

# Technical News Bulletin

June 1994

## 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**

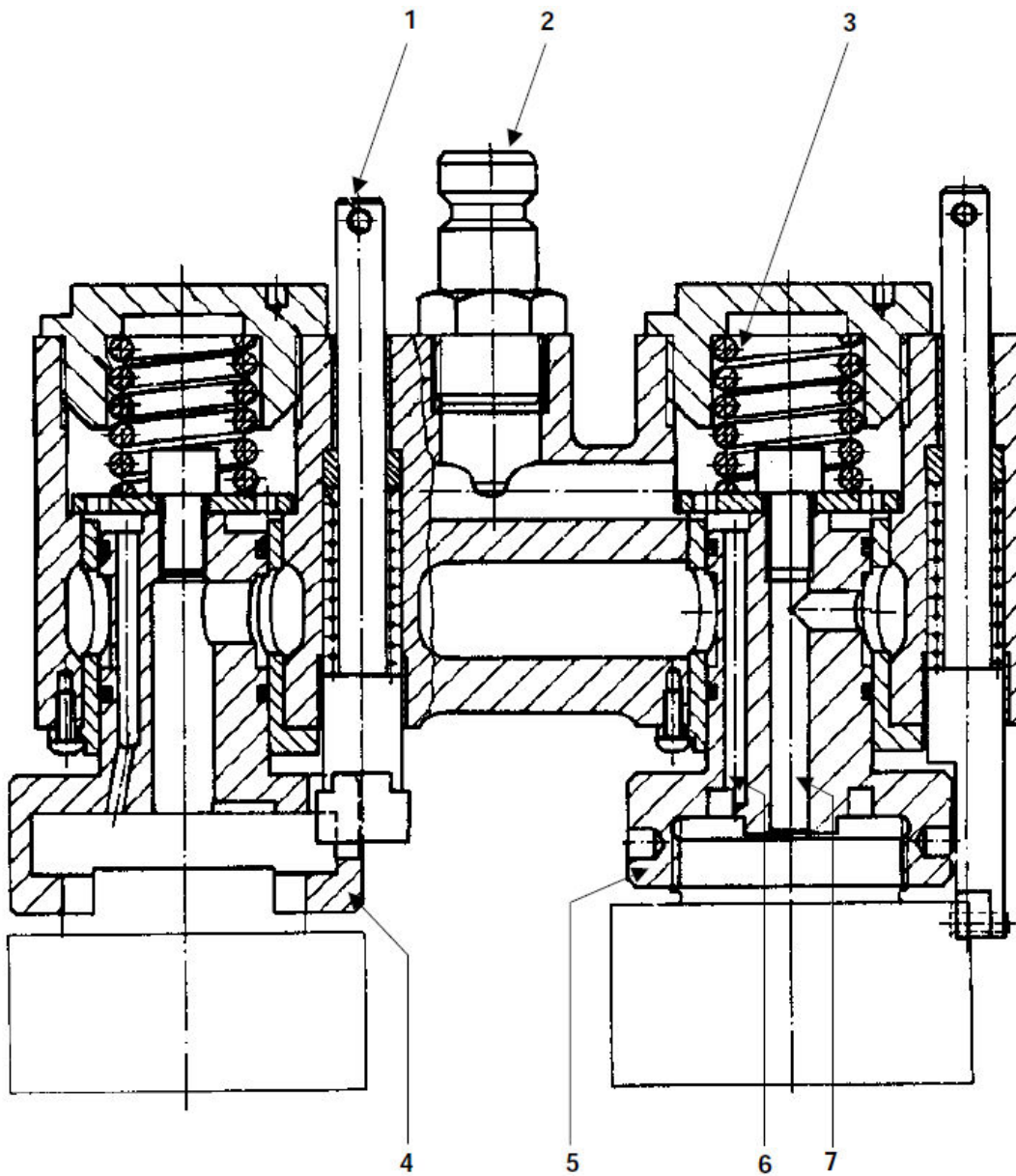
The table below gives the cross reference between the new and the previous QC blowhead arms which have been discontinued and are no longer available as complete units. Spare parts will be supplied until the end of 1996 but this does not include arm bodies for the discontinued products.

