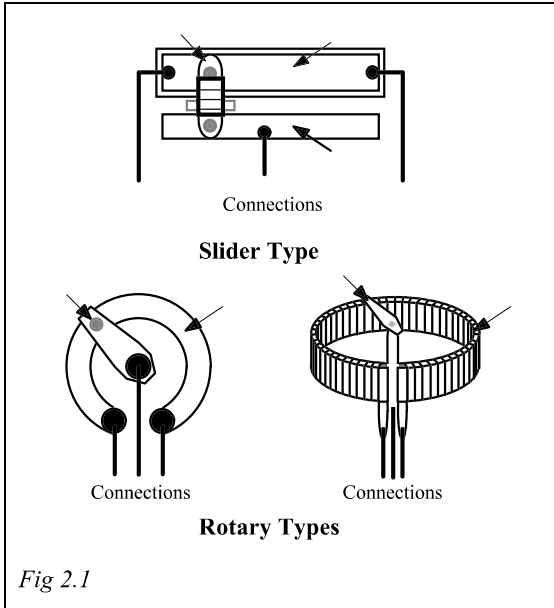


2.1 Variable Resistor Construction



.....

.....

.....

.....

.....

.....

.....

.....

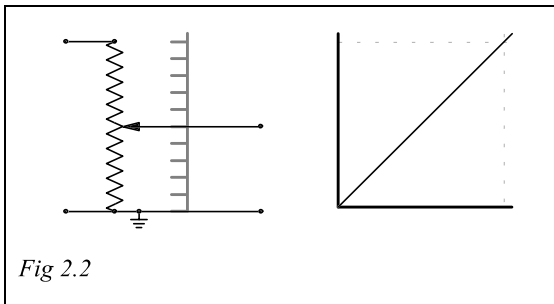
.....

.....

.....

.....

2.2 Linear Variable Resistor Characteristics



.....

.....

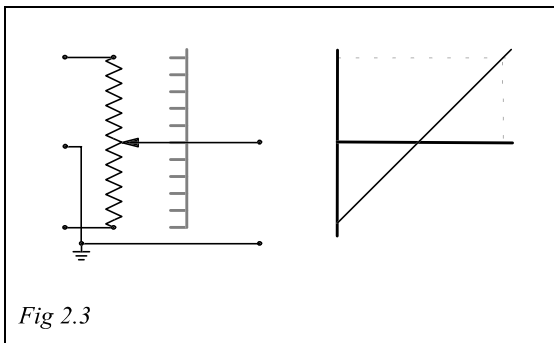
.....

.....

.....

.....

.....



.....

.....

.....

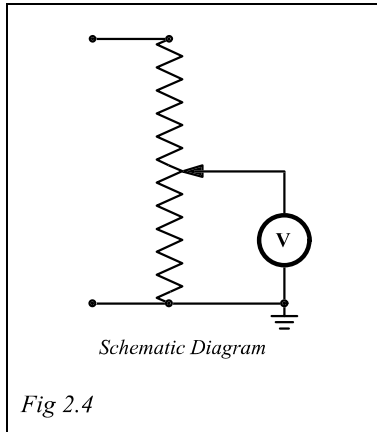
.....

.....

.....

.....

2.3 Practical Exercise
Variation of Output Voltage with Setting of Rotary Potentiometer



.....

.....

.....

.....

.....

