PIC WALSH FREIGHT CO.

Presents

THE TRAFFIC MANAGER'S SLIDE RULE

PIC-Walsh Freight Co.'s foremost interest is serving the shipping public. Being prompted by that interest, we are pleased to furnish you with the "Traffic Manager's Slide Rule". We are sure it will become a valuable tool, and a great time saver. Before considering actual problems, may we suggest that a few minutes be taken to become thoroughly familiar with the reading of the scale.

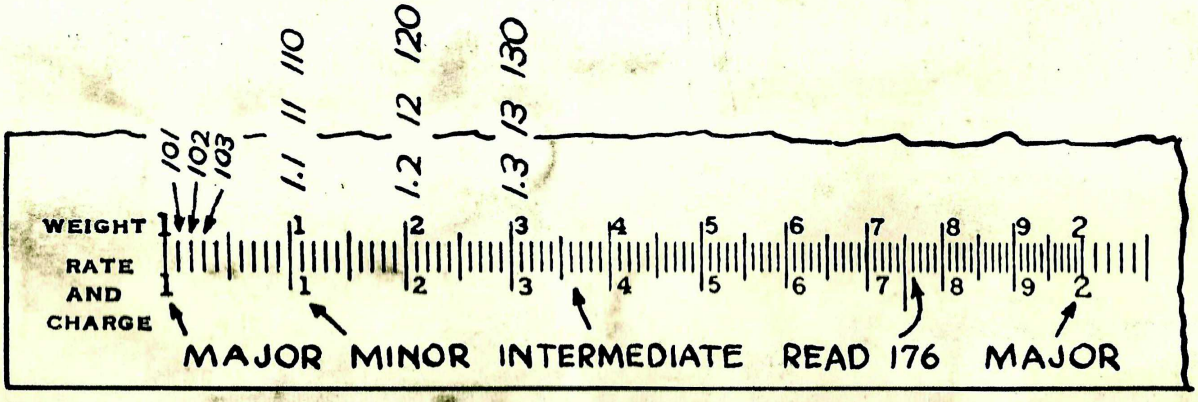
READING THE SCALE

Correct usage of the slide rule depends on accurate setting of the slide, and careful reading of the computation. You will readily note, upon observation, that the top and bottom two scales of this rule are identical. Also, that each of these scales has large figures running from 1 to 10, as the scale is read from the left to the right; the space between the figures decreasing as the figure increases. From this, we can be sure that the right index must always have 10 times the value of the left index, so, if we start with 1 on the left, 10 must be on the right; and, if 10 is on the left, then reading goes to 100 on the right; 100 on the left, reads to 1000 on the right, etc.

Concentrating on the lower two scales, we find there are three types of divisions on the scale. These can be called: Major Graduations, (the larger figures, reading from 1 to 10), Minor Graduations (there are 10 minor graduations between each Major), and the Intermediate Graduations (these appear in three different types, and between the Minor Graduations).

In reading the slide rule scale, the Major Graduation becomes the first digit of the number read; the Minor Graduation is the second digit of the number read; the Intermediate Graduation becomes the third digit of the number; while the fraction of Intermediate Graduation, read with the aid of the hairline indicator, becomes the fourth factor of the number.

The science of reading the slide rule lies in becoming thoroughly familiar with these Intermediate Graduations. For this reason, we divide the scale into three sections and consider each section, individually:



SECTION 1 (see Figure 1) Figure 1

The first section begins at Major Graduation 1, on the left, continuing to Major Graduation 2. Here, because space permits, the Minor Graduations are

numbered from 1 to 9 consecutively. These are read 1.1, 1.2, 1.3; or, 11, 12, 13; or, 110, 120, 130. The Intermediate Graduations in this section are single units, and are read from left to right, starting at Major 1 on the left index, as 1.01, 1.02, 1.03; or, 10.1, 10.2, 10.3; or, 101, 102, 103. Note: 103.5 would be found by splitting the space between 103 and 104, with the aid of the hairline.

