

Abrasive Plane

Instruction manual



MODEL 320

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. _____

Part No. 695683-196

PORTER-CABLE
PROFESSIONAL POWER TOOLS

SAFETY INSTRUCTIONS

GROUNDING INSTRUCTIONS

This tool should be grounded while in use to protect the operator from electric shock. The tool is equipped with an approved three-conductor cord and three-prong grounding type plug to fit the proper grounding type receptacle. The green (or green and yellow) conductor in the cord is the grounding wire. Never connect the green (or green and yellow) wire to a live terminal.

If your unit is for use on less than 150 Volts, the power cord is equipped with a plug that has two flat, parallel current-carrying prongs and one longer, round or "U"-shaped, ground prong which requires a mating 3-conductor grounded type receptacle, as shown in Fig. 1.

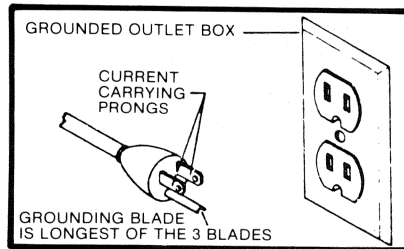


Fig. 1

An adapter, shown in Fig. 2, is available for connecting 3-prong grounding type plugs that are used on units less than 150 Volts to 2-prong receptacles. **THIS ADAPTER IS NOT ALLOWED IN CANADA.** The green colored rigid ear, lug, etc., must be connected to a permanent ground such as a properly grounded outlet box, as shown in Fig. 2.

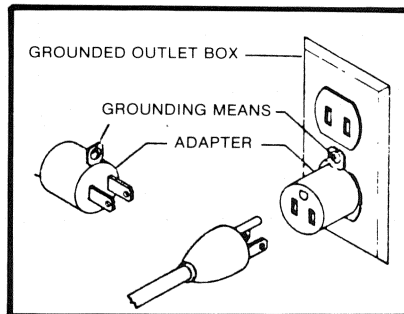


Fig. 2

If your unit is for use on 150 to 250 Volts, the power cord is equipped with a plug that has two flat current-carrying prongs in tandem, and one round or "U"-shaped, longer ground prong, as shown in Fig. 3. This plug is used only with the proper mating 3-conductor grounding type receptacle, as shown in Fig. 3. No adapter is available for this type plug.

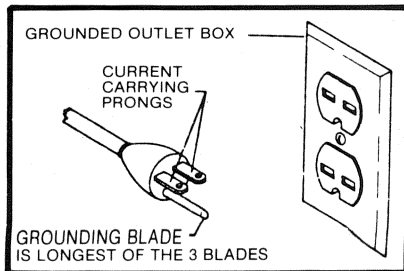


Fig. 3

IN ALL CASES, MAKE SURE THE RECEPTACLE IN QUESTION IS PROPERLY GROUNDED.

NEVER REMOVE GROUNDING BLADE FROM POWER PLUG.

EXTENSION CORDS

Use only three-wire extension cords which have three prong grounding-type plugs and three-pole receptacle which accept the tool's plug. Replace or repair damaged or worn cord immediately.

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
4825 Highway 45 North
P.O. Box 2468
Jackson, TN 38302-2468

- 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 outdoors. 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.** Do not carry a plugged-in tool with finger on switch. Be sure switch is off when plugging in. Keep hands, body and clothing clear of blades, bits, cutters, etc. when plugging in the tool.
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.
20. **WEAR EAR PROTECTION** to safeguard against possible hearing loss.

SAVE THESE INSTRUCTIONS

REPLACEMENT PARTS

When servicing, use only identical replacement parts.

ADDITIONAL SAFETY RULES FOR ABRASIVE PLANES

1. **HOLD** and operate plane with the **RIGHT HAND** alone. **KEEP LEFT HAND CLEAR OF MACHINE AT ALL TIMES.** The design of this machine is not suitable for operation with the left hand, nor does it provide grasping areas for use as a two-handed machine. **SAFE OPERATION REQUIRES RIGHT-HANDED USE ONLY.**
2. **KEEP** guard in place and in working order.
3. **ALWAYS** keep fence on plane, unless surface planing. Then exercise caution with regard to abrasive location.

