

CONTRACTOR 18" & 20" HIGH SPEED



MODELS P300-18" & P300-20" SERVICE MANUAL AND PARTS LIST

INSPECTION

Carefully unpack and inspect your machine for shipping damage. Each unit is operated and thoroughly inspected before shipment, and any damage is the responsibility of the delivering carrier who should be notified immediately.

ELECTRICAL

This rotary polisher is designed to operate on a standard 15 amp, 115 volt, 60 hz, AC household current. Check that the voltage shown on the serial number plate is suitable for the supply available. Voltages below 105 volts or above 125 volts could cause damage to the motor.

WARNING: To avoid electric shock do not expose to rain. Store indoors.

GROUNDING INSTRUCTIONS

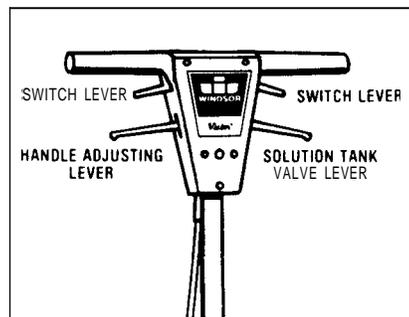
To protect the operator from electrical shock, this machine must be grounded while in use. The machine is equipped with an approved, three-conductor power cord (14-3 x 80') and three-prong grounding type plug to fit the proper grounding type receptacle.

EXTENSION CORD

If an extension cord is used, the wire size must be at least one size larger than the power cord from the machine and should be limited to 50 feet in length. Extension cord must be three-wire grounded.

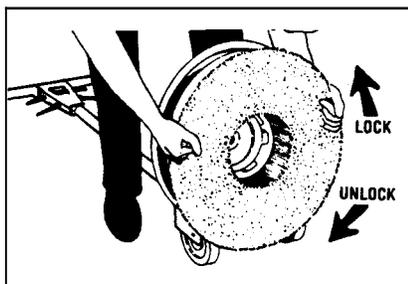
OPERATION

1. Plug machine into the power supply and check that the red indicator light (located on top of switch housing) is on.
2. You will notice four control levers located at the top of the handle. The two smaller ones directly beneath the handle grips control the on/off switches. From the operator's position, the longer lever on the left of the housing is used with the optional solution tank assembly. The longer lever on the right is used for adjusting/locking the handle.



3. With the handle in the upright position, tilt the machine back on its wheels until the handle is resting on the floor, exposing the drive pulley.

4. The pad driver or brush can be placed on drive pulley and will be locked in place by turning the brush to the left. To remove brush, reverse direction.



5. With the pad driver and pad or brush properly installed, return the machine to the upright position.

CAUTION: To prevent damage to the pad driver or brush, remove the accessory from the machine while not in use.

6. Pull up on the adjusting lever and lower the handle of the machine (keeping the pad driver or brush flat on the floor) to a comfortable working height. Release adjusting lever to lock handle in place.

NOTE: A safety switch inside the handle will not allow machine to run until handle is lowered to the operating position.

7. The machine can now be started. With the pad or brush flat on the floor the machine will run in a stationary position.

The speed at which the machine moves either left or right depends upon the degree to which the handle is raised or lowered.

To move to the right, slightly raise the handle and the machine will move to the right.

To move to the left, slightly lower the handle and the machine will move to the left.

CAUTION: If you feel that you are no longer in control of the machine, release the switch levers and the machine will stop.

To master the handling of the machine we suggest you practice these exercises for a short while.

8. The floor polisher is equipped with a circuit breaker. The action of the circuit breaker is entirely dependent upon the loading of the brush drive motor and will only trip under excessive overload conditions. If the circuit breaker should trip, it can be reset after 20 seconds by pressing the red button at the side of the motor housing.

NOTE: The operator should correct the cause of overloading before proceeding. The most common cause is an excessively soiled pad which should be turned over, cleaned or replaced.

