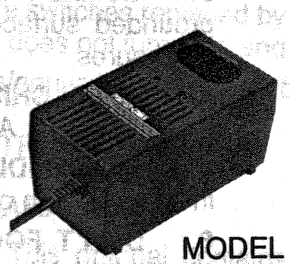
Instruction manual

Cordless Driver/Drill and Charger

MODEL 854 Driver/Drill
MODEL 8500 Battery Pack



MODEL 8501 Charger

IMPORTANT

Please make certain that the person who is to use this equipment carefully reads and understands these instructions before starting operations.

The Model and Serial No. plate is located on the main housing of the tool. Record these numbers in the spaces below and retain for future reference.

Model No. _____

Type _____

Serial No. _____

PORTER-CABLE
PROFESSIONAL POWER TOOLS

Part No. 875129-196

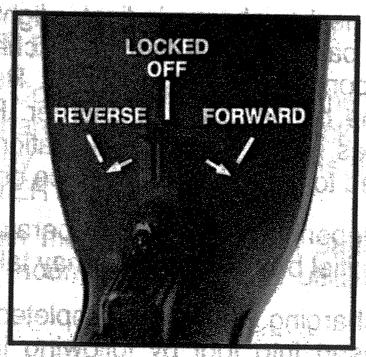


Fig. 3

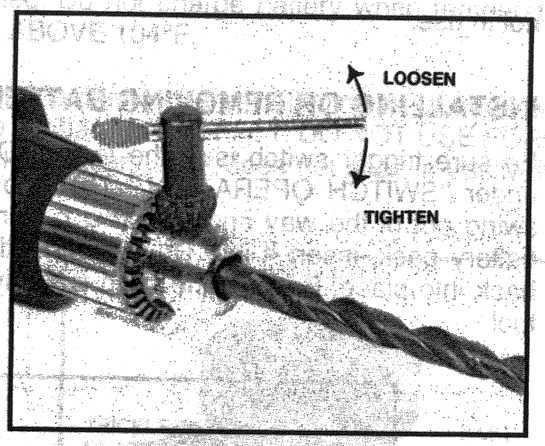


Fig. 4

INSTALLING AND REMOVING DRILL AND SCREWDRIVER BITS

1. **CAUTION:** Always set reversing lever to center (locked OFF) position when installing and removing bits.

2. The three-jaw chuck is designed for self-centering of the bit. Open jaws large enough by turning outer sleeve counterclockwise, when viewing the chuck from the bit end, so that bit shank can be inserted easily.

3. Clean and insert smooth end of bit as far as it will go into the chuck, or up to the flutes for small bits.

4. While holding the bit with one hand, turn outer sleeve clockwise until the bit is gripped in the chuck.

5. Tighten chuck — insert chuck key into each of 3 keyholes in chuck body (Fig. 4) in succession and tighten securely by turning key clockwise.

CAUTION: Be sure chuck key is removed and replaced in clip in bottom of tool before starting tool.

6. To remove bit, reverse foregoing procedure.

ADJUSTING TORQUE COLLAR

The amount of output torque may be adjusted by rotating the front collar so that the indicating line is in alignment with desired torque setting. The following is an example for the use of the various settings:

