

# Charnwood

*Woodworking machinery at its best!*

## WOODTURNING LATHE OPERATING INSTRUCTIONS MODEL: W821



CE

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# Introduction

To get the most out of your new lathe, please read through this manual and safety instructions before use. Please also save the instructions in case you need to refer to them at a later date.

## Technical data

Distance between Centres	430mm
Distance over bed	150mm
Spindle Thread Size	3/4" x 16tpi
Spindle tapers	1MT
Motor	550w
Voltage	240v
Speed Range (approx.)	650-3800rpm
Net weight	38kg
Rating	DIY

## Main components

- A. Headstock
- B. Tool Rest
- C. Tailstock
- D. Start / Stop Button
- E. Digital Speed Display
- F. Variable Speed Control
- G. Drive Belt Tensioner
- H. Drive centre
- I. Tail Centre
- J. Cam Lock

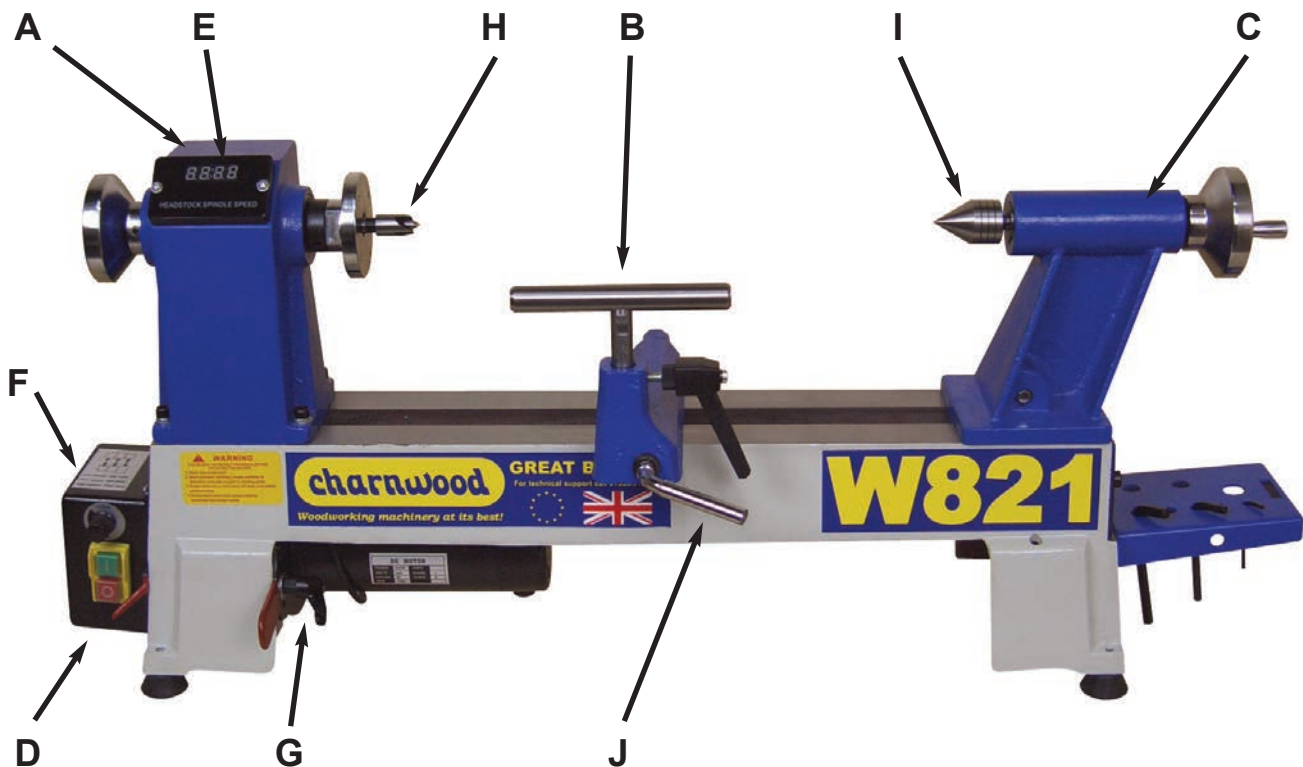


Fig.1

# Safety Rules

As with all machines, there is a certain amount of hazard involved with the use of this lathe. Use the machine with the respect and caution demanded where safety precautions are concerned. When normal safety precautions are overlooked or ignored, personal injury to the operator can result.

