

APPLICATION

The 118367A Swivel Mount provides an adjustable mounting support for ultraviolet flame detectors. The swivel mount fastens outside a furnace wall, and a sighting pipe and flame detector are attached to the swivel mount. Adjustment of the detector's view of the flame is possible after the mount is installed (Fig. 1).

INSTALLATION

WHEN INSTALLING THIS PRODUCT. . .

1. Read these instructions carefully. Failure to follow them could damage the product or cause a hazardous condition.
2. Check the ratings given in the instructions and on the product to make sure the product is suitable for your application.
3. Installer must be a trained, experienced, flame safeguard control technician.
4. After installation is complete, check out product operation as provided in these instructions.

LOCATION

Refer to the flame detector and burner manufacturer's instructions before beginning installation. Consider any special mounting requirements of the detector when locating the swivel mount. Follow instructions carefully to make the best possible application of the flame detector.

PLAN LOCATION OF SIGHTING PIPE

The location of the sighting pipe is the most critical part of the installation, since the detector output current depends on the correct sighting of a steady flame only. Since no two situations are likely to be identical, the location, length, size, and sighting angle of the pipe must be determined at the time and place of installation.

Review carefully the requirements of the particular job, and select the best location for the sighting pipe:

1. Detector must have a *completely unobstructed view* of whichever flame is to be proven. See Fig. 1.
2. Sighting pipe must allow only a steady portion of the flame to be seen by detector. Flame must not roll, rotate, or float away from detector's view.

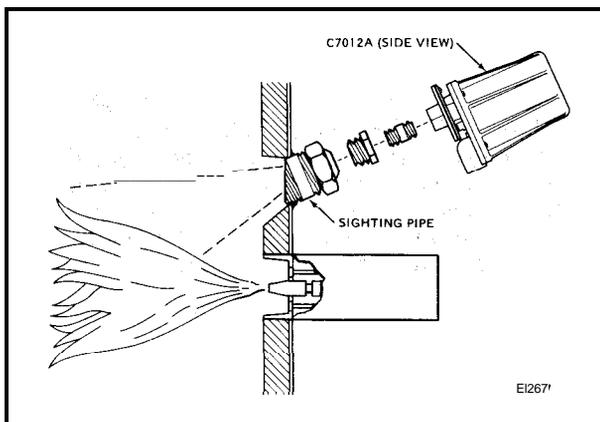


Fig. 1-Typical location.

3. Electric ignition sparks must *not* be sighted by detector.

4. Generally, it is desirable to have the detector and sighting pipe tilted downward to prevent soot buildup in pipe or on flame viewing window of detector.

5. Radiation from hot refractory (2500 F or lower) need not be considered, as it has no effect on ultraviolet flame detectors such as the C7012, C7027, and C7035.

PREPARE HOLE IN FURNACE WALL

Cut or drill holes for swivel mount in burner wall at the selected location. The swivel mount will either attach to a floor flange and pipe bolted to the furnace, or to a pipe welded onto the furnace wall, usually at an angle. In either case, the burner flame must be visible through the 2 in. pipe nipple. The floor flange requires a 2-3/8 in. [60 mm] sighting hole and 4 drilled and tapped bolt holes. If the 2 in. pipe is to be welded onto the furnace, size the sighting hole to the pipe (Fig. 1).

Flare the hole to give room for small adjustments of the sighting angle. The taper of the hole should be about 1 in. for every 3 in. [25 mm for every 76 mm] of furnace wall thickness.

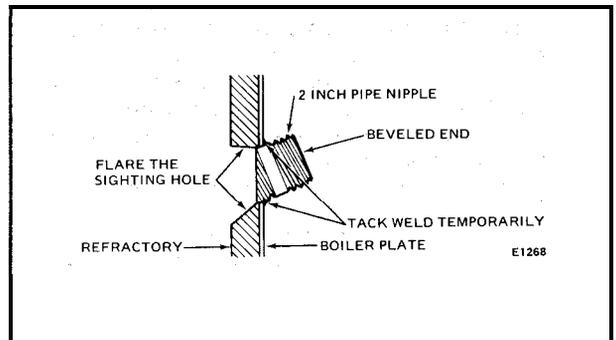


Fig. P-Preparing hole.

INSTALL SIGHTING PIPE

For welded installation, cut the 2 in. pipe at the desired angle on the end opposite the ball seat. Tack weld the pipe to the boiler plate in a trial position. Do not weld in place until satisfactory operation is proved.

Install the 2 in. pipe in the floor flange, with the beveled end out (Fig. 3). Place the ball and nut on the pipe. Tighten the ball and nut with the threaded hole exposed.

Install the 1 to 3/4 in. reducing bushing and the 3/4 in. close nipple (sighting pipe) and tighten. A C7012A or E ultraviolet flame detector or a C7015 infrared detector mounts to the end of the nipple. A 3/4 in. black iron sighting pipe may be substituted for the 3/4 in. close nipple.

To install a C7027, add a 3/4 to 1/2 in. reducer and 1/2 in. close nipple (not supplied) to the 1 to 3/4 in. reducer.

To install a C7035 or C7012C or F, attach a 1 in. pipe at least 2-1/2 in. long (not supplied) to the swivel ball. The 1 to 3/4 in. reducer is not used.

