



POWER BLOWER

OPERATIONS MANUAL

APRIL 2007

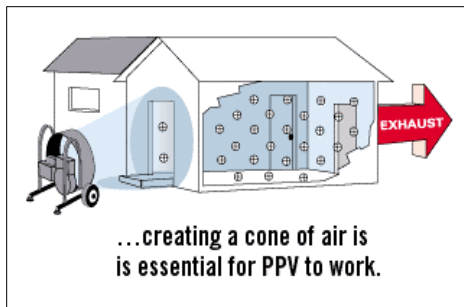
Tempest Technology, Inc.
4708 N. Blythe Ave
Fresno, CA 93722
800-346-2143
www.tempest-edge.com

TEMPEST

POWER BLOWER

Introduction

®TEMPEST TECHNOLOGY CORPORATION is the leading manufacturer of products and accessories for environmental management in firefighting, industrial, and golf/turf applications



TEMPEST began business as a manufacturer of gasoline and electric powered blowers for the fire service, whose departments use the ®TEMPEST POWER BLOWER to provide “Positive Pressure Ventilation”(PPV) to remove heat, gases and smoke from the interior of a burning structure.



TEMPEST has expanded into other industries and found new applications for its products. The ®TEMPEST POWER BLOWER and PPV are used by construction contractors to control dust, fumes and unhealthy gases like carbon monoxide; greatly improving safety in confined spaces.

®TEMPEST TECHNOLOGY CORPORATION has established a reputation as a leader and innovator in the air movement industry and continues in that role today.

About This Manual

This manual is produced solely for the use of purchasers and operators of ®TEMPEST TECHNOLOGY CORPORATION equipment. Any reproduction, retransmission, or other use of the contents of this manual without written consent of ®TEMPEST TECHNOLOGY CORPORATION is strictly prohibited.

It is the intent of this manual to provide the owner/operator of ®TEMPEST products with both general and specific information regarding the safe and proper operation and maintenance of the equipment described within.

Contact

If after careful review, any questions arise concerning any portion of this manual, contact ®TEMPEST TECHNOLOGY CORPORATION for assistance at:

**®TEMPEST TECHNOLOGY, INC.
4708 N. BLYTHE AVENUE
FRESNO, CA 93722**

**Phone (559) 277-7577 1 800-346-2143
FAX: (559) 277-7579**

**E-MAIL: response@tempest-edge.com
WEB PAGE: www.tempest-edge.com**

Table of Contents

<i>SAFETY</i>	<i>PAGE</i>
Safety Guide	2.1
<i>GENERAL INFORMATION</i>	
Blower Identification	3.1
Warranty Card	3.2
Power Blower Data	3.3
Power Blower Information	3.6
<i>OPERATION</i>	
Operating Procedures	4.1
Pre-Operation	4.1
Fuel, and Fuel Tank Capacities	4.2
Operation	4.3
Set-Up, Starting and Stopping Instructions	4.4
<i>MAINTENANCE</i>	
Maintenance Procedures	5.1
Oil Change	5.1
Air Cleaner and Elements	5.2
Cooling System, Spark Plug	5.3
Emissions Control System	5.4
Belt Adjustment for Belt-Drive Power Blowers	5.4
Belt Replacement for Belt-Drive Power Blowers	5.5
Blade Removal	5.7
Blade Installation	5.8
Maintenance Schedule	5.8

PPV

PPV Set-up Procedures	6.1
Single Blower Placement	6.1
Multiple Blower Placement	6.2
Exhaust Opening	6.4
Weather Effects on PPV	6.6

TROUBLESHOOTING

Blower Troubleshooting	7.1
Blower Fails To Start	7.1
Poor Blower Performance	7.2
Blower Movement	7.2

PART NUMBERS

Honda Belt Drive Blowers	8.1
Honda Direct Drive Blowers	8.2
Tecumseh Belt Drive Blowers	8.3
Tecumseh Direct Drive Blowers	8.4
Briggs & Stratton Direct Drive Blowers	8.5
Bushings for Blade Replacement	8.6

BLOWER DRAWINGS

Direct Drive Units (Gas or Electric)	9.0
Belt Drive Unit	9.0
Pole Mount Unit (Electric)	9.0

Safety Guide

Safety Guide Failure to follow the operating, maintenance and lubrication requirements set forth in this Operation and Maintenance Manual may result in serious personal injury and/or damage to equipment.

The following WARNING statements indicate potentially hazardous conditions for operators and equipment. Make certain that anyone who works on or around the blower has read and fully understands the safety precautions listed.



1. Carefully read this Operation and Maintenance Manual before attempting to operate, service or disassemble any part of your ®*TEMPEST POWER BLOWER*.
2. **Never** operate the unit when mentally or physically fatigued.
3. Stay away from rotating parts; avoid wearing loose jackets, shirts, and ties. Keep hands and feet away from the blower.
4. Keep all unauthorized personnel at a safe distance from the blower.
5. Keep all guards in place. **Never** make repairs while the unit is running. **Never** operate if any guard or grill is not in place.
6. Always wear eye protection. Loose debris can be picked up in the air stream and flown in the air.

Safety Guide Continued...

7. Hearing protection is required. Motor and air noise may exceed safe DB levels.
8. Gasoline is extremely flammable and is explosive under certain conditions. To prevent fire hazards, do not place flammable objects close to the engine.
9. Do not overfill the fuel tank. After refueling, make sure the tank cap is closed properly and secured. If any fuel is spilled, make sure the area is dry before starting the engine.
10. **Never** operate gasoline-powered blowers in an enclosed or confined area. Exhaust contains poisonous carbon monoxide gas; exposure may cause loss of consciousness and may lead to death.
11. The muffler becomes very hot during operation and remains hot for some time after stopping the engine. Be careful not to touch the muffler while it is hot. To avoid severe burns or fire hazards, let the engine cool before transporting or storing the unit.
12. It is the sole responsibility of the owner/operator to develop and practice the proper use of the ®*TEMPEST POWER BLOWER* in accordance with generally accepted ventilation procedures as well as the department's own operating procedures before placing the unit into service.

General Information

Blower Identification

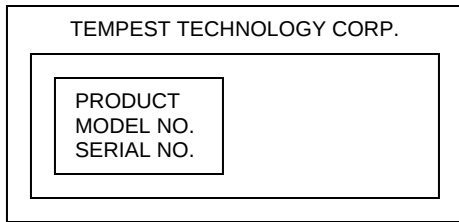


Figure 1.1

Each ®TEMPEST POWER BLOWER has a model number as well as a serial number (*Figure 1.1*). The model number signifies information such as blade diameter, engine type and horsepower. The serial number relates to information referencing the date of manufacture. This information is useful should it become necessary to contact the factory regarding your Power Blower.

Please write the Serial Number of your ®TEMPEST POWER BLOWER in the spaces below. This will aid us in identifying which model you have when assisting you.

Model Number: _____

Serial Number: _____

Date Purchased: _____

Serial Number Locations

BELT-DRIVE and DIRECT DRIVE GASOLINE POWERED UNITS: The serial number is located on the side of the engine housing.

ELECTRIC POWERED UNITS: The serial number is located on a plate attached to the motor.

Warranty

Be sure to fill out and return the warranty card to TEMPEST TECHNOLOGY CORPORATION in order to activate the warranty. (Figure 1.2)

Figure 1.2

TEMPEST
CONTROLLED AIRSTREAMS

Important Notice: Your Tempest power blower warranty is not valid unless this card is completed and returned.

Serial No.	Model No.
------------	-----------

(Serial and model numbers may be found on the Tempest blower identification plate.)

PLEASE PRINT:

Your Name _____

Department Name _____

Address _____

City/State/Zip _____ County _____

1. PURCHASE INFORMATION

Date of Purchase _____ Name of Dealer _____

Why did you purchase your Tempest? (Check all that apply.)

☐ Reputation ☐ Demonstration ☐ Quality ☐ Price

Recommended by _____ ☐ Advertising

☐ Other _____

Is this your first Tempest? ☐ Yes ☐ No

What is the most important factor in purchasing a power blower?

2. PPV INFORMATION

Are you using any other PPV equipment?

☐ Yes (Which) _____ ☐ No

How long have you used PPV? _____

In what applications will you be using the Tempest power blower?

3. PPV TRAINING

Has your department ever participated in a formal PPV training program? ☐ Yes ☐ No

Do you have a Tempest PPV Training Manual? ☐ Yes ☐ No

☐ **IMPORTANT** Check here if you would like information on the new comprehensive Tempest PPV Training System which features 5 videos, orientation manual, instructor manual, student workbooks, color slides, teaching aids and more.

☐ Check here if you would like information on accessories.

4. DO YOU HAVE ANY SUGGESTIONS OR COMMENTS?

Power Blower Data

TYPE:

Positive Pressure Ventilator

BLADE:

Air Flex Fiberglass Reinforced Polyamide
High Strength Blades, Die Cast Aluminum
or Polypropylene.

BUSHING:

Keyed Shaft and Set or Cap Screws.

SHROUD:

Turbo 2000 Tapered Aluminum.

DRIVE:

Industrial-Type, Straight-Banded V-Belt
(On Belt-Drive Blowers) or Direct Drive
(On Direct Drive Blowers).

BEARINGS:

Locking, Self-Aligning and Permanently
Lubricated.

FRAME:

Rugged, Lightweight, Square-Steel Tubing
with Powder-Coat Finish.