CAUTION: On some applications this machine will be operated on wet, slippery floor surfaces. Use caution when operating the machine under these conditions.

MAINTENANCE

Motor: The motor is totally enclosed, capacitor start, capacitor run with circuit breaker protection

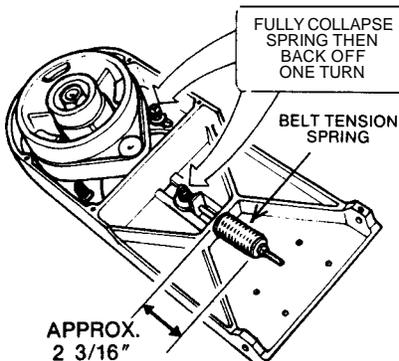
All ball bearings are sealed and have enough lubricant for the life of the machine

Remove motor cover occasionally and blow dust and lint from motor housing

Belt Adjustment: Remove bottom shroud Loosen nuts on motor mounting studs three or four turns Release tension on belt tension spring

Install new belt and readjust belt tension

MOTOR MOUNTING AND BELT TENSION ADJUSTMENTS



If assistance is needed while making repairs, contact your Windsor Distributor or Authorized Service Center

Brush/Drive Pads Always remove brush or drive pad assembly from machine when not in use Occasional soaking of bassine brushes will restore moisture and give the bristles a longer life

ACCESSORIES

These different attachments are available for the Floor Maintainer

1. Single and twin bottle dispenser assembly
2. 3 gallon solution tank assembly
3. Ny-Glide carpet shampoo brush
4. Clutch plate kit For use on brushes with 5" diameter center hole
5. Splash skirt Use when stripping hard surface floors

SERVICING

A full service inspection involves the inspection and testing of all items which affect operator safety, items which may require adjustment from time to time and items subject to wear which may require replacement in order to prevent a breakdown

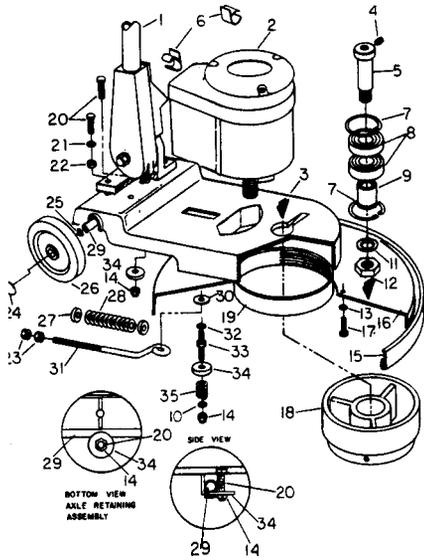
Go through the check list in the order shown

A. Mechanical Inspection

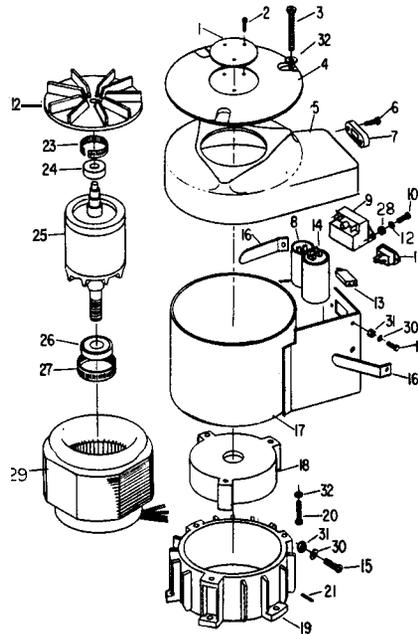
1. Check wiring and drive enclosures for cracks or damage