QC Blowhead Arms Cross Reference					
Machine Type	Center Distance	New Blowhead Arms		Superseded Blowhead Arms	
		Thread Attachment	Bayonet Attachment	with Finish Cooling	without Finish Cooling
E & EF 4-1/4	SG	200-201 Gr. 1	200-201 Gr. 5	191-9127 Gr. 8	191-9126 Gr. 11
E & EF 5	SG	200-201 Gr. 2	200-201 Gr. 6	191-9127 Gr. 9	191-9126 Gr. 12
F & EF 5-1/2	SG	200-201 Gr. 3	200-201 Gr. 7	23-1427 Gr. 4	23-1426 Gr. 5
E & EF 4-1/4	DG 4-1/4"	200-202 Gr. 1	200-202 Gr. 5	191-9127 Gr. 3	191-9126 Gr. 3
E & EF 5	DG 5"	200-202 Gr. 2	200-202 Gr. 6	191-9127 Gr. 4	191-9126 Gr. 4
F & EF 5-1/2	DG 5-1/2"	200-202 Gr. 3	200-202 Gr. 7	23-1427 Gr. 1	23-1426 Gr. 2
F 6-1/4 & AIS	DG 6-1/4"	200-202 Gr. 4	200-202 Gr. 8	23-1427 Gr. 2	23-1426 Gr. 3
E & EF 4-1/4	TG 3"	200-203 Gr. 1	200-203 Gr. 5	191-9127 Gr. 7	191-9126 Gr. 10

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.

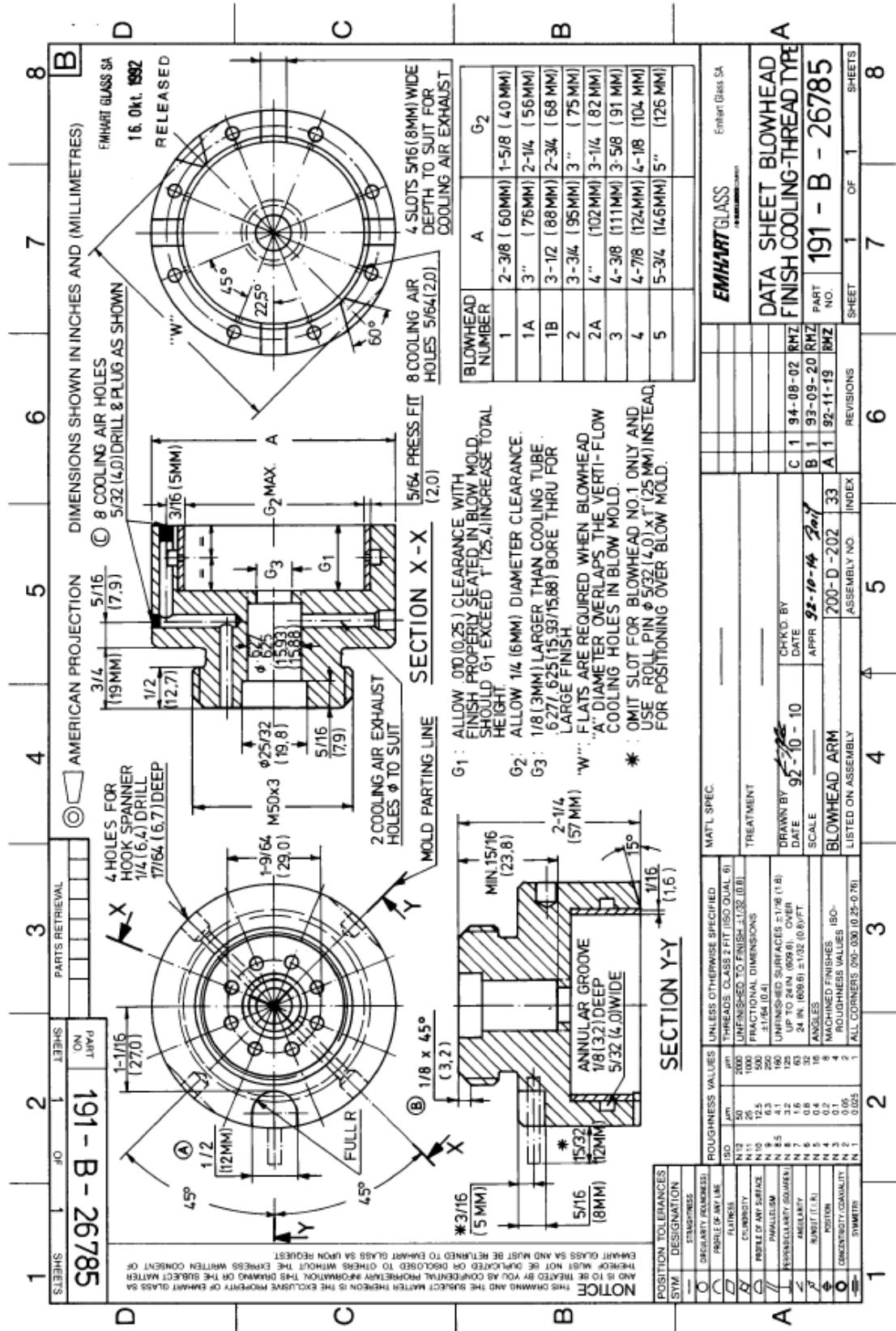
<b>Mounting Parts Cross Reference</b>			
<b>Machine Type</b>	<b>New Part no.</b>	<b>Superseded Part no.</b>	<b>Note</b>
E & EF 4-1/4, E & EF 5	200-200 Gr. 1	191-9126 Gr. 9	Parts under new and superseded numbers are identical
E & EF 5-1/2, F 6-1/4, AIS	210-178 Gr. 1	23-1426 Gr. 7	



