

5 1/8 - 15,000 PSI END FLANGE DIMENSIONS

**TECHNICAL PROPOSAL TP9701
Revision New**

AWHEM publications may be used by anyone desiring to do so. Every effort has been made by the Association to assure the accuracy and reliability of the data contained in them; however, the Association makes no representation, warranty, or guarantee in connection with this publication and hereby expressly disclaims any liability or responsibility for loss or damage resulting from its use or for the violation of any federal, state or municipal regulation with which this publication may conflict.

**Association of Well Head
Equipment Manufacturers
Post Office Box 1166
Bellaire, Texas 77401**





ASSOCIATION OF WELL HEAD
EQUIPMENT MANUFACTURERS

POST OFFICE BOX 1166 • BELLAIRE, TEXAS 77401

December 31, 1997

Mr. Gerry Janszen
Cameron B. V.
Sweelinckplein 11
2517 GK The Hague
The Netherlands

Reference: ISO 10423
Subject: AWHEM Recommendations to ISO 10423 - 5-1/8" Equipment

Dear Mr. Gerry:

The Association of Wellhead Equipment Manufacturers (AWHEM) established a Task Group to standardize the 5-1/8"-15,000 equipment dimensions. The Task Group is recommending standard dimensions for:

- a. 5-1/8" 15,000 psi end flange, test flange and blind flange.
- b. 5-1/8" 5,000, 10,000, 15,000 crosses and tees.

The recommended dimensions are presented in the enclosed attachments. The other results are:

- c. The 5-1/8" 15,000 psi gate valve end-to-end length is 35 inches (to utilize the 6-3/8" 10K forging).
- d. Use current API 6A 5-1/8" bore drift for this bore size.
- e. The 5-1/8" 15,000 psi flange will use the API 6A BX-169 gasket.
- f. The maximum temperature rating for the proposed 5-1/8" 15,000 flange is 350°F with 80 ksi bolt yield strength minimum.

The proposed 5-1/8" 15,000 psi flange dimensions, agreed to by all members, were based on the calculation method used by AWHEM/API during the development of the BX flange in the late 70's. All submitted dimensions were very similar only with some minor detail differences. The members agreed the conservative nature of this method will allow the flange to carry additional axial and bending load that will be defined in separate work, either by another AWHEM task group or API. Also, the approach will retain the methodology of the API-6A BX flanges.

One of our members contracted with a consulting firm for designing the 5-1/8" 15,000 psi end flange and was willing to share the calculation results with AWHEM to assist regulatory bodies in their approval process of adapting the proposed flange design for broad industry usage.

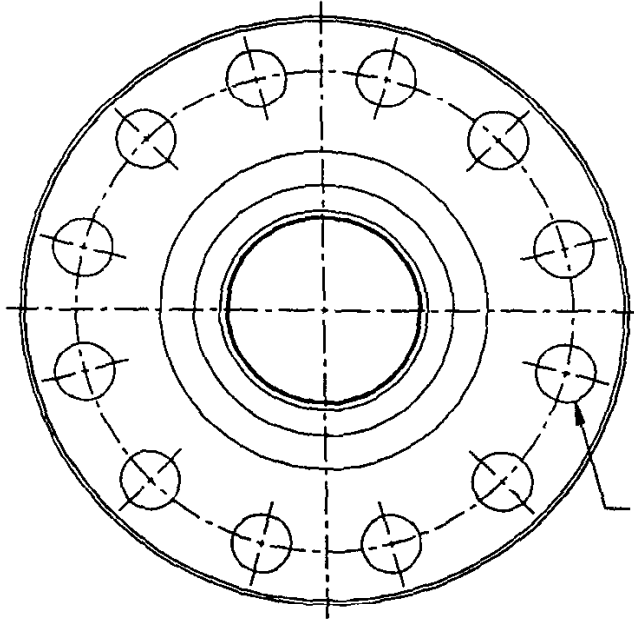
We respectfully recommend that your Work Group consider including this information in the next draft of ISO 10423. Our organization is highly supportive of global action and particularly your group's work on the important document. If we may be of further service, please contact us. Happy New Year.

