1. Wear proper eye and body protection.
2. Avoid putting the torch tip in a closed or recessed place which could concentrate the flame heat and cause a "flashback". Use of a flashback arrestor is highly recommended.

**NOTE:** If a "flashback" occurs:
A. Turn off the fuel gas valve first, then
B. Turn off the oxygen valve.

**CAUTION:** Before relighting the torch after a "flashback", inspect torch and tip. Replace any burned "O" rings or damaged parts before proceeding to spray again.

**IMPORTANT:** Never light the torch with the powder lever depressed and powder in the hopper.

3. Spray direction can be adjusted by loosening the tip coupling nut (part #10) and swiveling the tip to the desired direction. Resecure the tip nut by finger tightening. Do not overtighten the tip nut by using a wrench.

4. To avoid torch "popping" when extinguishing flame, first increase oxygen flow slightly, then turn off acetylene valve, and finally turn off oxygen valve. Use large acetylene tank whenever possible.

5. Always store torch with the powder feed lever depressed (open flow position), securing the lever with a rubber band or string.

6. Keep parts absolutely clean. Use no lubricants. Use clean tools. Avoid transferring skin oils to internal torch parts.

**TORCHKILL**

- **SAFETY HINTS**

- **TORCHWELD® HOT METAL POWDER SPRAY KIT**

  - JOINS AND OVERLAYS CAST IRON, STAINLESS STEEL & CARBON STEEL
  - TORCH CAN HANDLE UP TO NO. 90 SINGLE OR MULTI-FLAME ORIFICE TIPS
  - ELIMINATES BURN-THROUGH
  - HARD SURFACES TO CLOSE TOLERANCES
  - CORRECTS MACHINING ERRORS
  - BRAZES THICK TO THIN METALS
  - DEPOSITS CORROSION, EROSION, ABRASION AND HEAT RESISTANT OVERLAYS
  - AMAZING CAST IRON REPAIRS... FILL HOLES, REPAIR CRACKS, JOIN BROKEN SECTIONS
  - INCREASES SERVICE LIFE AND IMPROVES PERFORMANCE OF PARTS REPAIRED
  - APPLIES EASILY AND ECONOMICALLY USING PUROX® WH-4200 TORCH HANDLE

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**Contact your local supplier or call an All-State Customer Service Representative toll free for additional information.**

In US: Phone: 800-638-1647 Fax: 905-670-4879
In Canada: Phone: 905670-0220410-756-4330 FAX: 410-756-4333
TORCHWELD®
POWDER SPRAY KIT

- Consists of Purox® WH-4200 torch handle, powder hopper and flow control unit and three of the most popular tips (size 9, 20 and multiflame 40), plus two Torchweld nickel alloy metal powders (20RC, 30RC).
- The torch is virtually free of maintenance. Its simplicity of design and light weight make the All-State metal powder spray torch a pleasure to operate.
- A special venturi tube within the hopper unit directs blowback and accumulated gases outside the hopper and away from the operator.
- Versatile - attaches to existing oxyacetylene source equipment without special adapters. Each of the kit’s torch tips and powders was selected for the most common uses in the field.
- Can be used out-of-position.
- Available from All-State distributors only.
- Powders from 15RC to 62RC and special mixes also sold separately.

STRONG QUALITY
SPRAYING THIN OR HEAVY DEPOSITS
SMOOTH FLOWING
SELF-FLUXING
SIMPLE TO USE

RC 20 Unlimited buildup powder that’s easily machinable. Its soft deposit fuses well with cast iron, thus avoiding the hard spots common with arc welding repair procedures. Also fuses with steels and nickel alloys. Used for casting buildup, machining errors on cams, keyways, glass molds, brake drums and water pump housings. The deposit has good corrosion resistance, low coefficient of friction, heat scaling resistance and excellent impact values. Use RC 30 or above for stainless steels.

HARDNESS RANGE 16RC TO 23RC

RC 30 Excellent for metal to metal frictional wear as well as for rebuilding worn or damaged parts that require accurate machining after buildup such as shafts, gears, bushings, cams, flanges, arbors; plastic, brick and tire molds. Fuses well with cast iron, nickel and nickel alloys, steels and stainless steels.

HARDNESS RANGE 26RC TO 32RC

1. The recommended procedures for all oxyacetylene torch operations should be observed. Reverse flow check valves should be used in conjunction with the torch.

2. Base metal must be degreased and cleaned by either grinding or grit blasting with chilled shot.

3. Select tip size appropriate for the job. The larger the mass to be heated the larger the tip needed.*

4. When attaching tip barrel to main body of torch, make sure opening and keyway at metering valve end of tip barrel line up with two holes on front of main body of torch. Also, retaining nut that secures tip barrel to main body must be tightened to the extent that no threads are visible on main body of torch.

5. The All-State powders should be tumbled prior to use. This remixes the powder and helps insure even flow through the All-State torch.

6. Adjust oxygen regulator to 18-22 lbs. psi and acetylene** regulator to 12-15 lbs. psi (never exceed 15 lbs. psi of acetylene). Pressures apply for all tip sizes. Before pouring powder into hopper, depress the powder lever, light the acetylene and adjust flame so it jumps off tip end. Add oxygen until a neutral flame is reached.

7. Heat base metal to approximately 600°F. Spray entire area to be repaired with a light “dusting” of powder. Release powder spray lever and fuse previously applied coating. Watch for the melting or “sweatline” of the coating. Follow the “sweatline” with the flame. A tip-to-work distance of 3/8” to 1/2” will avoid tip overheating. After the first coat of powder has been fused, add additional coats as needed, fusing each layer of powder before applying the next. To prevent overheating of the base metal, remove the flame for a few seconds between each layer. After completing, slowly cool weldment in a draft free area.

*Size 6 through 90 single orifice or multi-flame tips available upon request.
**For other gases see manufacturer’s recommendations.