

# Chapter Seventeen – Case Studies

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## Case Studies

The following are sample photos from various cases and actual field conditions. Some “Case Studies” are combinations of sites and do not represent individual cases. The photos are meant for educational purposes only. Special thanks goes to the generous contributions of Don Stewart, Ken Garside, Kirk Hankins, Plankey/LeBow and John Lentini.

### Case #1

This restaurant fire occurred approximately 13 hours after closing. The left rear range burner was left in the ‘on’ position. The fire-extinguishing system probably extinguished the first fire, but did not extinguish the pilot lights.

The automatic gas shut-off had been held in the ‘open’ position by bailing wire. Subsequently, the fire reignited and as the fire-extinguishing system had previously activated, there was no extinguishing agent left.

The non-compliant aluminum duct system melted, and the remaining ductwork was not clean. Accumulations of baked on grease were found in the fan housing.



*Range top. Fire started on the rear left burner.*



*With the burner covers lifted the amount of food debris and grease can be seen*



*The automatic gas shut off with the cover plate removed*



*A close up shot of the gas shut off. Observe the wire holding the valve open.*



*The molten aluminum duct running horizontally across the ceiling of the kitchen*



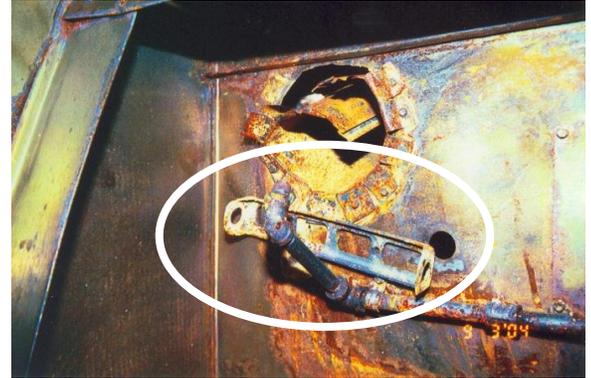
*Looking into the duct at remaining grease buildup*

Case #2

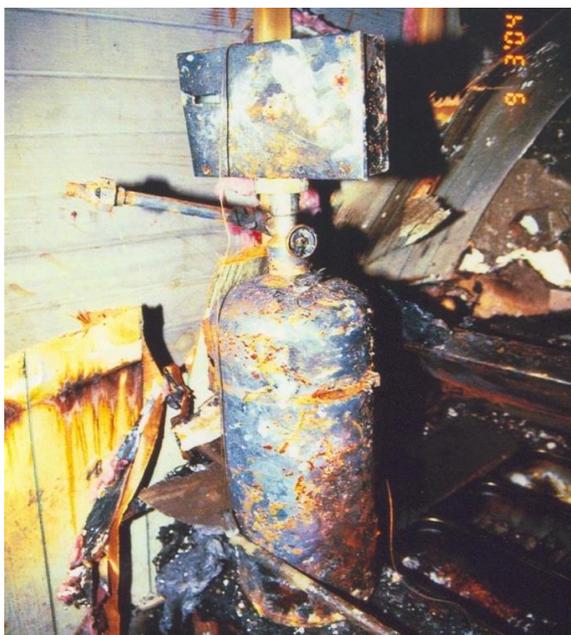
A fire originated in the kitchen approximately 1 hour after closing. The Fire Department ripped the non-compliant hood from the wall. It was apparently not difficult to remove as nothing was connected. The hood was on the floor at the time of the examination. The fire-extinguishing system was not connected. Note: there was no broken piping or damaged threads from the tank to the nozzles. There was no cabling for the fusible links.



Looking up into the hood. Note the noncompliant non-welded connection of the hood to duct.



A close up of the duct opening. There is no detection system cable, only the bracket.



Photos of the distribution piping. From the corrosion on the threads of the piping it would appear that they were never connected.



# A Guide for Commercial Kitchen Fires

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## Case #3

This fire originated in the kitchen approximately 2 hours after closing. The restaurant owner was in the process of remodeling the kitchen. A new cooking line had been installed. The restaurant owner was told that he needed a new hood and ducts. They had been partially installed.

The installer told him that he would also need a new fire-extinguishing system and had removed the old one when installing the new hood. The hood was supported by one gallon metal food cans and the seams had not been welded.

The insured stated that he was told that he could not use the appliances but operated anyway.



*The hood behind suspended ceiling T-bar*



*A close up of where the vertical duct was not welded to a horizontal section of the ducting*



*Cans holding up the edge of the hood*



*Debris on top of one on the sections of duct*

## Case #4

A deep fat fryer at the origin of a multi-million dollar restaurant fire. This fryer had only gas connections. Damage would likely have been limited, but the kitchen staff tried to “smother” the flames with a cookie sheet, preventing the extinguishing agent from reaching the burning oil.



*View of the capillary tube holder on the side of an oil vat*



*Fryer parts found in the cabinet after the fire*