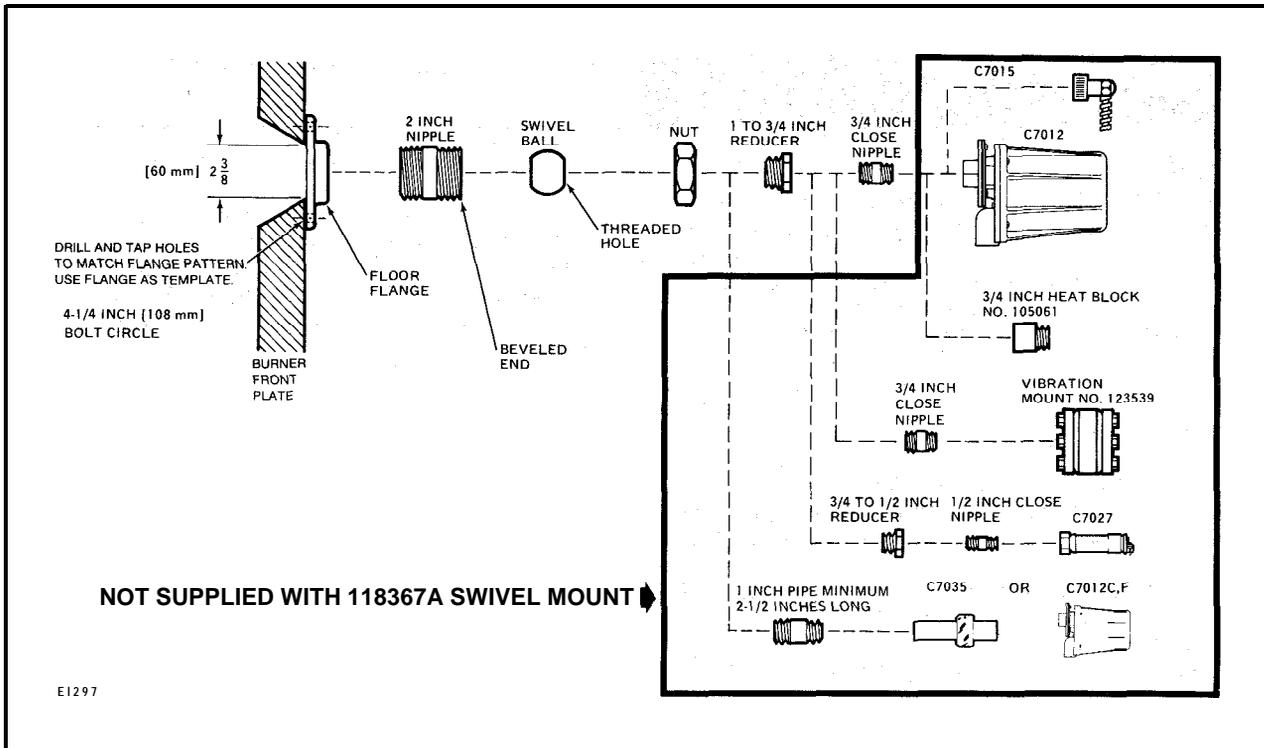


Fig. 3-Flame detector swivel mount installation, in inches [millimeters shown in brackets].

SIGHTING PIPE VENTILATION FOR OIL FLAMES

Ventilate the sighting pipe in oil systems where vapors or oil mist may impede the detector's view of the flame. A good method for negative pressure combustion chambers is to drill a couple of small holes in the external portion of the sighting tube.

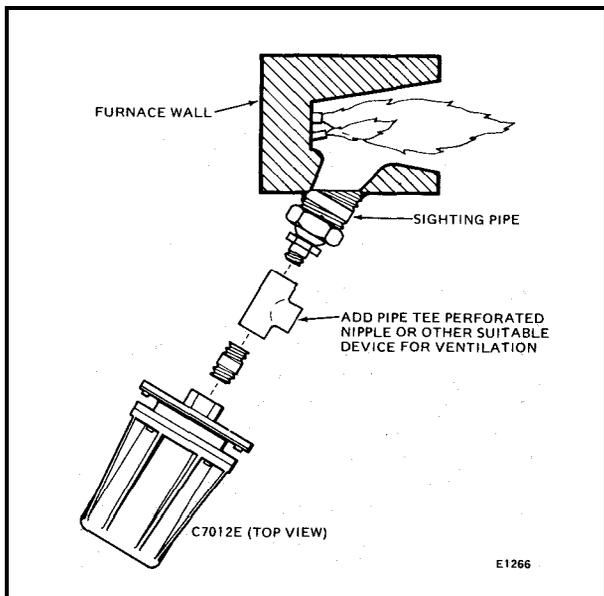


Fig. 4-Typical oil burner detector installation.

For positive pressure burners, add an air purge by tapping the sighting tube or adding a 3/4 in. pipe tee and nipple 7616BV Bag Assembly). Attach the fitting and provide a supply of pressurized air from the combustion air blower or other pressurized air.

VIBRATION

The detector will withstand normal burner vibration. For applications where the vibration is excessive however, a special shock mounting, Part No. 123539, is available for the C7012A and E. If the shock mount is used, all tests for position and sighting should be made with the mount in place.

HEAT

High temperatures may affect some detectors. Select a location where temperatures will not exceed the detector's ambient operating range. Install accessory heat block, Part No. 105061, if high temperatures are encountered.

CALIBRATION AND CHECKOUT

Calibrate and check out the installation according to the detector and burner manufacturer's instructions. The nut on the swivel ball may be loosened during aiming and adjusting. Tighten the nut carefully after sighting and proving flame safeguard detector operation.