**Fig. 1:** Cross Section of DG 4 -1/4" Blowhead Arm (Bayonet and Thread Type shown)

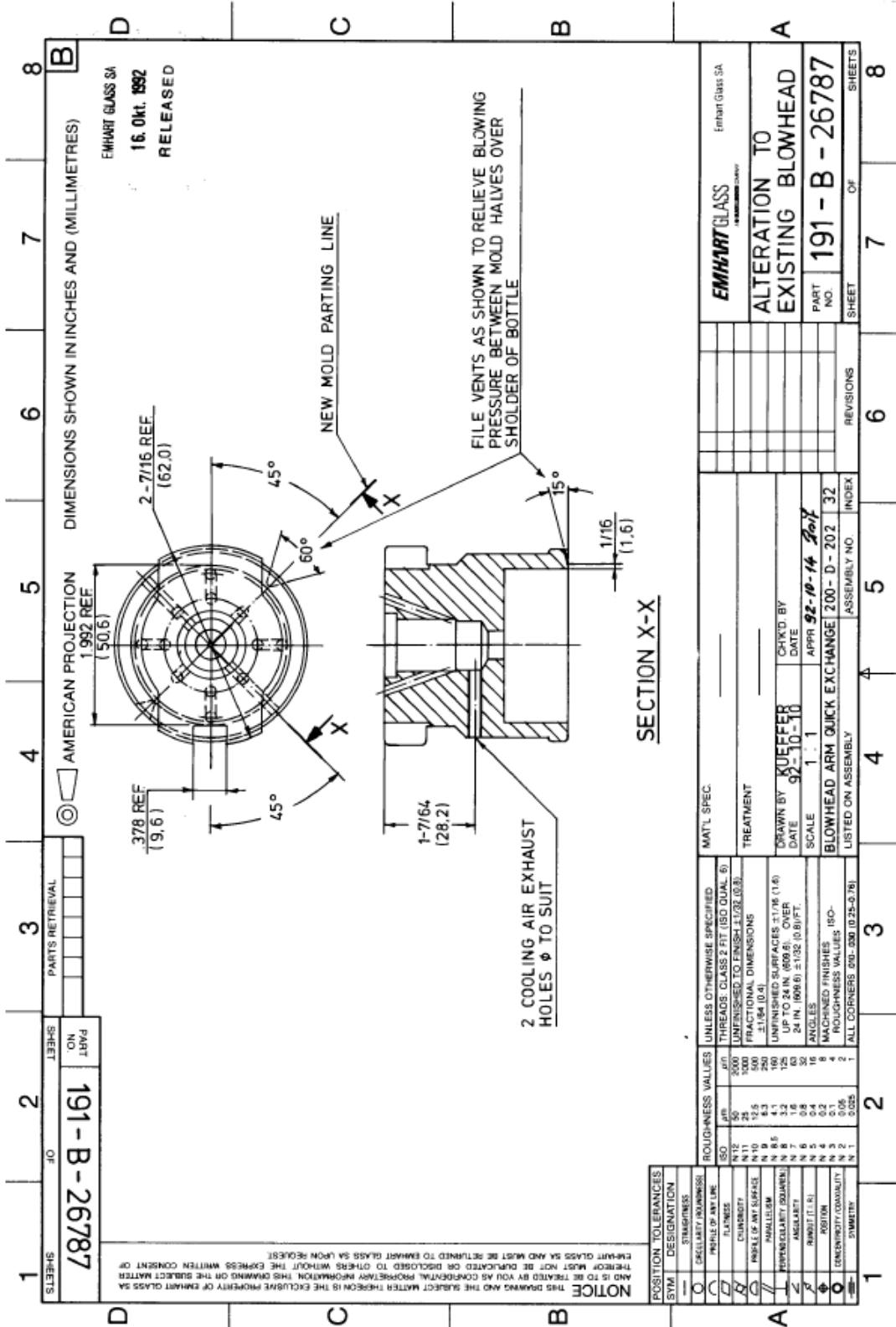
**Caption:**

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









EMHART GLASS SA  
16. Oct. 1992  
RELEASED

191-B-26787

191-B-26787

191-B-26787

1	2	3	4	5	6	7	8
PARTS RETRIEVAL							
SHEET							
OF							
SHEETS							

POSITION	TOLERANCES
SYM	DESIGNATION
○	STRAIGHTNESS
○	CIRCULARITY
○	PERPENDICULARITY
○	ANGULARITY
○	PARALLELISM
○	SYMMETRY

ROUGHNESS VALUES	UNLESS OTHERWISE SPECIFIED
SSO	THREADS CLASS 2 FIT (ISO QUAL 6)
50	UNFINISHED TO FINISH ±1/32 (0.38)
25	FRACTIONAL DIMENSIONS
12.5	±1/64 (0.4)
6.3	UNFINISHED SURFACES ±1/16 (1.6)
3.15	UP TO 24 IN. (609.6) OVER
1.6	24 IN. (609.6) ±1/32 (0.8) FT.
0.8	ANGLES
0.4	MACHINED FINISHES ISO-
0.2	ROUGHNESS VALUES
0.05	ALL CORNERS R0.25-0.75

MAT'L. SPEC.	EMHART GLASS
TREATMENT	Emhart Glass SA
DRAWN BY	KUEFFER
DATE	92-10-10
SCALE	1:1
APPR	92-10-14
ASSEMBLY NO.	200-D-202
INDEX	32