TILT MECHANISM:

Patented Five-Positions, Foot-Operated Tilt
Mechanism (The Winning Step).

GRILL:

Continuous Circular-Wound, External-Weld
Steel Wire with 8 Tie Points for Additional
Safety.

Power Blower Data continued...

VIBRATION DAMPENERS:

Steel-Reinforced Rubber.

GAS ENGINES:

TYPE: Single Cylinder, 4 Stroke, Gasoline

COOLING: Forced Air

LUBRICATION: Splash Type Oil Reservoir

STARTING: Recoil with Auto Rewind

Belt Drive Gasoline Power Blowers

BELT-DRIVE GAS	ENGINE	HP	CFM	S/B	RPM	WIDTH	DEPTH	HEIGHT	LBS
BD 18-T-5.5	TECHUMSEH	5.5	10,903	8	4,070	21.50	21.00	24.25	79
BD 18-H-5.5	HONDA	5.5	15,023	5	3,870	21.50	21.00	24.25	85
BD 21-T-5.5	TECHUMSEH	5.5	18,673	9	3,350	25.00	22.00	26.25	87
BD 21-H-6.5	HONDA	6.5	17,743	5	3,125	25.00	22.00	26.25	93
BD 24-T-5.5	TECHUMSEH	5.5	17,314	6	3,190	28.25	22.00	31.00	86
BD 24-H-6.5	HONDA	6.5	18,130	5	3,175	28.25	22.00	31.00	92
BD 27-T-10	TECHUMSEH	10.0	23,690	10	2,643	30.50	23.50	32.50	137
BD 27-H-13	HONDA	13.0	23,943	10	2,672	30.50	23.50	32.50	155

Direct Drive Gasoline Power Blowers

DIRECT-DRIVE GAS	ENGINE	HP	CFM	S/B	RPM	WIDTH	DEPTH	HEIGHT	LBS
DD 16-T-5.5	TECHUMSEH	5.5	10,399	4	3,650	19.00	19.75	21.25	61
DD 16-H-5.5	HONDA	5.5	12,008	4	3,725	19.00	19.75	21.25	67
DD 18-T-5.5	TECHUMSEH	5.5	13,800	5	3,625	22.50	21.00	24.00	71
DD 18-H-5.5	HONDA	5.5	14,733	5	3,765	22.50	21.00	24.00	77
DD 21-B-5.5	BRIGGS	5.5	17,135	7	3,425	25.00	21.00	26.00	73
DD 21-T-5.5	TECHUMSEH	5.5	17,613	7	3,425	25.00	21.00	26.00	72
DD 21-H-6.5	HONDA	6.5	20,152	7	3,740	25.00	21.00	26.00	79
DD 24-B-5.5	BRIGGS	5.5	18,290	7	3,400	28.25	21.25	30.00	76
DD 24-T-5.5	TECHUMSEH	5.5	15,300	7	2,950	28.25	22.50	30.00	76
DD 24-H-6.5	HONDA	6.5	19,606	6	3,450	28.25	21.25	30.00	82
DD 36-B-5.5	BRIGGS	5.5	19,367	8	2,510	41.50	24.00	43.50	97

Power Blower Data continued...

ELECTRIC MOTORS:

All electric motors are single phase, 60 Hz, rigid base, 56 frame, with ball bearings and manual reset overload protection.

ELECTRIC UNITS	ENGINE	HP	CFM	S/B	RPM	WIDTH	DEPTH	HEIGHT	LBS
EB-12	ELECTRIC	1 TEFC	7,683	N.A.	3,450	16.00	19.50	21.50	45
EBS-16	ELECTRIC	1/3 TEFC	3,200	N.A.	1,736	18.75	14.25	19.50	47
EBS-16M (W/MISTER)	ELECTRIC	1/3 TEFC	3,200	N.A.	1,736	18.75	14.25	19.50	47
EB-16	ELECTRIC	1.5 TEFC	11,804	6	3,450	18.50	20.00	20.50	66
EB-18	ELECTRIC	1 TEFC	8,748	6	1,750	22.25	21.00	24.00	71
EB-21	ELECTRIC	1 TEFC	11,698	7	1,731	25.00	21.00	26.00	72
EB-24	ELECTRIC	1 TEFC	12,867	7	1,736	28.25	22.50	30.00	75
EB-36	ELECTRIC	1 TEFC	13,281	8	1,750	41.50	24.50	43.50	94

Electric Blower Power Requirements*

Based upon 115 v blower on a 20 amp circuit.

BLOWER MODEL	MOTOR HP	STARTING AMPS	STARTING WATTS	RUNNING AMPS	RUNNING WATTS
EB-12	1.0	48	6,000	16	1,900
EB-16	1.5	54.6	6,300	18.2	2,100
EBS-16	1/3	10.9	1,300	6.3	756
EB-18	1.0	48	6,000	16	1,900
EB-21	1.0	48	6,000	16	1,900
EB-24	1.0	48	6,000	16	1,900
EB-36	1.0	47.3	6,000	12.1	1,452

*Starting amps and watts are momentary

Maximum Power Cord Length (in feet)**

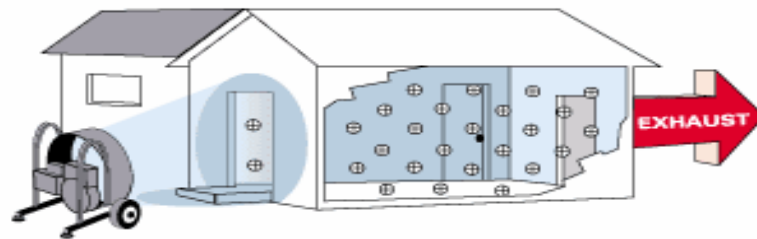
MOTOR H.P.	14 GAUGE	12 GAUGE	10 GAUGE	8 GAUGE	6 GAUGE
1/3	215'	330'	550'	850'	1,350'
1.0	60'	95'	150'	240'	380'
1.5	45'	1.75'	115'	190'	300'

**Calculations based upon one blower connected to 20 amp circuit.

Power Blower Information

The ®Tempest Power Blower is a high powered, portable blower used for Positive Pressure Ventilation (PPV), a ventilation technique that quickly and efficiently replaces hazardous interior environments.

PPV was pioneered in the fire fighting industry where fire fighters use the ®Tempest Power Blower to ventilate smoke, heat, and harmful gases from buildings. This creates a safer environment for them to work in and makes it easier for them to find victims and extinguish the fire.



**...creating a cone of air is
is essential for PPV to work.**

Figure 1.3

PPV relies on two principles, (1) a cone shaped air pattern, and (2) pressure. To accomplish Positive Pressure Ventilation, the blower is placed on the outside of the structure. It is positioned so that the cone shaped air pattern created by the blower completely seals the entrance opening (*Figure 1.3*). When this seal is achieved, the air pressure is increased equally at all points inside the structure. When

Power Blower Information continued...

an exhaust opening is created, all of the interior air moves in one mass towards it. The result is fast, efficient ventilation of the entire structure.

For additional information on how to accomplish PPV, refer to “PPV Set-Up Procedures” in this Manual.

Note:

The ®Tempest Power Blower is the most efficient tool for PPV for two reasons. First, the exclusive Tempest tapered shroud design creates a wide, stable, conical air pattern. Second, the seven blade air movement impeller used on all Tempest blowers is designed to create high pressure. These two features make the ®Tempest Power Blower such a powerful ventilation tool.

As with any new technique, Positive Pressure ventilation requires training and education in order to be implemented properly and safely. Tempest offers a complete PPV TRAINING PROGRAM, which covers many applications of this powerful ventilation technique. For more information contact your local dealer or the Tempest factory direct for a free brochure on PPV.

Operating Procedures

The information and instructions in this section should be routinely reviewed and followed before the actual operation of ®Tempest Power Blowers.

Pre-Operation

VISUAL INSPECTION

After receiving and unpacking your blower, be sure to carefully inspect it for any damage that might have occurred during shipping. Should you find any damage: **PLEASE NOTIFY TEMPEST TECHNOLOGY IMMEDIATELY AT:
1-800-346-2143**

ENGINE OIL

Be sure to use only high quality detergent oil. Detergent oils keep the engine cleaner and retards the formation of gum and varnish deposits.

RECOMMENDED OILS

HONDA engines: SF or SG SAE 10W-30 oil.

TECHUMSEH engines: SF, SG, SH, or SH/CD
SAE 30 oil

BRIGGS & STRATTON engines: SE, SF, SG
SAE 30 oil

Pre-Operation continued...

OIL SUMP CAPACITIES

ENGINE	CAPACITY	QUARTS / LITRES
BRIGGS 5.5 HP	20 FL. OZ.	.66 QUARTS OR .59 LITERS
HONDA GX160 5.5 HP	20 FL. OZ.	.63 QUARTS OR .6 LITERS
HONDA GX200 6.5 HP	20 FL. OZ.	.63 QUARTS OR .6 LITERS
HONDA GX390 13 HP	37 FL. OZ.	1.16 QUARTS OR .77 LITERS
TECHUMSEH OHH5 5.5HP	21 FL. OZ.	.66 QUARTS OR .62 LITERS
TECHUMSEH HM100 10 HP	26 FL. OZ.	.81 QUARTS OR .77 LITERS

FILLING THE CRANKCASE

Place blower on a level surface and make sure that the engine is level. Remove the oil fill plug or dipstick. POUR OIL SLOWLY into the crankcase. Replace oil fill plug or dipstick and tighten securely. Refer to the engine manufacturers Owners Manual for additional information regarding specific oil requirements.