4. KEEP hands away from cutting area.
5. TURN OFF motor immediately after finishing a cut.
6. NEVER hold material to be planed. Use clamps or a vise to hold work.
7. MAKE SURE the switch is in the "OFF" position before connecting plug to power source.

MOTOR

Many 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 Abrasive Plane is designed for various light planing operations such as: fitting doors, planing shingles, edge planing to a scribed line, and the like.

TO INSTALL AND REMOVE ABRASIVE

CAUTION: Make sure plane is disconnected from power circuit.

1. Swing guard (A) up, as shown in Fig. 1.
2. Insert lock pin (B) into arbor shaft, as shown in Fig. 1.
3. Slip abrasive (C) onto arbor as shown in Fig. 1.
4. Place screw and washer to shaft.
5. Insert wrench (D) Fig. 1, in screw head and turn counterclockwise. The screw has a left hand thread. Tighten screw firmly.
6. Swing guard (A) Fig. 1, down to close opening and prevent bodily contact with the outer end of the abrasive. Tighten screw on guard firmly.
7. Remove shaft lock pin (B) Fig. 1.
8. To remove abrasive, reverse above procedure.

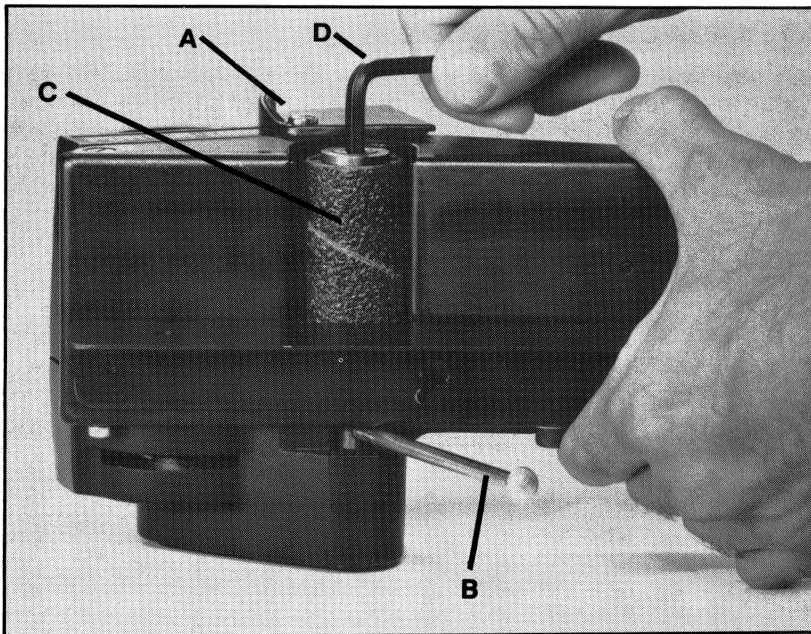


Fig. 1

ADJUSTING THE BASE

The base should be adjusted so that the FRONT section of the base is FLUSH with the abrasive.

NOTE: Centrifugal force will cause the abrasive to expand during operation.

1. **CAUTION:** Disconnect plane from power source.
2. Loosen two base adjustment locking screws (A) Fig. 2.

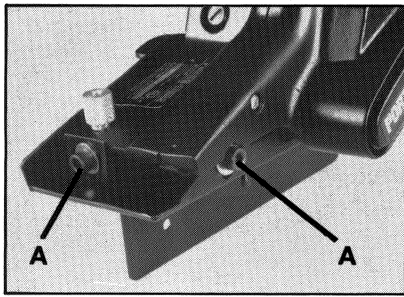


Fig. 2

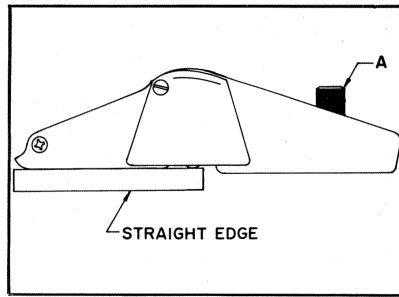


Fig. 3

3. Lay straight edge on front section of base so it projects over the abrasive (see Fig. 3).
4. Turn adjustment knob (A) Fig. 3 to bring front section of base flush with abrasive as shown.
5. Firmly tighten two base adjustment locking screws (A) Fig. 2.

