# **Double Insulated Disc Sander/Grinder**

# Instruction manual

RTER+CABLE



MODELS 7615, 7616, 87615, and 87616

#### 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. \_\_\_\_\_

Туре \_\_\_\_\_

Serial No. \_

Part No. 691532-383

## **IMPORTANT SAFETY INSTRUCTIONS**

**WARNING:** When using electric tools, basic safety precautions should always be followed to reduce the risk of fire, electric shock and personal injury, including the following:

READ AND FOLLOW ALL INSTRUCTIONS.

There are certain applications for which this tool was designed. Porter-Cable strongly recommends that this tool NOT be modified and/or used for any application other than for which it was designed. If you have any questions relative to its application DO NOT use the tool until you have written Porter-Cable and we have advised you.

> Manager of Product Engineering Porter-Cable Corporation Youngs Crossing at Highway 45 P.O. Box 2468 Jackson, Tn 38301

**1. KEEP WORK AREA CLEAN.** Cluttered areas and benches invite injuries.

2. AVOID DANGEROUS ENVIRONMENT. Don't expose power tools to rain. Don't use power tools in damp or wet locations. Keep area well lit. Avoid chemical or corrosive environment. Do not use tool in presence of flammable liquids or gases.

**3. GUARD AGAINST ELECTRIC SHOCK.** Prevent body contact with grounded surfaces. For example: pipes, radiators, ranges, refrigerator enclosures.

4. **KEEP CHILDREN AWAY.** Do not let visitors contact tool or extension cord. All visitors should be kept away from work area.

5. **STORE IDLE TOOLS.** When not in use, tools should be stored in dry and high or locked-up place — out of the reach of children.

6. **DON'T FORCE TOOL.** It will do the job better and safer at the rate for which it was intended.

7. USE RIGHT TOOL. Don't force small tool or attachment to do the job of a heavy duty tool. Don't use tool for purpose not intended—for example—do not use a circular saw for cutting tree limbs or logs.

8. DRESS PROPERLY. Do not wear loose clothing or jewelry. Loose clothing, draw strings and jewelry can be caught in moving parts. Rubber gloves and non-skid footwear are recommended when working. Wear protective hair covering to contain long hair.

**9. USE SAFETY GLASSES.** Wear safety glasses or goggles while operating power tools. Also face or dust mask if operation creates dust. All persons in the area where power tools are being operated should also wear safety glasses and face or dust mask.

**10. DON'T ABUSE CORD.** Never carry tool by cord or yank it to disconnect from receptacle. Keep cord from heat, oil, and sharp edges. Have damaged or worn power cord and strain reliever replaced immediately.

**11. SECURE WORK.** Use clamps or a vise to hold work. It's safer than using your hand and it frees both hands to operate tool.

**12. DON'T OVERREACH.** Keep proper footing and balance at all times.

**13. MAINTAIN TOOLS WITH CARE.** Keep tools sharp and clean for better and safer performance. Follow instructions for lubricating and changing accessories. Inspect tool cords periodically and if damaged, have repaired by authorized service facility. Inspect extension cords periodically and replace if damaged. Have all worn, broken or lost parts replaced immediately. Keep handles dry, clean and free from oil and grease.

**14. DISCONNECT TOOLS.** When not in use, before servicing, and when changing accessories such as blades, bits, cutters, etc.

**15. REMOVE ADJUSTING KEYS AND WRENCHES.** Form habit of checking to see that keys and adjusting wrenches are removed from the tool before turning it on.

**16. AVOID UNINTENTIONAL STARTING.** Don't carry pluggedin tool with finger on switch. Be sure switch is off when plugging in.

**17. OUTDOOR USE EXTENSION CORDS.** When tool is used outdoors, use only extension cords marked "Suitable for use with outdoor appliances - store indoors when not in use."

**18. STAY ALERT.** Watch what you are doing. Use common sense. Do not operate tool when you are tired or while under the influence of medication, alcohol or drugs.

**19.** CHECK DAMAGED PARTS. Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced by an authorized service center unless otherwise indicated elsewhere in this instruction manual. Have defective switches replaced by authorized service center. Do not use tool if switch does not turn it on and off.

### SAVE THESE INSTRUCTIONS

### ADDITIONAL SAFETY RULES FOR DISC SANDER/GRINDER

1. **NEVER** use the spindle lock pin to stop the spindle from rotating.

2. **ALWAYS** use guards with those accessories that require such equipment.