Read, understand and follow the safety and operating instructions found in this manual. Know the limitations and hazards associated with this lathe.

## **Electrical grounding**

Make certain that the machine frame is electrically grounded and that a ground lead is included in the incoming electrical service. In cases where a cord and plug are used, make certain that the grounding plug connects to a suitable ground. Follow the grounding procedure indicated in the local electrical code.

## **Eye safety**

Wear an approved safety shield, goggles, or glasses to protect eyes. (NOTE: Common eye glasses are not safety glasses.)

## **Personal protection**

Before operating the machine, remove tie, rings, watch and other jewelry and roll up sleeves above the elbows. Remove all loose outer clothing and confine long hair. Protective type footwear should be used. Do not wear gloves.

## **Guards**

Keep the machine guards in place for every operation for which they can be used. If any guards are removed for maintenance, DO NOT OPERATE the machine until the guards are re-installed.

## **Work area**

Keep the floor around the machine clean and free of scrap material, saw dust, oil and other liquids to minimize the danger of tripping or slipping. Make certain the work area is well lit. We recommend the use of anti-skid floor strips on the floor area where the operator normally stands and that each machine's work area is marked off. Provide adequate work space around the machine.

## **Operator position**

Maintain a balanced stance and keep your body under control at all times.

## **Housekeeping**

Before turning on machine, remove all extra equipment such as keys, wrenches, scrap, and cleaning rags away from the working area.

## **Careless acts**

Give the work you are doing your undivided attention. Looking around, carrying on a conversation, and "horseplay" are careless acts that can result in serious injury. Disconnect machine before performing any service or maintenance. A machine under repair should be RED TAGGED to show it should not be used until the maintenance is complete.

## **Hand safety**

Keep hands clear of the motor area. Do not reach down the hose to clear parts or scrap with the motor running. Avoid awkward operations and hand positions where a sudden slip could cause your hand to contact the blade.

## **Adjustments**

Make all adjustments to the machine and operational setup with the power off.

## **Job completion**

If the operator leaves the machine area for any reason, he should turn "off" the power to the machine. If you are not thoroughly familiar with the operation of this lathe, obtain advice from your supervisor, instructor or other qualified person.

## **Drugs, alcohol, medication**

Do not operate this machine while under the influence of drugs, alcohol, or any medication.

## **Health hazards**

Some dust created by sanding, sawing, grinding, drilling and other construction activities contains chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- \* Lead from lead-based paint.
- \* Crystalline silica from bricks and cement and other masonry products.
- \* Arsenic and chromium from chemically-treated lumber.

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals, work in a well-ventilated area, and work with approved safety equipment, such as those dust masks that are specifically designed to filter out microscopic particles.

## **Use proper extension cord**

Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating.

## **General Safety Procedures for lathes**

This machine has been built exclusively for woodworking. Do not alter the design of the machine or use it for purposes not intended by the manufacturer. The manufacturer is not liable for damage or injury, which results from incorrect assembly, operation or electrical connections. This machine must be operated under strict safety regulations. This is the only way to reduce the risk of accidents.

## **Location**

Consider using dust & chip extraction or an alternate form of dust control. The main cable plug must be connected as appropriate for the electrical installation and must have an earth lead (or a directly earth conductor for 240 V). It is advisable to have a qualified electrical connection. Appropriate lighting must be provided in the work area.

## **The Operator**

Ear protection is recommended.  
Keep children and visitors out of the work area.

## **Grounding Instructions**

Caution: This tool must be grounded while in use to protect the operator from electric shock. In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This tool is equipped with an electric cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances.

Do not modify the plug provided. If it will not fit the outlet, have the proper outlet installed by a qualified electrician.

Improper connection of the equipment-grounding conductor can result in a risk of electric shock. The conductor, with insulation having an outer surface that is green with or without yellow stripes, is the equipment-grounding conductor. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal.

Check with a qualified electrician or service personnel if the grounding instructions are not completely understood, or if in doubt as to whether the tool is properly grounded. Use only three wire extension cords that have three-prong grounding plugs and three-pole receptacles that accept the tool's plug.