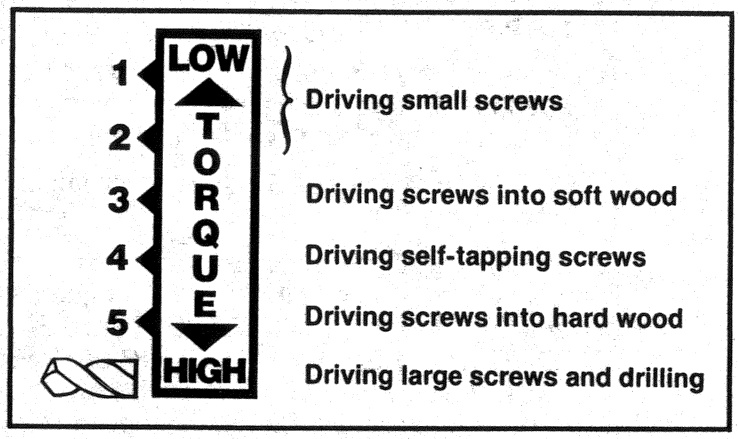
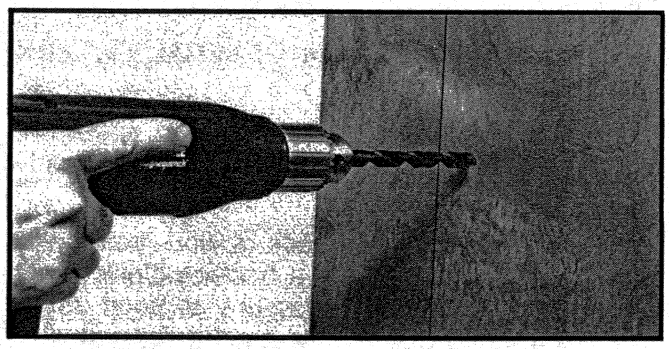


Fig. 5

HOW TO HOLD THE DRIVER/DRILL

WARNING: The front end of driver/drill may be made live if the tool drills into live wiring in the wall. **TO PREVENT ACCIDENTAL ELECTRICAL SHOCK, DRIVER/DRILL MUST BE HELD AS SHOWN IN FIG. 6.**



IT'S A DRILL

Fig. 6

GENERAL DRILLING

1. Set Torque Adjusting Collar for drilling operation.
2. Be sure drill bit is securely gripped in chuck.
3. Set REVERSING LEVER for clockwise rotation.
4. **CAUTION:** Make sure work is held securely in vise or clamped in place prior to starting drilling operation. Loose work may spin and cause bodily injury.

5. Locate exact center for hole to be drilled and using a center punch, make a small dent in work.

6. Place tip of drill bit in dent made by center punch, hold drill square with work, and start the motor.

7. **CAUTION:** Applying too much pressure may cause the bit to over heat or break resulting in bodily injury or damaged drill bits.

Apply steady, even pressure to keep drill bit cutting. Too little pressure will keep the bit from cutting and dull the cutting edges due to excessive friction created by sliding over the surface.

CAUTION: Always be alert and brace yourself against the twisting action of the drill.

8. If drill stalls or becomes jammed in the hole, release trigger immediately, removing drill bit from work and determine cause of stalling or jamming. DO NOT SQUEEZE TRIGGER ON AND OFF IN AN ATTEMPT TO FREE A STALLED OR JAMMED DRILL — THIS WILL DAMAGE THE MOTOR. The direction of rotation may be reversed to help free a jammed bit. Be sure direction of rotation is RESET before attempting to continue drilling.

9. Reduce the pressure on the drill just before the bit cuts through the work to avoid splintering wood or stalling in metal.

10. When bit has completely penetrated work and is spinning freely, withdraw it from the work while the motor is still running, then turn off drill.

DRILLING WOOD

In addition to the instructions listed under GENERAL DRILLING, the following also apply:

1. When using twist drills in wood, they should be withdrawn from the hole frequently to clear chips built up in flutes to avoid overheating and burning work.

2. If a backing block is used to keep back of work from splintering, it should be clamped securely in place. If a backing block is not used with spade bits or hole saws, ease up pressure as soon as bit point breaks through work, and complete the hole from the opposite side.

