Quick-Change Blowhead Arms

As described in the Quick-Change Accessories Customer Information Manual ZG 225/0793E, the range of blowhead arms has been completely redesigned on the basis of the former Finish Cooling Type Arm. In addition to the information in the Manual, this TNB provides further relevant details.

1. Description

Originally designed for thread-type blowhead attachment only, the new arms are now optionally available for either the thread or bayonet type blowhead attachment (Fig. 1). The arms are of lightweight design. Individual compression springs on each blowhead adapter piston equalize height differences on the mold equipment. Lock pins prevent the blowheads from rotating and secure their position relative to the mold parting line.

The bayonet type adapter uses a lock ring with a larger bearing area which is designed to extend blowhead life. The thread-type adapter uses a nut, which is an integrated part of the adapter piston, for blowhead attachment. This ensures precise positioning and airtight mounting.

Air supplies for final blow/internal cooling and finish cooling are connected individually to the arm by means of quick release couplings. The finish cooling air supply port(s) can be sealed to permit operation without the finish cooling feature. The arms can be converted from the thread-type to bayonet type blowhead attachment or vice versa by exchanging the adapter pistons and lock pins.

The arms have no cooling air exhaust valves. Adequately dimensioned exhaust ports must be drilled into the blowhead by the customer to ensure controlled cooling.
2. Mold Equipment

All blowhead arms - SG, DG & TG - have the blowhead lock pin located at 45°, relative to the mold parting line. This results in a further step towards mold equipment standardization since the same blowheads can be used for all machine center distances configurations.

Bayonet Type Blowheads

Existing blowheads can be used but require repositioning of the vents to relieve the blow pressure between the mold halves. If the internal cooling feature is required, exhaust ports must be drilled in the side of the blowheads. Single gob blowheads must be provided with a slot for the lock pin. Refer to the attached Alteration Drawing 191-B-26787.

Data Sheet 191-B-26786 must be used as a basis for designing new blowheads.

Thread-Type Blowheads

Existing thread-type blowheads can be used. To facilitate assembly, drill 4 holes at the side of the blowhead so that it can be tightened with a hook wrench. Refer to the attached Data Sheet 191-B-26785 for the hole location and design of new blowheads.

3. Installation

Refer to the QCA Customer Information Manual ZG 225/0793E for installation requirements and procedures.

The mounting parts used for the new blowhead arms are identical to those used for the previous arms.

The mounting sleeves are installed to the previous height and therefore require no readjustment if already installed. Due to its universal design, however, the new blowhead arms must be set to a different height above the blow mold, i.e. it must be set 5.5 mm (3.5 scale graduations) lower or 9.9 mm (6 scale graduations) higher compared with the previous arms with or without finish cooling.

Proceed as follows to permit interchangeability for the new arms and without readjusting the height setting:

Blowhead Arms without Finish Cooling 23-1426 and 191-9126

Mill 9.9 mm from the arm register face to lower the arm by this amount in its support. Refer to Group 1 of the attached Modification Drawing 200-C-265.
Blowhead Arms with Finish Cooling 23-1427 and 191-9127

Raise the arm in its support by using a 5.5 mm thick spacer on the arm register face. Refer to Group 2 and 3 of the attached Modification Drawing 200-C-265.

Note that the height setting listings for the blowhead arms must be changed on the job change cards accordingly.

4. Specifications

The table below gives the cross reference between the new and the previous QC blowhead arms which have been discontinued and are no longer available as complete units. Spare parts will be supplied until the end of 1996 but this does not include arm bodies for the discontinued products.