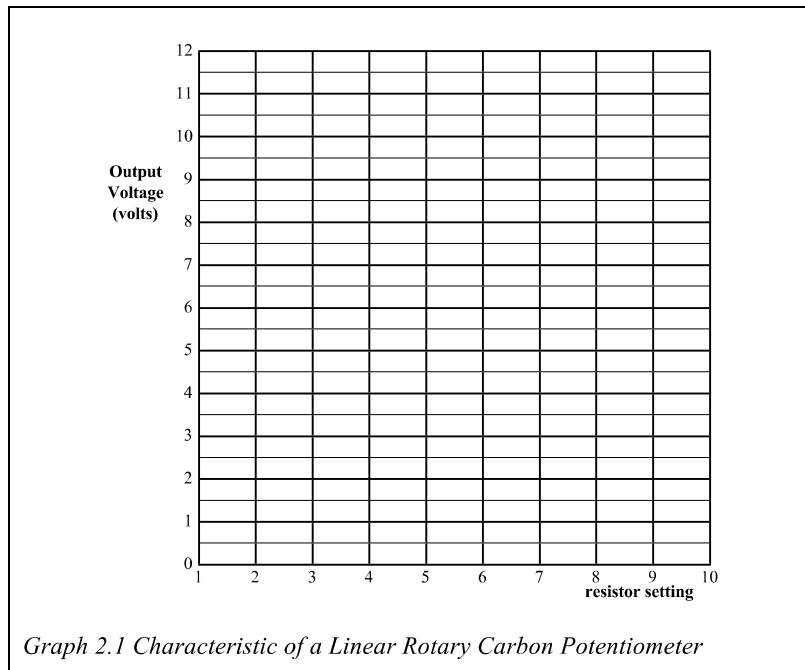
.....

.....

.....

Control Setting	1	2	3	4	5	6	7	8	9	10
Output Voltage	V	V	V	V	V	V	V	V	V	V

Table 2.1



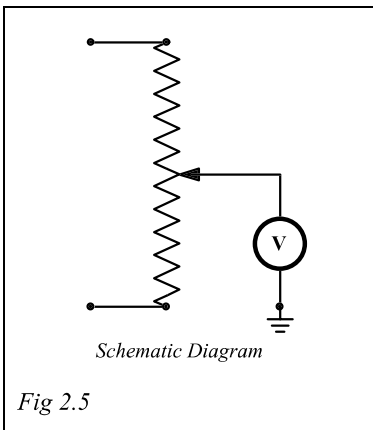
Voltage across this section ($V_9 - V_2$) = V

Voltage per division ($\frac{V_9 - V_2}{9-2}$) = V



2.3a Voltage per division V

2.4 Practical Exercise
Variation of Output Voltage with Setting of Slide Potentiometer



.....

.....

.....

.....

.....

.....

.....

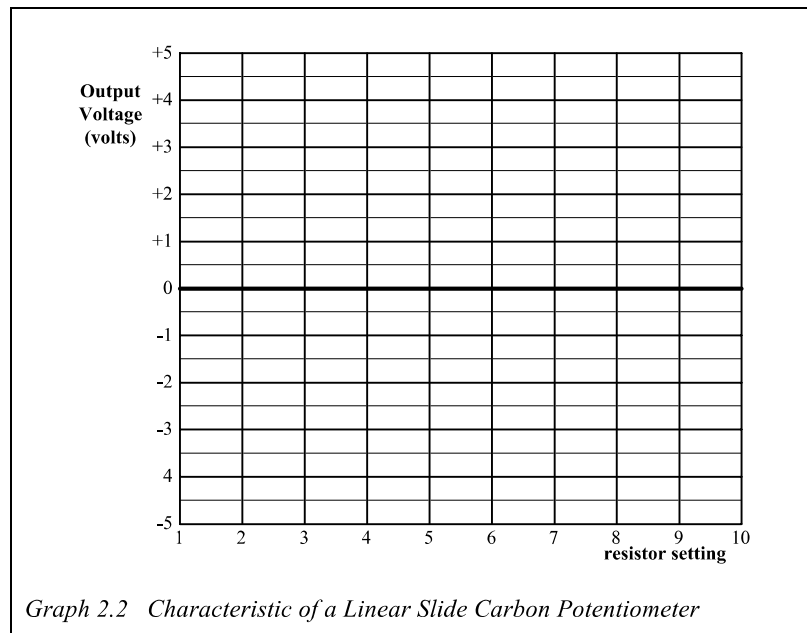
Control Setting	1	2	3	4	5	6	7	8	9	10
Output Voltage	V	V	V	V	V	V	V	V	V	V

Table 2.2

.....

.....

.....



