



How TO TAKE CARE OF YOUR K&E SLIDE RULE

DUPLEX®

Introduction

With proper care, your K&E slide rule will give years of uninterrupted use. This booklet contains a few suggestions which will help insure long life and perfect performance.

Keep in its case

The case or sheath provided with your slide rule protects it from dust or accidents. Make it a habit to keep the rule in its case when you're not using it.

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Adjustments

Weather conditions may cause a slight variation in the motion of the slide. Unless the slide continually sticks or moves too easily, however, there will be no need to make adjustments. A little talcum powder sprinkled on the edges of the slide will keep the action smooth and uniform.

When adjustments are needed, here's what to do:

Checking and adjusting alignment

1. Line up the C and D scales.
2. Check the alignment of the CF and DF scales.

body pieces together, tighten the screw again. Next pull the slide in the other direction and adjust, if necessary, by the same process at that end also.

If the slide is too loose, loosen the screw at one end. Then, pressing the upper and lower body pieces together lightly, tighten the screw again. Repeat this process at the other end. Do not loosen both screws at the same time.

Checking and adjusting the indicator

The hair lines of an indicator in proper adjustment will line up at one setting with the indexes on both sides at one end

Wipe clean, don't wash

Keep the faces of your slide rule clean by wiping them occasionally with a slightly dampened cloth. Never wash your rule, or use chemical cleaning fluids on it. If the surfaces become heavily soiled, rub them lightly with a high-grade (4/0) dry steel wool.

Cleaning under the indicator

To clean the under-surface of the indicator glass, press a small piece of moistened paper on the face of the rule. Then move the indicator back and forth over the paper, pressing down slightly.

3. If the latter are not properly aligned, hold the slide and lower body piece securely together and loosen the screws in the end plates at both ends.
4. Tap the upper body piece lightly in the required direction until the CF and DF scales are aligned.
5. Holding the upper and lower body pieces securely together, tighten both screws.

Adjusting the slide

If the slide is too tight, pull it to the right or left to the point where it is tightest. Loosen the screw at that end to relieve the tightness. Then, gently pressing the upper and lower

of a slide rule. If adjustment is necessary on either side, loosen all four screws on that side of the indicator. Shift frame and glass to proper alignment. Tighten the screws again.

How to convert measurements easily

The following tables show a simplified Slide Rule method of conversion for various units of measurement.

For instance: 1 inch = 2.54 centimeters. To convert inches to centimeters, set the Index of the C scale to 2.54 on the D scale. Then, all readings on the C scale will represent inches, and the corresponding readings on the D scale

will show the equivalents in centimeters (with proper attention to decimal points).

Conversion Factors

LINEAR MEASURE	Set index of C scale to D scale at:	On C scale read measurement in:	On D scale read equivalent in:
1 inch = 2.54 cm	2.54	in.	cm
1 foot = 0.3048 m	0.3048	ft.	m
1 yard = 0.9144 m	0.9144	yds.	m
1 mile = 1.609 km	1.609	mi.	km
1 mile = 5280 ft.	5280.	mi.	ft.
1 naut. mile = 1.152 mi.	1.152	naut. mi.	mi.

Conversion Factors

AREA MEASURE	Set index of C scale to D scale at:	On C scale read measurement in:	On D scale read equivalent in:
1 sq. inch = 6.452 cm ²	6.452	sq. in.	cm ²
1 sq. foot = 0.0929 m ²	0.0929	sq. ft.	m ²
1 sq. yard = 0.8361 m ²	0.8361	sq. yds.	m ²
1 sq. mile = 2.59 km ²	2.59	sq. mi.	km ²
1 sq. mile = 640 acres	640.	sq. mi.	acres
1 acre = 43,560 sq. ft.	43560.	acres	sq. ft.
VOLUME MEASURE	Set index of C scale to D scale at:	On C scale read measurement in:	On D scale read equivalent in:
1 cu. inch = 16.39 cm ³	16.39	cu. in.	cm ³
1 cu. foot = 0.0283 m ³	0.0283	cu. ft.	m ³
1 cu. yard = 0.7646 m ³	0.7646	cu. yds.	m ³

Conversion Factors

MEASURE OF CAPACITY	Set index of C scale to D scale at:	On C scale read measurement in:	On D scale read equivalent in:
1 U.S. gallon = 3.785 liters	3.785	U.S. gal.	liters
1 U.S. gallon = 231 cu. in.	231.	U.S. gal.	cu. in.
1 cubic foot = 28.32 liters	28.32	cu. ft.	liters

WEIGHT

1 pound = 0.4536 kg	0.4536	lbs.	kg
1 grain = 0.0648 g	0.0648	grains	grams
1 U.S. gallon = 8.345 lbs.	8.345*	U.S. gal.	lbs.
1 cu. ft. of water = 62.43 lbs.	62.43*	cu. ft.	lbs.

* Pure water at maximum density, 39.1° F.

Conversion Factors

PRESSURE	Set index of C scale to D scale at:	On C scale read measurement in:	On D scale read equivalent in:
1 atm = 14.7 psi	14.7	atm	psi
1 ft. of water = 0.4335 psi	0.4335	ft.	psi
1 in. of merc. = 0.4912 psi	0.4912	in.	psi
1 in. of merc. = 1.133 ft. of water	1.133	in.	ft. of water

ENERGY — WORK

1 Btu = 778 ft.-lbs.	778.	Btu	ft.-lbs.
1 hp = 0.707 Btu/sec.	0.707	hp	Btu/sec.
1 hp = 550 ft.-lbs./sec.	550.	hp	ft.-lbs./sec.
1 hp = 0.746 kw	0.746	hp	kw

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