

Troubleshooting Guide

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. Electrode does not feed.	<ol style="list-style-type: none"> 1. Feeder relay. 2. Broken control lead. 3. Poor adaptor connection. 4. Worn or broken switch. 5. Improper drive roll size. 6. Drive roll tension misadjusted. 7. Burn back to contact tip. 8. Wrong size liner. 9. Buildup inside of liner. 	<ol style="list-style-type: none"> 1. Consult feeder manufacturer. 2. a. Test & connect spare control lead. b. Install new cable. 3. Test & replace leads and/or contact pins. 4. Replace. 5. Replace with proper size. 6. Adjust tension at feeder. 7. See 'Contact Tip Burn Back'. 8. Replace with correct size. 9. Replace liner, check condition of electrode.
2. Contact tip burn back.	<ol style="list-style-type: none"> 1. Improper voltage and/or wire feed speed. 2. Erratic wire feeding. 3. Improper tip stickout. 4. Improper electrode stickout. 5. Faulty ground. 	<ol style="list-style-type: none"> 1. Set parameters. 2. See 'Erratic Wire Feeding'. 3. Adjust nozzle/tip relationship. 4. Adjust torch to base metal relationship. 5. Repair all cables & connections.
3. Tip disengages from head.	<ol style="list-style-type: none"> 1. Worn head. 2. Improper tip installation. 3. Extreme heat or duty cycle. 	<ol style="list-style-type: none"> 1. Replace tip and/or head. 2. Install as per 'Maintenance & Repair' (Section 2) in Q-Gun Operations Manual. 3. Replace with heavy duty consumables as per 'Accessories' Section in Q-Gun Operations Manual.
4. Short contact tip life.	<ol style="list-style-type: none"> 1. Contact tip size. 2. Electrode eroding contact tip. 3. Exceeding duty cycle. 	<ol style="list-style-type: none"> 1. Replace with proper size. 2. Inspect and/or change drive rolls. 3. Replace with properly rated Bernard torch.
5. Erratic arc.	<ol style="list-style-type: none"> 1. Worn contact tip. 2. Buildup inside of liner. 3. Wrong tip size. 4. Not enough bend in neck. 	<ol style="list-style-type: none"> 1. Replace. 2. Replace liner, check condition of electrode. 3. Replace with correct size tip. 4. Replace with 45° or 60° neck.
6. Erratic wire feeding.	<ol style="list-style-type: none"> 1. Buildup inside of liner. 2. Wrong size liner. 3. Improper drive roll size. 4. Worn drive roll. 5. Improper guide tube relationship. 6. Improper wire guide diameter. 7. Gaps at liner junctions. 8. Feeder malfunction. 9. Contact tip. 	<ol style="list-style-type: none"> 1. Replace liner, check condition of electrode. 2. Replace with new liner of proper size. 3. Replace with proper size drive roll. 4. a. Replace with new drive roll. b. Stone edge of groove on drive roll. 5. a. Adjust/replace guide as close to drive rolls as possible. b. Eliminate all gaps in electrode path. 6. Replace with proper guide diameter. 7. a. Replace with new liner trimming as per 'Maintenance & Repair' (Section 5 & 8) in Q-Gun Operations Manual. b. Replace guide tube/liner, trim as close to mating component as possible. 8. Consult feeder manufacturer. 9. Inspect and replace.*

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7. Extreme spatter.	<ol style="list-style-type: none"> 1. Improper machine parameters. 2. Improper tip installation. 3. Improper shielding. 4. Contaminated wire or work piece. 	<ol style="list-style-type: none"> 1. Adjust parameters. 2. Adjust nozzle/tip relationship. 3. <ol style="list-style-type: none"> a. Verify shielding gas coverage. b. Verify gas mixture. 4. Clean wire and work piece.
8. Porosity in weld.	<ol style="list-style-type: none"> 1. Insulator worn. 2. Head damaged. 3. Extreme heat or duty cycle. 4. Solenoid faulty. 5. No gas. 6. Flow improperly set. 7. Gas ports plugged. 8. Ruptured gas hose. 9. Control circuit loss. 10. Worn, cut or missing o-rings. 11. Loose fittings. 	<ol style="list-style-type: none"> 1. Replace nozzle/insulator. 2. Replace head. 3. Replace with heavy duty consumables. 4. Replace solenoid. 5. <ol style="list-style-type: none"> a. Install full tanks. b. Check supply. c. Hose leaks. 6. Adjust. 7. <ol style="list-style-type: none"> a. Clean or replace gas diffuser/head. b. Clean nozzle. 8. Repair or replace cable or line. 9. See 'Electrode Does Not Feed'. 10. Replace o-rings 11. Tighten torch & cable connections to specified torque. See 'Maintenance & Repair' (Section 7) in Q-Gun Operations Manual.
9. Torch running hot.	<ol style="list-style-type: none"> 1. Exceeding duty cycle. 2. Loose or poor power connection. 	<ol style="list-style-type: none"> 1. <ol style="list-style-type: none"> a. Replace with properly rated Bernard torch. b. Decrease parameters to within torch rating. 2. <ol style="list-style-type: none"> a. Clean, tighten or replace cable grounding connection. b. Tighten torch & cable connections to specified torque. See 'Maintenance & Repair' (Section 7) in Q-Gun Operations Manual.
10. Liner is discolored full length.	<ol style="list-style-type: none"> 1. Short circuit to electrode. 2. Broken copper stranding in power cable. 	<ol style="list-style-type: none"> 1. Isolate electrode reel from feeder and drive block. Consult feeder manufacturers manual. 2. Replace Gun.
11. Sporadic feeding of aluminum electrode.	<ol style="list-style-type: none"> 1. Tip galling. 2. Synthetic liner melting. 3. Wire deformed by feed rolls. 	<ol style="list-style-type: none"> 1. Inspect & replace.* 2. <ol style="list-style-type: none"> a. Replace liner. b. Replace with composite liner. c. Replace with Q-Gun body tube and jump liner. 3. Adjust drive rolls as per feeder manufacturer's manual.

*In some cases with aluminum and mild steels, it may be necessary to use a contact tip with either a larger or smaller bore size.