Resistance $R_9 =$ $k\Omega$

Resistance $R_2 =$ $k\Omega$

Resistance between settings 9 & 2 = $R_9 - R_2 =$ $k\Omega$

Voltage between settings 9 & 2 = $V_9 - V_2 =$ V

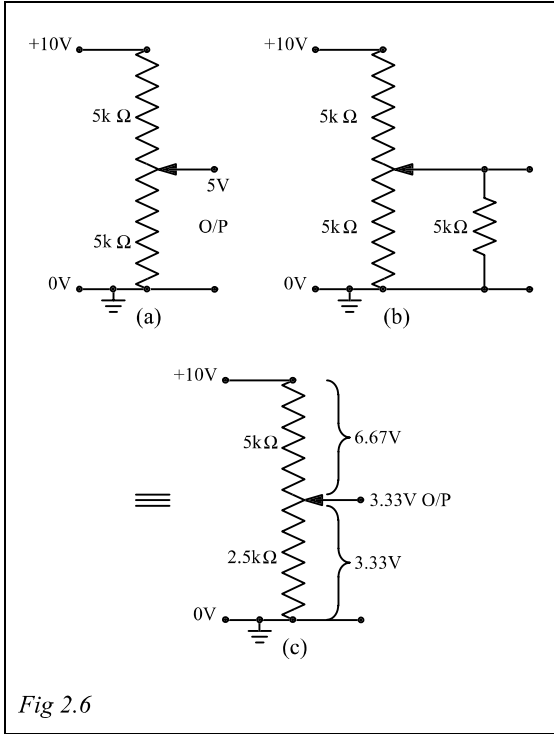
Voltage per $k\Omega = \frac{V_9 - V_2}{(R_9 - R_2)k\Omega} =$ $V/k\Omega$



2.4a

Voltage per $k\Omega$ $V/k\Omega$

2.5 Effect of Loading



.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

Notes:

.....

.....

.....

.....

.....

.....

.....

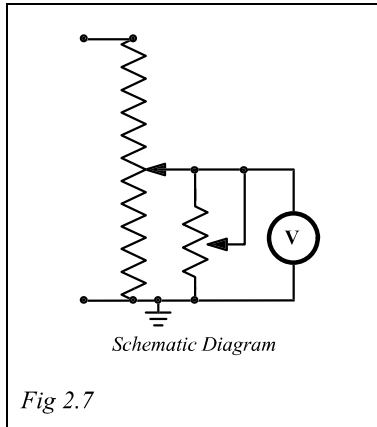
.....

.....

.....

.....

2.6 Practical Exercise
Effect of Loading on the Potentiometer Output Voltage



.....

.....

.....

.....

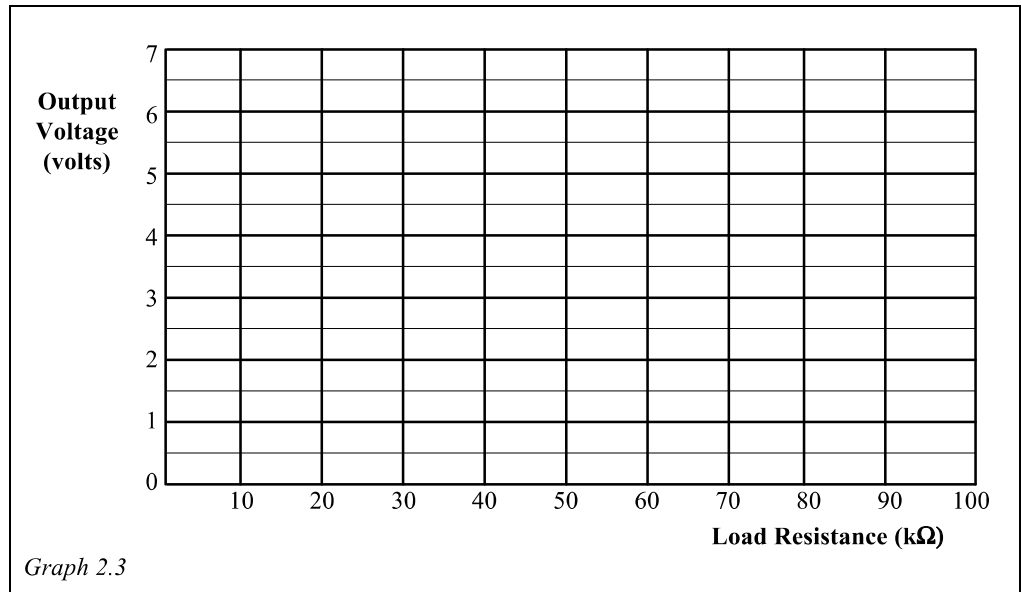
.....