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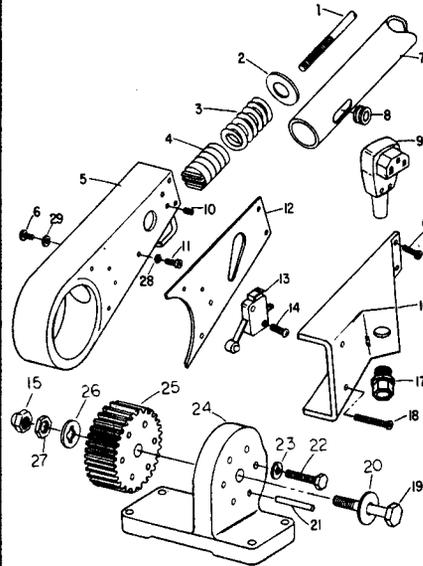
P300-18" & 20"



MOTOR ASSEMBLY P300-18" & 20"



HANDLE/PIVOT ASSEMBLY

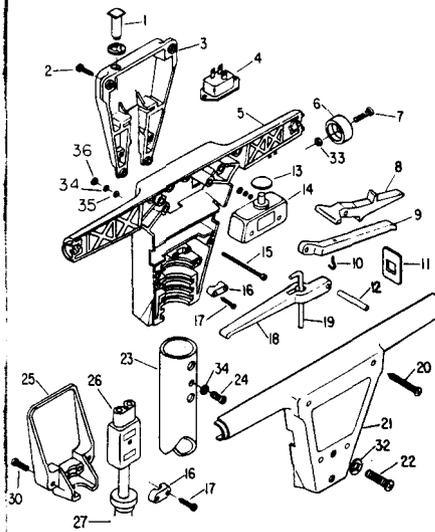


KEY	PART NO.	DESCRIPTION
1	38062	Handle Asm., Polisher
2	53116	Motor Asm., 115V 60HZ 70-50 25mm Pulley
3	27152	Base Casting - White
4	70181	Screw, M10 x 20mm Socket Set
5	14224	Bolt, Pulley - Through Hole
6	27220	Clip, Solution Hose Retaining
7	67038	Ring, 52mm Snap
8	09016	Bearing, LJ25
9	73171	Spacer, Bearing
10	87049	Washer, M8 Flat
11	87044	Washer, M20 SP
12	57050	Nut, M20
13	87062	Washer, M6 Spring
14	57052	Nut, M8 Hex Lock
15A	14156	Bumper, 18" Brush Shield
15B	14137	Bumper, 20" Brush Shield
16A	27158	Cover, 18" Brush
16B	27153	Cover, 20" Brush
17	70182	Screw, M6 x 16mm HHMS
18	64016	Pulley, Driven 160mm
19	11007	Belt, Drive 220J16 POLY VEE
20	70135	Screw, M8 x 30 HHMS
21	87051	Washer, M8 Spring
22	57054	Nut, M8 Hex
23	57053	Nut, M6 Hex
24	27154	Cap, 12mm Wheel (1/2")
25	87046	Washer, Wave
26	89026	Wheel, 8" Transport
27	51030	Locator, Spring
28	73106	Spring
29	03019	Axle, Polisher Wheel
30	87041	Washer, 30mm x 9mm x 2.5mm
31	14139	Bolt, Belt Tension Spring
32	87047	Washer, Spring
33	73107	Motor Stud
34	87060	Washer, MCHD
35	73118	Spring, Compression