3. **ALWAYS** position the guard so that flying chips or pieces of a wheel that might accidentally break will be deflected away from the operator.

4. **MAKE SURE** that grinding wheels, discs, pads, etc., are in good condition, free of cracks or chips and that RATED SPEED EXCEEDS THAT INDICATED ON THE TOOL SPECIFICATION PLATE.

### **REPLACEMENT PARTS**

When servicing use only identical replacement parts.

### MOTOR

Most Porter-Cable tools will operate on either D.C., or single phase 25 to 60 cycle A.C. current and voltage within plus or minus 5 percent of that shown on the specification plate on the tool. Several models, however, are designed for A.C. current only. Refer to the specification plate on your tool for proper voltage and current rating.

**CAUTION:** Do not operate your tool on a current on which the voltage is not within correct limits. Do not operate tools rated A.C. only on D.C. current. To do so may seriously damage the tool.

### **EXTENSION CORD SELECTION**

If an extension cord is used, make sure the conductor size is large enough to prevent excessive voltage drop which will cause loss of power and possible motor damage. A table of recommended extension cord sizes will be found below. This table is based on limiting line voltage drop to 5 volts (10 volts for 230 volts) at 150% of rated amperes.

If an extension cord is to be used outdoors it must be marked with the suffix W-A following the cord type designation. For example — SJTW-A to indicate it is acceptable for outdoor use.

RECOMMENDED EXTENSION CORD SIZES FOR USE WITH PORTABLE ELECTRIC TOOLS

Length of Cord in Feet										
	115V	25 Ft.	50 Ft.	100 Ft.	150 Ft.	200 Ft.	250 Ft.	300 Ft.	400 Ft.	500 Ft.
230V		50 Ft.	100 Ft.	200 Ft.	300 Ft.	400 Ft.	500 Ft.	600 Ft.	800 Ft.	1000 Ft.
Nameplate Ampere Rating	0-2	18	18	18	16	16	14	14	12	12
	2-3	18	18	16	14	14	12	12	10	10
	3-4	18	18	16	14	12	12	10	10	8
	4-5	18	18	14	12	12	10	10	8	8
	5-6	18	16	14	12	10	10	8	8	6
	6-8	18	16	12	10	10	8	6	6	6
	8-10	18	14	12	10	8	8	6	6	4
	10-12	16	14	10	8	8	6	6	4	4
	12-14	16	12	10	8	6	6	6	4	2
	14-16	16	12	10	8	6	6	4	4	2
	16-18	14	12	8	8	6	4	4	2	2
	18-20	14	12	8	6	6	4	4	2	2

## **OPERATING INSTRUCTIONS**

### FOREWORD

Your Porter-Cable Disc Sander/Grinder is designed for numerous sanding and grinding operations when used with appropriate recommended accessories.

Typical applications are smoothing rough boards, removing paint and varnish, auto body sanding, smoothing welding beads, removing gates and flash from castings, removing rust, leveling form seams from concrete, and the like.

### TO START AND STOP MACHINE

1. Connect machine to power circuit. Make sure power circuit voltage is the same as that shown on the specification plate.

2. Squeeze switch trigger (A) Fig. 1, to start motor. Release trigger to stop motor.





3. A LOCK BUTTON is provided to keep the motor running without holding the trigger switch ON.

To lock the trigger switch ON, squeeze the trigger (A) while sliding finger forward to engage lock button (B) Fig. 1, and release trigger switch.

To unlock, lock button, squeeze trigger switch (A) and release, allowing lock button free to spring back.

### TO INSTALL AUXILIARY HANDLE

An auxiliary handle (H) Fig. 2, is furnished with your machine and can be installed on either side of the front housing. This handle SHOULD BE USED AT ALL TIMES to maintain complete control of the machine.





## THE DISC SANDER

When sanding, use an abrasive disc with a flexible backing disc and a quick change backup pad (see Fig. 3). Refer to the back of this manual for a list of available accessories recommended for use with your machine.

### **TO INSTALL SANDING DISC**

- 1. Disconnect machine from power circuit.
- 2. Rest machine on tool rest and rear handle.
- 3. Place washer (E) Fig. 3, on spindle (F).



4. Depress Spindle Lock Pin (G) and rotate Back-up Pad (D) clockwise onto shaft (F) until it seats. Then rotate the flexible disc (C) onto shaft until it seats.

5. Place retaining nut (A) through hole in sanding disc (B) and rotate clockwise on shaft until it seats. Normal operation of the Sander will tighten the Sanding Disc.

