

FLASHBACK AND BACKFIRE PREVENTION

Protect yourself and those around you from flashbacks and backfires through product and process knowledge. Read the instructions for the equipment and handle the gases according to the safety regulations. Ask for training assistance from your supplier.

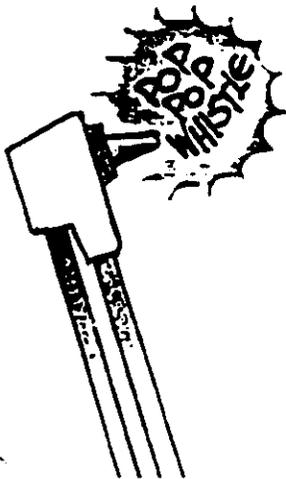
What is a flashback?

A flashback is an explosion which progresses through the torch and gas supply equipment.

Will I know when a flashback is likely to occur?

It may start with a rapid popping sound called a backfire, which turns into a constant whistling sound. The gases are burning inside the torch at this point. Immediately shut off the oxygen valve at the torch hose connection. The flame is then extinguished inside the torch. Otherwise it can lead to the torch melting or a full flashback.

However, a major flashback can occur without warning. The flame travels back beyond the mixer and may cause an explosion in the hoses or regulators.



What are the consequences of a flashback?

damaged equipment (torch, hose)
regulator explosion
cylinder explosion
a fire fed by gases from cylinders

Any of the above consequences can lead to a serious injury to the operator and nearby co-workers.

What is a backfire?

A backfire is a small explosion usually confined to the head of the torch.

Is a backfire dangerous?

A backfire indicates a problem with the equipment or incorrect gas pressures. Backfires can cause a flashback.

What causes a backfire?

Most backfires are caused by gas starvation at the preheat flame.

Preheat fuel and oxygen flow rates must be greater than flame velocity to avoid backfires and flashbacks. Flows are determined by following recommended tip pressures.

Other causes:

- loose connections
- hose leaks
- incorrect pressures
- anything which disrupts the flow of gas to the flame
- operator technique