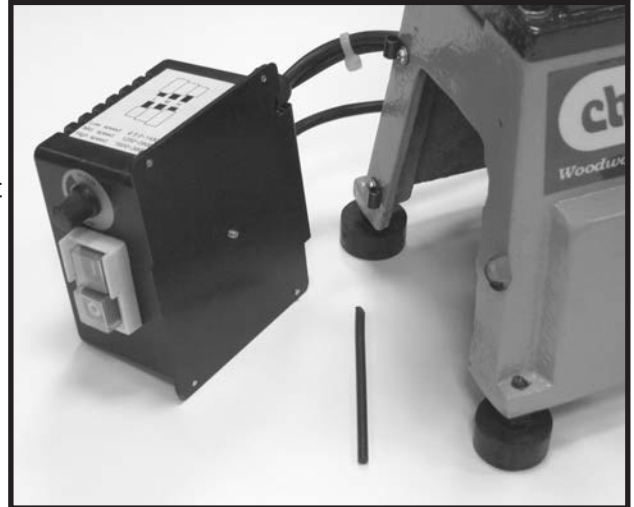
Repair or replace a damaged or worn cord immediately.

## **ASSEMBLY INSTRUCTIONS**

Unpack the lathe and check all of the components are present. Visually check all parts for signs of damage.

### **Mounting the Speed Control Unit**

To ensure safe transport the speed control unit is removed during packing. Locate the Hinge Pin (#61). Hold the speed control unit so that the hinge is aligned with the two fixings attached to the lathe bed. Push the Hinge Pin all the way down through the hinge.



Pivot the control unit round until it fits against the end of the bed. Push the Door Latch (#56) down to lock it into position.

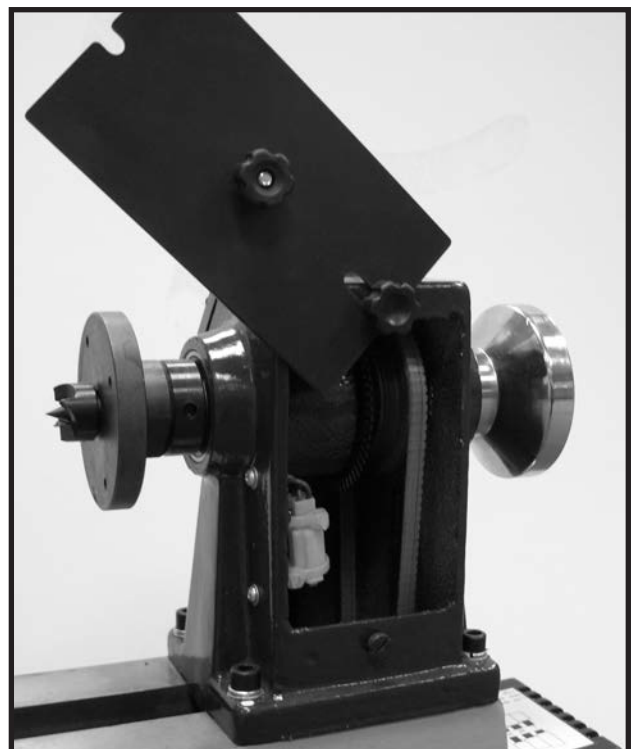


## **MAINTENANCE INSTRUCTIONS**

### **Adjusting the Drive Belt Position**

This lathe has electronic variable speed control. There are three ranges of speed obtained by changing the position of the drive belt.

Make sure the lathe is turned off and unplugged. Open the Belt Door (#7) on the headstock.



Loosen the Ratchet Handle (#45) to allow the motor plate to swivel upwards. Raise the Door Latch and swing the control unit to the side for access to the motor pulley. When moving the belt always start with the end going from larger pulley to smaller pulley.

After moving the belt, push the motor plate down to tension the belt and tighten the Ratchet Handle.

Turn the lathe on and ensure the belt is running consistently in its parallel groove. If all is well, turn off the lathe, refit the control unit and refit the Belt Door.



## **BELT REPLACEMENT**

Loosen the two grub screws (#2) and unscrew handwheel (#1) (please note that the handwheel has a left hand thread so turn clockwise to unscrew) and spacer (#3). Feed the belt through the side hole in the headstock (#12) as shown in the picture. Once the belt has started to go through the gap you can pull it through from the belt cover side.

