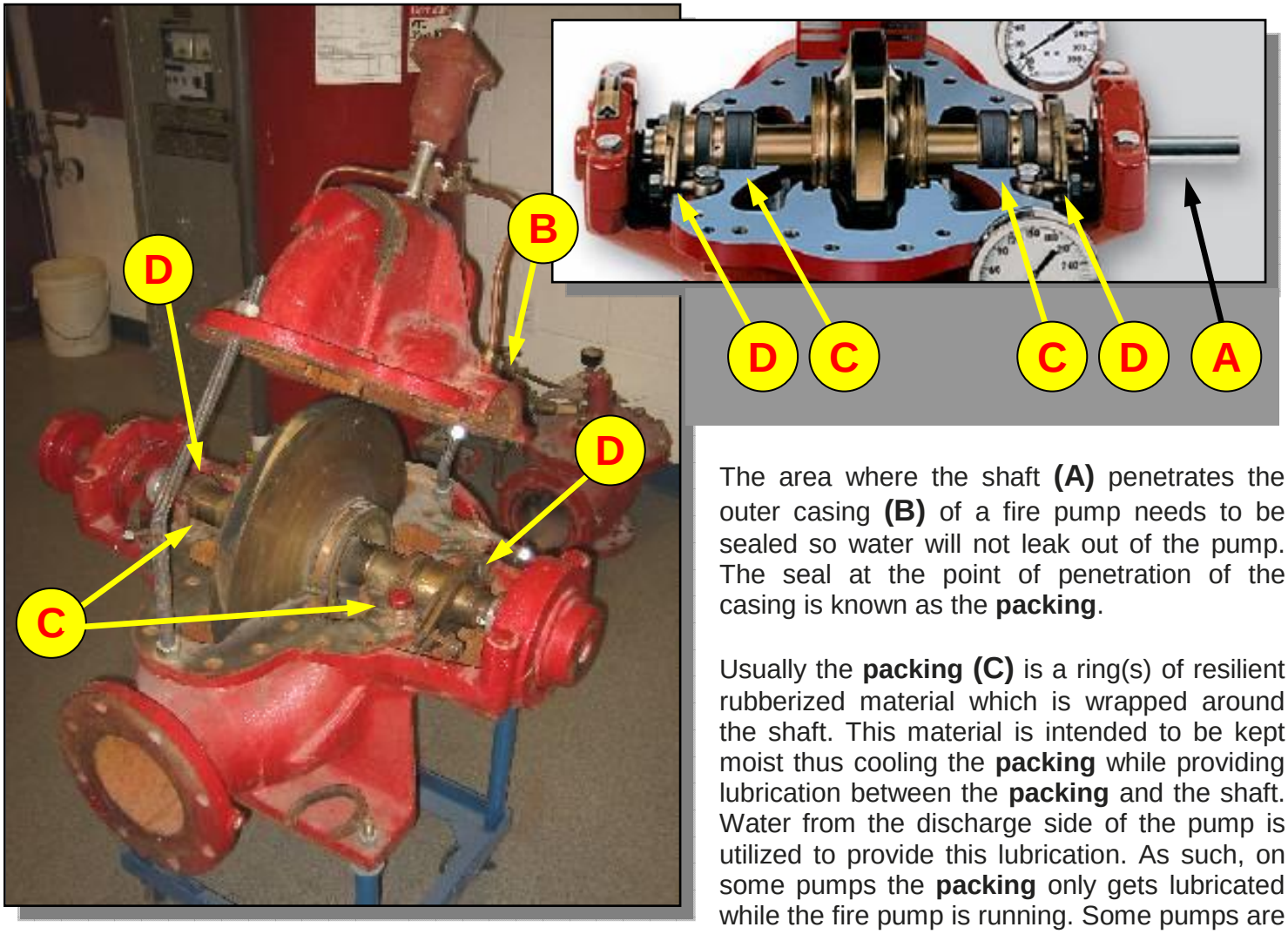
MINNESOTA PUBLIC SAFETY
STATE FIRE MARSHAL
EST. 1905

QUICK RESPONSE

Saving life and property through effective licensing, plan review, and inspection of fire protection systems.

May 2009

FIRE PUMPS – PACKING



The area where the shaft **(A)** penetrates the outer casing **(B)** of a fire pump needs to be sealed so water will not leak out of the pump. The seal at the point of penetration of the casing is known as the **packing**.

Usually the **packing (C)** is a ring(s) of resilient rubberized material which is wrapped around the shaft. This material is intended to be kept moist thus cooling the **packing** while providing lubrication between the **packing** and the shaft. Water from the discharge side of the pump is utilized to provide this lubrication. As such, on some pumps the **packing** only gets lubricated while the fire pump is running. Some pumps are designed so that constant positive pressure in the pump casing allows water to constantly be delivered to the packing. These pumps have continuous dripping from the packing gland even when the pump is not running.

More water is brought to the **packing** than can be absorbed. During normal operation of the fire pump the excess water will drip from the pump. The amount of leakage is controlled by the packing gland **(D)**. The packing gland, which is adjustable, should not be over tightened. Adjusted too tight, the **packing** dries out, heats up and usually causes a scored shaft, which then produces a rapid rate of **packing** wear.

Quick Response is presented monthly by the
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