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MACHINERY
FOR THE GLAZING INDUSTRY

CAT. NO.
CRL2
GLASS
DRILLING
MACHINE



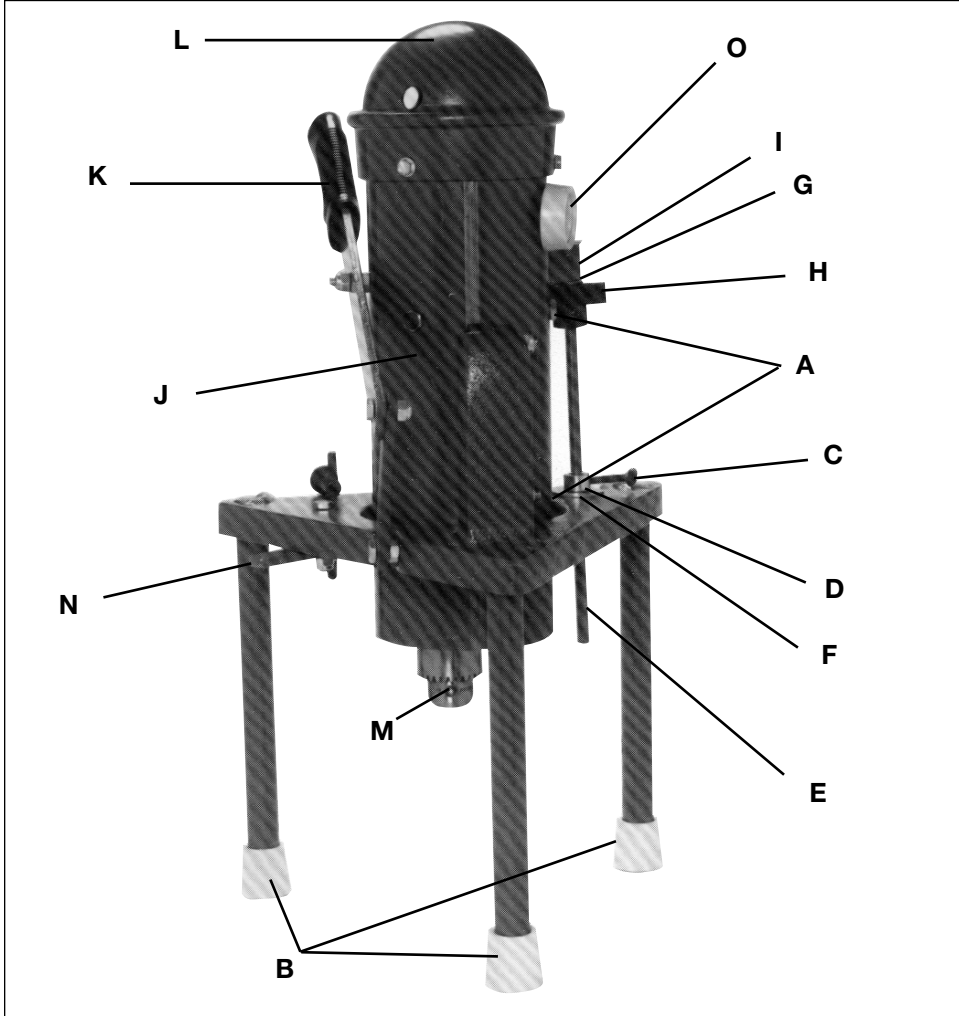
INSTRUCTION MANUAL

C.R. Laurence Co., Inc.
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CRL2 Glass Drilling Machine

CRL2 Glass Drilling Machine

DIAGRAM



- | | |
|--------------------------------|---------------------------|
| A Ball Bearing Rollers | I Bracket |
| B Rubber Feet | J Drill Housing |
| C Thumb Screw | K Handle |
| D Circular Metal Collar | L Housing Cap |
| E Shaft | M Chuck |
| F Metal Ring | N Housing Stop Arm |
| G Washer | O Speed Control |
| H Turning Knob | |