6. To remove Sanding Disc, disconnect machine from power source, depress spindle lock pin (G) and rotate sanding disc (B) together with the flexible disc (C) counterclockwise and remove.

### **USING A DISC SANDER**

This machine has a directional arrow cast into the top of the gear housing which indicates the direction any accessory will rotate. See Fig. 6.

1. Secure work to prevent it from moving during the sanding operation. Friction between the sanding disc and work will try to spin work away from sander and may cause bodily injury.

2. Wear Safety Glasses and dust mask.







Wrong Pad Position for Sanding

**Right Pad Position for Sanding** 

3. Hold sander firmly by the rear and auxiliary handles, making sure sanding disc is clear of work and foreign objects. Start sander and lower at an angle so that approximately 1" to 1¼" of the sanding disc contacts the work. See Fig. 4. Too great an angle may result in gouging or snagging the work, while too small an angle results in extreme difficulties in controlling the sander.

Fig. 4

4. Move sander in long sweeping overlapping strokes as you go back and forth. Do not move sander in a circular motion or stay in one spot too long as this will produce swirls and an uneven finish. The weight of the sander applies sufficient pressure for fast stock removal. Additional pressure will only slow the sander down and decrease removal of stock.

5. Lift sander from work before turning off motor.

6. Always be sure motor has stopped before setting sander down. A tool rest is provided on the top of the sander for resting the sander upside down when not in use.

### SANDING TIPS

For rough sanding and quick stock removal, use a coarse grit sanding disc. For a fine finish, use a medium grit disc, followed by a fine grit disc. Do not go directly from a coarse grit to a fine grit, as it is difficult to remove marks left by the coarse grit disc.

## **THE GRINDER**

When disc grinding, use a depressed center wheel with a wheel adapter and wheel guard. (See Fig. 6). ALWAYS USE A WHEEL GUARD OF THE CORRECT SIZE WITH DEPRESSED CENTER WHEEL. Refer to the back of this manual for a list of available accessories recommended for use with your machine.



### **INSTALLING DEPRESSED CENTER WHEEL GUARD**

- 1. Disconnect machine from power circuit.
- 2. Rest machine on tool rest and rear handle.

3. Loosen clamp nuts (A) Fig. 5, and slip guard clamp (B) over gear housing cover collar.



4. Position the guard (C), so that flying chips or pieces of wheel that might accidentally break will be deflected away from the operator. Fig. 6 shows the guard installed for use with depressed center grinding wheel.

5. Firmly tighten clamp nuts (A) Fig. 5.





### **INSTALLING DEPRESSED CENTER WHEEL**

1. Disconnect machine from power circuit.

2. Rest machine on tool rest and rear handle.

3. Assemble wheel guard by following instructions listed under INSTALLING DEPRESSED CENTER WHEEL GUARD.

4. Place washer (A) Fig. 7, on spindle (B).

5. Thread wheel adapter (C) to shaft shoulder with flange face outward. CAUTION - For ease of wheel adapter removal, hand tighten only.



6. Mount depressed center wheel (D) and thread wheel nut (E) to spindle and tighten with hex wrench (F).

7. To secure wheel nut (E), depress the spindle lock pin (G) while holding the machine in one hand. Then tighten the nut using the hex wrench by rotating it in a clockwise direction with the other hand.

8. To remove, reverse the foregoing procedure.

# SMOOTHING WELDING BEADS, CASTING GATES, CASTING FLASHES, ETC.

Use depressed center grinding wheel with wheel adapter kit and safety guard (see Fig. 6). ALWAYS USE SAFETY GUARD WITH DEPRESSED CENTER GRINDING WHEEL. The guard shall be positioned so that flying chips or pieces of a wheel that might accidentally break will be deflected away from the operator. Install auxiliary handle in either side of the gear housing. Firmly grip the auxiliary and rear handles. Lift up rear handle so only the front sector of the grinding wheel contacts work before starting or stopping the motor. When the grinder is not being used, rest it on the tool rest and rear handle.

# INSTALLING FLARING CUP WHEEL GUARD AND FLARING CUP WHEEL

- 1. Disconnect machine from power circuit.
- 2. Rest machine on tool rest and rear handle.
- 3. Place washer (A) Fig. 8, on spindle as shown.
- 4. Mount the guard (B) by sliding clamp over gear housing collar.



5. Position the guard so that flying chips or pieces of wheel that might accidentally break will be deflected away from the operator. Note - Fig. 9 shows guard installed for use with the flaring cup wheel.