CAUTION: DO NOT OVERFILL THE ENGINE. EXCESS OIL VAPOR CAN BE EJECTED FROM THE ENGINE BREATHER WHILE RUNNING IN FULL TILT POSITION.

FUEL

Always use clean, fresh, lead-free gasoline with an octane rating of 86 or higher. **DO NOT USE** leaded gasolines. Refer to the engine manufacturers Owners Manual for acceptable substitute gasolines.

Pre-Operation continued...

CAUTION: PRECAUTIONS MUST BE FOLLOWED WHENEVER REFUELING GASOLINE ENGINES. PLEASE FOLLOW THE LISTED GUIDELINES.

NEVER FILL THE FUEL TANK INDOORS.

NEVER FILL THE FUEL TANK WHILE THE ENGINE IS RUNNING OR HOT.

DO NOT SMOKE DURING REFUELING.

NEVER FILL THE FUEL TANK COMPLETELY. FILL THE TANK TO BOTTOM OF FILLER NECK TO PROVIDE SPACE FOR FUEL EXPANSION.

WIPE ANY SPILLAGE FROM ENGINE AND COMPONENTS BEFORE STARTING THE ENGINE.

FUEL TANK CAPACITY

ENGINE	CAPACITY	QUARTS / LITRES
BRIGGS 5.5 HP	96 FL. OZ.	3 QUARTS OR 2.85 LITERS
HONDA GX160 5.5 HP	121.6 FL. OZ.	3.8 QUARTS OR 3.6 LITERS
HONDA GX200 6.5 HP	121.6 FL. OZ.	3.8 QUARTS OR 3.6 LITERS
HONDA GX390 13 HP	192 FL. OZ.	6 QUARTS OR 6.34 LITERS
TECHUMSEH OHH5 5.5HP	64 FL. OZ.	2 QUARTS OR 2.11 LITERS
TECHUMSEH HM100 10 HP	128 FL. OZ.	4 QUARTS OR 4.22 LITERS

Operation

SET-UP, STARTING AND STOPPING

Assuming the previous Pre-Operation instructions have been followed the blower is now ready to

Operation continued...

run. Please review the engine manufacturers Owners Manual regarding starting and stopping as well as the instructions in this section before actually starting the blower.

CAUTION: NEVER MOVE THE BLOWER WHILE IT IS IN OPERATION. SEVERE PERSONAL INJURY IS POSSIBLE AS WELL AS DAMAGE TO THE BLOWER.

ALWAYS SHUT-DOWN THE BLOWER PRIOR TO MOVING!

SET-UP

Position the blower in the desired location, making sure it is placed on a flat, hard and debris free surface.

STARTING

1. Set the fuel valve in the “ON” position.
2. Set the stop switch to the “ON” position.
3. Set (if equipped) the choke lever to the “CLOSED” or “STARTING” position.
4. Set the throttle lever to the “STARTING” position.
5. Grasp the starter handle, take up the slack, and pull the rope briskly. Let the rope return slowly. Repeat as necessary until the engine starts. Do not over pull the rope.

6. If equipped with a choke, move the choke lever to the $\frac{1}{2}$ position until the engine runs smoothly and then to the open or off position.
7. Move the throttle to the desired speed. **NOTE:**
Some blowers may tend to “walk” if the throttle is not in the full position.

STOPPING

1. Move the throttle to the **“IDLE”** position.
2. Move throttle lever to the **“OFF”** position unless equipped with a stop switch. If a stop switch is provided, turn the switch to the **“OFF”** position.

Maintenance Procedures

Proper maintenance is necessary to ensure that your ®Tempest Power Blower operates as efficiently and trouble-free as possible. By following the instructions in this section you will be providing the maintenance needed to achieve this goal.

CAUTION: THE ENGINE MAY START SIMPLY BY ROTATING THE BLADES. ALWAYS REMOVE THE SPARK PLUG WIRE PRIOR TO WORKING ON THE BLADE SIDE OF THE MOTOR.

OIL CHANGE

Check the engine oil level before each use. The oil should be changed after the first three (3) operating hours and every 50 hours thereafter. Oil changes should be performed more frequently if the blower is being operated in dusty or dirty conditions. Changing the oil is easier when the engine is still warm (not hot) from a recent running.

PROCEDURES

1. Position the blower so the engine oil drain plug is the lowest point on the engine.
2. Place a two quart or larger container under the oil drain plug for the oil to drain into.
3. Remove the oil drain plug.
4. Install the oil drain plug and tighten securely.

Oil Filler Cap



Maintenance Procedures continued...

5. Remove the oil filler cap and refill with the recommended oil (refer to the Pre-Operation instructions in the Operations section) and check the oil level.

AIR CLEANER

A dirty air cleaner will restrict airflow to the carburetor. To prevent carburetor malfunction, service the air cleaner regularly. More frequent service may be necessary when the blower is operated in extremely dusty conditions.

NOTE: NEVER RUN THE ENGINE WITH THE AIR CLEANER REMOVED. RAPID ENGINE WEAR WILL RESULT FROM CONTAMINANTS, SUCH AS DUST AND DIRT BEING DRAWN THROUGH THE CARBURETOR AND INTO THE ENGINE.

CLEANING AIR FILTER ELEMENTS

Foam Element:

1. Wash the element in a solution of household detergent and warm water, then rinse thoroughly. Allow the element to dry completely.
2. Soak the element in clean engine oil, and squeeze out the excess oil. NOTE: the engine will smoke during initial start-up if too much oil is left in the foam element.

Maintenance Procedures continued...

Paper Element:

1. To remove excess dirt, tap the element lightly several times on a hard surface or blow compressed air through the filter from the inside out.
2. Do not try to brush the dirt off. Brushing will force dirt into the filter fibers.
3. Replace the element if it becomes excessively dirty.

COOLING SYSTEM

Frequently remove dirt and debris from the cooling fins, air intake screen, levers and linkage. This will ensure adequate cooling and correct engine speed. Refer to the engine manufacturer's Owners Manual for additional cooling system information.

SPARK PLUG

A correctly firing spark plug is essential for the power blower to operate properly. Check the engine spark plug yearly or every 100 hours by following the listed procedures.

1. Clean the area around the spark plug.
2. Remove and inspect the spark plug.
3. Replace the spark plug if the electrodes are pitted, burned, or the porcelain is cracked. Check the electrode gap with a wire feeler gauge and set to the engine manufacturer's specifications.

Maintenance Procedures continued...

4. Make sure the spark plug washer is in good condition, and hand start the spark plug to prevent cross threading.
5. After the spark plug is seated, tighten with a spark plug wrench to compress the washer.

CARBURETOR

All carburetors comply with federal & state regulations and are preset by the engine manufacturer. Engine performance may differ at various altitudes and climates. If you feel that the carburetor on your blower needs adjusting contact Tempest Technology or your local engine dealer.

EMISSION CONTROL SYSTEM

State regulations require that all manufacturers of gas powered engines furnish written instructions describing the Operation and Maintenance of the emission control systems. These instructions vary depending on engine type. Please refer to your engine Operation and Maintenance Owners Manual under the heading “Emission Control Systems” for specific information and instructions.

BELT ADJUSTMENT

The blower drive belt has been adjusted at the factory prior to delivery. However, the belt should be inspected and checked after the initial three (3) hours of operation as it may require retightening due to belt stretch. It should be inspected after



Figure 4.1

Maintenance Procedures continued...

every 25 hours of operating time. Operating the blower with a loose belt will cause excessive wear and reduce performance. Follow the procedures listed to properly adjust the drive belt.

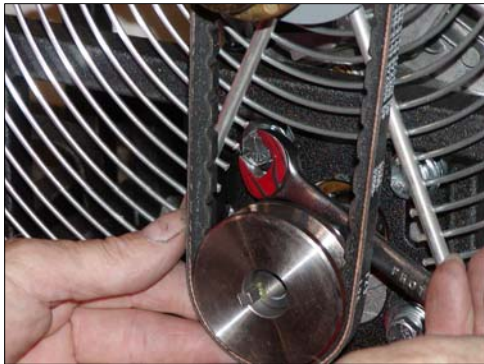


Figure 4.2

1. Remove the eight bolts holding the front grill in place and remove the grill. (*Figure 4.1*)
2. Loosen the four front engine mount bolts. On the Honda 13 HP models the rear mounting studs must also be loosened. (*Figure 4.2*)
3. Use a lever to pry or push the engine downward to tighten the belt (s). (*Figure 4.3*) The belt(s) should be snug and have very little play. DO NOT OVERTIGHTEN THE BELT(S).
4. Tighten the front engine mount bolts. On the Honda 13 HP models the rear mounting studs must also be tightened.
5. Re-install the front grill and test the blower.

BELT REPLACEMENT

1. Remove the eight bolts holding the front grill in place and remove the grill. (*Figure 4.1*)
2. Loosen the four front engine mount bolts. On the Honda 13 HP models the rear mounting studs must also be loosened. (*Figure 4.2*)
3. Pry the engine up to loosen and remove the belt(s). (*Figure 4.4*)



Figure 4.3

Maintenance Procedures continued...



Figure 4.4

4. Use a lever to pry or push the engine downward to tighten the belt (s). The belt(s) should be snug and have very little play. DO NOT OVERTIGHTEN THE BELT (S).
5. Tighten the front engine mount bolts. On the Honda 13 HP models the rear mounting studs must also be tightened.

