



INSTRUCTIONS

BOOSTER TORCH



The Hauck “Booster” Torch combines a “Retain-A-Flame nozzle with a booster to produce a multi-purpose torch designed for use where low pressure gas and compressed air (ranging from 30 to 120 psig) are available. The booster assists in maintaining the proper air-gas ratio under all operating conditions. This torch is designed for rugged duty in open air applications.

INSTALLATION:

1. Ensure that the torch air and gas control cocks are both fully closed.
2. Connect the torch gas and compressed air inlets to the appropriate main supply lines. Compressed air, ranging from 30 to 120 psig, and low pressure gas must be available at constant pressures at the air and gas inlets of the torch.
3. Complete the initial adjustment of the air shutter in the following manner:
 - A. Loosen the locking thumbscrew and its associated fiber pad.
 - B. Close the air shutter by rotating the shutter around the spud holder.
 - C. Open fully both the air and gas valves in the main supply line.
 - D. Open the torch compressed air cock fully.
 - E. Open the torch gas cock slowly and light the burner by means of a small torch.
 - F. Adjust both the gas and air cocks until the required flow is reached.
 - G. Adjust the air shutter to achieve the flame shape and condition best suited to your application. For best results, a blue hard driving flame is recommended.
 - H. Securely tighten the locking thumbscrew.

OPERATION:

The torch booster operates as the high pressure compressed air stream flows through a hollow high pressure needle which directs the compressed air through the center of the gas spud. This causes the gas to be drawn in around the stream of air. This stream then jets into the throat of a venture mixer. As the high velocity stream enters the venture it draws atmospheric air along with it, compressing both the incoming atmospheric air and the original stream. The air and gas are mixed in a combining tube in the throat of the venture and then this mixture is expanded in the outlet nozzle.

If the compressed air and/or gas pressure is altered, it may be necessary to adjust the air shutter to ensure the proper gas-air ratio is maintained. If reignition of the burner(s) is necessary, follow steps 5A thru 5G under INSTALLATION. When simply adjusting the ratio to optimize burning, accomplish the following.

These instructions are intended to serve as guidelines covering the installation, operation, and maintenance of Hauck equipment. While every attempt has been made to ensure completeness, unforeseen or unspecified applications, details, and variations may preclude covering every possible contingency. **WARNING: TO PREVENT THE POSSIBILITY OF SERIOUS BODILY INJURY, DO NOT USE OR OPERATE ANY EQUIPMENT OR COMPONENT WITH ANY PARTS REMOVED OR ANY PARTS NOT APPROVED BY THE MANUFACTURER.** Should further information be required or desired or should particular problems arise which are not covered sufficiently for the purchaser's purpose, contact Hauck Mfg. Co.

- A. Loosen the locking thumbscrew.
- B. Rotate the air shutter around the spud holder thus increasing or decreasing the atmospheric air inlet as required.
- C. Retighten the locking thumbscrew.

CAUTION

A flash-back can cause not only serious damage to equipment but also severe injury to personnel.

“Flash-back” occurs when a flame front moves back through the burner nozzle, and possibly back to the mixing point. It occurs when the flame velocity exceeds the mixture velocity through the burner nozzle. As a rule of thumb, to prevent an occurrence of flash-back the mixture pressure must exceed

- A. .20" water column for propane.
- B. .25" water column for natural gas, or
- C. .40" water column for manufactured gas.

However, **an uneven distribution of the gas/air mixture through the nozzle, an oversized nozzle, or an obstruction can cause a flash-back to occur when the pressure is greater than that stated above.**

If a flash-back occurs, immediately stop the flow of gas through the mixer/burner system. If necessary, allow the mixer, mixture piping and/or the nozzle to completely cool before attempting to reignite the burner. If the flash-back occurred with mixture pressures greater than those indicated above, inspect the nozzle and remove any obstructions or residue build-up. If the conditions persist, it may be due to the piping configuration or the nozzle being used – Consult your local Hauck engineer for recommendations.

MAINTENANCE:

All parts of the torch assembly are manufactured to close tolerances to insure correct alignment. Since there are no internal moving parts to jam or get out of alignment, this unit is relatively maintenance free. It is sometimes necessary, however, to clear the gas spud orifice of any dirt built-up as this can greatly reduce mixer capacity. The spud orifice is easily cleaned by removing the air valve and running a wire into the opening and through the air tube and spud.