



HEAVY-DUTY PORTABLE BLOWER INSTRUCTIONS

CAUTION:

1. *Always point the exhaust port in a safe direction and wear safety glasses when in the vicinity of this unit while it is operating. Air leaves the blower at a high velocity.*
2. *Hold the unit firmly when starting as the high starting torque will cause the unit to jerk and could cause injury.*
3. *Use only in 3 wire ground receptacle or with a grounded adapter.*

Operating:

When using as a portable blower, align the notches on the blower nozzle with the lugs on the fan chamber and twist to lock in position. Make sure intake screen guard is still in place and take care to assure loose clothing is not drawn to and blocking intake port when operating.

When using as portable vacuum, align the notches on the connector of the dust bag with the lugs on the fan chamber (exhaust port) and twist to lock in place. Do the same with the hose connector (adapter) making sure the sealing washer is in position inside the connector. Insert the required cleaning tool in one end of the hose and plug the other end on to the connector.

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PARTS LIST

1-1/2 HP BLOWER MOTORS (98800/98801)

ITEM	PART NO	QTY	DESCRIPTION
1	7533	4	Nut-Hex
2	7858	1	Spring-Finger
3	8516	1	Switch
4	11276	4	Screw
5	11268	1	Cooling Fan
6	11269	1	Pad, Fiberglass
7	12436	1	Cover Top
8	11236	2	Bearing
9	11274	1	Pan Chamber
10	12604	1	Cover Plate
11	11275	2	Screw-Hex
12	11240	4	Screw-Phil
13	11241	1	Cable (115V)
	19944	1	Cable (230V)
14	11242	1	Fan Spinner
15	11243	1	Motor Housing ASM
16	12605	1	Fan
17	12641	1	Fan Chamber
18	11252	1	Strain Relief Bushing
19	11253	1	Bumper
20	14322	1	Washer
21	11900	1	Nameplate
23	11278	1	Brush Card Holder A/S (115V)
24	7534	3	Screw-Phil
25	1713	1	Washer
26	10892	2	Nut-Hex Lock
27	8220	1	Plug (115V)
	2563	1	Plug (230V)
28	11270	1	Armature Blower 115V
	11272	1	Armature Blower 230V
29	11271	1	Field Blower 115V
	11273	1	Field Blower 230V
30	11249	2	Spring-Spiral Brush
31	11486	2	Carbon Brush 115V
	11780	2	Carbon Brush 230V
32	11245	2	Screw
33	11244	4	Screw
34	940	1	Nut
35	5773	1	Nut

PARTS LIST

2-1/4 HP BLOWER MOTORS (98900)

ITEM	PART NO	QTY	DESCRIPTION
1	7533	4	Nut-Hex
2	7858	1	Spring-Finger
3	8516	1	Switch
4	11197	4	Screw
5	11198	1	Cooling Fan Baffle
6	11199	1	Pad, Fiberglass
7	12436	1	Cover Top
8	11236	2	Bearing
9	11237	1	Fan Chamber Plate
10	12644	1	Cover Plate
11	11239	2	Screw-Hex
12	11240	4	Screw-Phil
13	11241	1	Cable (115V)
14	11242	1	Fan Spinner
15	11243	1	Motor Housing ASM
16	12692	1	Fan
17	12642	1	Fan Chamber
18	11252	1	Strain Relief
19	11253	1	Bumper
20	14322	1	Washer
21	11900	1	Nameplate
23	11278	1	Brush Card Holder
24	7534	3	Screw-Phil
25	1713	1	Washer
26	10892	2	Nut-Hex Lock
27	8220	1	Plug (115V)
28	11255	1	Armature Blower 115V
29	11256	1	Filed Blower 115V
30	11249	2	Spring-Spiral
31	11251	2	Carbon Brush 115V
32	11245	2	Screw
33	11244	4	Screw
34	940	1	Nut
35	5773	1	Nut
36	11570	2	Brushspg & Damper
37	12602	1	Washer
38	12603	1	Split Washer
39	12439	2	Screw
40	12601	1	Spacer

Continued

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<u>ITEM</u>	<u>PART NO</u>	<u>QTY</u>	<u>DESCRIPTION</u>	<u>ITEM</u>	<u>PART NO</u>	<u>QTY</u>	<u>DESCRIPTION</u>
36	11570	2	Brushspg & Damper	42	11555	1	Gasket
37	12602	1	Washer	43	11563	1	Gasket
38	12603	1	Split Washer	46	13022	2	Pad-Brush Card
39	12439	2	Screw	47	11250	2	Brush Holder
40	12601	1	Spacer	*	14412	1	Label-Warning
42	11555	1	Gasket	*	16264	1	Label-Warning
43	11562	1	Gasket	*	11415	2	U-Clip
46	13022	2	Pad-Brush Card				
47	11250	2	Brush Holder				
48	4054	2	Plug-Lock(H/S) #10				
49	14624	2	Plug-Hole (Zinc) 1/2 Dia				
*	14412	1	Label-Warning				
*	16224	1	Label-Warning				
*	11415	2	U-Clip				



IMPORTANT SAFETY INSTRUCTIONS

(READ ALL INSTRUCTIONS BEFORE USING THIS UNIT)

NOTE: WHEN USING ANY ELECTRICAL APPLIANCE, BASIC PRECAUTIONS SHOULD ALWAYS BE FOLLOWED.