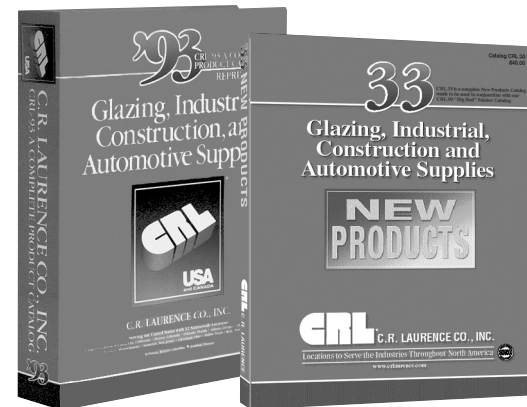
CARE AND MAINTENANCE

Although the CRL2 Glass Drilling Machine is designed to give many years of trouble-free service, the following preventive care and maintenance will prolong the service and retain the accuracy of your machine. One cause of machine failure is the presence of carborundum in the motor housing. This usually occurs when the machine is being transported in the back of a truck, with the wind blowing the carborundum from the feet or drill bits into the motor. The presence of carborundum causes excessive wear to the motor, and can be prevented by cleaning the tube drills and the feet of the machine after each use. Cleaning can be done quickly to save you many dollars in repairs bills.

CAUTION: This machine is equipped with a 3-wire grounding cord. Never attempt to alter the plug by cutting off the wound grounding tip. Always be sure that the cord is plugged into a grounded outlet. If you use a ground adapter, make sure that the green wire from the adapter is connected to the center cover screw on the outlet.

THE CRL MASTER CATALOG SET Over 20,000 glass-related products.

Ask your CRL Sales Representative for your copies of the CRL93N and CRL33 Catalogs. These catalogs describe and illustrate the full line of CRL products that have been designed to fill your glazing needs. Call CRL today for the supplies that keep your business growing. Call toll free (800) 421-6144 from anywhere in the United States or Canada. You can also order through our web site at www.crlaurence.com.



CRL2 Glass Drilling Machine

CRL2 Glass Drilling Machine

ACCESSORIES



Tube and Diamond Drills



Spearpoint and Carbide Prismatic Drills



Rubber Base Rings and Suction Base Ring with Tapered Plug



533 All Purpose Glazing Putty



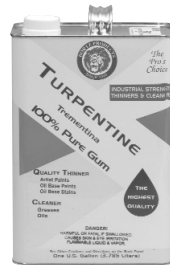
Cat. No. CG120X
Silicone Carbide Grain



Cat. No. 1973 Glass Cleaner
Cat. No. 695 Glass Cleaner Concentrate



Cat. No. 1550
Glass Wipes



Cat. No. PGT1
Gum Turpentine



Cat. No. DTC80GL
Diamond Tool Coolant

INTRODUCTION

Years of experience in the sales and service of glass machinery have made C.R. Laurence Co., Inc. a leading authority in the business. Combining this experience with extensive market research, CRL has developed a superior piece of equipment to fill the glass drilling needs of the industry. Modern technology has solved the problems of motor burn-out, worn ball bearing rollers, and insecure drill chucks. Our engineers listened to your problems and developed the finest drill machine ever produced. You are about to experience the results of their efforts in the operation of the CRL2 Glass Drilling Machine.

FEATURES

1. Heavy duty motor with a 3/8" ball bearing supported chuck to eliminate wobble. Variable speed adjustment allows for use of all types of glass drills.
2. Dual adjustment system provides for both quick and micro depth adjustment.
 - A. Quick adjustment pre-sets the desired drilling depth at slightly less than the thickness of the glass, stopping within a fraction of an inch of the bottom surface, so that the last little bit may be drilled slowly, to reduce chipping of the glass. This is extremely important in drilling mirror glass, since the chipping of the paint and silver on the back can cause clear areas.
 - B. Micro adjustment pre-sets the desired drilling depth even closer to slightly less than the thickness of the glass, so that the last little bit may be drilled slowly, to further reduce chipping of the glass.
3. Self-drilling design eliminates the need for application of pressure by the operator.
4. Lubricated, sealed ball bearing rollers (A) reduce costly maintenance due to the abrasive action of grain and glass dust without sacrificing accuracy.
5. Non-skid rubber feet (B) (photo 1) are concave on the bottom to work with the weight of the machine to form a suction with the working surface, thus adding stability and minimizing vibration.