REVISIONS	SHEET	OF	SHEETS
1	191-B-26787	7	8

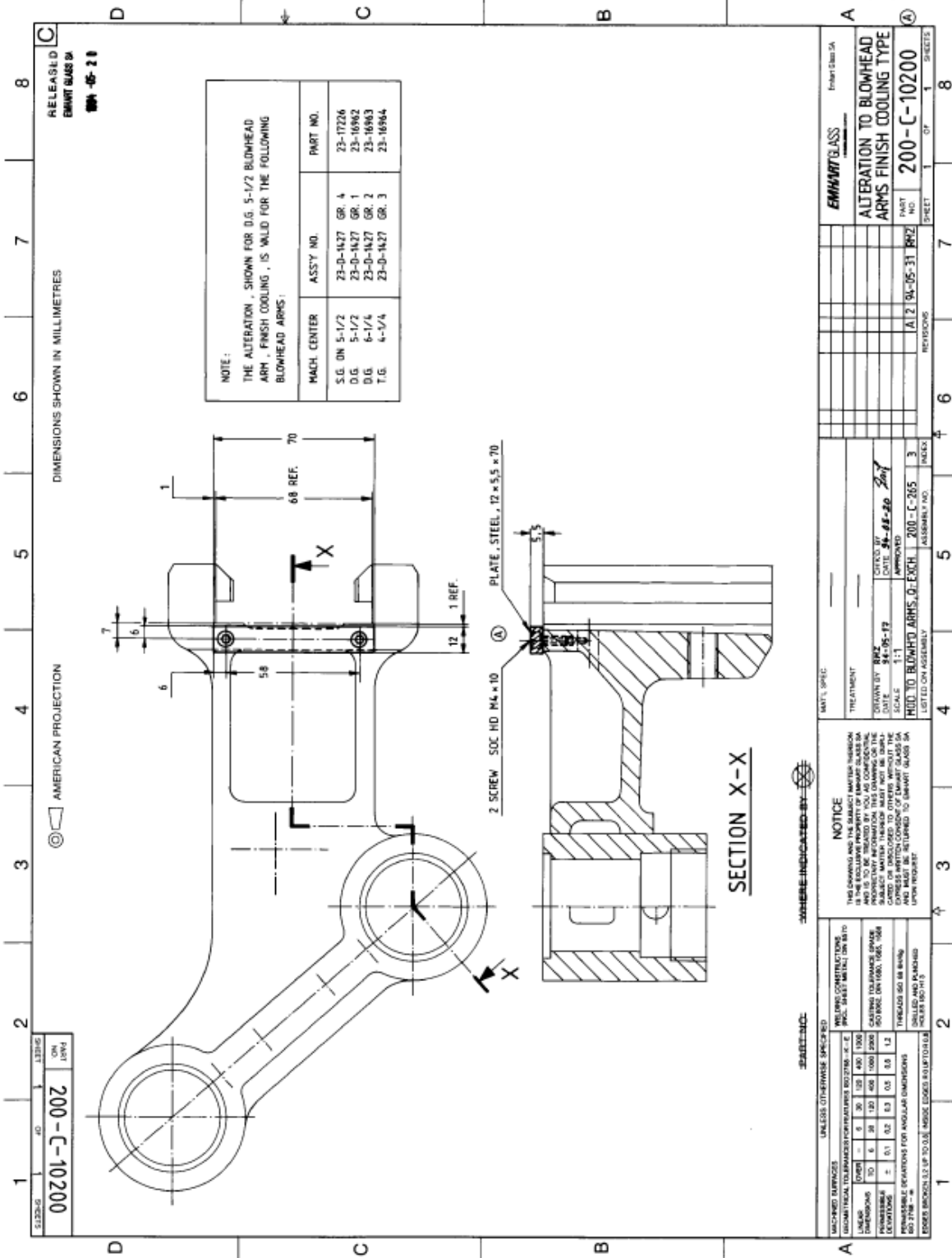
**ALTERNATION TO EXISTING BLOWHEAD**

**191-B-26787**









**NOTE:**  
THE ALTERATION, SHOWN FOR D.G. 5-1/2 BLOWHEAD ARM, FINISH COOLING, IS VALID FOR THE FOLLOWING BLOWHEAD ARMS:

MACH. CENTER	ASS'Y NO.	PART NO.
S.G. ON 5-1/2	23-D-1427 GR. 4	23-17226
D.G. 5-1/2	23-D-1427 GR. 1	23-16962
D.G. 6-1/4	23-D-1427 GR. 2	23-16963
T.E. 4-1/4	23-D-1427 GR. 3	23-16964

1 2 3 4 5 6 7 8  
DIMENSIONS SHOWN IN MILLIMETRES  
AMERICAN PROJECTION  
RELEASED  
EMHART GLASS SA  
200-C-10200  
PART NO. 200-C-10200  
SHEET 1 OF 8