Re-install the front grill and test the blower

BLADE REMOVAL AND INSTALLATION FOR THE FOLLOWING BLADES



Figure 4.5

EB18 blade (260-075) requires a J 5/8 bushing
DD18 blade (260-075) requires a J 1 bushing.
BD18 blade (260-075) requires a J 3/4 bushing
EB21 blade (260-019) requires a J 5/8 bushing
DD21 blade (260-019) requires a J 1 bushing
BD21 blade (260-019) requires a J 3/4 bushing
EB24 blade (260-021) requires a J 5/8 bushing
DD24 blade (260-021) requires a J 1 bushing
BD24 blade (260-026) requires a J 3/4 bushing

BLOWER BLADE

CAUTION: THE ENGINE MAY START SIMPLY BY ROTATING THE BLADES. ALWAYS REMOVE THE SPARK PLUG WIRE PRIOR TO WORKING ON THE BLADE SIDE OF THE MOTOR.

Maintenance Procedures continued...



Figure 4.6

BLADE REMOVAL PROCEDURES

1. Remove the eight bolts holding the front grill in place and remove the grill. (*Figure 4.1*)
2. Remove the three cap screws in the center of the fan blade bushing with an 5/32 hex bit (Allen wrench). (*Figure 4.5*)
3. Insert the cap screws into the adjoining threaded holes in the bushing. (*Figure 4.6*) Turn the screws in a clockwise manner. Tighten the cap screws progressively with the wrench. Evenly tighten each cap screw $\frac{1}{4}$ to $\frac{1}{2}$ a turn successively until the blade slides off of the bushing. (*Figure 4.7*)



Figure 4.7



Figure 4.8

4. Insert a small screwdriver into the bushing slot (*Figure 4.8*) to release the bushing from the engine shaft. Be careful not to damage the end of the jackshaft. Remove the bushing and blade.

Maintenance Procedures continued...

BLADE INSTALLATION

1. Put bushing on motor shaft (*Fig. 4.8*). Tighten the allen screw on the bushing. Put blade on bushing (*Fig. 4.7*). Put lock washers on the three allen screws and insert into drilled holes of blade. Turn each screw and tighten evenly.
2. Reinstall front grill.

BLADE REMOVAL AND INSTALLATION FOR THE FOLLOWING BLADES

DD16 blade (260-030) requires a **G 1** bushing and a 3/16" X 1/4" X 1" key.

EB18VSF blade (260-068) requires a **G 5/8** bushing and a 3/16" X 1 3/8" key.

EB16 blade (260-069) requires a **G 5/8** bushing and a 3/16" X 1 3/8" key.

EB21VSF blade (260-071) requires a **G 5/8** bushing and a 3/16" X 1 3/8" key.

BLADE REMOVAL PROCEDURES

1. Remove the eight bolts holding the front grill in place and remove the grill (Figure 4.1).
2. Remove the three bolts from blade. Remove the two bolts from the bushing and hub. Put the two bolts in the threaded part of the bushing and turn evenly until bushing separates from hub.

Maintenance Procedures continued...

BLADE INSTALLATION PROCEDURES FOR DD16



Figure 4.9



Figure 4.10

1. Make sure that the shaft and keyway are clean and smooth before installing the blade.
2. Insert the cap screws through the clearance holes in the bushing and place loosely into the hub of the blade. Do not press the bushing in. Hand start
3. Insert the cap screws, turning them just enough to engage the threads in the tapped holes on the hub. The bushing should be loose in the hub. Insert the key into the keyway (*Figure 4.9*). Tighten two bolts drawing the bushing and hub together.
4. Slide the blade onto the bushing/hub assembly and insert the three screws through the blade and turn evenly but do not tighten. Make sure blade is in line with hub then tighten screws (*Fig. 4.10*). Locate the blade and bushing so that the blade tips do not hit the rear grill eyelets. On some models the blade and bushing may be in beyond or out away from the end of the shaft up to $\frac{1}{4}$ " but no further. This is necessary for proper blade clearance.
5. Tighten the cap screws progressively with a wrench. Tighten each cap screw partial turns successively until both are tight. Final tightening should be done with torque wrench with the torque set at 7.5 ft./lbs. for each screw. Over tightening will cause the cap screws to break or crack the blade. (*Figure 4.10*)

Maintenance Procedures continued...

6. Carefully turn the blade and check for clearance between the blade and shroud. Confirm that the blade is free to rotate without hitting other parts.
7. Reinstall the front grill and test the blower.
8. If you have any trouble removing or installing the blade on your blower, contact the factory for assistance at 800-346-2143.

Maintenance Schedule

	EACH USE	NEW BLOWER FIRST 3 HOURS	EVERY MONTH OR 10 HOURS	EVERY MONTH OR 25 HOURS	EVERY MONTH OR 50 HOURS	EVERY MONTH OR 100 HOURS
CHECK ENGINE OIL LEVEL	√					
CHANGE ENGINE OIL		√			√	
CLEAN AIR FILTER			√			
TENSION BELT(S)		√		√		
REPLACE BELT(S)						√
INSPECT & CLEAN SPARK PLUG						√
INSPECT & CLEAN ENGINE HOUSING				√		
INSPECT BLOWER FOR DAMAGE, FIX IF ANY	√					
INSPECT BLOWER FOR LOOSE OR MISSING BOLTS, NUTS, & ATTACHMENTS. TIGHTEN OR REPLACE WHERE REQUIRED				√		

PPV Set-up Procedures

Single Blower Placement

When using one blower, it should be positioned so that the cone of pressurized air *just covers* the entrance opening (*Figure 5.1*). If the blower is too close to the opening, the opening will not be completely covered by pressurized air. If the blower is too far from the opening, pressurized air will strike the building around the opening and reduce the amount of pressurized air being forced inside the building. Therefore, optimum placement is dependent on the size of the entrance opening, the size of the blower, and the distance between the blower and the entrance opening.

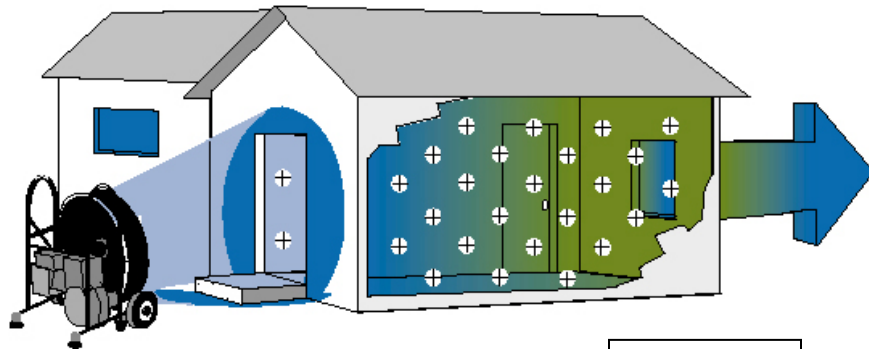


Figure 5.1

Due to the size of the "cone" of air issued from a blower, small blowers need to be moved back from entrance openings while larger blowers should be placed closer to entrance openings to properly cover the opening with pressurized air.

By tilting blowers back about 17° maximum, the entrance opening may be more effectively covered with the cone of air. All Tempest Blowers have "tilt-back" features to facilitate operation. However, if a blower cannot be tilted

PPV Set-up Procedures continued...

back to achieve proper coverage of the entrance opening with pressurized air, move it as far back as possible from the entrance opening. This technique can be used effectively on raised porches to achieve a seal.

Multiple Blower Placement

The use of more than one blower can dramatically increase airflow (volume) and reduce the time necessary to complete a ventilation operation.

For standard entrance openings (that is, door openings of three feet by six and one-half feet), maximum effectiveness is achieved by placing two blowers "in-line" with each other. As in (Figure 5.2), blower A is positioned about two feet from the entrance opening. This ensures that all of the pressurized air from the blower enters the building, yet allows sufficient room for personnel to enter and exit the building. Blower B is then positioned behind blower A. The proper location for blower B is determined by the

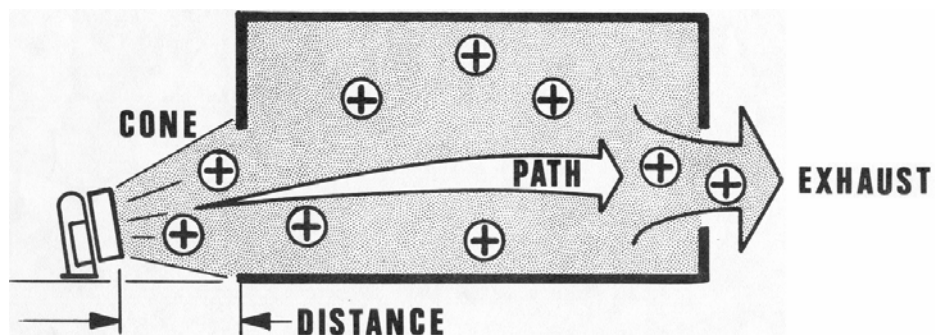


Figure 5.2

distance necessary to cover the entrance opening with pressurized air. Blower B covers the

PPV Set-up Procedures continued...

entrance opening with pressurized air and increases the capacity of blower A by approximately ten percent.

