressure cartridge activates the detonating cord, which ignites the donor charge or booster. The resulting shock wave travels through the steel bulkhead to ignite the primer charge (receptor charge), which in turn ignites the main charge. In this case the main charge consists of pressure pellets, which generate a gas pressure.

Notes:

1. Depending on its purpose, the main charge could be an explosive, a pyrotechnic, or a propellant.
2. Inquiries concerning this innovation may be directed to:

Technology Utilization Officer
Manned Spacecraft Center
Houston, Texas 77058
Reference: B67-10589

Patent status:

No patent action is contemplated by NASA.

Source: J. C. Wilkowski
of North American Aviation
under contract to
Manned Spacecraft Center
(MSC-11395)

Category 03



NASA TECH BRIEF

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Explosive Train Initiated through Beta Backhead by Pressure Cartridge

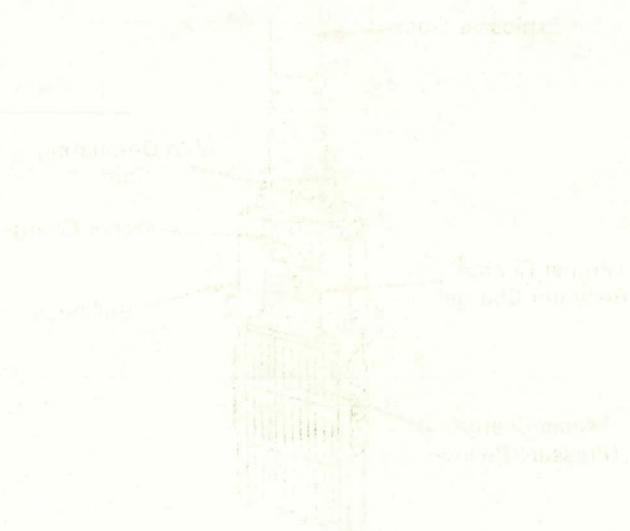


FIGURE 1. EXPLOSIVE TRAIN INITIATION

Initiation of the explosive train could be accomplished by a pressure cartridge or a propellant cartridge. A pressure cartridge is a device which contains a quantity of explosive material.

Technical Information Officer
Manned Spacecraft Center
Houston, Texas 77058
NASA Form 160-103

Further reading

For further information, contact NASA.

George J. C. Wilkerson
Manned Spacecraft Center
Houston, Texas 77058
NASA Form 160-103

(Category D)

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The problem

The explosive train consists of a series of explosive elements which are initiated by a pressure cartridge. The explosive train is initiated by a pressure cartridge which contains a quantity of explosive material.

The solution

The explosive train initiated by a pressure cartridge which contains a shock wave through a beta backhead.

How it's done

During ignition the explosive train initiated by a pressure cartridge which contains a shock wave through a beta backhead. The explosive train is initiated by a pressure cartridge which contains a shock wave through a beta backhead. The explosive train is initiated by a pressure cartridge which contains a shock wave through a beta backhead.

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