**EMHART GLASS** Emhart Glass SA

**ALTERATION TO BLOWHEAD ARMS FINISH COOLING TYPE**

DATE: 04-05-13  
DRAWN BY: RMP  
CHECKED BY: JLF  
DATE: 04-05-13

APPROVED: JLF

200-C-265  
LISTED ON ASSEMBLY: 200-C-265  
PART NO. 200-C-10200

1 2 3 4 5 6 7 8  
SHEET 1 OF 8

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**WHERE INDICATED BY**

**UNLESS OTHERWISE SPECIFIED:**

WELDING CONNECTIONS	SPALLS	PERMISSIBLE DEVIATIONS FOR ANGULAR DIMENSIONS	EDGES BROADENED BY 1.25 TO 1.50 X BROADENED EDGES AS SHOWN
30°	100	± 0.1	± 0.1
45°	150	± 0.15	± 0.15
60°	200	± 0.2	± 0.2
75°	250	± 0.25	± 0.25
90°	300	± 0.3	± 0.3
105°	350	± 0.35	± 0.35
120°	400	± 0.4	± 0.4
135°	450	± 0.45	± 0.45
150°	500	± 0.5	± 0.5
165°	550	± 0.55	± 0.55
180°	600	± 0.6	± 0.6

PERMISSIBLE DEVIATIONS FOR ANGULAR DIMENSIONS  
± 0.1

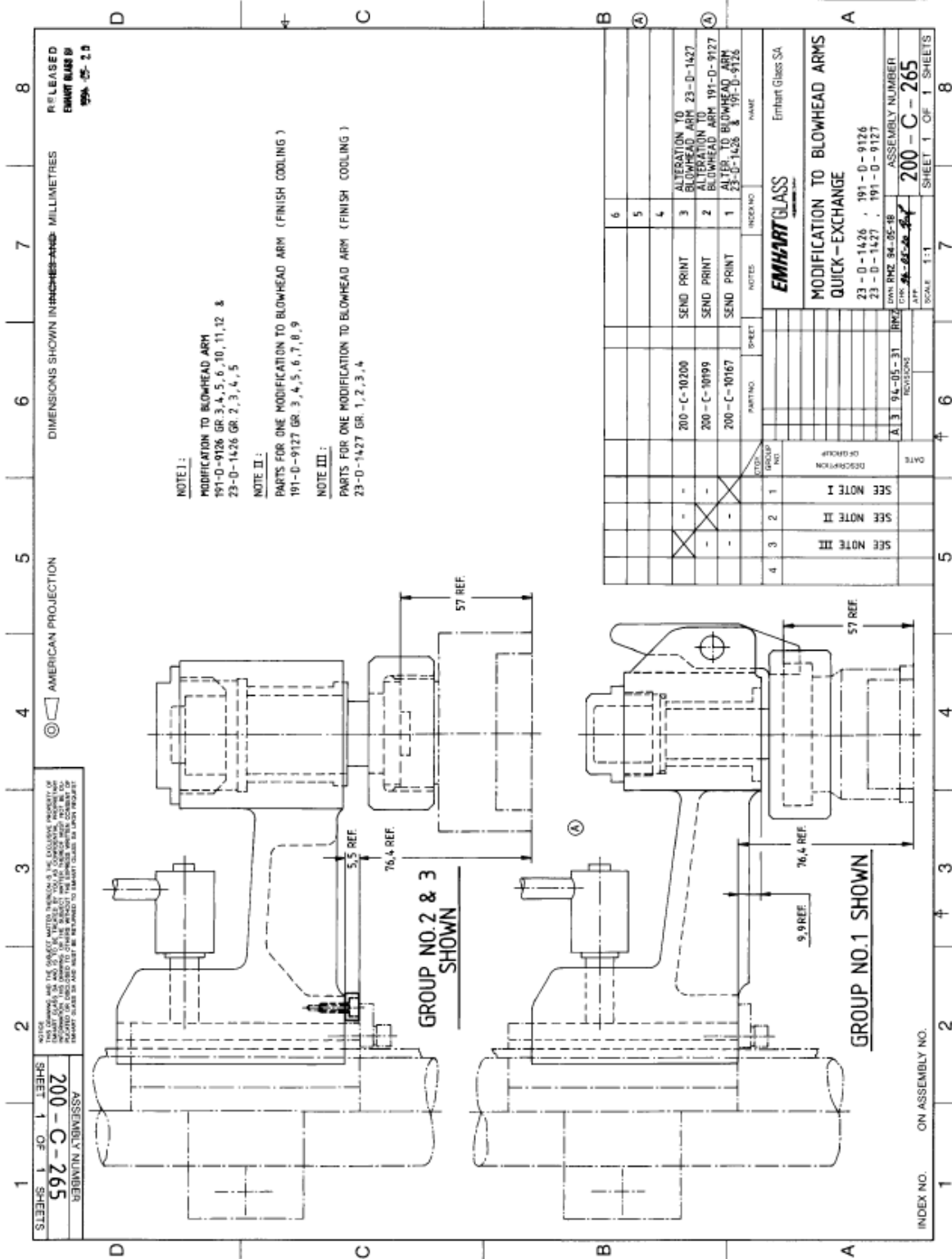
PERMISSIBLE DEVIATIONS FOR ANGULAR DIMENSIONS  
± 0.1