DRILLING METAL

In addition to the instructions listed under GENERAL DRILLING, the following also apply:

1. Use only good quality sharp high speed steel twist bits when drilling metal.

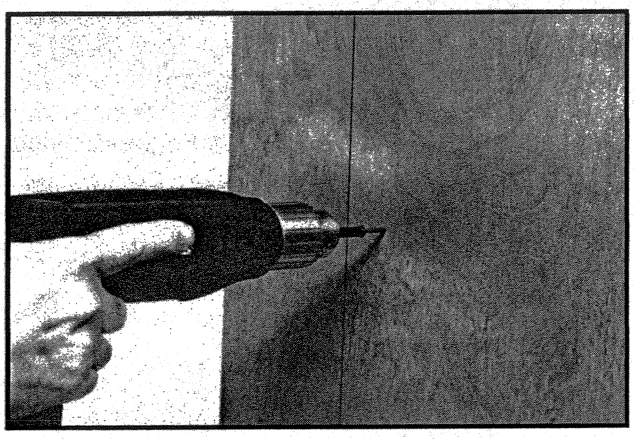
2. Start drilling with slow speed and gradually increase speed as drill cuts. The harder the material, the slower the speed required. The softer the material, the faster the speed.

3. When drilling a large hole, it is easier to first drill a smaller hole and then enlarge it to the required size.

4. The use of a lubricant, such as oil, on the drill point helps keep the bit cool, increases drilling action and prolongs drill bit life.

DRIVING WOOD SCREWS

1. Drill pilot and shank clearance holes. See following chart.
2. Install proper Bit that fits screw to Screwdriver.
3. Set Torque Adjusting Collar for desired torque.
4. Set Screwdriver for correct rotation.
5. Start screw straight in hole with fingers.



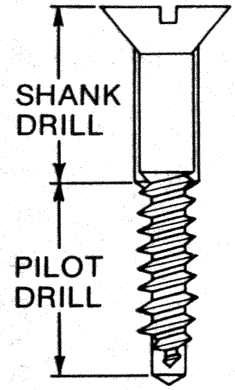
IT'S A SCREWDRIVER

Fig. 7

6. Place Bit on screw, start screwdriver and exert pressure to drive screw.

7. As soon as screw has seated, lift Screwdriver from screw.

SUGGESTED HOLE SIZES FOR WOOD SCREWS			
Screw Size	Shank Drill Clearance Dia.	Pilot Drill Dia.	
		Soft Wood	Hard Wood
#6	9/64 (.140)	1/16 (.062)	7/64 (.109)
#8	11/64 (.172)	5/64 (.078)	1/8 (.125)
#10	3/16 (.187)	3/32 (.094)	9/64 (.140)
#12	7/32 (.218)	7/64 (.109)	5/32 (.156)



1. A lubricant, such as soap or wax, may be used on screw threads for ease of driving. This is particularly important in hard wood.

2. Combination pilot drill, shank drill and countersink bits are available from local supply houses for drilling holes in one easy operation.

DRIVING SELF-TAPPING SCREWS

1. Drill pilot hole of correct size as recommended by screw manufacturer for fastener being used.
2. Install proper Bit that fits screw to Screwdriver.
3. Set Torque Adjusting Collar for desired torque.
4. Set Screwdriver for correct rotation.
5. Position Bit in head of screw.
6. Place end of screw into pre-drilled hole, remove fingers, start Screwdriver and drive screw.
7. As soon as screw has seated, lift Screwdriver from screw.

DRIVING MACHINE SCREWS

1. Drill and tap correct hole size for fastener to be used.
2. Start screw in hole with fingers and drive as outlined under Driving Wood Screws.

TO REMOVE SCREWS

1. Set Torque Adjusting Collar for maximum torque.
2. Install proper Bit that fits screw to Screwdriver.
3. Set Screwdriver for reverse rotation.
4. Place Bit in screw and Start Drill to remove screw.

MAINTENANCE

KEEP TOOL CLEAN

All plastic parts should be cleaned with soft damp cloth. NEVER use solvents to clean plastic parts. They could very possibly dissolve or otherwise damage the material.

FAILURE TO START

Should your tool fail to start, make sure battery pack is charged and properly installed in drill.

BATTERY

Repeated partial discharges and partial recharging cycles may cause a loss of battery capacity. This condition may be improved by repeatedly completely discharging the battery pack and then applying a full charge.

