

## INTRODUCTION

This manual contains operating, maintenance and storage instructions for Tinker & Razor's Model SC-4 Ag/AgCl Reference Electrode "Sea" use.

### This kit includes:

- 1 - Ag/Cl Element with end cap
- 1 - Ceramic Tip Assembly (Land)
- 1 - Tube Body with holes (Sea)
- 1 - Tube Body w/o holes (Land)
- 1 - End Plug (Storage)
- 1 - Brass Weight (Sea)
- 1 - 4 oz. Solution (Both)
- 1 - Waterproof Adapter w/lead (Sea)
- 2 - Instruction Manuals (Both)
- 1 - Carrying Case w/inserts

## SEE PARTS LIST DRAWING

### Accessories

- CPV-2 Voltmeter Analog
- CPV-4 Voltmeter Digital

### REQUIREMENTS

1. Voltmeter - any high input resistance 20 Megaohm or greater - see "Accessories".
2. Test Lead - 18 Ga. stranded wire (8 ft supplied). Longer test lead available upon request.
3. Electrolyte 4 oz. "Ocean Water" supplied - Potassium Chloride 35:1 mix is okay for storage - see "Maintenance".

### PREPARATION & ASSEMBLY

1. Clean Ag/Cl element per instruction under "Maintenance" section.
2. Screw end cap with Ag/Cl element into tube with holes (part #118-060) and tighten.
3. Screw one or both brass weights into tube and tighten.
4. Attach 18 Ga. test lead into waterproof adapter (part #009-010) - see W-7 instructions.
5. Remove knurled nut from top end cap and save.
6. Screw top of electrode into W-7 Waterproof Adapter and tighten.
7. Attach test lead wire to voltmeter.
8. Lower entire electrode into electrolyte and allow to soak for 15 minutes to stabilize readings.

### OPERATIONS

1. Submerge the tip or the entire electrode into electrolyte.

### Note:

Readings should be taken as close to the structure as possible to minimize I.R. drop. Avoid surface contaminants.

## MAINTENANCE & STORAGE

### Before Use:

1. The Ag/Cl element must be cleaned in distilled water or mild detergent and rinsed in distilled water prior to use.
2. **Do not** touch Ag/Cl element after cleaning.
3. The Ag/Cl element should soak in electrolyte for at least 15 minutes before use to stabilize readings.

### After Use:

1. To ensure proper readings we recommend the Ag/Cl element and the ceramic tip assembly be kept moist during storage. A solid body tube and end plug are included for this period as well as for use in soil readings.
2. For long term storage disassemble or for use after element and ceramic tip have been allowed to dry follow instructions above "Before Use".

STANDARD POTENTIALS to HYDROGEN			
Temperature	10° C	25° C	35° C
Electrode 25° C	Sea Water 20 Ohm-cm	Brackish 100 Ohm-cm	Brackish 500 Ohm-cm
Cu/CuSO <sup>4</sup> CuSO <sub>4</sub> Satd.	0.85 V	0.85 V	0.85 V
Ag/AgCl	0.79 V	0.83 V	0.88 V

Additional technical information:  
NACE Standard SP01-76

"Test Indicate the Ag/AgCl Electrode is Ideal Reference Cell in Sea Water", Peterson & Groover, MP, Vol 11, No 5, pp 19-22, May, 1972

## SPECIFICATIONS - SEA

Length	(125.48 mm)	4.94 In.
Diameter (Max.)	( 33.27 mm)	1.31 In.
Ceramic	( 28.49 mm)	1.12 In.
Threads		1/4-20
Temperature Range	(0-90°C)	0-194° F
Shipping Weight	( 1.9 kg)	3.5 lbs.

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INSTRUCTION MANUAL

**MODEL SC-4**

SILVER / SILVER CHLORIDE  
REFERENCE ELECTRODE

**SEA**