Photo 1

CRL2 Glass Drilling Machine

CRL2 Glass Drilling Machine

OPERATING INSTRUCTIONS

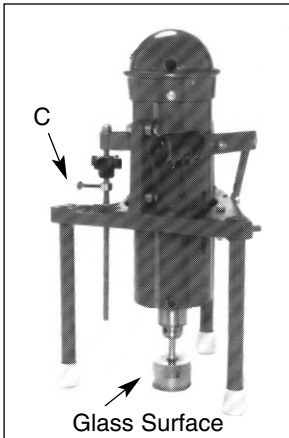


Photo 2

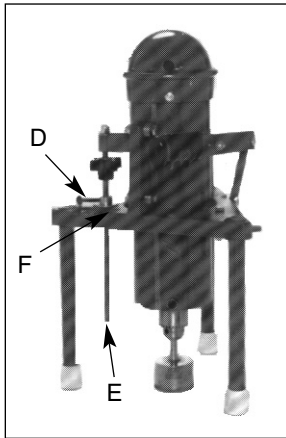


Photo 3

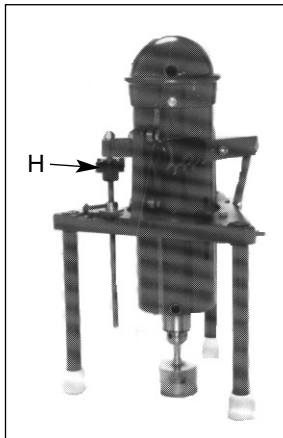


Photo 4

Adjustment

Quick adjustment (photos 2 and 3) is accomplished as follows: With the tip of the drill resting on the surface of the glass, loosen the thumbscrew (C), allowing the collar (D) to slide down the shaft (E) until it rests on the ring (F) above the base plate. Tighten the thumbscrew.

Micro adjustment (photo 4) is done by turning the knob (H) clockwise until the distance between the washer (G) on the knob (H) and the bracket (I) is slightly less than the thickness of the glass. For example, if 1/4" glass is used, a 7/32" penetration would be desired. When the bracket (I) is resting atop the washer (G) and knob (H), the drill will stop penetrating. At this point, turn the knob clockwise, slowly lowering the drill unit until it has drilled completely through the glass. The weight of the drill motor housing (J) gliding downward on the ball bearing rollers will supply sufficient weight to the drill tip to cause it to drill smoothly through the remaining glass.

CAUTION: We do not suggest that pressure be applied to the handle (K) when a tube drill is used. This may produce excessive resistance to the rotation of the drill motor, causing it to burn out.

PARTS LIST

ITEM NO.	CAT. NO.	DESCRIPTION	QTY. NEEDED
1	DMP-101	Base	1
2	DMP-102	Drill Housing Cylinder	1
3	DMP-103	3/8" Drill Motor	1
4	DMP-104	Cylinder Housing Cap	1
5	DMP-105	Vinyl Hand Grip	1
6	DMP-106	Long Lift Arm	1
7	DMP-107	Short Lift Arm	1
8	DMP-108	3-Wire Cord	1
10	DMP-110	Chuck Key	1
11	DMP-111	Bearing Bolts	4
12	DMP-112	Roller Bearings	4
13	DMP-113	Spacer Washers	4
14	DMP-114	Bearing Lock Nuts	4
15	DMP-115	Non-Skid Rubber Feet	3
16	DMP-116	Housing Stop Bolt	1
17	DMP-117	Housing Stop Arm	1
18	DMP-118	Housing Stop Nut	1
19	DMP-119	Drill Motor Collar	1
20	DMP-120	Collar Nut	1
21	DMP-121	Collar Bolt	1
22	DMP-122	Short Arm Anchor Bolt	1
23	DMP-123	Short Arm Anchor Lock Nut	1
24	DMP-124	Long Arm Connecting Bolt	1
25	DMP-125	Long Arm Connecting Lock Nut	1
26	DMP-126	Swivel Anchor Bolt	1
27	DMP-127	Swivel Anchor Space Nut	1
28	DMP-128	Swivel Anchor Lock Nut	1
29	DMP-129	Cylinder Housing Cap Screws	3
30	DMP-130	Drill Motor Anchor Bolts	3
31	DMP-131	Threaded Depth Adjusting Rod	1
32	DMP-132	Depth Adjusting Rod Lock Nut	1
33	DMP-133	Depth Stop Washers	2
34	DMP-134	Adjustable Depth Stop	1
35	DMP-135	Depth Stop Anchor Bolt	1
36	DMP-136	Depth Stop Anchor Nut	1
37	DMP-137	Micro Adjusting Knob	1
38	DMP-138	Quick Adjusting Collar	1
39	DMP-139	Quick Adjusting Thumbscrew	1
40	DMP-140	Large Collar Washer	1
41	DMP-141	Speed Control Unit	1

Item No's correspond with pictures on page 8.