.....

.....

Control Setting	10	9	8	7	6	5	4	3	2	1
Output Voltage	V	V	V	V	V	V	V	V	V	V
Load Resistance	kΩ	kΩ	kΩ	kΩ	kΩ	kΩ	kΩ	kΩ	kΩ	kΩ

Table 2.3



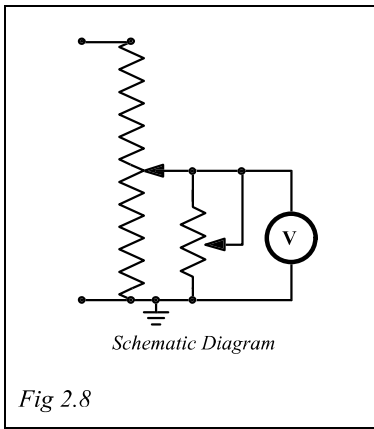


Fig 2.8

.....

.....

.....

.....

.....

.....

.....

Voltage reading with the Moving Coil Meter connected = V

Loading resistance of the Moving Coil Meter = kΩ



2.6a Loading resistance of the Moving Coil Meter kΩ

Output voltage = V (digital) V (analog)



2.6b Enter your value of analog output voltage with Buffer #1 in circuit in volts.

2.7 Resolution

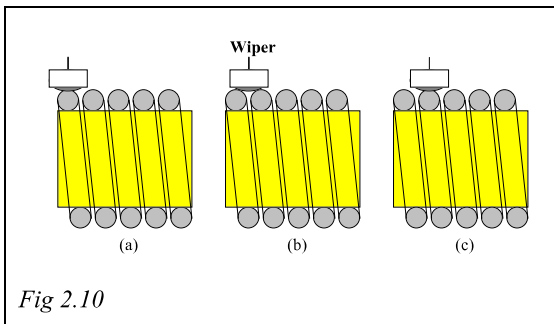


Fig 2.10

.....

.....

.....

.....

.....

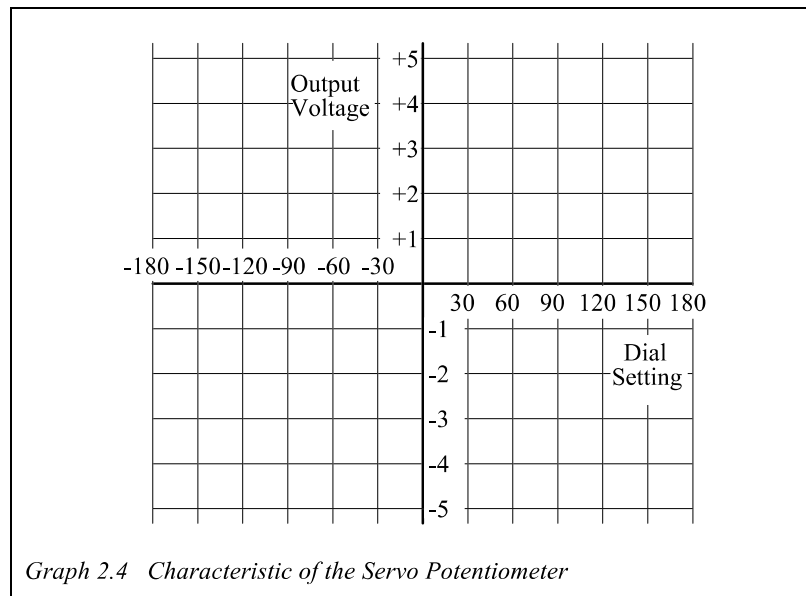
2.8 Comparison of Carbon with Wirewound Track

Carbon	Wirewound

2.9 Practical Exercise
Servo Potentiometer

Control Dial Setting		150	120	90	60	30	360 0	330 -30	300 -60	270 -90	240 -120	210 -150	
Output Voltage	V	V	V	V	V	V	V	V	V	V	V	V	V

Table 2.4



2.9a

Dial setting for the maximum positive output voltage