<table>
<thead>
<tr>
<th>Machine Type</th>
<th>Center Distance</th>
<th>New Blowhead Arms</th>
<th>Superseded Blowhead Arms</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Thread Attachment</td>
<td>Bayonet Attachment</td>
</tr>
<tr>
<td>E &amp; EF 4-1/4</td>
<td>SG</td>
<td>200-201 Gr. 1</td>
<td>200-201 Gr. 5</td>
</tr>
<tr>
<td>E &amp; EF 5</td>
<td>SG</td>
<td>200-201 Gr. 2</td>
<td>200-201 Gr. 6</td>
</tr>
<tr>
<td>F &amp; EF 5-1/2</td>
<td>SG</td>
<td>200-201 Gr. 3</td>
<td>200-201 Gr. 7</td>
</tr>
<tr>
<td>E &amp; EF 4-1/4</td>
<td>DG 4-1/4&quot;</td>
<td>200-202 Gr. 1</td>
<td>200-202 Gr. 5</td>
</tr>
<tr>
<td>E &amp; EF 5</td>
<td>DG 5&quot;</td>
<td>200-202 Gr. 2</td>
<td>200-202 Gr. 6</td>
</tr>
<tr>
<td>F &amp; EF 5-1/2</td>
<td>DG 5-1/2&quot;</td>
<td>200-202 Gr. 3</td>
<td>200-202 Gr. 7</td>
</tr>
<tr>
<td>F 6-1/4 &amp; AIS</td>
<td>DG 6-1/4&quot;</td>
<td>200-202 Gr. 4</td>
<td>200-202 Gr. 8</td>
</tr>
<tr>
<td>E &amp; EF 4-1/4</td>
<td>TG 3&quot;</td>
<td>200-203 Gr. 1</td>
<td>200-203 Gr. 5</td>
</tr>
</tbody>
</table>

New assembly numbers have been assigned to the blowhead mounting parts to comply with Emhart’s new Bill of Material (BOM) system.

The Mounting Parts Cross Reference Table (below) gives the cross reference between the new and superseded part numbers. The detail parts listed under the new and superseded part numbers are identical.
<table>
<thead>
<tr>
<th>Machine Type</th>
<th>New Part no.</th>
<th>Superseded Part no.</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>E &amp; EF 4-1/4, E &amp; EF 5</td>
<td>200-200 Gr. 1</td>
<td>191-9126 Gr. 9</td>
<td>Parts under new and superseded numbers are identical</td>
</tr>
<tr>
<td>E &amp; EF 5-1/2, F 6-1/4, AIS</td>
<td>210-178 Gr. 1</td>
<td>23-1426 Gr. 7</td>
<td></td>
</tr>
</tbody>
</table>
Fig. 1: Cross Section of DG 4 - 1/4" Blowhead Arm (Bayonet and Thread Type shown)

Caption:
1. Lock Pin
2. Air Connection for Finish Cooling
3. Compression Spring
4. Bayonet Adapter & Piston
5. Thread Adapter & Piston
6. Air Supply for Finish Cooling
7. Air Supply for Final Blow
**Notice**

The following drawing is subject to change without notice. It is the responsibility of the user to verify its accuracy and suitability for their specific application.

**Engineering Drawings**

The drawings are intended for use by skilled technicians and engineers for the manufacture and assembly of the described component. They are not to be used for any commercial purpose without prior written consent from the manufacturer.

**Dimensions**

All dimensions are in millimeters unless otherwise specified.

**Sections**

- **Section X-X**: Cooling Air Holes 5/32 (4.1) Wide
- **Section Y-Y**: Anti-Grab Groove 5/32 (4.1) Deep

**Tolerances**

Tolerances are ±0.01 mm (0.0004 in) unless otherwise specified.

**Materials and Finishes**

- **Material**: Glass
- **Finish**: Anti-Grab

**Drawings**

- **Drawn by**: (Signature)
- **Checked by**: (Signature)

**Revisions**

The drawings are subject to revision. The latest revision is dated 16th Oct. 1992.