KEY	PART NO.	DESCRIPTION
1		Name Plate
2	70144	Screw, #4 x 3/16" S.T.
3	70178	Screw, M6 x 60mm PH
4	27160	Cover, Air Inlet
5	27161	Cover, Motor
6	70142	Screw, M4 x 10 PH
7	67047	Retainer, Power Cord Plug
8	27143	Capacitor, 320/400 MFD Capacitor
9	67039	Relay, Type 2 CR4-258
10	70140	Screw, M3 x 10 PH
11	73104	Socket, Inlet
12	87061	Washer, M3 Lock
13	27204	Breaker, Circuit 12A
14	27219	Capacitor, 20 MFD 400V Run
15	70141	Screw, M4 x 10 Brass
16	27146	Clip, Spring
17	41067	Housing, Motor
18	27162	Casting, Motor Top
19	27163	Casting, Motor Bottom
20	70147	Screw, M6 x 25mm
21	66048	Pin, 1/8" x 1" Selock
22	34073	Fan, Motor Cooling
23	67044	Ring, 40mm Star
24	09015	Bearing, LJ 17
25	67040	Rotor Assembly, 115V
26	09016	Bearing, LJ 25
27	67045	Ring, 52mm Star
28	57061	Nut, M3 Hex
29	73105	Stator Assembly, 115V
30	87057	Washer, M4 Shakeproof
31	57062	Nut, M4 Hex
32	87055	Washer, M6 Shakeproof

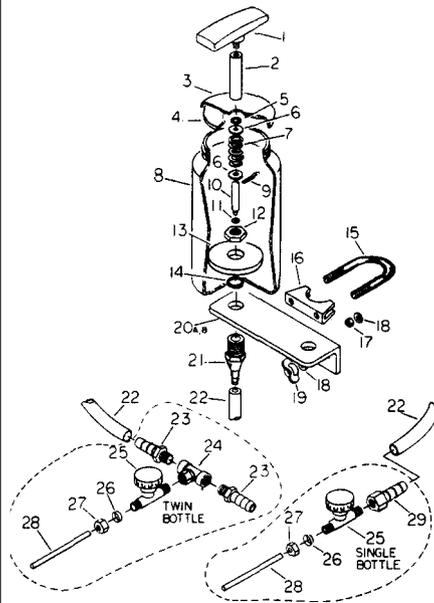
KEY	PART NO.	DESCRIPTION
1	67046	Rod, Handle Adj.
2	87053	Washer, Selector Spring
3	73122	Spring, Selector
4	73123	Selector, Handle Position
5	27165	Casting, Selector Housing
6	70142	Screw, M4 x 12 PH
7	78073	Tube, Handle
8	36025	Grommet 12mm
9	66044	Cord End, Angled Connector
10	70153	Screw, M8 x 15mm Socket Set
11	70141	Screw, M4 x 10 Brass PH
12	35050	Gasket
13	72031	Switch, Safety
14	70179	Screw, M3 x 16 PH
15	57059	Nut, M12 Dome
16	27166	Cover, Pivot Switch
17	73108	Strain Relief, Handle Cable
18	70180	Screw, M4 x 30 PH
19	14159	Bolt, M12 x 70
20	87054	Washer, M12 Plain Washer
21	66050	Pin, 1/4" x 1 3/4"
22	70156	Screw, M8 x 40 Hex
23	87047	Washer, M8 Lock
24	14158	Bracket, Pivot
25	36026	Gear, Selector
26	87059	Washer, M12 SP
27	57060	Nut, Half Hex
28	87058	Washer, M4 Flat
29	87057	Washer, M4 Shakeproof

HANDLE/SWITCHBOX ASSEMBLY



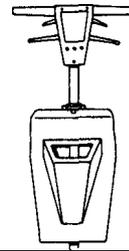
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SDI & TD2 OPTIONAL



OPTIONAL ACCESSORIES

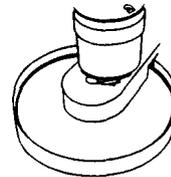
SHAMPOO TANK



PART NO. DESCRIPTION

PT3 Three gallon capacity handle-mounted tank with fingertip solution release

SPLASH SKIRT



PART NO. DESCRIPTION

73098 Plastic ring acts to control splashing when scrubbing One size fits 18" and 20" machines

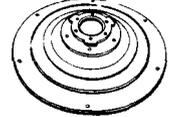
BRUSH LOCKING CLUTCH PLATE KIT



PART NO. DESCRIPTION

47067 Metal clutch plate to mount to brushes or pad driver! with 5" dia. center hole For 300 and 175 model only.

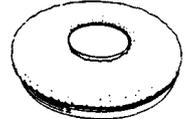
PAD DRIVERS



PART NO. DESCRIPTION

66046 17" Pad Driver for P300-18'
66047 19" Pad Driver for P300-20'