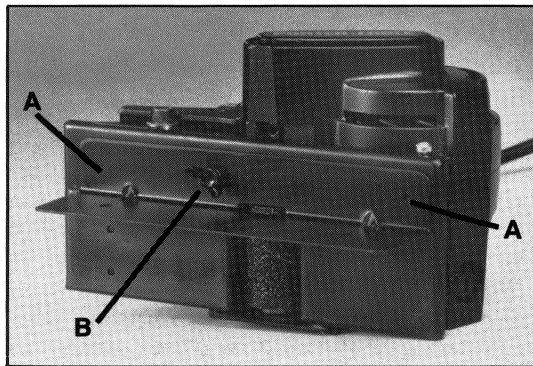


Fig. 4

TO INSTALL FENCE

CAUTION: Disconnect plane from power source.

1. Position fence on plane base so bosses (A) Fig. 4, on fence nestle in the small holes in the base.
2. Insert wing screw (B) thru hole in fence and thread it into the plane base, as shown in Fig. 4.
3. Firmly finger tighten the screw.

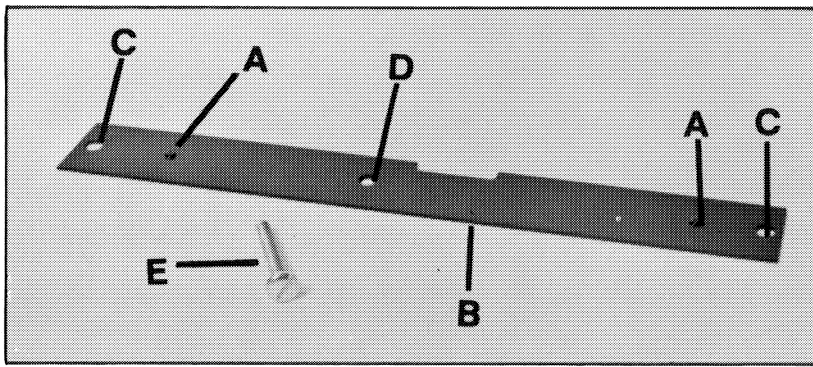


Fig. 5

USING THE ADAPTER PLATE

There may be times when you will want to make special cuts such as rabbets, set and bevel cuts. You can make your own wood block fences to guide the plane for such cuts. The wood fences are attached to the adapter plate Fig. 5, by two small wood screws and the assembly is mounted on the plane base.

CAUTION: Disconnect plane from power source.

1. Cut a wood block about 8-1/8" long, 3/4" thick and of a width such that when one edge of the block is flush with the right edge of the plane base, the distance from the outer edge of the block to the left edge of the abrasive will be equal to the width of the cut you wish to make. Make sure edges are parallel and square.
2. Position adapter plate on plane so bosses (A) Fig. 5, on plate nestle in the small holes in the base, and the cutter slots in the adapter plate and base match. Position wood block so one edge of the block is flush with right edge of plane base.
3. Insert two small wood screws thru holes (C) Fig. 5 of adapter plate, and screw into the wood block.
4. Using hole (D) in adapter plate, spot drill hole thru wood block. Use a drill bit that will provide a clearance hole for the adapter plate assembly mounting screw.

5. Place the adapter plate assembly on the plane base so bosses (A) Fig. 5 mate with the two holes in the plane base.
6. Insert the adapter plate assembly mounting screw (E) Fig. 5, thru the hole in the wood block and screw it into the tapped hole in the plane base. Tighten screw firmly. The plane is now ready to make the cut of the selected width. The wood block acts as a fence to guide the plane along the edge of the work.