CRL2 Glass Drilling Machine

CRL2 Glass Drilling Machine

PARTS LIST

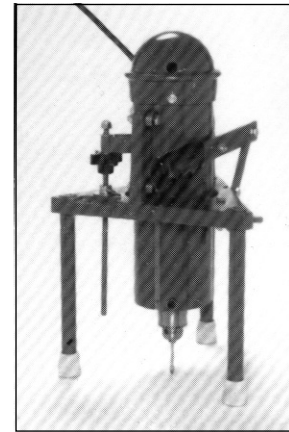
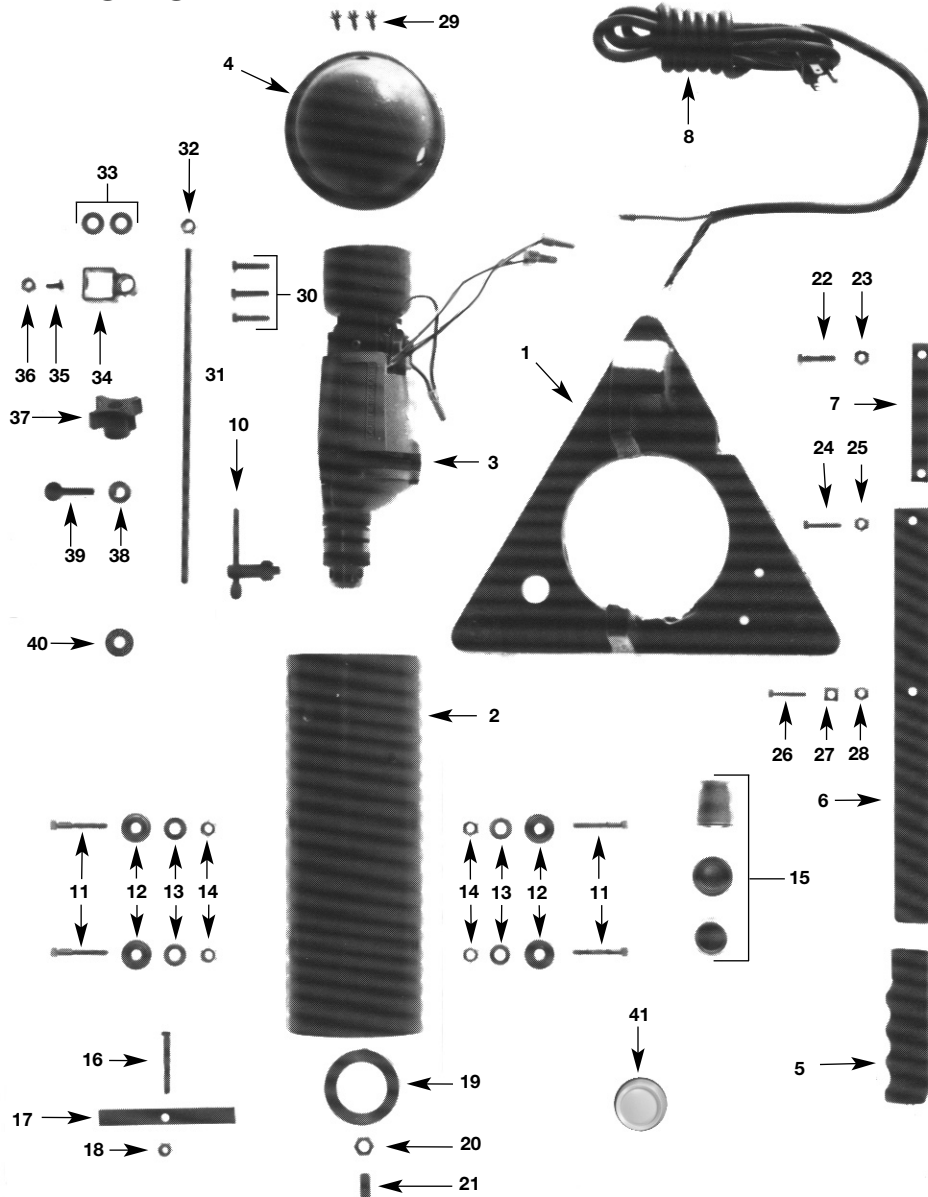