For standard entrance openings, multiple blowers in a parallel (side-by-side) configuration are less effective than multiple blowers in an in-line configuration. However, for large entrance openings, multiple blowers in a parallel configuration (*Figure 5.3*) should be used due to their combined ability to cover the larger opening with pressurized air. The size of the opening dictates the numbers of blowers necessary to cover the opening with combined cones of pressurized air.

Remember that some openings (such as loading-dock doors) can be reduced in size by partially closing the door to reduce the size of the entrance opening that must be covered by pressurized air. Depending on the number of blowers that are available, large areas may be effectively ventilated by using a combination of parallel (proper coverage of the opening) and in-line (increased volume) blowers.

Areas or locations that do not have openings that can be used as exhaust openings (storage rooms, offices, enclosed work areas, etc.) can be effectively ventilated by using multiple blowers as depicted below.

Use a blower to provide a flow of air past the opening. This blower can be located outside the building to provide pressurized air to the interior

PPV Set-up Procedures continued...

of the building and past the area to be ventilated. The blower should be placed in the bottom portion of the opening and will provide pressurized air that will create positive pressure within the area to be ventilated and force the contaminants out of the upper portion of the entrance opening. The air flowing past the entrance opening will force the exhausting contaminants to follow its direction to the exterior of the building.

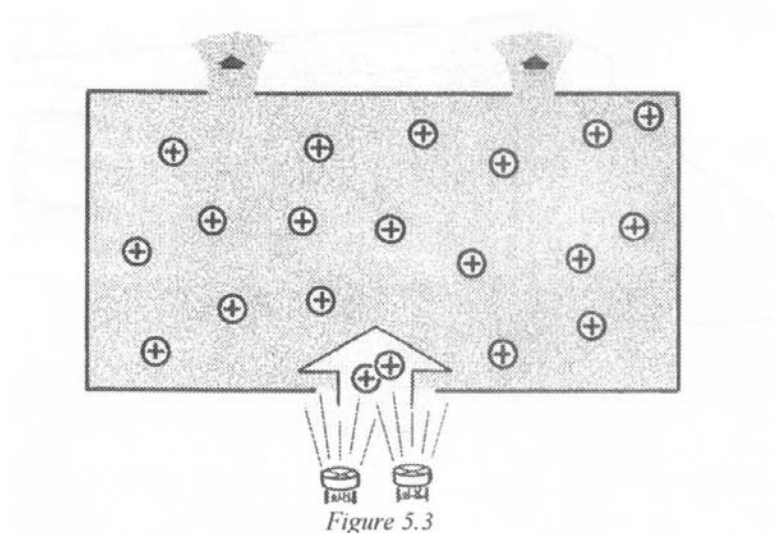


Figure 5.3

Figure 5.3

Exhaust Opening

Positive pressure ventilation is most effective when the exhaust opening (window, door, etc.) is between three-fourths to twice the size of the entrance opening (*Figure 5.4*). This variance is due to the number and CFM'S of the blower(s) utilized and can be summarized as follows:

PPV Set-up Procedures continued...

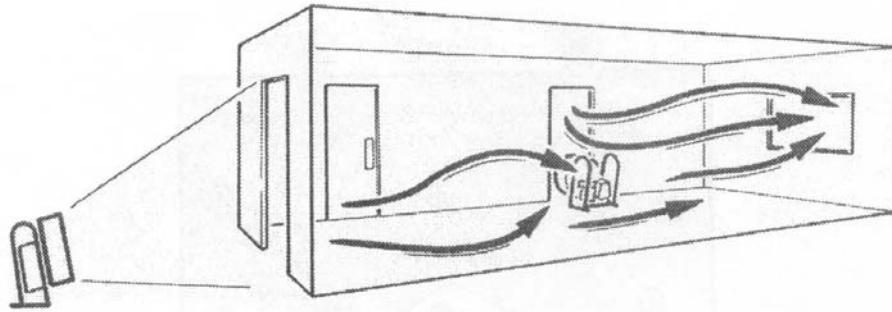


Figure 5.4

1. A single blower powered by 1/3 HP to 4 HP electric motor or gas engine is most effective when utilized with exhaust openings that are three-fourths or slightly less than the size of the entrance opening.
2. A single blower powered by 5 HP, 5.5 HP, or 6.5 HP engine is most effective when utilized with exhaust opening that is the same size or slightly larger than the size of the entrance opening.
3. A single blower powered by 10 HP or 13 HP engine is most effective when utilized with exhaust opening that is about one and one-half the size of the entrance opening.
4. Multiple blowers powered by 5 HP or larger engines in parallel or series configurations are most effective when utilized with exhaust openings that are approximately twice the size of the entrance opening.

PPV Set-up Procedures continued...

Remember that these guidelines have been generalized and that optimum efficiency is easily obtained by a combination of training and experience.

Exhaust

If a gasoline-powered blower is being utilized and a gasoline-exhaust odor is noticeable inside the building or area to be ventilated, this is an indication that the building's exhaust opening is not large enough. The gasoline-exhaust odor should disappear by increasing the size of the building's exhaust opening (opening another window, door, etc.)

Weather

Temperature, humidity, snow, and rain do not have any appreciable effect on positive pressure ventilation. Although cold, damp weather conditions may limit the ability of smoke to rise; these atmospheric conditions will not limit the ability of blowers to move contaminants horizontally and, in most cases, vertically.

Wind can have an adverse effect on positive pressure ventilation, but its effect is dependent on direction and velocity. As in any ventilation operation, maximum efficiency can be obtained by using the prevailing wind direction to advantage by pressurizing the structure on the windward side and exhausting contaminants on the leeward side of the building. If it is not possible to utilize the prevailing wind as an advantage, positive pressure has proven effective against winds of up to 25 mph. As winds exceed 25 mph, efficiency reduces accordingly.

Blower Troubleshooting

Many factors can contribute to or be the sole cause of problems for gas and electric power blowers. This section will identify some of these problems and provide solutions to correct them.

Blower fails to start

- CHECK FOR FUEL IN THE TANK; MAKE SURE THE FUEL SHUT OFF VALVE IS OPEN.
- CHECK THE FUEL LINE TO DETERMINE IF THE CARBURETOR IS GETTING FUEL.
- CHECK THE OIL LEVEL, HONDA ENGINES ARE EQUIPPED WITH AUTOMATIC OIL ALERT SYSTEMS. THE ENGINE WILL NOT START IF OIL IS LOW.
- CHECK THE SPARK PLUG FOR A SPARK:
 1. Remove the spark plug wire, clean any dirt from around the spark plug base and remove the plug.
 2. Install the spark plug into the plug cap.
 3. Ground the plug to the engine and pull the starter to see if a spark jumps the gap. **DO NOT HOLD THE SPARK PLUG IN YOUR HANDS;** hold the spark plug cap or wire.
 4. If a spark is present, replace the spark plug and wire then try starting the engine.
 5. If the blower still does not start contact the factory or your local engine dealer.

Troubleshooting continued...

Poor Blower Performance

- CHECK THE AIR FILTER FOR CLEANLINESS, CLEAN IF DIRTY- REFER TO PAGE 5.2.
- IF THE BLOWER IS A BELT-DRIVE, MAKE SURE THE BELT(S) IS/ARE TIGHT. REFER TO PAGE 5.4 FOR INSTRUCTIONS ON CHECKING AND TIGHTENING THE BELT(S).
- IF THE BLOWER IS A DIRECT-DRIVE, MAKE SURE THE BLADE IS TIGHT. REFER TO PAGE 5.6
- IF THE FUEL IS MORE THEN TWO MONTHS OLD, REPLACE THE FUEL WITH FRESH FUEL.

Blower Movement or “Walking”

- ADJUST THE RUBBER FOOTPADS ON THE BACK OF THE BLOWER BY TURNING THEM EITHER IN OR OUT. ADJUST THE SIDE THAT IS WALKING. THIS WILL HELP TO EVENLY DISTRIBUTE THE WEIGHT OF THE BLOWER TO ALL FOUR POINTS OF THE FRAME.
- MOST BLOWERS WILL WALK IF NOT RUNNING AT FULL SPEED, MAKE SURE THE BLOWER IS RUNNING AT FULL SPEED.
- MAKE SURE THE BLOWER IS SITTING FLAT AND NOT ON SMALL ROCKS OR OTHER OBJECTS.

