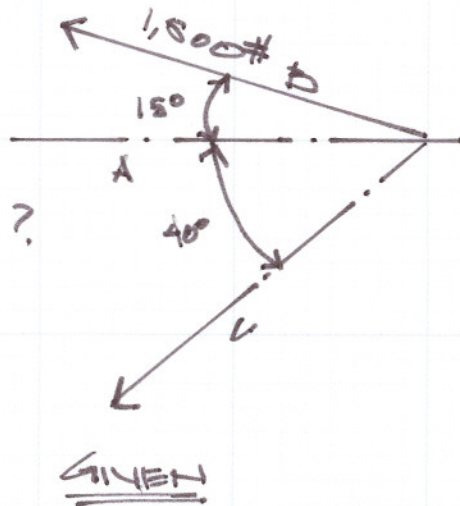


#26. THE TENSION IN MEMBER B IS 1,500#. IF THE RESULTANT FORCES EXERTED BY MEMBERS B AND C IS TO BE HORIZONTAL, WHAT IS THE TENSION IN MEMBER C?

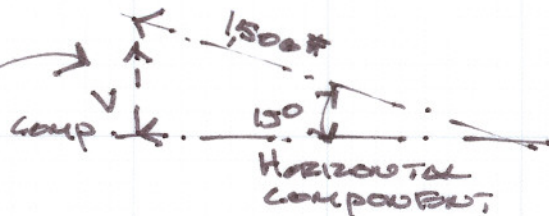


① - NOTICE THE KEY WORDING IN THE PROBLEM STATEMENT... "THE RESULTANT FORCES EXERTED BY MEMBERS B & C IS TO BE HORIZONTAL". THIS MEANS THAT THE VERTICAL COMPONENT OF "B" HAS TO BE EQUAL TO THE VERTICAL COMPONENT OF "C". THIS IS THE ONLY WAY THE RESULTANT FORCE WILL BE HORIZONTAL.

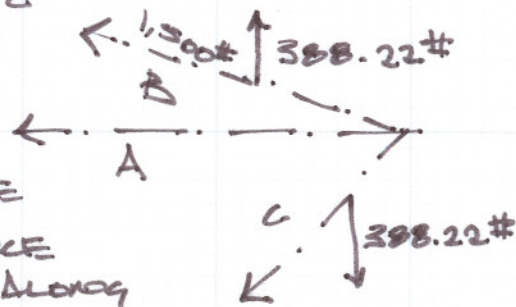
⇒ THERE IS ENOUGH INFORMATION TO SOLVE FOR THE VERTICAL COMPONENT OF B.

$$\sin 15^\circ = \frac{V_{\text{comp}}}{1,500\#}$$

$$V_{\text{comp}} = 388.22\#$$



② NOW, SET THE VERTICAL COMPONENT OF MEMBER "B" EQUAL TO THE VERTICAL COMPONENT OF MEMBER "C" AND FIND THE FORCE IN MEMBER "C"



∴ NOTE:
ΣV = 0, THIS THE RESULTANT FORCE IS HORIZONTAL ALONG "A"

Project:	NCARB #26-95
Address:	
Job No.:	
Date:	3/2/08
Drawn By:	HAM

PREPARE

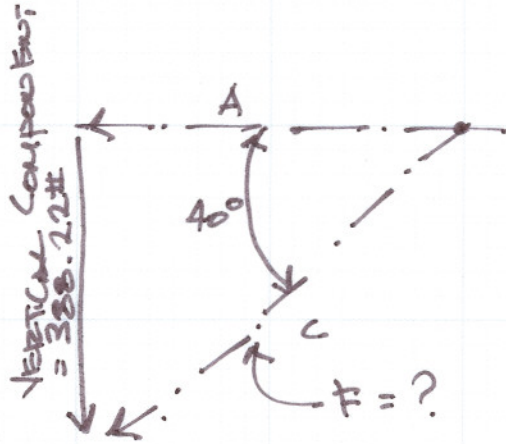
Planning . Education . Architecture . Engineering

1808 Woodfield Drive, Suite 202, Savoy, IL 61874
Ph: (217) 356-0086 • Fax: (217) 356-0088
www.prepa-r-e.com

Seal

1/2

Sketch No.



FIND FORCE IN MEMBER C

$$\sin 40^\circ = \frac{\text{VERT COMP}}{F_c}$$

$$\sin 40^\circ = \frac{388.22\#}{F_c}$$

$$F_c = \frac{388.22\#}{\sin 40^\circ} = 603.97\#$$

FORCE IN MEMBER C: 604#

Project: NCAZZ #26-GS	<div style="font-size: 2em; font-weight: bold; margin-bottom: 10px;">PREPARE.</div> <div style="font-size: 0.8em; margin-bottom: 5px;">Planning . Education . Architecture . Engineering</div> <div style="font-size: 0.7em;">1808 Woodfield Drive, Suite 202, Savoy, IL 61874 Ph: (217) 356-0086 • Fax: (217) 356-0088 www.prepa-r-e.com</div>	Seal	2/2
Address:			
Job No.:			
Date: 3/2/08			
Drawn By: HAM			