MINNESOTA PUBLIC SAFETY
STATE FIRE MARSHAL
EST. 1905

QUICK RESPONSE

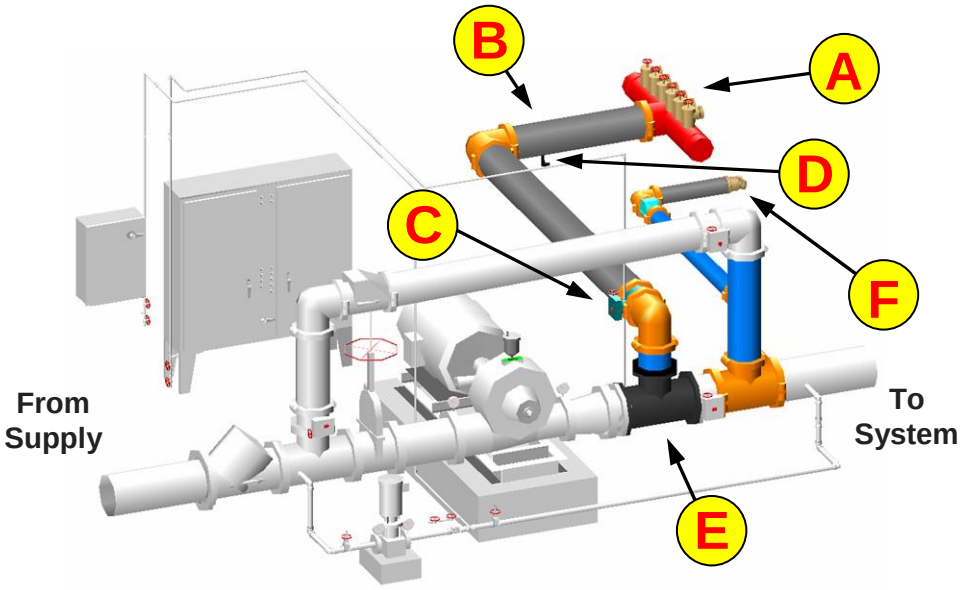
Saving life and property through effective licensing, plan review, and inspection of fire protection systems.

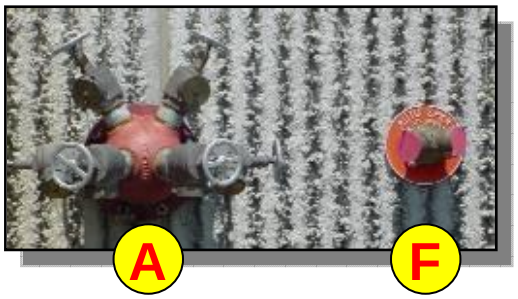
September 2008

FIRE PUMPS – TEST HEADER AND FIRE DEPARTMENT CONNECTION

Every fire pump needs a method of testing to verify it is functioning properly. One of the more common methods is the use of a **test header** arrangement. A **test header** allows for the flowing of large quantities of water through multiple hoses.

The fire department connection (FDC) allows the fire department to supplement the fire protection system in the event of a fire (refer to the August 2006 ***Quick Response*** newsletter).





A = **Test Header –** This manifold includes hose valves to which hose is attached to when testing. The required number of hose valves and the minimum size of the hose valves are based on the rating of the fire pump and are indicated on **Table 5.25** of **NFPA 20 (2003 edition)**.

B = **Test Header Supply Pipe –** The minimum pipe size is indicated on **Table 5.25** of **NFPA 20 (2003 edition)**. Unless sized hydraulically, if the length of pipe between the **test header** and the connection to the discharge side of the pump exceeds 15 feet the next larger nominal pipe size must be used (**NFPA 20, Section 5.19.3.4**).

C = **Control Valve –** This control valve must be installed if the location of the **test header** is subject to freezing. This valve may be OS&Y or butterfly type. **NFPA 20, Section 5.16.2** requires this valve to be supervised closed. A drain valve or ball drip (**D**) shall also be installed.

E = **Test Header Connection –** The connection for the **test header** should be between the discharge check valve and the discharge control valve. This allows the fire pump to be tested with the discharge control valve closed, isolating the pump from the rest of the system.

F = **Fire Department Connection (FDC) –** It is important that the FDC be tied into the discharge side of the fire pump on the system side of the discharge control valve.

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