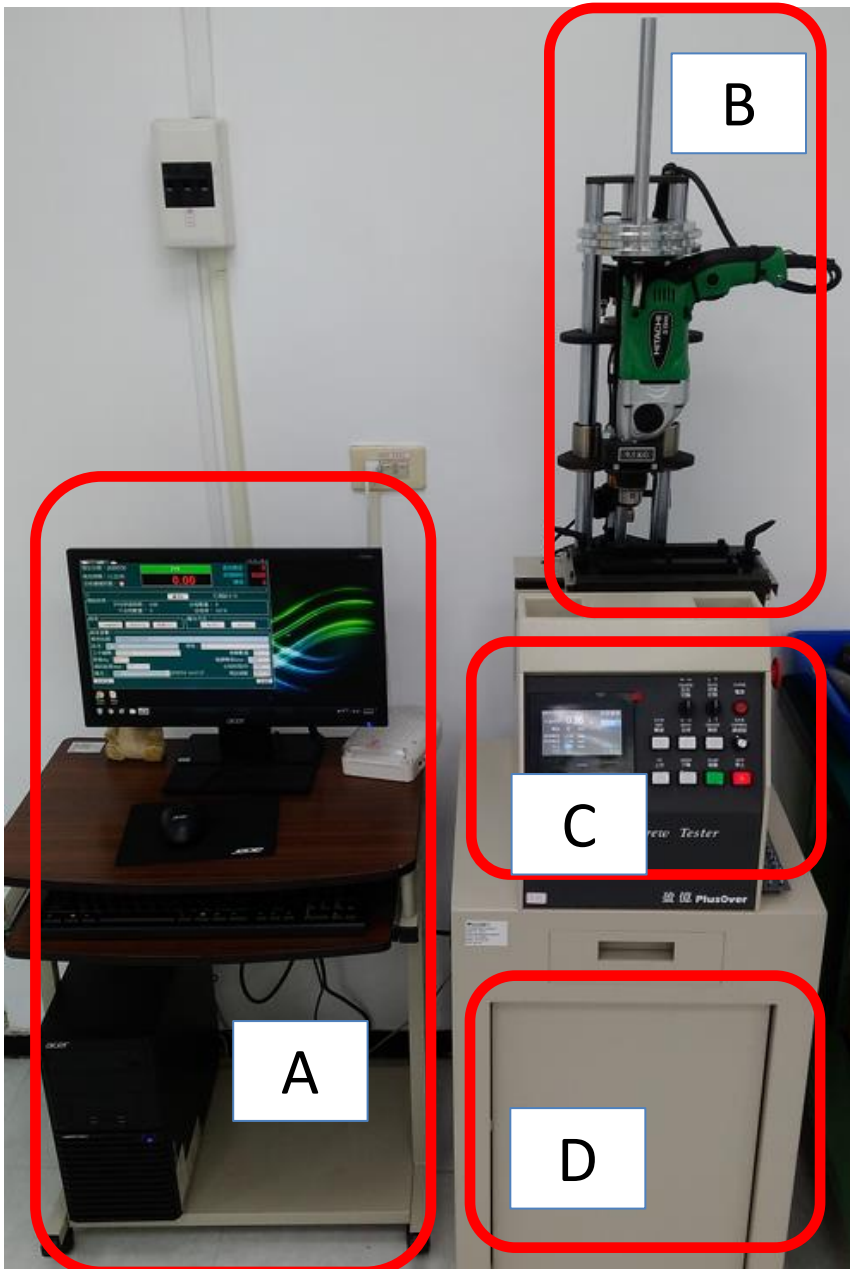


Drilling Machine SOP

• 鑽尾機之外觀

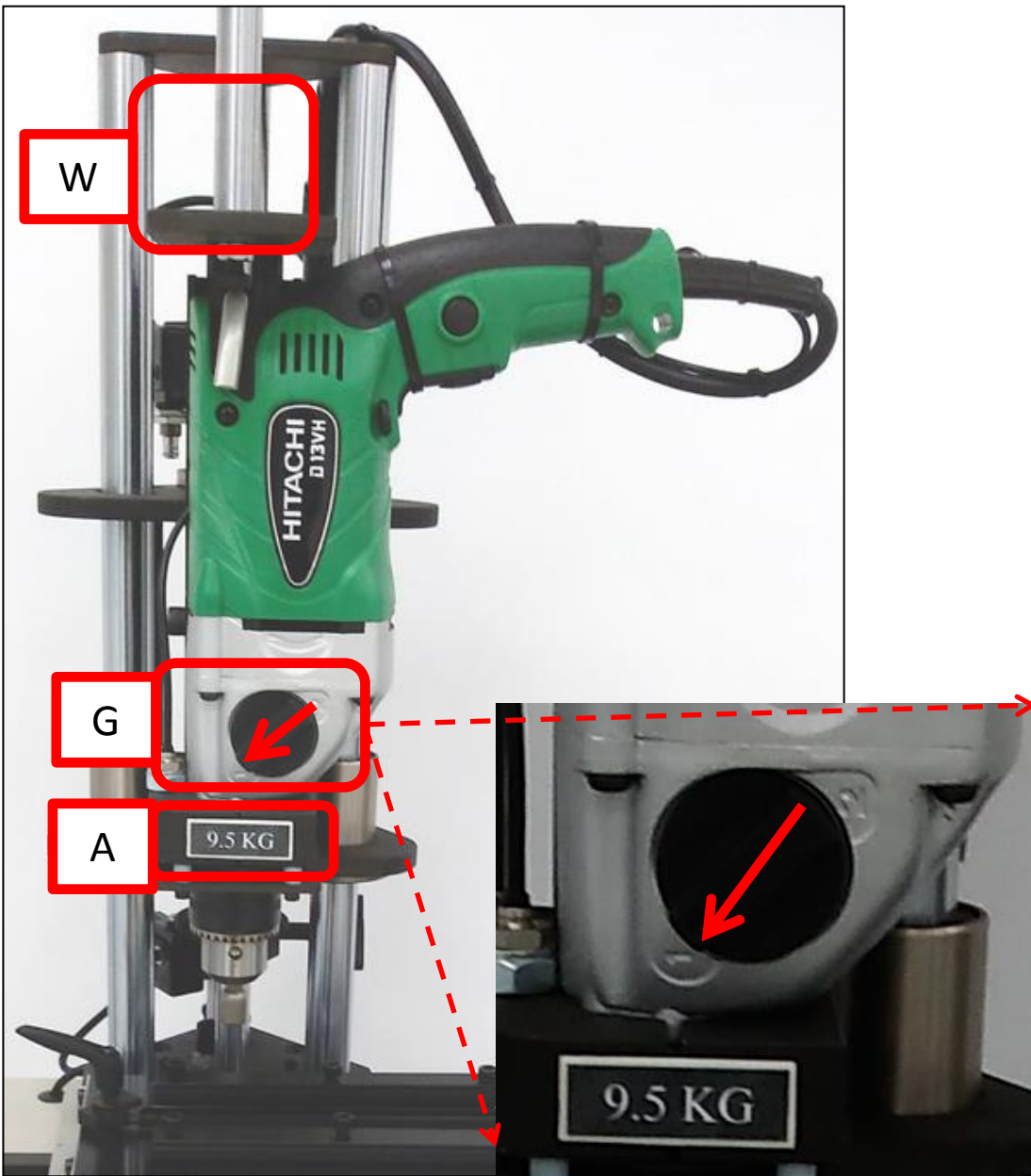


粗略分辨，鑽尾機為以下幾個部分所組成

- A：遙控控制用電腦
- B：電控板手與測試座
- C：手動控制面板
- D：機台內部電路設備

D部分非實驗室操作員的作業範圍，後續僅針對B、C部分編寫操作文件

1. 確認機台設置



1. 確認螺絲尺寸與表面處理之種類，此據將影響荷重、轉速與測試時間設定值
2. W為放置砝碼之載座。
根據下頁table，確認螺絲尺寸與相對應之軸向荷重Axial Loading
因為機台本身已有重量，進行配重時要一併算入
故，配重計算公式為
$$\text{Axial Loading} = W + A$$

放置砝碼時，因單位換算之緣故無法做到十分精準，故僅取最接近的數值
3. G為調整轉速開關，僅有1800 RPM與2500 RPM兩種選項。
根據下頁table，確認螺絲尺寸與相對應之轉速，機台標示1為1800 RPM，2為2500 RPM

