INTRODUCTION

The normal current capacity (350 amperes) of the HW-11 torch is sufficient for most applications. However, higher currents may be required for certain special applications. In such cases, the HW-11 torch can be converted to increase its capacity to 500 amperes for continuous duty, and not higher than 600 amperes with a 30 to 35% duty factor based on a 15 minute time cycle. This is done by replacing the standard 12-1/2-ft. power cable and hose assembly with a heavy-duty power cable and hose assembly.

II. Parts Necessary for Conversion

The following parts are required to convert the HW-11 torch:

54Y65 Power Cable and Hose Assembly
33A22 "C" Size Connection Nut
D-279013 Power Cable Connection Extension
D-279006 Power Cable Adaptor
85284 Heavy-Duty Bronze Collet (If the torch now has a steel collet (Part No. 81298) this bronze collet should be ordered to replace it.)

NOTE: A Body and Tube Assembly (56Y26) of late model, having a rear-end water jacket, will also be required for Series 1 and Series 2 torches. If in doubt as to the series number, remove the torch shell to determine the series designation which is stamped on the body and tube assembly. In Series 3 torches (Fig. 2), the water inlet tube goes directly from the torch handle to the forward torch body (the same as in Series 1 and Series 2 torches shown in Fig. 1), but does not come out directly. Instead, the water flows to the block at the rear torch body to which the water outlet tube is connected.

FIG. 1 - REAR BODY AND HANDLE
HW-11 TORCH, SERIES 1 AND 2

Water (arrows) flows from handle to front of torch, then directly out of torch.

FIG. 2 - REAR BODY AND HANDLE
HW-11 TORCH, SERIES 3

Water (arrows) flows from handle to front of torch, then through block at rear of torch body, then out of torch.
III. Conversion of Series 1 and Series 2 Torches  
(Refer to the instruction booklet, Form 9171, supplied with the torch for identification of parts.)

1. Remove sheath (81Z90).
2. Unscrew the knurled nozzle assembly nut and remove the nozzle assembly.
3. Remove bushing (81Z39).
4. Remove sleeve (81Z35).
5. Unscrew the four body shell screws and remove the body shell assembly.
6. Disconnect the argon hose (54Y61), power cable and hose (54Y63) and water inlet hose (54Y95) from the body and tube assembly (56Y26). Also disconnect the power cable and hose assembly at the machine end.
7. Remove the power cable and hose assembly (54Y63) from the hose sheath (81Z99). If removal is difficult, it may be necessary to slit the sheath lengthwise. Cut a 9/16-in. hole in the sheath about 10 inches from the torch end.
8. Remove the two ferrules (81Z30) and two hose (81Z16) from the body and tube assembly (56Y26).  
   **NOTE:** These ferrules have right hand threads and unscrew toward the body and tube assembly. Remove the body and tube assembly.
9. Connect the two hose (81Z16) and two ferrules (81Z30) to the new body and tube assembly having a rear-end water jacket.
10. Connect the power cable connection extension (D-279013) to the heavy-duty power cable and hose assembly (54Y95).
11. Insert the power cable connection extension through the hole in the hose sheath so that it protrudes from the torch end of the sheath the same distance as the smaller cable previously removed.
12. Enclose the argon hose (54Y61), the water hose (54Y95), and the switch cord (56Y23) in the sheath and tape the sheath at about 6-in. intervals throughout its length. Also lash the power cable and hose assembly to the exterior of the sheath with a few turns of tape at 10-in. intervals.
13. Connect the water inlet hose (54Y95), the argon hose (54Y61) and the power cable connection extension (D-279013) to their respective fittings on the torch body and tube assembly.
14. Reassemble the torch body shell, sleeve (81Z35), and bushing (81Z39).
15. Replace the nozzle assembly and tighten the knurled nut. Then replace the sheath (81Z99).
16. Attach the power cable adaptor (D-279006) and the “C” size connection nut (33A22) to the machine end of the power cable and hose assembly. Make up the power cable connection to the connection block on the machine.
17. If the torch now has a steel collet (Part No. 81Z98), detach the flexible conduit from the torch and remove the collet replacing it with the bronze collet (85284). Reassemble the flexible conduit to the torch.

IV. Conversion of Series 3 Torches

1. Proceed as in steps 1 to 5 of Section III above.
2. Disconnect the power cable and hose assembly (54Y63) from the body and tube assembly (56Y26). Also disconnect the power cable and hose assembly at the machine end.
3. Remove the power cable and hose assembly (54Y63) from the hose sheath. If removal is difficult, slit the sheath lengthwise. Cut a 9/16-in. hole in the sheath about 10 inches from the torch end.
4. Proceed as in steps 10, 11, and 12 in Section III above.
5. Connect the power cable extension connection (D-279013) to the torch body and tube assembly.
6. Proceed as in steps 14, 15, 16 and 17 in Section III above.

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