SHAMPOO BRUSH



PART NO. DESCRIPTION

14231 Ny-Glide carpet shampoo brush

KEY	PART NO.	DESCRIPTION
1	51026	Light, 115V Neon w/Ret Ring
2	70148	Screw, #10 x 20mm St. PH
3	41064	Housing, Handle Cord Plug
4	73104	Socket, Cable Inlet
5	41063	Housing, Rear Handle
6	27164	Cap, Handle End
7	70149	Screw, M6 x 20 PH
8	51027	Lever, Handle Switch White
9	51028	Lever, Solution Release White
10	41068	Hook, Fluid Lever
11	62073	Plate, Lever
12	66049	Pin, Lever Pivot
13	27142	Cap, Switch Lever Spring
14	72024	Switch, SP ON / OFF
15	70150	Screw, M4 x 60 PH
16	20034	Clamp, Cable
17	70151	Screw, #8 x 5/8" ST
18	51029	Lever, Handle Release White
19	67046	Rod, Handle Adj. Pull
20	70152	Screw, #10 x 1 1/2" ST
21	41062	Housing, Front Handle
22	70149	Screw, M6 x 20 FH
23	78073	Tube, Handle
24	70141	Screw, M4 x 10 BR PH
25	27141	Cover, Cord Handle Plug
26	26023	Cord End, Polisher Handle
27	87052	Washer, 22 x 17 x 2.5mm Fiber
28	73121	Strain Relief, Polisher Handle
29	23082	Cord Assembly, 80 feet 14/3
30	70142	Screw, M4 x 10 PH
31	26006	Cord End
32	87055	Washer, M6 Shakeproof
33	57053	Nut, M6 Hex
34	87057	Washer, M4 Shakeproof
35	87058	Washer, M4 Flat
36	57062	Nut, M4 Hex

KEY	PART NO.	DESCRIPTION
1	48014	Knob, M8 Male Pull
2	67067	Rod, Pull Extension
3	27221	Cap, Bottle
4	73172	Seal, Cap
5	59015	O-Ring 7.6 ID x 3.5mm
6	87070	Washer, M8 Brass
7	73173	Spring, Stainless Steel
8	14225	Bottle, Plastic 1.5 Litre
9	66061	Pin, Brass Cotter 3/32" x 1/2"
10	67068	Rod, Pull
11	59016	O-Ring 4.2 ID x 1.8mm
12	57073	Nut, 3/8" BSP Brass Hex
13	87071	Washer, Nylon
14	59017	O-Ring 15.5 ID x 3.5mm
15	14226	Bolt, U
16	14227	Bracket, Clamp
17	57053	Nut, M6 Hex
18	87055	Washer, M6 Lock
19	57074	Nut, M6 Dome
20A	14228	Bracket, Twin Bottle Support
20B	14229	Bracket, Single Bottle Support
21	14230	Body, Valve
22	78095	Tube, 5/16" ID Plastic (4m)
23	40025	Hosebarb, 5/16" HB x 1/8" BSP Male
24	78096	Teed, 1/8" BSP
25	84043	Valve, Control
26	34108	Ferrule, 3/16" O.D.
27	57075	Nut, 1/8" BSP - 3/16" O.D. Tube
28	78097	Tube, 3/16" O.D. Brass (100mm)
29	40026	Hosebarb, FPT x 5/16" HB