The battery pack will discharge by itself without damage if stored for long periods of time, and may require recharging before use.

LUBRICATION

For your continued safety and electrical protection, lubrication and service on this tool should ONLY be performed by an AUTHORIZED PORTER-CABLE SERVICE STATION or a PORTER-CABLE SERVICE CENTER.

At approximately 100 hours of use, take or send your tool to your nearest Authorized Porter-Cable Service Station to be thoroughly cleaned and inspected; worn parts replaced, when necessary; relubricated with fresh lubricant, and performance tested.

SERVICE AND REPAIRS

All quality tools will eventually require servicing or replacement of parts due to wear from normal use. These operations should ONLY be performed by either an AUTHORIZED PORTER-CABLE SERVICE STATION or a PORTER-CABLE SERVICE CENTER. All repairs made by these agencies are fully guaranteed against defective material and workmanship. We can not guarantee repairs made or attempted by anyone other than these agencies.

Should you have any questions about your tool, feel free to write us at any time. In any communications, please give all information shown on the nameplate of your tool (model number, type, serial number, etc.).

ACCESSORIES

The testing of this tool has been accomplished with the following accessories. For safest operation, it is recommended that only these accessories be used with this product.

WARNING: Since accessories other than those listed have not been tested with this product, use of such accessories could be hazardous.

Spare Battery Pack - 8500

115 Volt Charger - 8501

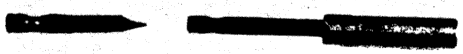
Holster - 8504

Carrying Case - 698939

Combination Bit - 44850

Select Accessories which are within the capacity of your Driver/Drill.

Bits and Finders for Slotted Head Screws



Power Bits
All 1-15/16 Long
1/4" Hex Drive

Power Bits
With Finder Sleeve
Complete 1/4" Hex Drive

Screw Size	Bit #	Screw Size	Bit & Finder #	Length
6F-8R	44422	6F-8R	44825	3-3/4"
8F-10R	44424	8F-10R	44826	3-3/4"
10F-12R	44426	10F-12R	44827	3-3/4"
12F-14R	44428	12F-14R	44828	3-7/8"

OR

Bits for Phillips Screws

Power Bits
1/4" Hex Drive

Point Size	1-15/16 Long	3-½ Long
1	44808	44811
2	44809	44812
3	44810	44813

OR

Bit Holders

1/4" Hex
For use with Insert Bits

Number	Type	Length
44814	Std	2-1/8
44815	Mag	3

+

Insert Bits

Slotted

Phillips

All 1" Long 1/4" Hex Drive

Screw Size	Number
6F-8R	44820
8F-10R	44821
10F-12R	44822
12F-14R	44823

OR

Pt. Size	Number
#1	44816
#2	44817
#3	44818

PORTER-CABLE LIMITED

ONE YEAR WARRANTY

Porter-Cable warrants its Professional Power Tools for a period of one year from the date of original purchase. We will repair or replace at our option, any part or parts of the product and accessories covered under this warranty which examination proves to be defective in workmanship or material during the warranty period. For repair or replacement return the complete tool or accessory, transportation prepaid, to your nearest Porter-Cable Service Center or Authorized Service Station as listed under "TOOLS-ELECTRIC" in the Yellow Pages of your telephone directory. Proof of purchase may be required. This warranty does not apply to repair or replacement required due to misuse, abuse, normal wear and tear or repairs attempted or made by other than our Service Centers or Authorized Service Stations.

To obtain information on warranty performance please write to: PORTER-CABLE CORPORATION, 4825 Highway 45 North, P.O. Box 2468, Jackson, Tennessee 38302-2468; Attention: Product Service. The foregoing obligation is Porter-Cable's sole liability under this or any implied warranty and under no circumstances shall Porter-Cable be liable for any incidental or consequential damages. Some states do not allow limitations on how long an implied warranty lasts on the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

This warranty gives you specific legal rights and you may also have other legal rights which vary from state to state.