Fit the belt on the required pulley and reassemble the handwheel.



## **SPINDLE & BEARING REPLACEMENT**

To change the spindle (#14), or bearings (#4) loosen the two grub screws (#2) and unscrew the handwheel (#1)(please note that the handwheel has a left hand thread so turn clockwise to unscrew) and spacer (#3). Next remove the Belt Door (#7). Loosen the grub screw (#69) on the drive pulley (#25). Tap out the spindle (#14) using a mallet. If you do not have a mallet, place a block of wood against the spindle and tap with a hammer. To get the spindle completely out, use a flat head screwdriver to punch it the rest of the way. Take care not to damage the bearings or the threads. Replace the spindle or bearings as required.

### **Spindle Replacement**

You must knock the spindle completely out through both of the bearings.

### **Bearing Replacement**

After complete removal of the spindle, knock out the bearings from the inside of the headstock. This is best accomplished by inserting a long rod or screwdriver through one bearing inside the headstock towards the opposite bearing. Tap firmly to remove the bearing from the casting. Do the same for the second bearing. Please be aware not to damage the retainers (#13) when tapping out the bearings. Reassemble the new bearings by tapping them into place from the outside. Replace the spindle. Replace the handwheel and tighten the grub screws. Do not tighten the handwheel against the bearing.

### **Packaging**

Please dispose of packaging for the product in a responsible manner. It is suitable for recycling. Help to protect the environment, take the packaging to the local amenity tip and place into the appropriate recycling bin.

### **Disposal**

Only for EU countries

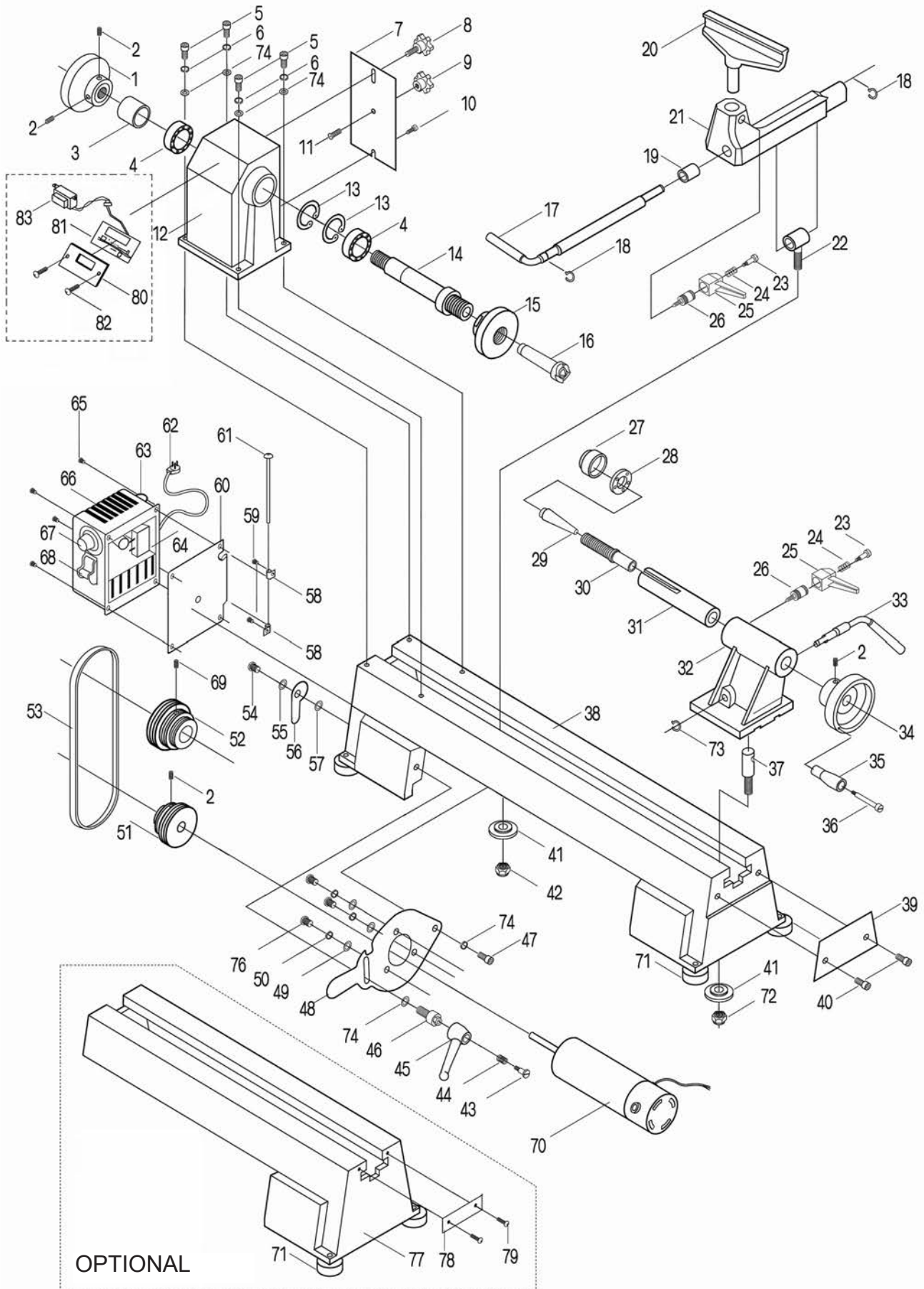
Do not dispose of electric tools together with household waste material!