PARTS and PART NUMBERS

HONDA POWERED BELT DRIVE BLOWER PARTS

SCHEMATIC REFERENCE 2003

BD18-H-5.5 BD21-H-6.5 BD24-H-6.5 BD27-H-13

ITEM #	DISCRIPTION	PART #	PART #	PART #	PART #
1	FRONT GRILL	230-032	230-029	230-030	230-031
1A	GRILL EMBLEM	400-028	400-029	400-030	400-031
1B	NEOWASHER	120-004	120-004	120-004	120-004
1C	GRILL BOLT	100-002	100-002	100-002	100-002
2	BLADE	260-075	260-019	260-026	260-031
2A	BUSHING	160-018	160-018	160-018	160-019
3	BELT	180-011	180-011	180-006	180-007
4	TOP PULLEY	160-030	160-030	160-002	160-003
5	SHROUD	705-001	705-002	705-003	705-004
5A	FRONT TRIM	410-002	410-003	410-004	410-005
6	ENGINE PULLEY	160-030	160-029	160-029	160-004
7	REAR GRILL	230-023	230-021	230-022	230-024
7A	NYLOCK	130-003	130-003	130-003	130-003
7B	NEOWASHER	120-004	120-004	120-004	120-004
7C	GRILL BOLT	100-002	100-002	100-002	100-002
8	BEARING ASSY	600-068D	600-068D	600-068D	600-070
8A	SHAFT KEY	300-009	300-009	300-009	300-009
9	FRONT FOOT	580-006	580-006	580-006	580-006
10	FRAME	600-190	600-190	600-191	600-042
11	GAS TANK	200-003	600-022	200-022	200-001
12	ROCKER LTCH	600-159	600-159	600-159	600-159
13	HANDLE ASSY	600-200	600-200	600-201	600-188
14	NYLOCK BSHNG	120-002	120-002	120-002	120-002
15A	LEFT LEG	600-166	600-155	600-164	600-029
15B	RIGHT LEG	600-167	600-154	600-165	600-015
16	ENGINE	350-004	350-016	350-016	350-008
16A	MUFFLER	190-012	190-028	190-028	190-010
17	STEP BAR	600-180	600-049	600-049	600-053
18	STEP SPRING	300-019	300-019	300-019	300-019
19	REAR SPR. ASSY	600-001	600-001	600-001	600-001
20	REAR FOOT PAD	580-001	580-001	580-001	580-001
21	WHEEL BOLT	100-002	100-002	100-002	100-002
22	WHEEL	240-003	240-003	240-003	240-003

5/13/2003

HONDA POWERED DIRECT DRIVE / ELECTRIC BLOWER P/

SCHEMATIC REFERENCE 2003

DD16-H-5.5 DD18-H-5.5 DD21-H-6.5 DD 24-H6.5

ITEM #	DISCRIPTION	PART #	PART #	PART #	PART #
1	FRONT GRILL	230-027	230-032	230-029	230-030
1A	GRILL EMBLEM	400-040	400-028	400-029	400-030
1B	NEOWASHER	120-004	120-004	120-004	120-004
1C	GRILL BOLT	100-002	100-002	100-002	100-002
2	BLADE GAS	260-030	260-075	260-019	260-026
2	BLADE ELECT.	260-069	260-075	260-019	260-021
2	BLADE VSF	260-030	260-068	260-071	N/A
2	BLADE VSM	260-074	260-075	260-019	N/A
2A	BUSHING	See page 8.6	See page 8.6	See page 8.6	See page 8.6
2B	SHAFT EXT. KEY	call	call	call	call
2C	SHAFT EXT.	170-004	170-004	170-004	170-004
3	SHROUD	725-024	705-001	705-002	705-003
3A	FRONT TRIM	410-002	410-002	410-003	410-004
4	REAR GRILL	230-028	230-023	230-021	230-022
4A	NYLOCK	130-003	130-003	130-003	130-003
4B	NEOWASHER	120-004	120-004	120-004	120-004
4C	GRILL BOLT	100-002	100-002	100-002	100-002
5	FRONT FOOT	580-006	580-006	580-006	580-006
6	FRAME GAS/ELEC	600-137/600-216	600-037	600-192	600-103
7	ROCKER LTCH	600-159	600-159	600-159	600-159
8	HANDLE GAS/ELEC	600-077/600-217	600-198	600-156	600-199
9	NYLOCK BSHNG	120-002	120-002	120-002	120-002
10A	LEFT LEG	600-162	600-166	600-196	600-170
10B	RIGHT LEG	600-163	600-167	600-195	600-171
	MUFFLER	190-012	190-012	190-028	190-028
11	GAS ENGINE	350-004	350-004	350-016	350-016
11A	SHFT KEY GAS	460-022	460-022	460-022	460-022
12	ELECT MOTOR	*360-038	*360-027	*360-027	*360-027
12	VSF ELC MTR	360-036	360-036	360-036	N/A
12	VSM ELC MTR	360-041	360-042	360-042	N/A
12A	SHFT KEY ELECT.	call	call	call	call
12B	ELEC MTR SPCR	600-102	600-102	600-102	600-102
13	STEP BAR	600-138	600-181	600-182	600-183
14	STEP SPRING	300-019	300-019	300-019	300-019
15	REAR SPR. ASSY	600-001	600-001	600-001	600-001
16	REAR FOOT PAD	580-007	580-007	580-007	580-007
17	WHEEL BOLT	100-002	100-002	100-002	100-002
18	WHEEL	240-003	240-003	240-003	240-003

*Explosion proof, two speed or variable speed electric motor replacement, call customer service.

12" electric and 36" electric or direct drive please see Briggs schematic.

TECUMSEH POWERED BELT DRIVE BLOWER PARTS

SCHEMATIC REFERENCE 2003

BD18-T-5.5 BD21-T-5.5 BD24-T-5.5 BD 27-T-10

ITEM #	DISCRIPTION	PART #	PART #	PART #	PART #
1	FRONT GRILL	230-032	230-029	230-030	230-031
1A	GRILL EMBLEM	400-028	400-029	400-030	400-031
1B	NEOWASHER	120-004	120-004	120-004	120-004
1C	GRILL BOLT	100-002	100-002	100-002	100-002
2	BLADE	260-075	260-019	260-026	260-031
2A	BUSHING	160-018	160-018	160-018	160-019
3	BELT	180-011	180-003	180-001	180-002
4	TOP PULLEY	160-030	160-030	160-002	160-003
5	SHROUD	705-001	705-002	705-003	705-004
5A	FRONT TRIM	410-002	410-003	410-004	410-005
6	ENGINE PULLEY	160-030	160-029	160-029	160-004
7	REAR GRILL	230-023	230-021	230-022	230-024
7A	NYLOCK	130-003	130-003	130-003	130-003
7B	NEOWASHER	120-004	120-004	120-004	120-004
7C	GRILL BOLT	100-002	100-002	100-002	100-002
8	BEARING ASSY	600-069C	600-069C	600-068D	600-071
8A	SHAFT KEY	300-009	300-009	300-009	300-009
9	FRONT FOOT	580-006	580-006	580-006	580-006
10	FRAME	600-190	600-190	600-191	600-041
11	GAS TANK	200-002	200-002	200-002	200-002
12	ROCKER LTCH	600-159	600-159	600-159	600-159
13	HANDLE ASSY	600-200	600-200	600-201	600-188
14	NYLOCK BSHNG	120-002	120-002	120-002	120-002
15A	LEFT LEG	600-166	600-155	600-164	600-031
15B	RIGHT LEG	600-167	600-154	600-165	600-017
16	ENGINE	350-015	350-015	350-015	350-002
16A	MUFFLER	190-035	190-035	190-035	190-001
17	STEP BAR	600-180	600-049	600-049	600-054
18	STEP SPRING	300-019	300-019	300-019	300-019
19	REAR SPR. ASSY	600-001	600-001	600-001	600-001
20	REAR FOOT PAD	580-001	580-001	580-001	580-001
21	WHEEL BOLT	100-002	100-002	100-002	100-002
22	WHEEL	240-003	240-003	240-003	240-003

5/30/2003

TECUMSEH POWERED DIRECT DRIVE / ELECTRIC BLOWER

SCHEMATIC REFERENCE 2003

DD16-T-5.5 DD18-T-5.5 DD21-T-5.5 DD 24-T-5.5

ITEM #	DISCRIPTION	PART #	PART #	PART #	PART #
1	FRONT GRILL	230-027	230-032	230-029	230-030
1A	GRILL EMBLEM	400-040	400-028	400-029	400-030
1B	NEOWASHER	120-004	120-004	120-004	120-004
1C	GRILL BOLT	100-002	100-002	100-002	100-002
2	BLADE GAS	260-030	260-023	260-019	260-026
2	BLADE ELECT.	260-069	260-024	260-019	260-021
2	BLADE VSF	260-030	260-068	260-071	N/A
2	BLADE VSM	260-074	260-075	260-019	N/A
2A	BUSHING	See page 8.6	See page 8.6	See page 8.6	See page 8.6
2B	SHAFT EXT. KEY	call	call	call	call
2C	SHAFT EXT.	170-004	170-004	170-004	170-004
3	SHROUD	705-024	705-001	705-002	705-003
3A	FRONT TRIM	410-002	410-002	410-003	410-004
4	REAR GRILL	230-028	230-023	230-021	230-022
4A	NYLOCK	130-003	130-003	130-003	130-003
4B	NEOWASHER	120-004	120-004	120-004	120-004
4C	GRILL BOLT	100-002	100-002	100-002	100-002
5	FRONT FOOT	580-006	580-006	580-006	580-006
6	FRAME GAS/ELEC	600-137/600-216	600-037	600-192	600-103
7	ROCKER LTCH	600-159	600-159	600-159	600-159
8	HANDLE GAS/ELEC	600-077/600-217	600-198	600-156	600-199
9	NYLOCK BSHNG	120-002	120-002	120-002	120-002
10A	LEFT LEG	600-162	600-166	600-196	600-170
10B	RIGHT LEG	600-163	600-167	600-195	600-171
	MUFFLER	190-035	190-035	190-035	190-035
11	GAS ENGINE	350-020	350-020	350-020	350-020
11A	SHFT KEY GAS	460-022	460-022	460-022	460-022
12	ELECT MOTOR	*360-038	*360-027	*360-027	*360-027
12	VSF ELC MTR	360-036	360-036	360-036	N/A
12	VSM ELC MTR	360-041	360-042	360-042	N/A
12A	SHFT KEY ELECT.	call	call	call	call
12B	ELEC MTR SPCR	600-102	600-102	600-102	600-102
13	STEP BAR	600-138	600-181	600-182	600-183
14	STEP SPRING	300-019	300-019	300-019	300-019
15	REAR SPR. ASSY	600-001	600-001	600-001	600-001
16	REAR FOOT PAD	580-007	580-007	580-007	580-007
17	WHEEL BOLT	100-002	100-002	100-002	100-002
18	WHEEL	240-003	240-003	240-003	240-003

*Explosion proof, two speed or variable speed motor replacement, call customer service.