TROUBLE SHOOTING HANDLE UNIT

SYMPTOM	FAULT	TEST	REMEDY
Excessive side play	pivot bolt loose.	Check for minimal side play at handleswitch box.	Adjust pivot bolt (No 24 pivot asm) and retighten dome nut
Stiff when changing position	pivot bolt tight.		
Release lever stiff -- will not release handle	Lever adjustment	Check lever free play -- 3mm max at lever tip	Adjust pullrod inside switch box
High amps, no amps, blown fuses, tripping (only if handle mounted)	Seized or stiff position selector Wired incorrectly Faulty components or wiring	Check lever for full movement at switch box Remove brush from machine directly to avoid damage CAUTION motor will start up on plugging in	Remove selector keyway screw and inject release oil Check all handle unit components and wiring for continuity, shorts or damage.
Ground leakage trip, flash test fail	Wiring or components wet dirty or damaged	Pull out motor plug -- retest inspect and flash test (1.5 kv) each component to ground	Check/replace/replace -- if component.
Motor runs, no red light	Faulty neon	Check wiring connections to neon	Replace.

TROUBLE SHOOTING MOTOR ASSEMBLY

SYMPTOM	FAULT	TEST	REMEDY
High amps, tripping fuses, no/peep start Centrifugal switch/relay flutter	Loose cooling fan.	Inspection.	Tighten or rapin.
	Motor mounting loose.	"Feel" vibration at motor/base casting.	Tighten or adjust motor mounting bolts.
	Bearings worn/damaged.	Turn motor by hand, inspect.	Replace bearings.
	Wired incorrectly.	Check wiring.	Reconnect.
	Wiring open circuit.	Check continuity.	Replace.
	Circuit breaker will not reset	Check continuity.	Replace.
	Relay open circuit.		Replace.
	Wrong supply voltage.	Check name plate.	--
	Bearings stiff or seized.	Turn motor by hand.	Replace bearings.
	Wired incorrectly.	Check wiring.	Reconnect.
Run capacitor start capacitor, start relay.	Test by substitution -- ensure that the correct type is fitted.		
Centrifugal switch, free movement of balance	Inspect contacts, ensure free movement of balance weights, check rotor switch, position of shaft.		Replace.
Sator unit.	Check continuity, flash test (1.5 kv) to ground and between windings.		Replace.
Ground leakage trip, flash test fail	Wired incorrectly. Wiring, windings or components wet, dirty or damaged.	Check wiring. Inspect and flash test (1.5 kv) each component to ground.	Reconnect. Clean up and dry out -- if fault persists replace component.

GENERAL User serviceable faults		
SYMPTOM	FAULT	REMEDY
Red light will not come on or goes out when trying to start	Not plugged in. not switched on	Plug in and switch on.
	Faulty plug connections, fuse blown or wrong fuse fitted.	Open plug and inspect connections & cable restraint — fit a new fuse.
	Faulty supply cable	Check by substitution,
Red light on will not start	Wrong supply voltage	Check name plate.
	Handle not in operating position.	Lower handle
	Handle assembly not plugged into motor.	Plug handle assembly into motor.
Poor start/run trips circuit breaker or blows fuses	Circuit breaker tripped motor overloaded.	Press red button to reset circuit breaker — wash or replace floor pad.
	Wrong supply voltage	Check name plate
Machine "wobbles" in use	Floor pad worn/not centered.	Check floor pad for uneven wear — center on the drive plate.

WINDSOR LIMITED WARRANTY

WINDSOR warrants to the original purchaser/user for a period of one year from date of purchase that this Rotary Floor Machine is free from defects in workmanship and materials, under normal use and service, and when operated and maintained in accordance with Windsor's service and operating instructions. This warranty does not apply to normal wear items such as electrical cable, relays, capacitors, rubber parts and switches. During this one year period Windsor will replace or repair defective parts covered by this warranty when the machine is delivered either to the factory, Englewood, Colorado or to an Authorized Windsor Service Center. Transportation costs are to be prepaid by the original purchaser/user.