HOW TO HOLD ABRASIVE PLANE

Fig. 6 shows the correct way to hold the Abrasive Plane. The index finger of the right hand is used to actuate the switch.



Fig. 6

WARNING: Due to the unique design of the Abrasive Plane, RIGHT-HAND OPERATION IS MANDATORY in order to maintain safe operating conditions. It is intended for the plane to be used with the right hand. The design of this machine is not suitable for operation with the left hand, nor does it provide grasping areas for use as a two handed machine.

MAINTENANCE

KEEP TOOL CLEAN

Periodically blow out all air passages with compressed air. Remove built up grime resulting from working green or sappy woods.

CAUTION: Wear safety glasses when using compressed air.

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

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.

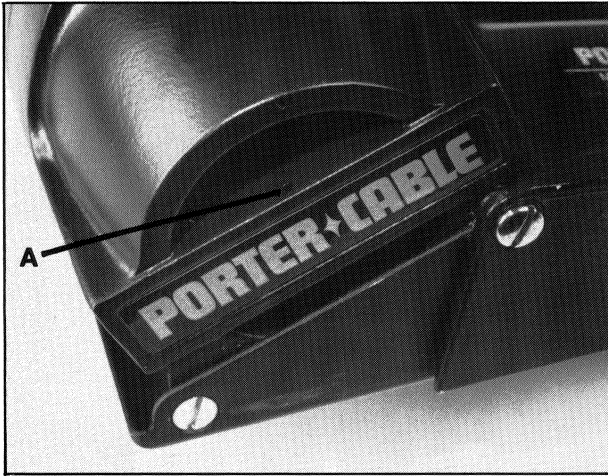


Fig. 7

LUBRICATION

The precision ball bearings on the cutter shaft are the double sealed type and the armature shaft fan end bearing is the double shield type, prelubricated at the time of manufacture with sufficient lubricant to last their lives. They require no further lubrication.

The armature commutator end bearing is of the oil-impregnated bronze type. This bearing should be lubricated after each 25 hours of operation. Add 4 drops of a good grade bearing oil or best grade, non-detergent, SAE20 motor oil, to the oil hole (A) Fig. 7, located directly above the decorative name plate in front of the upper ventilating slot on the left end of the motor housing. Be sure to clean out oil hole before adding oil. **WARNING:** Do not add more than 4 drops of oil each time you lubricate this bearing. If an excess amount is added, some might work onto the armature commutator to cause motor failure.

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 cannot 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.

18270 Bevel Planing Fence
29190 Steel Carrying Case
48248 Wrench

No. 42300-10 **No. 42301-10** **No. 43202-10**
Pack of 10, 36 Grit abrasive sleeves Pack of 10, 60 Grit abrasive sleeves Pack of 10, 120 Grit abrasive sleeves

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.

PORTER-CABLE SERVICE CENTERS

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

ALABAMA

Birmingham 35209
131 W. Oxmoor Rd.,
Suite 105
Phone: (205) 942-6325
Fax: (205) 945-9615

CALIFORNIA

City of Industry 91745 (Los Angeles)
1305 John Reed Court
Phone: (818) 333-3566
Fax: (818) 330-5900

San Leandro 94577 (Oakland)

3039 Teagarden Street
Phone: (415) 357-9762
Fax: (415) 357-7939

COLORADO

Denver 80204
2561 West 8th Avenue
Phone: (303) 892-6113
Fax: (303) 595-0358

FLORIDA

Hialeah 33014 (Miami)
16373-75 NW 57th Ave.
Phone: (305) 624-2523
Fax: (305) 628-2654

Tampa 33609

4538 W. Kennedy Boulevard
Phone: (813) 877-9585
Fax: (813) 289-7948

GEORGIA

Morrow 30260 (Atlanta)
1286 Citizens Parkway
Suite C
Phone: (404) 961-0900
Fax: (404) 961-8624

ILLINOIS

Addison 60101 (Chicago)
311 Laura Drive
Phone: (708) 628-6100
Fax: (708) 628-0023