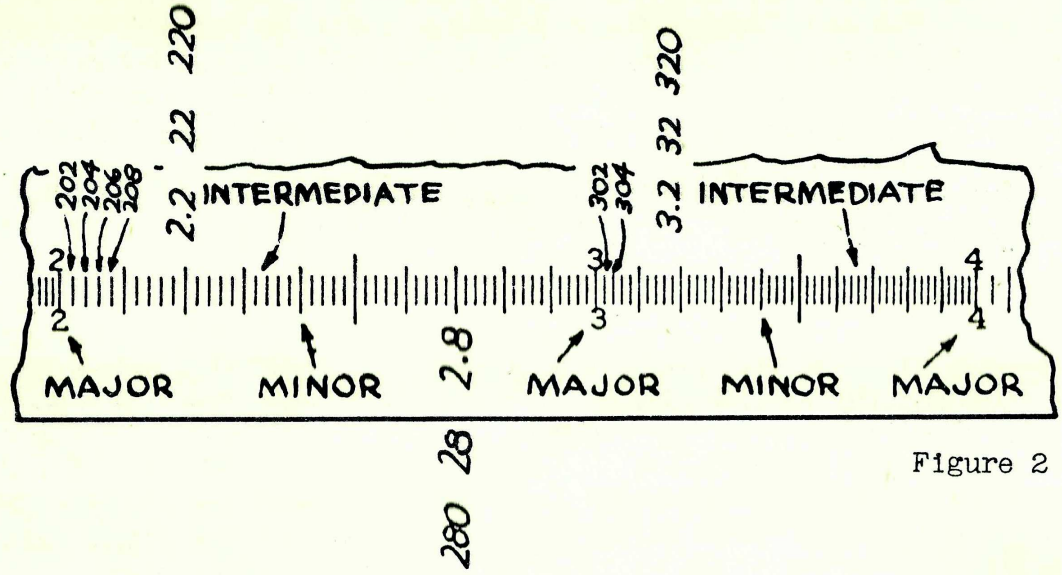


Figure 2

SECTION 2 (see Figure 2)

This section starts at the large 2, running through 3 to 4. Minor Graduations are indicated by extended lines on this scale, with the fifth marker, (25 or 35) drawn larger to expedite reading. The minor divisions in this section are read the same as in Section 1 (2.1, 2.2, 2.3, etc). Due to the diminishing space between the Minor Graduations of this Section, there are only 5 Intermediate Graduations, and these are double the value of those in Section 1, as, 2.02, 2.04, 2.06; or, 20.2, 20.4, 20.6; or, 202, 204, 206. Note: 203 would be half-way between 202 and 204, while 202.5 must be estimated as one-quarter of the same distance.

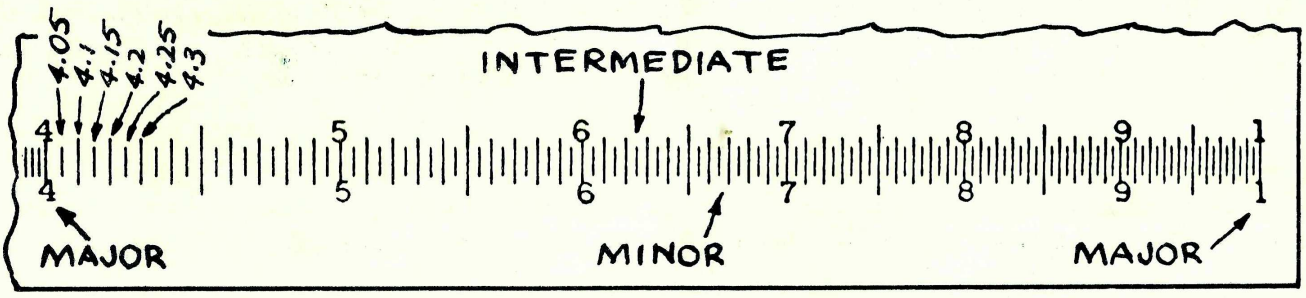


Figure 3

SECTION 3 (see Figure 3)

This is the last section of the scale, and extends from the figure 4, to the right index 1. The Minor Graduations in this section are read the same as in Sections 1 and 2; but, there is only one Intermediate Graduation between each Minor Graduation. The Intermediate Graduations in this section have the value of five times the value of the Intermediate Graduations in Section 1, or two-and-one-half times the value of the Intermediate Graduations in Section 2.

Starting at Major 4, reading each graduation towards the right, we have 4, 4.05, 4.1, 4.15, 4.2, 4.25; or, 40, 40.5, 41, 41.5, 42, 42.5; or, 400, 405, 410, 415, 420, 425. Note: 402 would be two-fifths of the space from 400, while 407 would be the same estimated distance to the right of 405.

MULTIPLICATION

To multiply, place the 1 (of either index), of the "Weight" scale, over the multiplier on the "Rate & Charge" scale, and with the aid of the hairline indicator, locate the multiplicand on the "Weight" scale, reading the product, indicated by the hairline, on the "Rate & Charge" scale. Example: 12 x 12 = 144. Set 1 on left index of "Weight" scale over 12 on the "Rate & Charge" scale (Major Graduation 1, Minor Graduation 2). Slide hairline to 12 on "Weight" scale, reading product 144, from bottom scale. (Major 1, Minor 4, Intermediate 4).