Photo 5

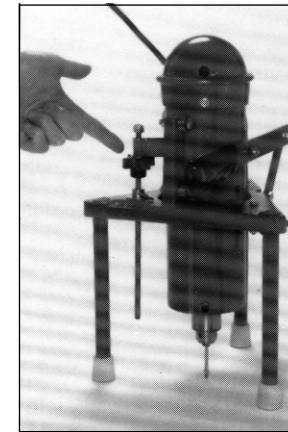


Photo 6

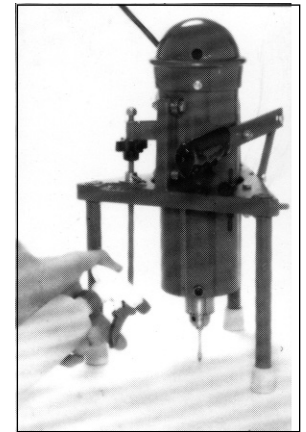


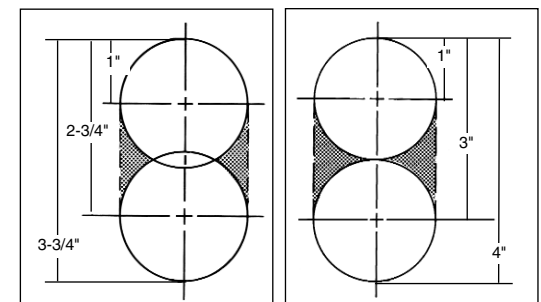
Photo 7

Drilling

Prismatic and spearpoint drills are used for drilling small holes in glass. Place the glass on four or five thicknesses of corrugated cardboard, to protect the work surface. Secure the drill in the chuck and lower the drill housing until the tip touches the glass surface (photo 5). Set the quick and micro adjustments as instructed on page four and shown in photo 6. Motor speeds should be approximately 400 to 600 rpm. As the drill travels through the glass, keep it lubricated by constantly squirting turpentine on it (photo 7). A slight downward pressure on the housing cap (L) will increase the drilling speed. When bracket (I) is resting on the washer/knob (G/H), the drill will stop penetrating. At this point, turn the knob clockwise, slowly lowering the drill until it completely penetrates the glass (drill 1/4" to 3/8" past the bottom surface of the glass).

NOTE: To cleanse the glass of turpentine, we recommend Cat. No. 695 Glass Cleaner Concentrate.

Diamond, steel and brass tube drills up to 4" in diameter may be used for drilling larger holes. Before drilling, prepare a surface with several layers of corrugated cardboard. Lay out the location to be drilled on the glass. When drilling a single switch or duplex outlet, use a 2" tube drill. Drill two adjoining holes, according to the illustration at the right. See page 7 for methods of sealing the first hole and creating a coolant reservoir while drilling the second hole.



C.R. Laurence Co., Inc. offers the items pictured and described here as replacement parts for the CRL2 Glass Drilling Machine. To order, call, fax or e-mail CRL Technical Sales Department or Customer Service.

CRL2 Glass Drilling Machine

CRL2 Glass Drilling Machine

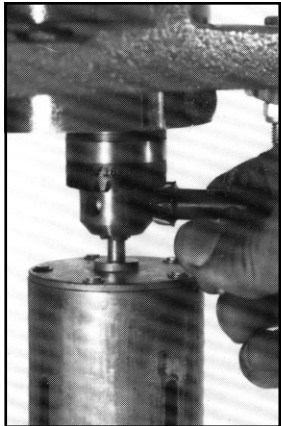


Photo 8

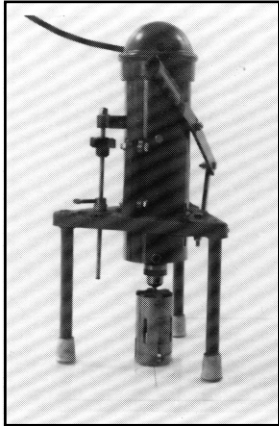


Photo 9

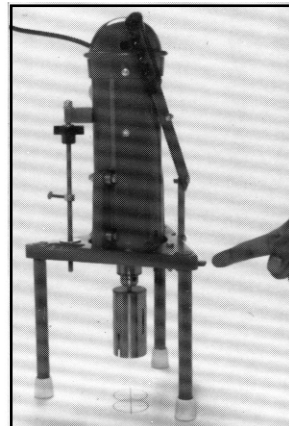


Photo 10

Once you have selected the proper drill, install it in the chuck (M) using the chuck key (photo 8) to secure the drill shank. Place the drill machine on the glass, with the tip of the drill resting in position as indicated by the template (photo 9). Set the quick and micro adjustments as previously instructed. Raise the drill housing (J), lock it into place with the housing stop arm (N) (photo 10).