With best regards,

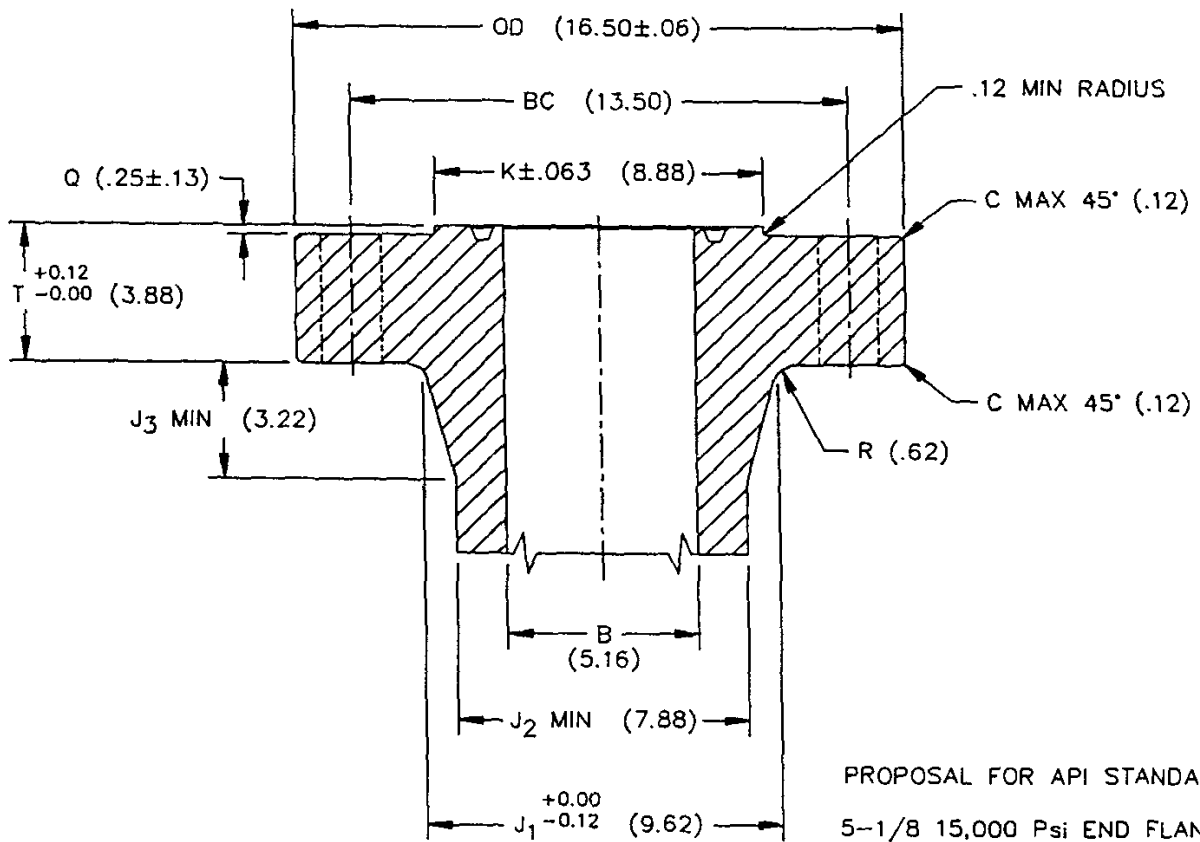
R.W. McGregor
AWHEM President

RWM/ab
Attachment

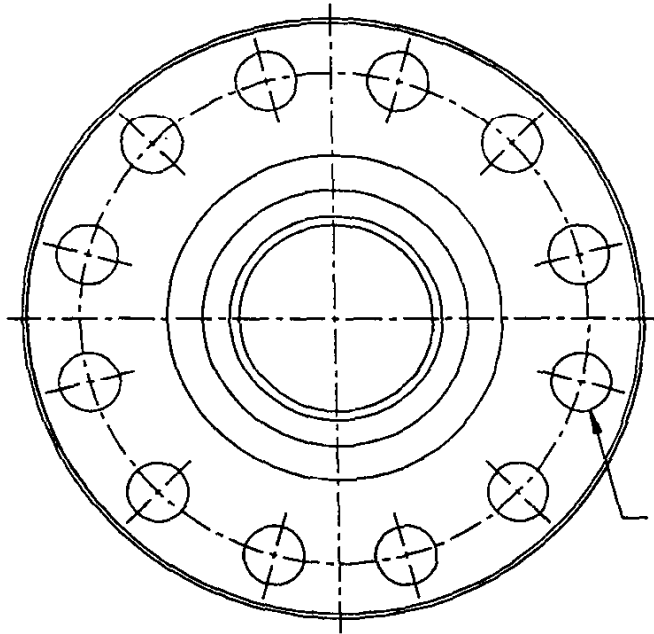
cc: Dean Broughton, Executive Secretary
Loc Haong, Task Group Chairman (w/o encl.)
John Stobbart, North Sea Committee Chairman
David Ott, President Elect