PERMISSIBLE DEVIATIONS FOR ANGULAR DIMENSIONS  
± 0.1

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± 0.1

PERMISSIBLE DEVIATIONS FOR ANGULAR DIMENSIONS  
± 0.1

PERMISSIBLE DEVIATIONS FOR ANGULAR DIMENSIONS  
± 0.1



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DIMENSIONS SHOWN IN INCHES AND MILLIMETRES

AMERICAN PROJECTION

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ASSEMBLY NUMBER  
**200-C-265**  
SHEET 1 OF 1 SHEETS

- NOTE I:**  
MODIFICATION TO BLOWHEAD ARM  
191-D-9126 GR. 3, 4, 5, 6, 10, 11, 12 &  
23-D-1426 GR. 2, 3, 4, 5
- NOTE II:**  
PARTS FOR ONE MODIFICATION TO BLOWHEAD ARM (FINISH COOLING)  
191-D-9127 GR. 3, 4, 5, 6, 7, 8, 9
- NOTE III:**  
PARTS FOR ONE MODIFICATION TO BLOWHEAD ARM (FINISH COOLING)  
23-D-1427 GR. 1, 2, 3, 4

GROUP NO.	ITEM NO.	DESCRIPTION	DATE
4	3	SEE NOTE III	
4	2	SEE NOTE II	
4	1	SEE NOTE I	

GROUP NO.	ITEM NO.	DESCRIPTION	DATE
3	1	200-C-10200	
3	2	200-C-10199	
3	3	200-C-10167	

GROUP NO.	ITEM NO.	DESCRIPTION	DATE
3	1	ALTERATION TO BLOWHEAD ARM 23-D-1427	
3	2	ALTERATION TO BLOWHEAD ARM 191-D-9127	
3	3	ALTER TO BLOWHEAD ARM 23-D-1426 & 191-D-9126	

GROUP NO.	ITEM NO.	DESCRIPTION	DATE
3	1	200-C-10200	
3	2	200-C-10199	
3	3	200-C-10167	

INDEX NO. ON ASSEMBLY NO.

SCALE 1:1

ASSEMBLY NUMBER  
**200-C-265**

SHEET 1 OF 1 SHEETS

EMHART GLASS  
Emhart Glass SA

MODIFICATION TO BLOWHEAD ARMS  
QUICK-EXCHANGE  
23-D-1426 . 191-D-9126  
23-D-1427 . 191-D-9127

GROUP NO. 1 SHOWN

GROUP NO. 2 & 3 SHOWN

9.9 REF

76.4 REF

57 REF

5.5 REF

76.4 REF

57 REF

A

B

C

D

1

2

3

4

5

6

7

8

1

2

3

4

5

6

7

8