1. 確認機台設置 SAE J78

According to SAE J78, machine must be setup with following table:

Nominal Size	Plate Thickness* Unit: inch		Axial Loading** Unit: lb			Drilling Time*** Unit: sec
	Max	Min	A	B	C	
4	0.068	0.062	25	30	40	2
6	0.068	0.062	30	35	45	2.5
8	0.068	0.062	30	35	45	3
10	0.068	0.062	35	40	50	3.5
12	0.068	0.062	45	50	60	4
1/4	0.068	0.062	45	50	60	5

*: Test plates shall be low carbon, cold rolled steel having a hardness of Rockwell B60-85.

**: Axial loads are varied to offset the detrimental effects on drilling capability created by finishes applied to screws in accordance with the following:

A — Axial loads tabulated shall apply to plain, oiled, and commercial phosphate coating and cadmium and zinc platings up to 0.0003 in thickness.

B — Axial loads tabulated shall apply special electroplated finishes exceeding 0.0003 in thickness and to special coatings, such as thread sealing hot melts, etc.

C — Axial loads tabulated shall apply to chromium finish.

***: Tool speed shall be 2500 rpm for screw sizes No. 4 through No. 10. Tool speed of 1800 rpm is recommended for screw sizes No. 12 and

1/4; however, 2500 rpm may be used provided care is exercised to minimize influence of high heat buildup due to surface speed.

1. 機台設置 by IFI-504

According to IFI 504, machine must be setup with following table:

Nominal Size	Plate Thickness* Unit: inch		Axial Loading** Unit: lb			Drilling Time*** Unit: sec
	Max	Min	A	B	C	
4	0.068	0.062	25	30	40	2
6	0.068	0.062	30	35	45	2.5
8	0.068	0.062	30	35	45	3
10	0.068	0.062	35	40	50	3.5
12	0.068	0.062	45	50	60	4
1/4	0.068	0.062	45	50	60	5

*: Test plates shall be low carbon, cold rolled steel having a hardness of Rockwell B60-85.

**: Axial loads are varied to offset the detrimental effects on drilling capability created by finishes applied to screws in accordance with the following:

A — Axial loads tabulated shall apply to plain, oiled, and commercial phosphate coating and cadmium and zinc platings up to 0.0003 in thickness.

B — Axial loads tabulated shall apply special electroplated finishes exceeding 0.0003 in thickness and to special coatings, such as thread sealing hot melts, etc.

C — Axial loads tabulated shall apply to chromium finish.

***: Tool speed shall be 2500 rpm for screw sizes No. 4 through No. 10. Tool speed of 1800 rpm is recommended for screw sizes No. 12 and

1/4; however, 2500 rpm may be used provided care is exercised to minimize influence of high heat buildup due to surface speed.

1. 機台設置 by IFI-113

According to IFI 113, machine must be setup with following table:

Nominal Size	Plate Thickness* Unit: inch		Axial Loading** Unit: lb			Drilling Time*** Unit: sec
	Max	Min	A	B	C	
4	0.068	0.062	25	30	40	2
6	0.068	0.062	30	35	45	2.5
8	0.068	0.062	30	35	45	3
10	0.068	0.062	35	40	50	3.5
12	0.068	0.062	45	50	60	4
1/4	0.068	0.062	45	50	60	5

*: Test plates shall be low carbon, cold rolled steel having a hardness of Rockwell B60-85.

**: Axial loads are varied to offset the detrimental effects on drilling capability created by finishes applied to screws in accordance with the following:

A — Axial loads tabulated shall apply to plain, oiled, and commercial phosphate coating and cadmium and zinc platings up to 0.0003 in thickness.

B — Axial loads tabulated shall apply special electroplated finishes exceeding 0.0003 in thickness and to special coatings, such as thread sealing hot melts, etc.

C — Axial loads tabulated shall apply to chromium finish.

***: Tool speed shall be 2500 rpm for screw sizes No. 4 through No. 10. Tool speed of 1800 rpm is recommended for screw sizes No. 12 and

1/4; however, 2500 rpm may be used provided care is exercised to minimize influence of high heat buildup due to surface speed.