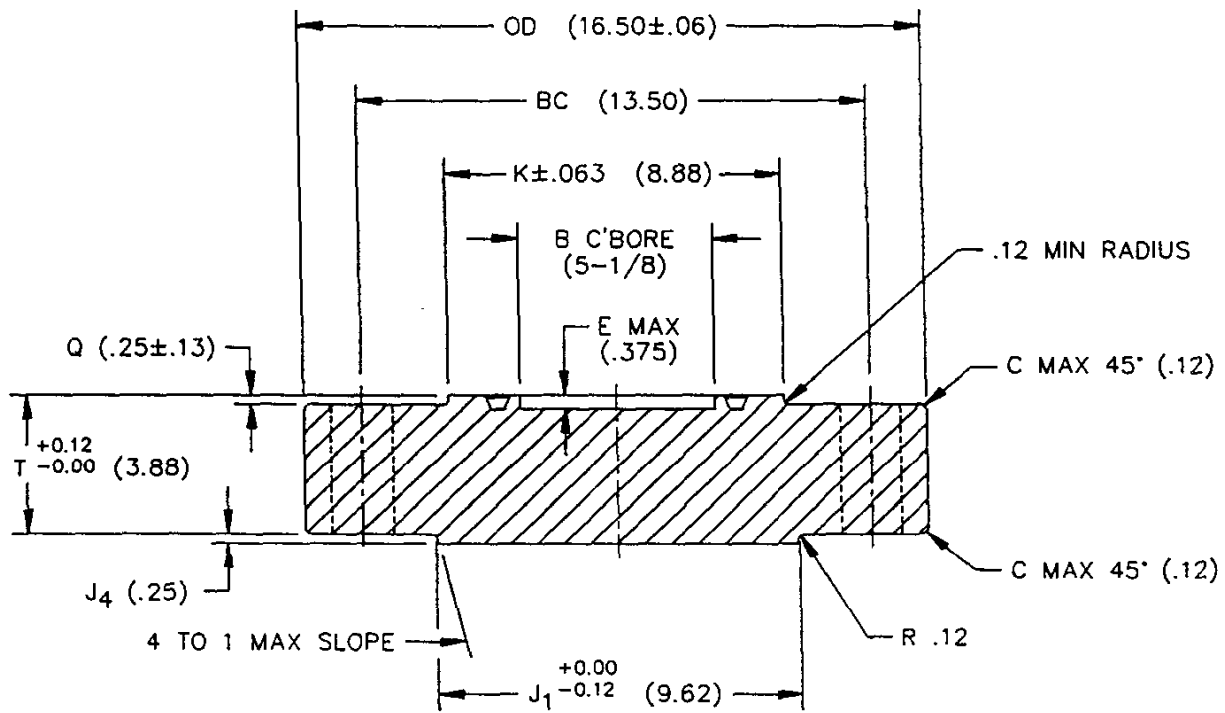
+0.09
 Ø1.62-0.02 THRU
 12 HOLES 30° APART
 BD 1.50



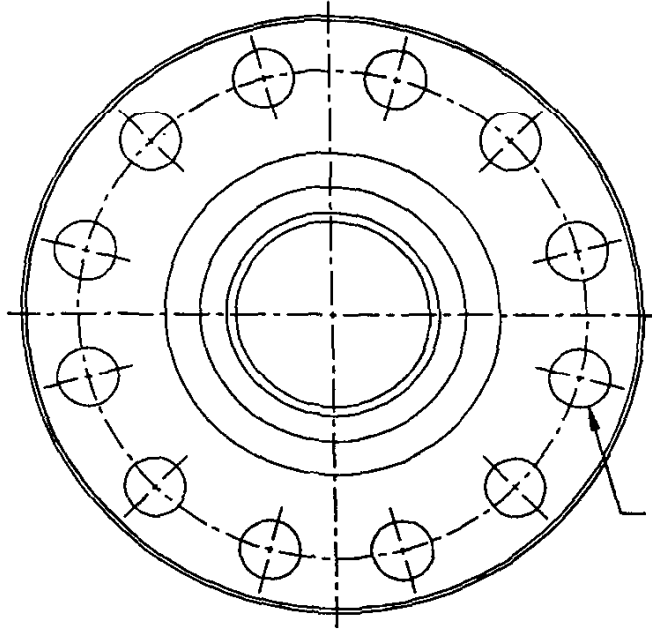
PROPOSAL FOR API STANDARD
 5-1/8 15,000 Psi END FLANGE
 GASKET BX-169
 FEB. 27, 1997