DIVISION

In division, the multiplication process is reversed. Place divisor on "Weight" scale over dividend on "Rate & Charge" scale, reading quotient under 1 of either index, with the aid of the hairline, from the "Rate & Charge" scale. Example: 4 ÷ 2 = 2. Place 2 on "Weight" scale over 4 on "Rate & Charge" scale, and the answer 2 will appear under 1 on the left index.

PLACING THE DECIMALS

The decimal point is not considered in operating the slide rule, but is placed through a mental survey of the influence of the involved factors of the result, as it is estimated by arithmetic.

USES FOR THE TRAFFIC MANAGER'S SLIDE RULE

CHECKING FREIGHT CHARGES: Place the 1 on "Weight" scale over the rate per cwt. and read freight charges under the weight shipped. WEIGHT x RATE PER CWT. = FREIGHT CHARGE. Example: Rate 43¢ cwt., Weight 1372 lbs., find Freight Charge. Set 1 on "Weight" scale over 43 on "Rate & Charge" scale (the third Minor division to the right of Major 4). Read Freight Charge $5.90, (locate 1372 with aid of hairline, 3 Minor Graduations, and 7-2/10 Intermediate Graduations, to the right of Major Graduation 1 on the left index).

CHECKING THE RATE: Referring to the top two scales, it will be found that by placing right or left index of "Percent or Class" scale, on the first class rate in dollars and cents, the rest of the classes and percentages may be read right down the line. IMPORTANT: WILL NOT APPLY ON DEPRESSED OR CONCESSION RATE SCALES. Example: First Class standard rate 95¢. Set First Class marker directly under 95 on "Class Rate" scale. Then, Second Class will read 807, and will be called 81¢, since the fraction is above five. Thus, Third Class reading 665, will be called 67¢, and 72%, reading 683, is called 68¢, and 52%, 49¢.

COMPUTING THE STORAGE CHARGES: Set 1 on "Weight" scale over S1, or .0175 (1¾¢), the rate of storage per 100 lbs. per day, for the first five days. Read storage for the first day of the first five days, under the weight of the shipment. Multiply by 5 for five days. This is added to the charges computed thereafter. To compute charges for the balance of time shipment is stored, place 1 on "Weight" scale over S2, or .0325 (3¼¢), the rate of storage per 100 lbs. per day after the first five days. S1 x WEIGHT x 5 + S2 x WEIGHT x BALANCE OF DAYS. Example: 3240 lbs. stored for 30 days, find storage charges.

Set 1 on "Weight" scale over S1, and read storage for first day under 3240 (2 Minor and 2 Intermediate Graduations to the right of Major 3) on "Weight" scale with the use of the hairline. Read .567 cents storage first day. Leaving

hairline on this answer, align 1 of the right index with hairline. (1 of the left index would throw 5 out of the scale.) This done, move hairline to Major 5 on "Weight" scale, and read total storage for first five days, as $2.84 (reading from bottom scale, hairline falls at 8 Minor, and 2 Intermediate Graduations, to the right of Major 2). Now, set 1 of right index over S2, and read storage for sixth day as $1.053 (5-3/10 Intermediate Graduations to the right of Major 1). Leaving the hairline on this answer, set 1 on the left index over the answer. Then, moving the hairline to 25, read storage for the balance of time stored (25 days), as $26.30 (6 Minor and 1½ Intermediate to the right of Major 2). $2.84 added to $26.30, gives $29.14 storage charges to be paid.

CHECKING TRUCKLOAD OR CARLOAD BREAKING POINT: Place 1 on "Weight" scale over truckload or carload rate on "Rate & Charge" scale, reading truckload or carload charge under the prescribed minimum weight. Set hairline to answer thus found, and move the slide until LTL or LCL rate is directly above this minimum truckload or carload charge. The truckload or carload breaking point will appear in pounds under the 1 of either the right or left index. TL(CL) RATE x TL(CL) MINIMUM ÷ LTL(LCL) RATE = TL(CL) BREAKING POINT. Example: Truckload rate 33¢, Minimum Weight 20,000 lbs., find the breaking point when LTL rate is 83¢. Set 1 of the left index over .33 (3 Minor Graduations to the right of Major 3). Read truckload minimum charge $66.00 (Major 6, Minor 6) under 20,000 lbs. (Major 2). Placing hairline on answer, move the slide until .83 (8 Major, 3 Minor) is aligned. The Breaking Point in this instance would be 7950 lbs. (7 Major, 9 Minor and 1 Intermediate graduation.

These traffic problems, and many other mathematical problems, involving multiplication or division, or a combination of both, may be readily solved with the use of "The Traffic Manager's Slide Rule". If you like PIC-Walsh service and the Traffic Manager's Slide Rule, please write us and tell us about it, or at least, tell your friends.

Any Questions or Comments should be directed, please, to:

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