12" electric and 36" electric or direct drive please see Briggs schematic.

5/30/2003

BRIGGS POWERED DIRECT DRIVE / ELECTRIC BLOWER PARTS

SCHEMATIC REFERENCE 2003

		EB12	DD21-B-5.5	DD 24-B5.5	DD36-B-5.5
ITEM #	DISCRIPTION	PART #	PART #	PART #	PART #
1	FRONT GRILL	230-015	230-029	230-030	230-017
1A	GRILL EMBLEM	400-039	400-029	400-030	400-041
1B	NEOWASHER	120-004	120-004	120-004	120-004
1C	GRILL BOLT	100-002	100-002	100-002	100-002
2	BLADE GAS	N/A	260-019	260-026	260-013
2	BLADE ELECT.	260-028	260-019	260-021	260-012
2	BLADE VSF	260-030	260-068	260-071	N/A
2	BLADE VSM	260-074	260-075	260-019	N/A
2A	BUSHING	N/A	160-019	160-019	160-036
2B	SHAFT EXT. KEY	call	call	call	call
2C	SHAFT EXT.	170-004	170-004	170-004	170-004
3	SHROUD	call	705-002	705-003	call
3A	FRONT TRIM	410-002	410-003	410-004	N/A
4	REAR GRILL	230-016	230-021	230-022	230-018
4A	NYLOCK	130-003	130-003	130-003	130-003
4B	NEOWASHER	120-004	120-004	120-004	120-004
4C	GRILL BOLT	100-002	100-002	100-002	100-002
5	FRONT FOOT	580-006	580-006	580-006	580-006
6	FRAME	600-117	600-192	600-103	600-034
7	ROCKER LTCH	N/A	600-159	600-159	N/A
8	HANDLE ASSY	600-077	600-156	600-199	N/A
9	NYLOCK BSHNG	120-002	120-002	120-002	120-002
10A	LEFT LEG	600-162	600-196	600-170	600-081
10B	RIGHT LEG	600-163	600-195	600-171	600-082
*	MUFFLER	N/A	190-039	190-039	190-039
11	GAS ENGINE	N/A	350-024	350-024	350-024
11A	SHFT KEY GAS	N/A	460-022	460-022	460-022
12	ELECT MOTOR	*360-018	*360-027	*360-027	*360-027
12	VSF ELC MTR	360-036	360-036	360-036	N/A
12	VSM ELC MTR	360-041	360-042	360-042	N/A
12A	SHFT KEY ELECT.	call	call	call	call
12B	ELEC MTR SPCR	600-102	600-102	600-102	600-102
13	STEP BAR	600-138	600-182	600-183	600-138
14	STEP SPRING	300-019	300-019	300-019	300-019
15	REAR SPR. ASSY	600-001	600-001	600-001	600-001
16	REAR FOOT PAD	580-007	580-007	580-007	580-007
17	WHEEL BOLT	100-002	100-002	100-002	100-002
18	WHEEL	240-001	240-003	240-003	240-003

*Explosion proof, two speed, variable speed electric motor replacement, call customer service.