MARYLAND

Baltimore 21227
7397 Washington Blvd.
Suite #102
Phone: (301) 799-9394
Fax: (301) 799-9398

MASSACHUSETTS

Franklin 02038 (Boston)
Franklin Industrial Park
101 E Constitution Blvd.
Phone: (508) 520-8802
Fax: (508) 528-8089

MICHIGAN

Grand Rapids 49508
Broadmoor Business Center
3755 G Broadmoor S.E.
Phone: (616) 949-9040
Fax: (616) 949-3164

Southfield 48075 (Detroit)
18650 W. Eight Mile Road
Phone: (313) 569-4333
Fax: (313) 569-4337

MINNESOTA

Minneapolis 55429
4315 68th Avenue North
Phone: (612) 561-9080
Fax: (612) 561-0653

MISSOURI

North Kansas City 64116
1141 Swift Avenue
P.O. Box 12393
Phone: (816) 221-2070
Fax: (816) 221-2897

St. Louis 63119

7574 Watson Road
Phone: (314) 968-8950
Fax: (314) 968-2790

NEW JERSEY

Union 07083
945 Ball Avenue
Phone: (201) 964-1730
Fax: (201) 688-6679

NEW YORK

Flushing 11365-1595 (N.Y.C.)
175-25 Horace Harding Expwy.
Phone: (718) 225-2040
Fax: (718) 423-9619

NORTH CAROLINA

Charlotte 28209
4303-B South Boulevard
Phone: (704) 525-4410
Fax: (704) 525-0618

OHIO

Columbus 43214
4560 Indianola Avenue
Phone: (614) 263-0929
Fax: (614) 263-1238

Cleveland 44125
8001 Sweet Valley Dr.,
Unit #18
Phone: (216) 447-9030
Fax: (216) 447-3097

PENNSYLVANIA

Philadelphia 19154
12285 McNulty Road
Phone: (215) 677-7800
Fax: (215) 677-9908

TEXAS

Dallas 75220
10720 N. Stemmons Freeway
Phone: (214) 353-2996
Fax: (214) 350-3943

Houston 77092

5201 Mitchelldale B-9
Phone: (713) 682-0334
Fax: (713) 682-4867

WASHINGTON

Renton 98055 (Seattle)
268 Southwest 43rd Street
Phone: (206) 251-6680
Fax: (206) 251-9337

WISCONSIN

Milwaukee 53222
10700 W. Burleigh Street
Phone: (414) 774-3650
Fax: (414) 774-3653

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

DELTA SERVICE CENTRES

(CENTRES D'ENTRETIEN DELTA)

ALBERTA

#10 6320 11th Street S.E.
Calgary, Alberta
T2H 2L7
Phone: (403) 255-3530
Fax: (403) 258-0767

10632 169th Street
Edmonton, Alberta
T5P 3X6
Phone: (403) 489-5587
Fax: (403) 489-0465

BRITISH COLUMBIA

45 West 7th Avenue
Vancouver, B.C.
V5Y 1L4
Phone: (604) 879-8622
Fax: (604) 879-4594

MANITOBA

1699 Dublin Avenue
Winnipeg, Manitoba
R3H 0H2
Phone: (204) 633-9259
Fax: (204) 632-1976

ONTARIO

644 Imperial Road
Guelph, Ontario
N1H 6M7
Phone: (519) 836-2840
Fax: (519) 836-9352

6463 Northam Drive
Mississauga, Ontario
L4V 1J2
Phone: (416) 677-5330
(416) 677-5332
Fax: (416) 677-3728

851 Richmond Road
Ottawa, Ontario
K2A 3X2
Phone: (613) 728-1124
(613) 728-4535
Fax: (613) 728-9208

QUEBEC

523 Rue Deslauriers
St. Laurent, (Montreal) P.Q.
H4N 1W2
Phone: (514) 336-8772
Fax: (514) 336-3505

Suite 202
2022 Rue Lavoisier
Ste. Foy, Quebec, Québec
G1N 4L5
Phone: (418) 681-7305
Fax: (418) 681-1695

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

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