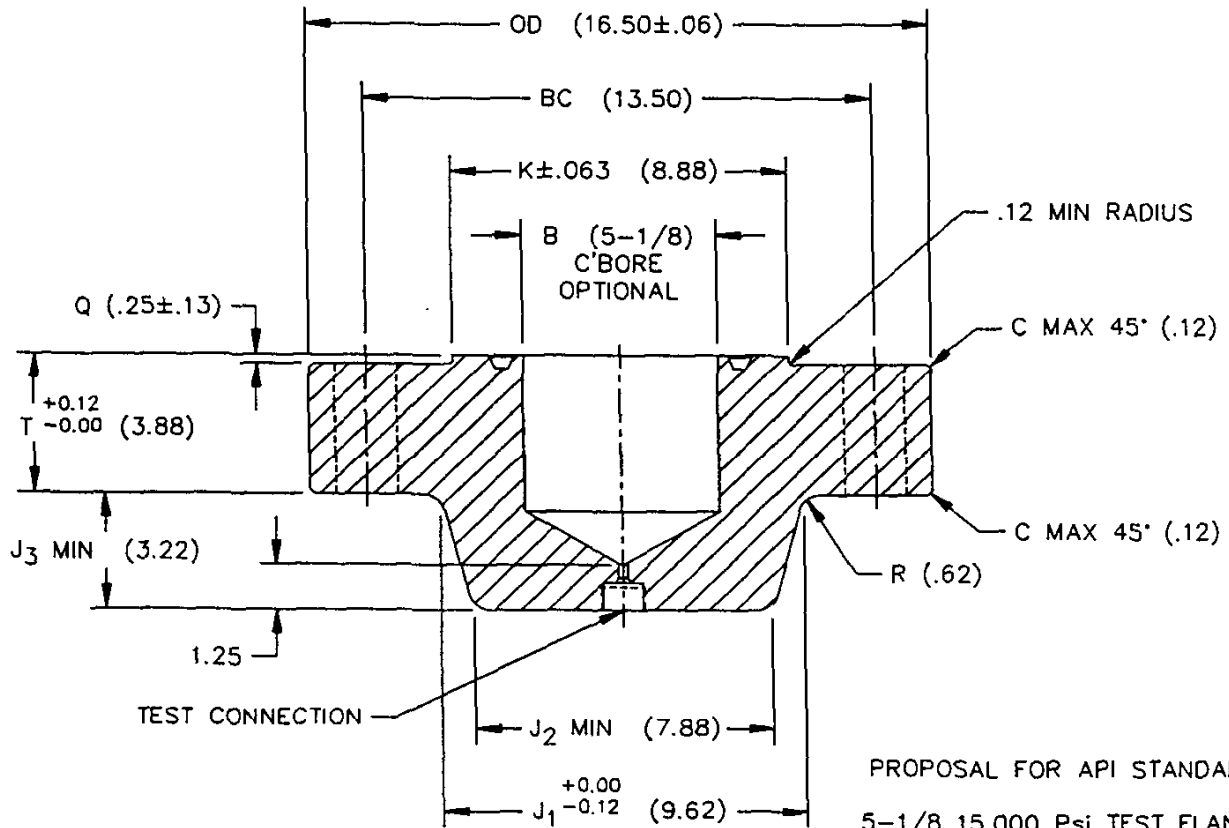
$+0.09$
 $\varnothing 1.62 - 0.02$ THRU
 12 HOLES 30° APART
 BD 1.50