In observance of European Directive 2002/96/EC on waste electrical and electronic equipment (EEE) and its implementation in accordance with national law, electric tools that have reached the end of their life must be collected separately and returned to an environmentally compatible recycling facility.

Your local refuse amenity will have a separate collection area for EEE goods.



# W821 WOOD LATHE EXPLODED VIEW



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NO.	DESCRIPTION	QTY
1	Hand Wheel	1
2	Hex Socket Screw M6×12	4
3	Collar Spindle	1
4	Ball Bearing 80105	2
5	Hex Socket T Screw M8×25	4
6	Washer	6
7	Rear Belt Door	1
8	Moving Knob	1
9	Stationary Knob	1
10	Bolt	1
11	Semi-circle Head Screw	1
12	Headstock	1
13	Retaining Ring	2
14	Headstock Spindle	1
15	Face Plate	1
16	Headstock Spur Center	1
17	Lock Handle For Tool Rest Base	1
18	Retaining Ring 10	3
19	Tool Rest Bushing	1
20	Tool Rest	1
21	Tool Rest Base	1
22	Tool Rest Cam Follower	1
23	Flat Head Screw	2
24	Spring	2
25	Handle	2
26	Lock Bolt	2
27	Cup Center	1
28	Ball Bearing 80102	1
29	Taper Rod	1
30	Tailstock Quill	1
31	Tail Axis	1
32	Tailstock	1
33	Eccentric Axis	1
34	Quill Adjusting Wheel	1
35	Quill Crank Handle	1
36	Bolt	1
37	Cam Follower Tailstock	1
38	Bed	1
39	Retaining Plate	1
40	Hex Socket Screw M10×12	2

41	Lock Plate	2
42	Nut M10	2
43	Flat Head Screw	1
44	Spring Washer	1
45	Handle	1
46	Lock Screw	1
47	Hex Socket Screw M8×12	1
48	Motor Plate	1
49	Big Washer	3
50	Washer 6	3
51	Motor Pulley	1
52	Drive Pulley	1
53	Drive Belt	1
54	Bolt	1
55	Washer	1
56	Door Latch	1
57	Washer 4	1
58	Hinge	2
59	Semi-circle Head Screw M4×8	2
60	Switch-box Plate	2
61	Pin Hinge	1
62	Power Cord	1
63	Overload Protector	1
64	Line Board	1
65	Semi-circle Head Screw M4×6	4
66	Switch-box	1
67	Knob	1
68	Switch	1
69	Hex Socket Taper Screw M6×12	4
70	Motor	1
71	Rubber Washer	4
72	Nut M10	4
73	Retaining Ring	1
74	Washer	4
76	Flat Head Screw	3
77	Extension Bed	2
78	Plate	2
79	Screw	1
80	Cover	1
81	Variable Plate	1
82	Screw	2
83	Transformer	1

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