6. Firmly tighten clamp nut (C) Fig. 8.

7. Depress spindle lock pin (D) Fig. 8, and thread backup flange (G) to spindle with counterbored side toward machine. Tighten firmly with the spanner wrench (E) provided.

8. Note: Flaring cup wheels are available from local suppliers. Use a wheel with  $\frac{5}{8}$  - 11 mounting threads and a rated speed higher than the rated speed of your machine.





9. Loosen skirt adjusting screws (A) Fig. 9, and adjust skirt so that it is flush with the bottom of the grinding wheel. Tighten screws securely. NOTE: As grinding wheel wears readjust skirt as required.

10. To remove flaring cup wheel, disconnect machine from power source, depress spindle lock pin and revolve wheel until lock pin seats in spindle. Using a strap wrench, turn wheel counterclockwise to loosen and remove.

11. Loosen clamp nut on wheel guard and remove guard from gear housing.

12. To remove backup flange, depress spindle lock pin and revolve flange until lock pin seats in spindle. Using spanner wrench provided, turn flange counterclockwise to loosen and remove.

### LEVELING FORM SEAMS FROM CONCRETE, ETC.

Use flaring cup wheel and flaring cup wheel guard. For installation see INSTALLING FLARING CUP WHEEL GUARD AND FLARING CUP WHEEL.

## MAINTENANCE

### **KEEP TOOL CLEAN**

Periodically blow out all air passages with compressed air. Wear safety glasses while performing this operation. All plastic parts should be cleaned with soft damp cloth. NEVER use solvents, to clean plastic parts. They could possibly dissolve or otherwise damage the material.

### FAILURE TO START

Should your tool fail to start, check to make sure the prongs on the cord plug are making good contact in the outlet. Also, check for blown fuses or open circuit breakers in the line.

### **BRUSH INSPECTION AND LUBRICATION**

Because this model is "Double Insulated" which provides two complete sets of insulation to protect the user from the electric current within the tool, brush inspection and replacement should ONLY be performed by an AUTHORIZED PORTER-CABLE SERVICE STATION.

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, if required; reassembled with new brushes; and performance tested.

Any loss of power before the above maintenance check may indicate the need for immediate servicing of your tool. DO NOT CONTINUE TO OPERATE TOOL UNDER THIS CONDITION. If proper operating voltage is present, return your tool to the Service Station for immediate service.

### SERVICE AND REPAIRS

All quality tools will eventually require servicing or replacement of parts due to wear from normal use. These operations, including brush inspection and replacement, 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 safety 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.

ACCESSORY EQUIPMENT FOR ANGLE DISC SANDERS Abrasive Disc Backup System



The rubber backup pad and the disc itself thread on to the spindle making abrasive disc removal a cinch. By holding the phenolic disc with the finger, the retaining nut can be loosened by simply turning the abrasive disc counterclockwise.

**No. 55741** - 7" abrasive backup kit. Includes pad, disc and nut.

**No. 55742** - 9" abrasive backup kit. Includes pad, disc and nut.

**No. 55747** - abrasive retaining nut - replacement nut.



#### ACCESSORY EQUIPMENT TO CONVERT ANGLE SANDERS TO GRINDERS WHEEL GUARD ASSEMBLY

Used with depressed center wheels.



**No. 54342** - 7" guard. **No. 54343** - 9" guard.



**No. 54347** - Depressed center wheel backup kit. Designed especially for more stability to reduce vibration and obtain smoother grinding. Kit includes backup hub, 54348 retaining nut, retaining nut wrench and spacing washer.

**No. 54348** - Depressed center wheel retaining nut. Replacement nut for 54347 backup kit.

\*Guards must be used with all depressed Center Wheels.

### FLARED CUP WHEEL GUARDS



New style extra safe guards complying with ANSI B7.1-1978 safety standard. These guards protect the operator by shielding better than half of the grinding wheel. The shield is adjustable as the wheel wears down. Each is equipped with 54349 threaded cup wheel backup flange and spanner wrench.

**No. 54349** - Cup wheel flange.  $\frac{5}{2}$ " - 11 threaded flange for use as backup for 4", 5" and 6" abrasive cup wheels.

No. 54350 - 4" cup wheel guard.

No. 54351 - 5" cup wheel guard.

No. 54352 - 6" cup wheel guard.



### 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, Youngs Crossing At Highway 45, P.O. BOX 2468, Jackson, Tennessee 3830l; 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.