PROPOSAL FOR API STANDARD
 5-1/8 15,000 Psi BLIND FLANGE
 GASKET BX-169
 MAY 16, 1997



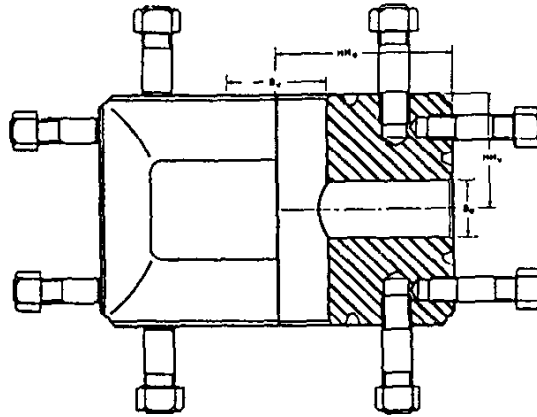
+0.09
 Ø1.62-0.02 THRU
 12 HOLES 30° APART
 BD 1.50



PROPOSAL FOR API STANDARD
 5-1/8 15,000 Psi TEST FLANGE
 GASKET BX-169
 MAY 16, 1997

RECOMMENDED DIMENSIONS

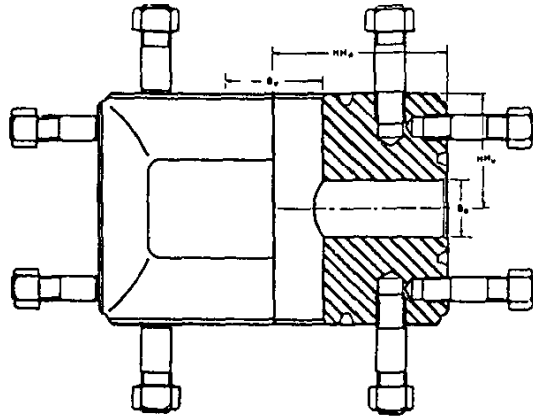
API Flange Studded Crosses and Tees



(1)	(2)		(3)	(4)	(5)
Rated Working Pressure (psi)	Nominal Size and Bore		Center to Face, Vertical Run, HH_v (in.) ± 0.03	Center to Face, Horizontal Run, HH_h (in.) ± 0.03	
	Vertical, B_v (in.) $+0.03, -0$	Outlet, B_o (in.) $+0.03, -0$			
5,000	5-1/8	2-1/16	6.12	7.62	
	5-1/8	2-9/16	6.12	7.62	
	5-1/8	3-1/8	6.12	7.62	
	5-1/8	4-1/16	7.97	7.97	
	5-1/8	5-1/8	7.97	7.97	
10,000	5-1/8	1-13/16	5.25	7.75	
	5-1/8	2-1/16	5.25	7.75	
	5-1/8	2-9/16	5.25	7.75	
	5-1/8	3-1/16	6.75	7.75	
	5-1/8	4-1/16	6.75	7.75	
	5-1/8	5-1/8	7.75	7.75	