WARNING: To reduce the risk of fire, electric shock or injury:

Do not leave appliance when plugged in. Unplug from outlet when not in use and before servicing. Turn off all controls before unplugging. To unplug, grasp the plug, not the cord.

Before attempting any maintenance or adjustment, disconnect air lines. Turn off all controls and air supply at the drop before disconnecting air lines.

To avoid electric shock, do not expose to rain - store indoors.

Do not allow to be used as a toy. Use caution near children.

Use only as described in this manual. Use only manufacturer's recommended attachments.

If appliance is not working as it should, has been dropped, damaged, left outdoors, or dropped into water, return it to a service center.

Do not pull or carry by cord, use cord as a handle, or pull cord around sharp edges or corners. Do not run appliance over cord. Keep cord away from heated surfaces. Do not handle plug or appliance with wet hands.

Do not put any object into openings. Do not use with any opening blocked; keep free of dust, lint, hair and anything that may reduce air flow.

Do not pick up anything that is burning or smoking, such as cigarettes, matches, or hot ashes. Do not use to pick up any flammable or combustible liquids such as gasoline or use in areas where they may be present.

Use extra care when cleaning on stairs.

Do not use without dust bag and/or filters in place. ALWAYS REPLACE WORN OR TORN EXTERNAL FILTERS IMMEDIATELY to prevent possible injury due to flying object.

NEVER OPERATE UNIT WITH INTAKE UNGUARDED. Keep hair, loose clothing, fingers, and all parts of body away from openings and moving parts. Strong suction can pull fingers or clothing into dangerous blades/or moving parts.

ALWAYS POINT THE EXHAUST PORT IN A SAFE DIRECTION AND WEAR SAFETY GLASSES WHEN IN THE VICINITY OF THIS UNIT. Air leaves the blower at a high velocity.

When the unit is hand held, HOLD FIRMLY WHEN STARTING. High starting torque will cause unit to jerk and may cause injury or damage.

Before operating your TORNADO Equipment, make sure the voltage and current used are the same as indicated on the nameplate.

SAVE THESE INSTRUCTIONS

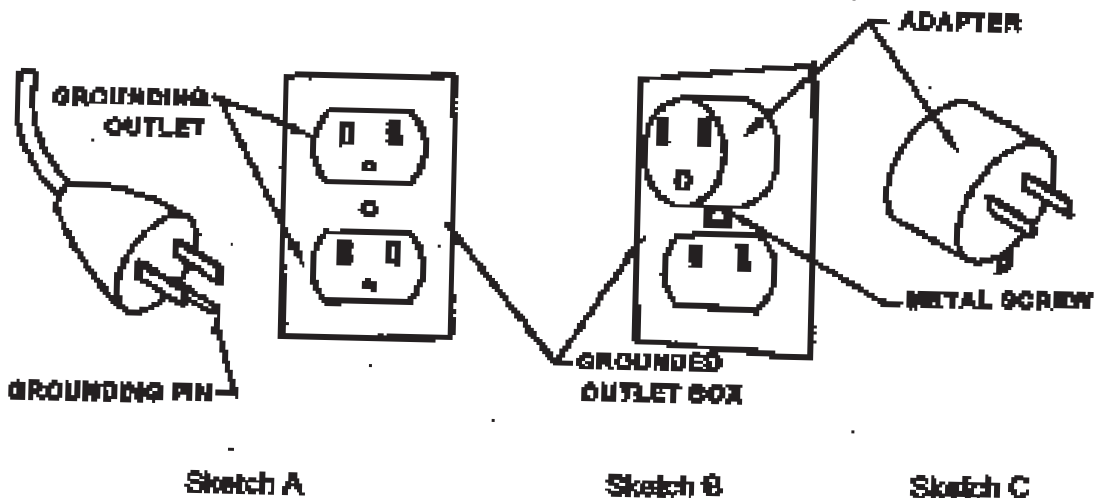
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GROUNDING INSTRUCTIONS

This appliance must be grounded. If it should malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This appliance is equipped with a cord having an equipment-grounding conductor and grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

DANGER - Improper connection of the equipment-grounding conductor can result in electric shock. Check with qualified electrician or service person if you are in doubt as to whether the outlet is properly grounded. Do not modify the plug provided with the appliance-if it will not fit the outlet, have a proper outlet installed by a qualified electrician.

This appliance is for use on nominal 120-volt circuit, and has a grounding plug that looks like the plug illustrated in sketch A. A temporary adapter that looks like the adapter illustrated in sketches B and C may be used to connect this plug to a 2-pole receptacle as shown in sketch B if a properly grounded outlet is not available. The temporary adapter should be used only until a properly grounded outlet (sketch A) can be installed by a qualified electrician. The green colored rigid ear, lug, or the like extending from the adapter must be connected to a permanent ground such as a properly grounded outlet box cover. Whenever the adapter is used, it must be held in place by a metal screw.



EXTENSION CORDS

Use only three-wire extension cords which have 3-prong grounding-type plug caps and three-pole receptacles that accept the appliance's plug. Extension cords should be the equivalent or a size heavier than the input cord. Replace or repair damaged cords.