

is on a six weeks leave of absence. We wish him a speedy recovery from a needed operation.

ANNOUNCEMENTS

Weather permitting, there will be a picnic of the Piedmont Aviation Inc. Flying Club on Friday, September 7th, 6:30 P.M. at Reynolds Park. All P. A. employees who are not members of the Club are invited. For further details please ask Miss Nell Adams or Mrs. Ellen Ench.

WEIGHT AND BALANCE

By F. H. Ponish

Refer to Fig. 1 and 2 (Page 2- P. A. News, Vol. 1, No. 2).

If we know the distance A-B, and the weights W_1 and W_2 , we can find the arms A-F and B-F. To do this, multiply the distance A-B by W_2 and divide this product by $W_1 \div W_2$. The answer thus obtained is the arm A-F. To find B-F multiply the distance A-B by W_1 and divide this product by $W_1 \div W_2$. It is of course evident that, if one arm has been found, the other arm may be obtained by subtracting the known arm from the distance A-B.

Let us use Fig. 2 as an example:
 A-B = 30". $W_1 = 10$ lbs., $W_2 = 5$ lbs.
 Find A-F.

$$\frac{30 \times 5}{10 \div 5} = \frac{150}{15} = 10$$

A-F = 10". B-F = 30 - 10 = 20"

The same result can be obtained by calculating the arm B-F.

$$\frac{30 \times 10}{10 \div 5} = \frac{300}{15} = 20"$$

B-F = 20". A-F = 30 - 20 = 10"

In all Weight and Balance Reports the arms are given in inches and the weight in pounds. Moments, being the product of pounds and inches, are given in inch-pounds. The abbreviations used for these quantities are:

Pounds.....lbs.
 Inches.....in.
 Inch-Pounds.....in. lbs.

PROBLEMS:

- 1). W_1 is 123 lbs., W_2 is 17 lbs.
 A-B is 70". Find A-F.
 Ans. 8.5"
- 2). W_1 is 927 lbs. W_2 is 73 lbs.
 A-B is 100". Find A-F.
 Ans. 7.3"
- 3). W_1 is 1292 lbs. W_2 is 58 lbs.
 A-B is 100". Find A-F.
 Ans. 5.37"
- 4). W_1 is 631 lbs. W_2 is 52 lbs.
 A-B is 200". Find A-F.
 Ans. 15.23"
- 5). W_1 is 40 lbs. W_2 is 20 lbs.
 A-B is 75". Find B-F.
 Ans. 50"

Give all answers to the nearest 2 decimal places. To do this you must work your answer to the nearest 3 decimal places. If the third place is less than 5, merely drop it from your answer. If the third place is 5 or more, add 1 to the second decimal place. To illustrate: If the answer is 12.352 give it as 12.35. If your answer is 12.355 give it as 12.36. If you have difficulty in multiplying and dividing decimal fractions, do not hesitate to call on me for help.

AVIATION VOCABULARY

CLEVIS- a U-shaped device with the ends perforated to receive a pin or bolt.

VENEER- a thin sheet of wood.

PLYWOOD- layers of wood veneer securely glued together with the grain at an angle to each other.

LAMINATED WOOD- a product formed by gluing or otherwise fastening together a number of laminations of wood with the grain substantially parallel.

Ascertain the meaning of the following words this week:

AIRPLANE RIGGING BAFFLE, OR BAFFLE PLATE
 CARBURETOR ALCLAD