3/24/2003

TEMPEST TECHNOLOGY CORPORATION

4708 N. BLYTHE AVENUE

FRESNO, CA 93722

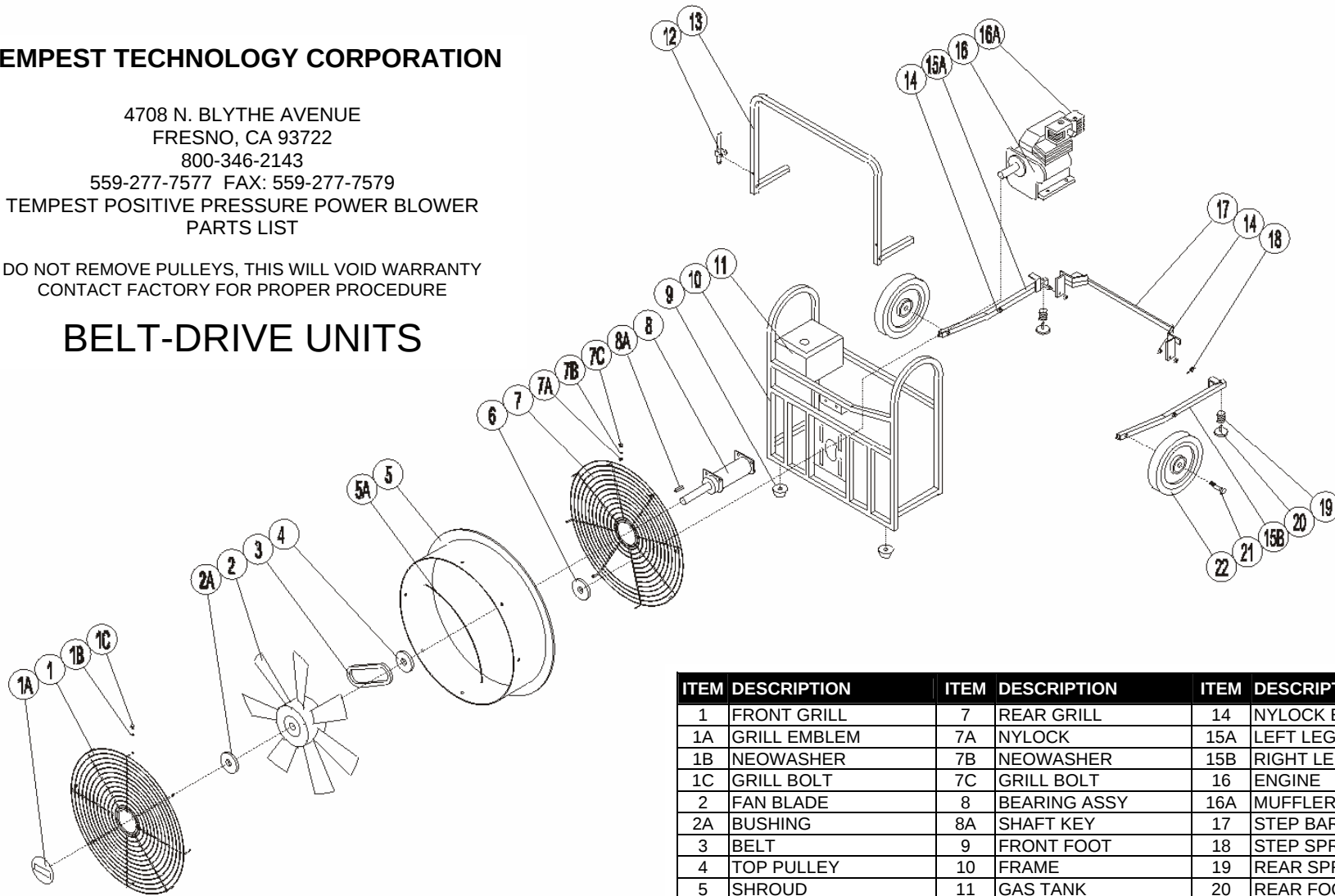
800-346-2143

559-277-7577 FAX: 559-277-7579

TEMPEST POSITIVE PRESSURE POWER BLOWER
PARTS LIST

DO NOT REMOVE PULLEYS, THIS WILL VOID WARRANTY
CONTACT FACTORY FOR PROPER PROCEDURE

BELT-DRIVE UNITS

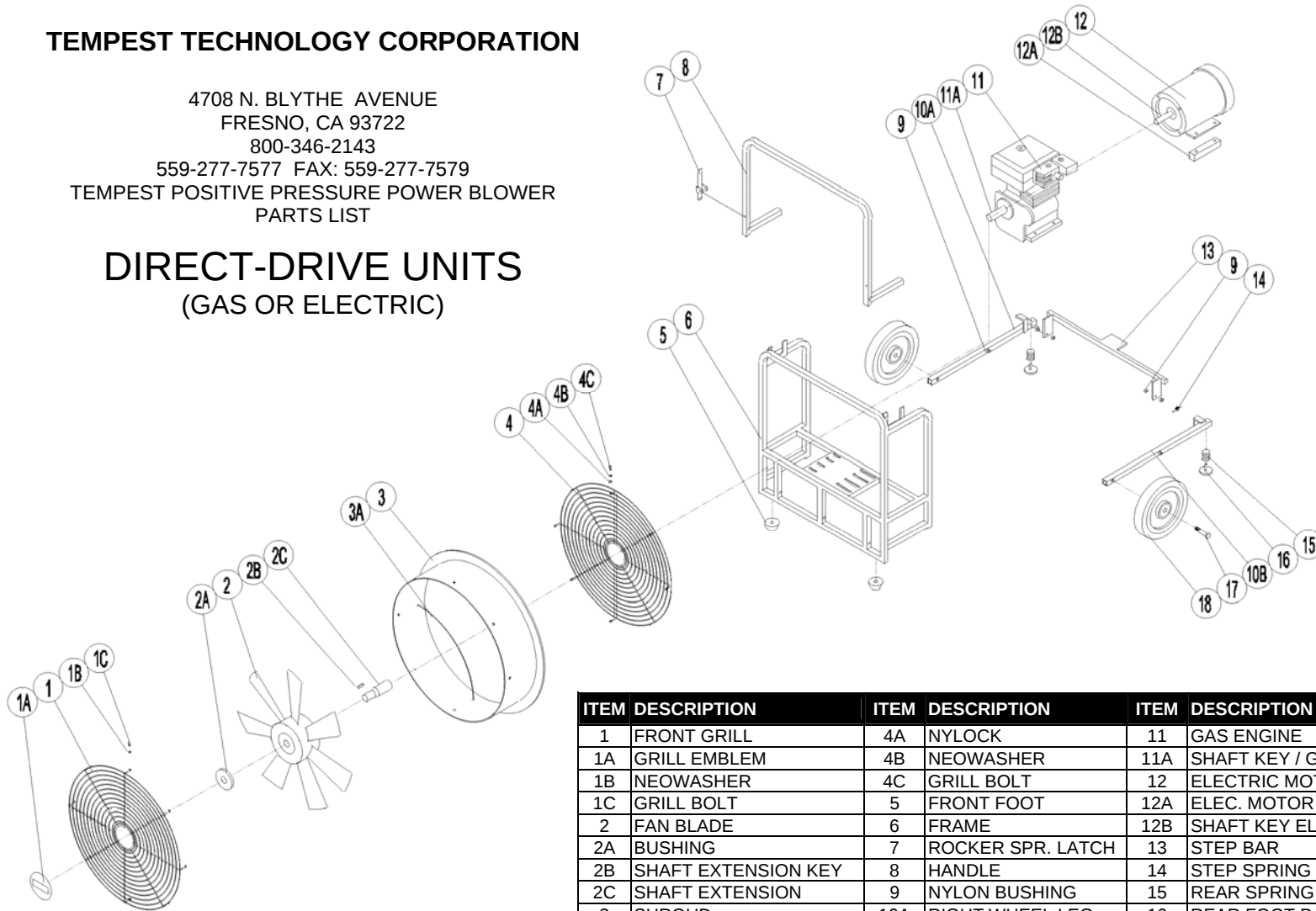


ITEM	DESCRIPTION	ITEM	DESCRIPTION	ITEM	DESCRIPTION
1	FRONT GRILL	7	REAR GRILL	14	NYLOCK BUSHING
1A	GRILL EMBLEM	7A	NYLOCK	15A	LEFT LEG
1B	NEOWASHER	7B	NEOWASHER	15B	RIGHT LEG
1C	GRILL BOLT	7C	GRILL BOLT	16	ENGINE
2	FAN BLADE	8	BEARING ASSY	16A	MUFFLER
2A	BUSHING	8A	SHAFT KEY	17	STEP BAR
3	BELT	9	FRONT FOOT	18	STEP SPRING
4	TOP PULLEY	10	FRAME	19	REAR SPRING ASSY.
5	SHROUD	11	GAS TANK	20	REAR FOOT PAD
5A	FRONT TRIM	12	ROCKER SPR. LATCH	21	WHEEL BOLT
6	ENGINE PULLEY	13	HANDLE ASSY.	22	WHEEL

TEMPEST TECHNOLOGY CORPORATION

4708 N. BLYTHE AVENUE
FRESNO, CA 93722
800-346-2143
559-277-7577 FAX: 559-277-7579
TEMPEST POSITIVE PRESSURE POWER BLOWER
PARTS LIST

DIRECT-DRIVE UNITS (GAS OR ELECTRIC)



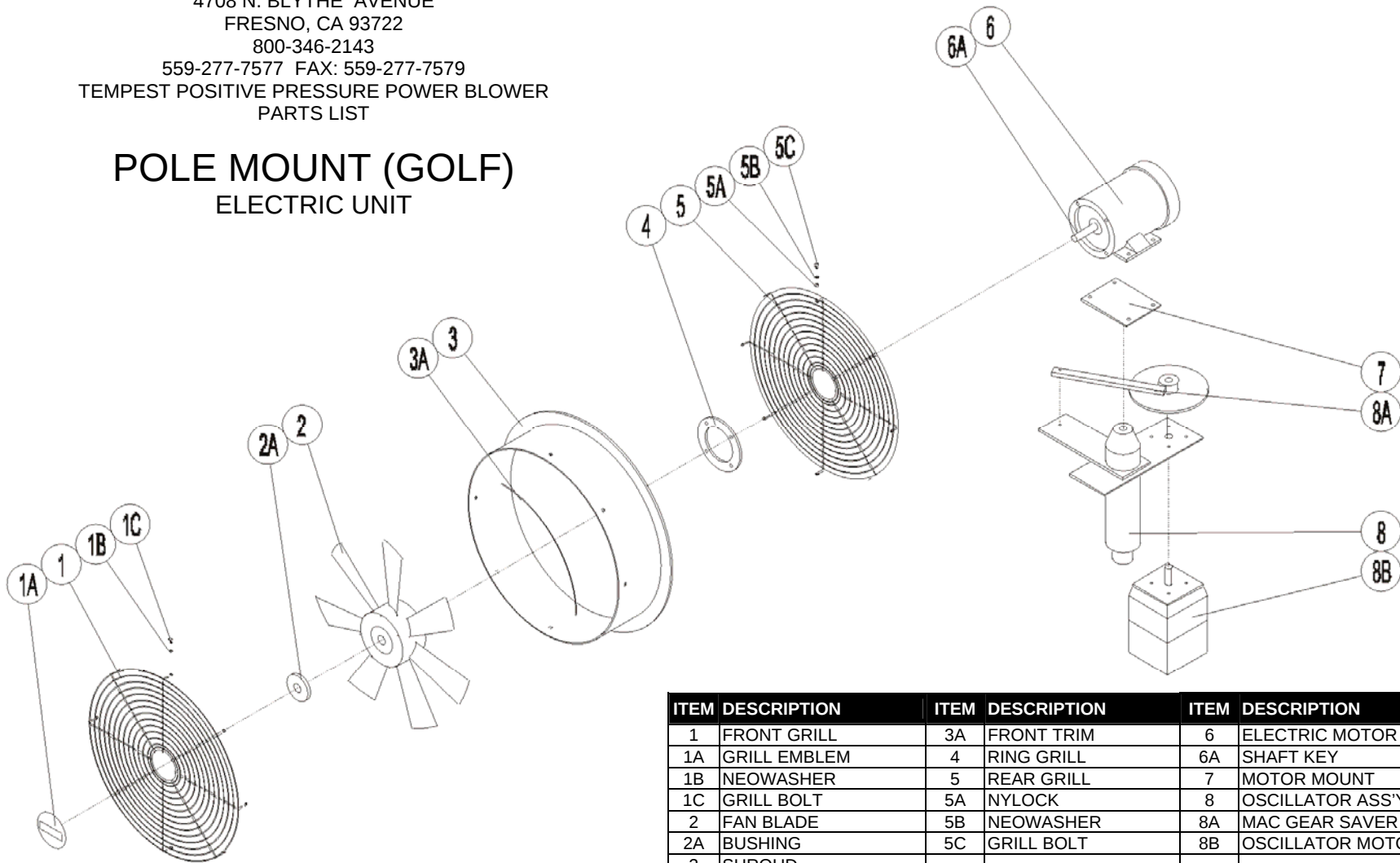
ITEM	DESCRIPTION	ITEM	DESCRIPTION	ITEM	DESCRIPTION
1	FRONT GRILL	4A	NYLOCK	11	GAS ENGINE
1A	GRILL EMBLEM	4B	NEOWASHER	11A	SHAFT KEY / GAS ENG.
1B	NEOWASHER	4C	GRILL BOLT	12	ELECTRIC MOTOR
1C	GRILL BOLT	5	FRONT FOOT	12A	ELEC. MOTOR SPACER
2	FAN BLADE	6	FRAME	12B	SHAFT KEY ELEC. MTR
2A	BUSHING	7	ROCKER SPR. LATCH	13	STEP BAR
2B	SHAFT EXTENSION KEY	8	HANDLE	14	STEP SPRING
2C	SHAFT EXTENSION	9	NYLON BUSHING	15	REAR SPRING ASSY.
3	SHROUD	10A	RIGHT WHEEL LEG	16	REAR FOOT PAD
3A	FRONT TRIM	10B	LEFT WHEEL LEG	17	WHEEL SCREW
4	REAR GRILL	*	MUFFLER	18	WHEEL

TEMPEST TECHNOLOGY CORPORATION

4708 N. BLYTHE AVENUE
FRESNO, CA 93722
800-346-2143

559-277-7577 FAX: 559-277-7579
TEMPEST POSITIVE PRESSURE POWER BLOWER
PARTS LIST

POLE MOUNT (GOLF) ELECTRIC UNIT



ITEM	DESCRIPTION	ITEM	DESCRIPTION	ITEM	DESCRIPTION
1	FRONT GRILL	3A	FRONT TRIM	6	ELECTRIC MOTOR
1A	GRILL EMBLEM	4	RING GRILL	6A	SHAFT KEY
1B	NEOWASHER	5	REAR GRILL	7	MOTOR MOUNT
1C	GRILL BOLT	5A	NYLOCK	8	OSCILLATOR ASS'Y.
2	FAN BLADE	5B	NEOWASHER	8A	MAC GEAR SAVER
2A	BUSHING	5C	GRILL BOLT	8B	OSCILLATOR MOTOR
3	SHROUD				