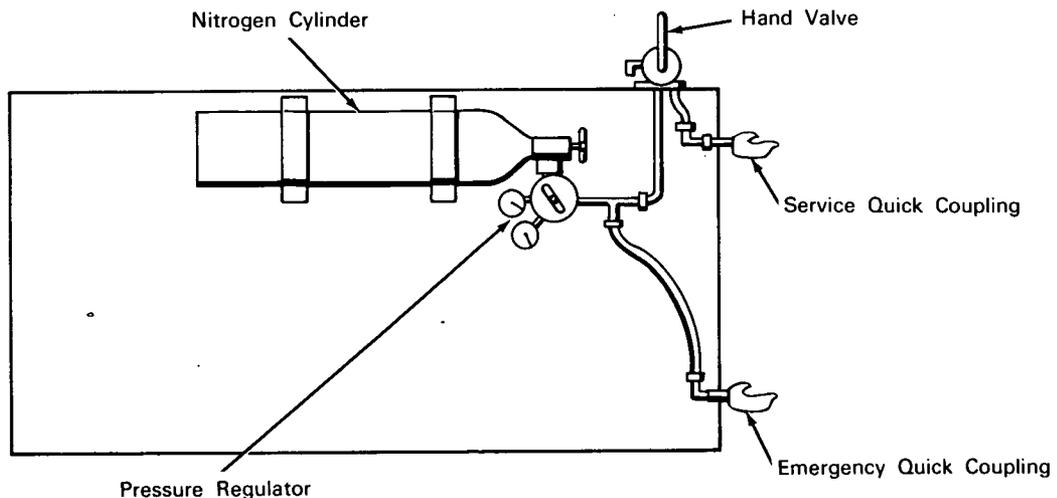


NASA TECH BRIEF



This NASA Tech Brief is issued by the Technology Utilization Division to acquaint industry with the technical content of an innovation derived from the space program.

Compressed Gas System Operates Semitrailer Brakes During Winching Operation



The problem: In the movement of van-type semitrailers into or out of confined spaces, such as the cargo compartments of aircraft, it is frequently impractical to use a truck tractor for power. The use of a winch involves blocking the trailer wheels frequently to protect personnel from the possibility of a broken winch cable during adjustment of the load, realignment of the trailer/dolly assembly, and so on.

The solution: An auxiliary braking system mounted on the dolly converter used in conjunction with a power winch.

How it's done: A Q-type cylinder charged with nitrogen at 2,000 psia is strapped beneath the frame of a standard service dolly converter and connected through a pressure regulator to one service quick coupling and one emergency quick coupling. Pressure to the service quick coupling is further controlled by

a hand valve mounted on the forward left-hand side of the dolly chassis. The semitrailer is coupled to the dolly and the semitrailer brake system attached to the dolly service quick coupling for loading or unloading operations. The emergency quick coupling is used for long periods of inactivity such as overnight or weekend shutdowns. During loading or unloading operations one crewman stays beside the dolly and operates the hand valve to actuate the semitrailer brakes as required. Thus, no wheel blocking is required, operations are appreciably expedited, and personnel safety is increased.

Notes:

1. Three dolly converters have been so equipped and have proved efficient and simple to operate, reducing loading or unloading time by as much as two and one-half hours.

(continued overleaf)

2. Inquiries concerning this innovation may be directed to:

Technology Utilization Officer
Jet Propulsion Laboratory
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Reference: B64-10306

Patent status: NASA encourages commercial use of this innovation. No patent action is contemplated.

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(JPL-0036)