EXTENDED WARRANTY:

In addition to the above warranty, the following will apply:

1. In the event of failure from normal usage during the useful life of the machine of the main "on/off" switch located in the machine handle switch housing, WINDSOR will replace or repair such switch free of cost, except for labor and transportation charges which must be borne by the original purchaser
2. For a period of three years after purchase WINDSOR will, without charge, replace or repair any motor that fails as a result of defects during normal service and usage, except for normal wear items as described above and for transportation charges to and from the Windsor factory which must be prepaid by the original purchaser

This warranty is in lieu of all other warranties expressed or implied, and releases WINDSOR from all other obligations and liabilities. It is applicable only in the U S A and Canada, and is extended only to the original purchaser of this product

WINDSOR is not responsible for costs for repairs performed by other persons unless they have been specifically authorized in advance and in writing by WINDSOR. This warranty does not apply to damage from transportation alterations by unauthorized persons misuse or abuse of the equipment use of noncompatible chemicals or damage or loss of income due to malfunctioning of the product

2. Check handle release lever free play (3mm at lever tip) and pivot operation.

3. Bell Drives

- a. remove drive belt and inspect for wear.
- b. check pulleys, bearing and pulley alignment.
- c. replace belt and retension, turn drive by hand in both directions to check free operation.

4. Check all nuts, bolts and screws for tightness.

B. Electrical Inspection

1. Inspect supply cables for wear or damage, open supply plugs and inspect cable connections and restraints.
2. Open handle switch box, check switch connections, wiring and ground terminal connections, check switch retaining screws for tightness.
3. Re-assemble and check on/off levers for binding.
4. Remove safety switch cover, inspect switch, wiring and connections.
5. Look inside the capacitor box, check all connections and inspect capacitors and other components for deterioration or damage.

C. Run Test

1. Pot test (1.5 kv).
2. Plug in and check neon
3. With handle upright check that motor will not start.
4. Check no load amps without brush fitted. (5.5 to 7.0 amps)
5. Check loaded amps with bone and bassine brush on smooth concrete floor. (9.5amps)
6. Stall test machine with drive board fixed to floor, check for belt slip and circuit breaker operation.
7. Loaded start test for relay flutter.
8. Listen for noisy operation
9. Check machine stability during operation.

A service feature of Windsor floor polishers is that

TROUBLE SHOOTING BELT DRIVE TRAIN

SYMPTOM	FAULT	TEST	REMEDY
Motor runs, belt slip, no/poor drive, squeak on start, premature belt wear	Belt too slack	Stall test machine with drive board glued or screwed to floor	Adjust belt tension correctly.
	Belt worn or broken	Inspection	Check pulley alignment before fitting new belt
	Motor slide seized	Remove belt slacken mounting spring check for free movement	Ensure free movement in guide slots over full length
Belt runs off	Polished/greasy drive pulley.	Inspection	Remove grease with solvent — emery pulley surface.
	Pulleys out of alignment — belt tension too high	Check pulley alignment	Re-align pulleys, refit drive belt, do not over tension.
High amps, tripping, blows fuses	Seized or stiff pulley bearings	Turn drive by hand — run motor with belt removed	Replace bearings
Noisy or "clicking" drive pulley	Bearings or housings worn	Inspection	Replace — CAUTION The bearings are shrink fitted. heat the pulley before re-assembly.

the cable, handle and motor units may be unplugged and tested separately. The handle unit may also be by-passed by plugging a supply cable directly into the motor unit. In this way the fault may be quickly isolated.

if you suspect a motor fault for example first eliminate the possibility of a drive train or handle unit fault by by-passing the handle unit with a new supply cable after checking that the drive train runs freely.

CAUTION: When bypassing the handle assembly the motor may start when you plug in — ensure that the brush or drive plate is removed!

Having isolated the fault to one of the main assemblies look down the symptom column and then test for the possible faults in the order shown. This will find the fault in minimum time.



WINDSOR INDUSTRIES, INC.

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WIRING DIAGRAM