RECOMMENDED DIMENSIONS

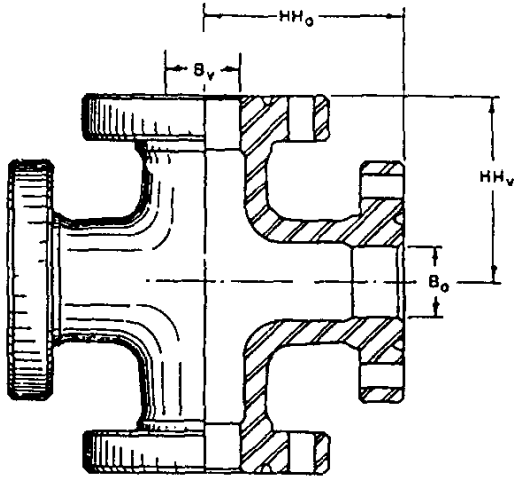
API Flange Studded Crosses and Tees



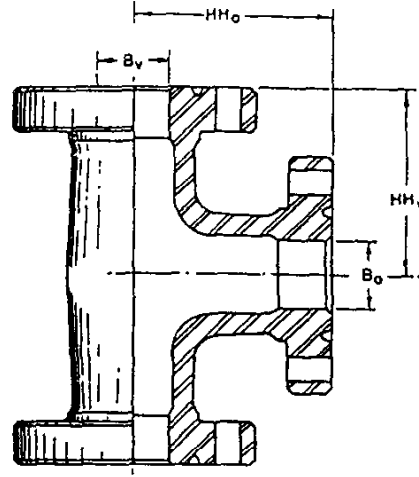
(1)	(2)	(3)	(4)	(5)
Rated Working Pressure (psi)	Nominal Size and Bore		Center to Face, Vertical Run, HH_v (in.) ± 0.03	Center to Face, Horizontal Run, HH_o (in.) ± 0.03
	Vertical, B_v (in.) $+0.03, -0$	Outlet, B_o (in.) $+0.03, -0$		
15,000	5-1/8	1-13/16	6.62	8.75
	5-1/8	2-1/16	6.62	8.75
	5-1/8	2-9/16	6.62	8.75
	5-1/8	3-1/16	6.62	8.75
	5-1/8	4-1/16	9.25	9.25
	5-1/8	5-1/8	9.25	9.25

RECOMMENDED DIMENSIONS

API Flange Cross



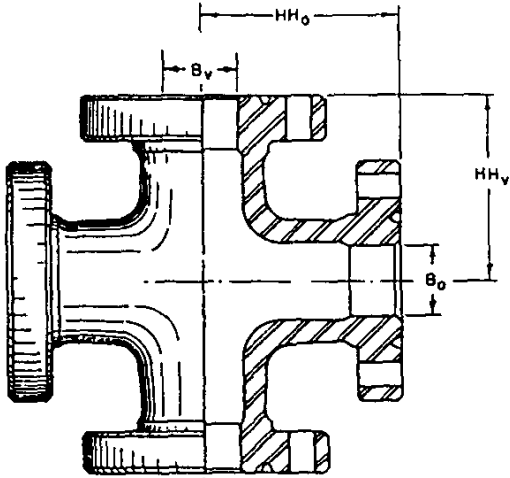
API Flanged Tee



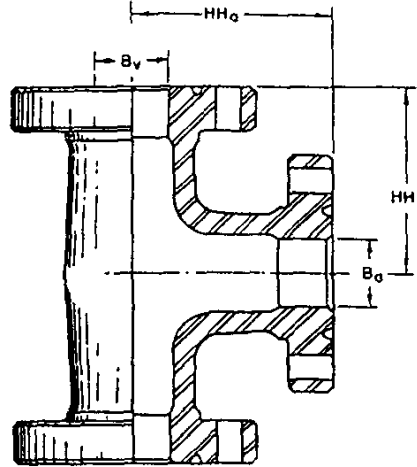
(1)	(2)		(3)	(4)	(5)
Rated Working Pressure (psi)	Nominal Size and Bore		Center to Face, Vertical Run, HH_v (in.) ± 0.03	Center to Face, Horizontal Run, HH_o (in.) ± 0.03	
	Vertical, B_v (in.) $+0.03, -0$	Outlet, B_o (in.) $+0.03, -0$			
5,000	5-1/8	2-1/16	9.06	10.56	
	5-1/8	2-9/16	9.62	10.69	
	5-1/8	3-1/8	10.06	10.94	
	5-1/8	4-1/16	10.93	11.19	
	5-1/8	5-1/8	12.19	12.19	
10,000	5-1/8	1-13/16	8.19	10.06	
	5-1/8	2-1/16	8.44	10.12	
	5-1/8	2-9/16	9.06	10.42	
	5-1/8	3-1/16	9.81	10.69	
	5-1/8	4-1/16	10.72	11.19	
	5-1/8	5-1/8	11.53	11.53	

RECOMMENDED DIMENSIONS

API Flange Cross



API Flanged Tee



(1)	(2)	(3)	(4)	(5)
Rated Working Pressure (psi)	Nominal Size and Bore		Center to Face, Vertical Run, HH_v (in.) ± 0.03	Center to Face, Horizontal Run, HH_o (in.) ± 0.03
	Vertical, B_v (in.) $+0.03, -0$	Outlet, B_o (in.) $+0.03, -0$		
15,000	5-1/8	1-13/16	9.38	11.44
	5-1/8	2-1/16	9.63	11.63
	5-1/8	2-9/16	10.25	11.88
	5-1/8	3-1/16	10.94	12.18
	5-1/8	4-1/16	12.38	12.75
	5-1/8	5-1/8	13.50	13.50