**Revisions Table**

<table>
<thead>
<tr>
<th>Revision</th>
<th>Date</th>
<th>Description</th>
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<tbody>
<tr>
<td>A</td>
<td>16-04-92</td>
<td>Original</td>
</tr>
<tr>
<td>B</td>
<td>16-04-92</td>
<td>Draft</td>
</tr>
<tr>
<td>C</td>
<td>16-04-92</td>
<td>Review</td>
</tr>
<tr>
<td>D</td>
<td>16-04-92</td>
<td>Final</td>
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</table>

**Data Sheet**

- **Part No.**: 191 - B - 26786
- **Date**: 16-04-92
- **Sheet**: 1 of 1
- **Pages**: 1 of 12

**Dimensions Shown in Inches and Millimeters**

- **B**: COOLING AIR HOLES 5/32 (4.1) Wide as shown
- **A**: COOLING AIR HOLES 5/32 (4.1) Wide

**Blowhead Numbers**

<table>
<thead>
<tr>
<th>Number</th>
<th>A</th>
<th>G2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2-1/8 (50mm)</td>
<td>1-5/8 (40mm)</td>
</tr>
<tr>
<td>2A</td>
<td>4 (102mm)</td>
<td>3-3/4 (95mm)</td>
</tr>
<tr>
<td>3</td>
<td>4-7/8 (122mm)</td>
<td>3-3/4 (95mm)</td>
</tr>
<tr>
<td>4</td>
<td>5-3/4 (146mm)</td>
<td>5 (125mm)</td>
</tr>
</tbody>
</table>

**Blowhead Arm**

- **BLOWHEAD ARM**: 200-D-202 34

**Mold Parting Line**

- 2 COOLING AIR EXHAUST HOLES Ø 5/32 TO SUIT

**Finishing**

- R 1/32 (1.3mm)
- 2-1/4 (57mm)
- MIN 3/4 (19.1mm)

**Flats**

- E: 5/32 (4.1mm) LARGER THAN COOLING TUBE
- F: 1/8 (3.2mm) FLATS ARE REQUIRED WHEN BLOWHEAD A DIAMETER OVERLAPS THE VERT-FLOW COOLING HOLES IN BLOW MOLD

**Emhart Glass**

Emhart Glass 5A

**Scale**

- 1:1

**Drawing Scale**

- 1:1

**Project**

- COOLING BAYONET

**Revision**

- 191 - B - 26786

**Design**

- BUCHER

**Manufacturing**

- BUCHER
SECTION X-X

FILE VENTS AS SHOWN TO RELIEVE BLOWING PRESSURE BETWEEN MOLD HALVES OVER SHOULDER OF BOTTLE

2 COOLING AIR EXHAUST HOLES Φ TO SUIT

NEW MOLD PARTING LINE

DIMENSIONS SHOWN IN INCHES AND (MILLIMETRES)

AMERICAN PROJECTION

EMHART GLASS SA
16. Okt. 1992
RELEASED

BUCHER
NOTE: THE ALTERNATION SHOWN FOR D.G. 9" BLOWHEAD ARM, FINISH COOLING, IS VALID ANALOGOUS FOR THE FOLLOWING BLOWHEAD ARMS:

<table>
<thead>
<tr>
<th>MACH CENTER</th>
<th>ASST NO.</th>
<th>PART NO.</th>
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<tbody>
<tr>
<td>S.S. ON 4-1/4</td>
<td>911-D-9117 GR-5</td>
<td>911-14-1079</td>
</tr>
<tr>
<td>S.S. ON 4-1/4</td>
<td>911-D-9117 GR-8</td>
<td>911-14-1086</td>
</tr>
<tr>
<td>D.S. 4-1/4</td>
<td>911-D-9117 GR-3</td>
<td>911-14-1081</td>
</tr>
<tr>
<td>S.S. ON 5&quot;</td>
<td>911-D-9117 GR-6</td>
<td>911-14-1091</td>
</tr>
<tr>
<td>S.S. ON 5&quot;</td>
<td>911-D-9117 GR-9</td>
<td>911-16-1091</td>
</tr>
<tr>
<td>D.S. 5&quot;</td>
<td>911-D-9117 GR-4</td>
<td>911-16-1106</td>
</tr>
<tr>
<td>T.S. 5&quot;</td>
<td>911-D-9117 GR-7</td>
<td>911-16-1108</td>
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</table>