## PORTER-CABLE SERVICE CENTERS

Parts and Repair Service for Porter-Cable Power Tools are Available at These Locations

ALABAMA Birmingham 35209 Suite 105 131 West Oxmoor Road Phone: (205) 942-6325

CALIFORNIA Los Angeles 90007 2400 South Grand Avenue Phone: (213) 749-0386

Orange 92668 385 North Anaheim Blvd. Phone: (714) 634-4111

2305 De La Cruz Boulevard Phone: (408) 727-9790 San Leandro 94577 3039 Teagarden Street Phone: (415) 357-9762

Santa Clara 95050

**COLORADO** Denver 80207 4900 East 39th Avenue Phone: (303) 388-5803

CONNECTICUT Manchester 06040 (Hartford) 57 Tolland Turnpike Phone: (203) 646-1078

FLORIDA Hialeah 33014 16373-75 NW 57th Ave. Phone: (305) 624-2523

Jacksonville 32205 517 Cassat Avenue Phone: (904) 387-4455

Tampa 33609 4538 W. Kennedy Boulevard Phone: (813) 877-9585

Orlando 32803 1807½ Winter Park Road Phone: (305) 644-8100

GEORGIA Forest Park 30050 (Atlanta) 4017 Jonesboro Road Phone: (404) 363-8000

ILLINOIS Melrose Park 60160 (Chicago) 4533 West North Avenue Phone: (312) 345-8900

#### INDIANA

Indianapolis 46268 5317 West 86th Street Park 100—Building 6 Phone: (317) 875-9078

### LOUISIANA

Kenner 70062 (New Orleans) 2440-0 Veterans Memorial Blvd. Phone: (504) 469-7363

MARYLAND Baltimore 21205 4714 Erdman Avenue Phone: (301) 483-3100

Hyattsville 20781 4811 Kenilworth Avenue Phone: (301) 779-8080

MASSACHUSETTS Allston 02134 (Boston) 414 Cambridge Street Phone: (617) 782-1700

MICHIGAN Grand Rapids 49506 Indian Village Mall 2750 Birchcrest Drive S.E. Phone: (616) 949-9040

Southfield 48037 (Detroit) 18650 W. Eight Mile Road Phone: (313) 569-4333

MINNESOTA Minneapolis 55429 4315 68th Avenue North Phone: (612) 561-9080

MISSOURI North Kansas City 64116 1141 Swift Avenue Phone, (816) 221-2070

St. Louis 63139 2348 Hampton Avenue Phone: (314) 644-3166

NEW JERSEY Union 07083 945 Ball Avenue Phone: (201) 964-1730

NEW YORK New York 10013 (Manhattan) 132 Lafayette Street Phone: (212) 966-2726

Flushing 11365 175-25 Horace Harding Expwy. Phone: (212) 225-2040

Syracuse 13224 2740 Erie Blvd. East Phone: (315) 445-1922

NORTH CAROLINA Charlotte 28209 4612 South Boulevard Phone: (704) 525-4410 оню

Columbus 43214 4560 Indianola Avenue Phone: (614) 263-0929

OKLAHOMA Oklahoma City 73107 3631 Northwest 23rd Street Phone: (405) 946-5437

OREGON Portland 97212 51 N.E. Hancock Phone: (503) 288-6888

PENNSYLVANIA Ben Salem 19020 I-95 Industrial Center 3599 Meadow Lane Phone: (215) 638-4114

RHODE ISLAND East Providence 02914 1009 Waterman Avenue Phone: (401) 434-3620

TENNESSEE Memphis 38116 1004 East Brooks Road Phone: (901) 332-1353

TEXAS Dallas 75247 3160 Commonwealth Drive Suite 180, Commonwealth Plaza Phone: (214) 631-7855

Houston 77092 5201 Mitchelldale B-9 Phone: (713) 682-0334

San Antonio 78218 Suite 107 2800 N.E. Loop 410 Phone: (512) 654-1061

UTAH Salt Lake City 84115 2990 Southwest Temple Phone: (801) 487-4953

VIRGINIA Richmond 23230 1705 Dabney Road Phone: (804) 257-7348

WASHINGTON Seattle 98101 1918 Minor Avenue Phone: (206) 622-4576

WISCONSIN Milwaukee 53222 10700 W. Burleigh Street Phone: (414) 774-3650

Authorized Porter-Cable Service Stations are located in all large cities. For the one nearest you, see the classified section in your phone book (under "Tools - Electric").