Create a reservoir around the layout hole to contain the lubricating slurry. The easiest and most effective way to do this is with CRL Rubber Base Rings. Photo 11 shows: RBR3, 1-1/2" in diameter, for use with drills up to 1-1/4"; RBR6, 3" in diameter, for use with drills up to 2-1/2" and RBR9, 4-1/2" in diameter, for use with drills up to 4". CRL Rubber Base Rings are also available in a set of all three sizes: RBR369. For dual outlet drilling, use an oval CRL Suction Base Ring and Tapered Plug, RR24 and RP20 (also photo 11). The reservoir may also be created by rolling a ball of Cat. No. 533QTGRY Glazing Putty into a thick rope and connecting the ends to form a putty ring (photo 12). Place the ring around the hole, forming a reservoir 1" larger in diameter than the hole to be drilled (photo 13).

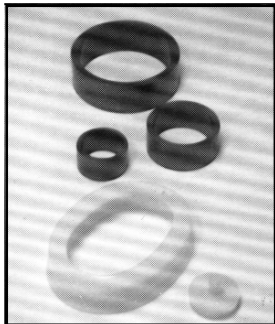


Photo 11



Photo 12

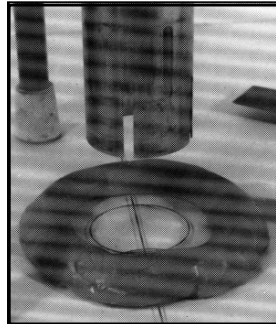


Photo 13



Photo 14

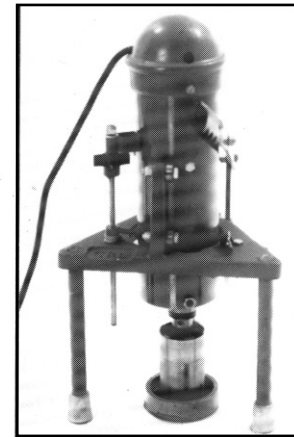


Photo 15

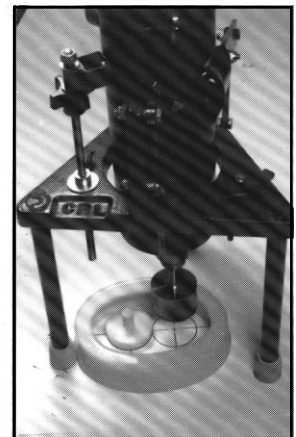


Photo 16

For drilling with brass and steel tube drills, spoon a quantity of Silicon Carbide Grain (Cat. No. CG120X is the most popular) into the reservoir to a depth of about 1/8" (photo 14). Add water to create a slurry. The friction between the grain and the tip of the tube drill will produce the necessary cutting action. When drilling with a diamond tube drill, use a solution of Diamond Tool Coolant and water (Cat. No. DTC80GL mixed with 50 parts water to 1 part coolant). **NEVER use silicone carbide grain with a diamond tube drill.** All tube drills should be used at the maximum CRL2 drill speed.

After moving the housing stop arm (N), lower the drill housing (J) until the tip of the drill rests on the surface of the glass (photo 15). Turn on the switch (O), steadying the machine with your other hand to keep it from moving out of position. Once the drilling has been started, the machine will automatically drill to the previously set depth without the aid of manual pressure. When the bracket (I) reaches the top of the washer (G) on the micro adjustment knob (H), the drill will stop penetrating. At this point, turn the knob clockwise to gradually lower the drill until it completely penetrates the glass. Turn off the machine, raise the drill housing (J) with the handle (K), and engage the housing stop arm (N). To drill an opening for a duplex outlet, drill two adjoining holes, following the diagram on page 5. After drilling the first hole, replace the cut circle of glass and fill the gap with putty to keep the reservoir intact; drill the second hole overlapping the first. When using the RR24 Suction Base Ring, use the RP20 Plug to seal the hole (photo 16). Be aware that an oversized cover plate will be necessary when using this method. Remove the putty or rubber base ring and completely rinse the glass of carborundum with clear water. It is essential that the glass be thoroughly rinsed before the final cleaning, to eliminate friction between the wiping cloth and the carborundum. We recommend Cat. No. 695 Glass Cleaner Concentrate or Cat. No. 1973 Glass Cleaner for the final cleaning.