

# TEMPEST™

## OPERATIONS MANUAL Original Instructions

### Power Blowers™

Cone Air Flow (CAF) - Electric Driven  
Laminar Air Flow (LAF) - Electric Driven



  **EN** Read this manual carefully, before the first use

## INTRODUCTION

Thank you for choosing Tempest Technology Corporation for your ventilation needs. With this manual we hope to help you operate your Tempest product safely and to its full potential. Maintained according to the specifications set in this manual, it is not uncommon to receive many years of use and operation out of your Tempest equipment.

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 Technology Corporation 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, please contact Tempest Technology Corporation for assistance:

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FRESNO, CA 93722

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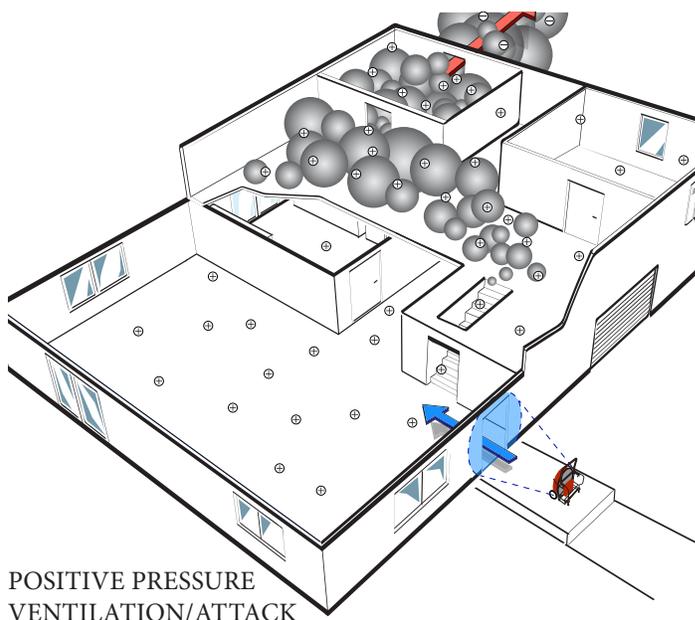
## ABOUT TEMPEST

Tempest Technology Corporation is the leading manufacturer of products and accessories for environmental management in firefighting and industrial applications.

Tempest began as a manufacturer of gasoline and electric powered blowers for the fire service. Fire departments use the **Tempest Power Blower™** to provide “Positive Pressure Ventilation / Attack” (PPV/PPA) 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/PPA are used by industrial applications to control dust, fumes and unhealthy gases like carbon monoxide, greatly improving safety in confined spaces.

Tempest Technology Corporation has earned a reputation as a leader and innovator in the air movement industry and continues in that role today.



POSITIVE PRESSURE  
VENTILATION/ATTACK

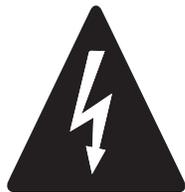
## SAFETY GUIDE

This equipment is designed and manufactured in compliance with CE directives. This equipment should be used only by firefighting professionals

Failure to follow the operating, maintenance and lubrication requirements set forth in this manual may result in serious personal injury or death and/or damage to equipment or property.

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 owner's manual before attempting to operate, service or disassemble any part of your *Tempest Power Blower™*.
2. **DO NOT** operate the unit when mentally or physically fatigued or impaired.
3. Stay away from rotating parts; Do not wear loose clothes that could be caught by the fan; jackets, shirts, ties. Keep hands and feet away from moving parts.
4. Keep all unauthorized personnel at a safe distance from the blower.
5. Keep all guards in place. **DO NOT** make repairs while the unit is running. **DO NOT** operate if any guard or grill is not in place or are damaged.
6. Always wear eye protection. **DO NOT** stand in discharge air stream. Loose debris can be picked up in the air stream and flown in the air.
7. Hearing protection is required. Motor and air noise may exceed safe dB levels.
8. Always ensure proper voltage and amperage is delivered to your *Tempest Power Blower™*.
9. Only a qualified technician should perform repairs or maintenance on electric components.
10. Never operate your *Tempest Power Blower™* with electric components exposed.
11. Never operate your *Tempest Power Blower™* with damaged, exposed or frayed wiring.
12. It is the sole responsibility of the owner/operator to develop procedures for proper use of the *Tempest Power Blower™* in accordance with generally accepted ventilation techniques as well as the organization's own operating procedures, before placing the unit into service.



## GENERAL INFORMATION

### BLOWER IDENTIFICATION

Each *Tempest Power Blower™* has a part number as well as a serial number. The part number identifies the type of unit (size, drive, etc.) while 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™*.

### SERIAL NUMBER LOCATIONS

The serial number is typically located on the frame just right of the motor mount (when viewed from behind).

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 (Part No.) \_\_\_\_\_

Date \_\_\_\_\_

Serial No. \_\_\_\_\_

### WARRANTY

Warranty information on your unit can be found on the back page of this manual. For further information, please contact Tempest Technology Corp.

## POWER BLOWER™ DATA

<b>TYPE:</b>	Positive Pressure Ventilation Fan, Cone Air Flow (CAF)
<b>DRIVE:</b>	Single Speed Models: Direct-Drive Single Speed 220V, 50Hz Electric Motor VSR Models: Direct-Drive Variable Speed 220V, 50Hz
<b>BLADE:</b>	AirFlex Fiberglass Reinforced Polyamide Blades
<b>BUSHING:</b>	Keyed Shaft and Set or Cap Screws
<b>SHROUD:</b>	Turbo 2000 Tapered Aluminum w/ Durable Powder-Coat Finish
<b>FRAME:</b>	Rugged, Lightweight, Square-Steel Tubing with Powder-Coat Finish
<b>TILT MECHANISM:</b>	Foot-Operated Tilt Mechanism 16" Models: Four Position Tilt, +10°, +5°, 0°, -5° 18", Models: Five Position Tilt, +15°, +10°, +5°, 0°, -5°
<b>GRILL:</b>	Continuous Circular-Wound, External-Weld Steel Wire with 8 Tie Points for Additional Safety Meets UL & European CE Safety Standards
<b>VIBRATION DAMPENERS:</b>	Steel-Reinforced Rubber and Steel Spring Feet
<b>WHEELS:</b>	16" Models: 6" Non-Pneumatic w/ Steel Hubs 18" Models: 8" Non-Pneumatic w/ Steel Hubs

<b>SS SPECIFICATIONS:</b>	<b>Model No.</b>	<b>Part No.</b>	<b>Size</b>	<b>HP</b>	<b>m<sup>3</sup>h</b>	<b>Dimensions (WxDxH) (cm)</b>	<b>Weight</b>
	SS-16-S-3.0	921-1218	16"	3.0	17222	52.1 x 50.2 x 55.3	kg
	SS-18-S-3.0	921-1238	18"	3.0	23447	57.8 x 53.4 x 61.6	kg

<b>VSR SPECIFICATIONS:</b>	<b>Model No.</b>	<b>Part No.</b>	<b>Size</b>	<b>HP</b>	<b>m<sup>3</sup>h</b>	<b>Dimensions (WxDxH) (cm)</b>	<b>Weight</b>
	VS-16-R-3.0	921-1418	16"	3.0	17222	52.1 x 50.2 x 55.3	kg
	VS-18-R-3.0	921-1438	18"	3.0	23447	57.8 x 53.4 x 61.6	kg

<b>SP-V SPECIFICATIONS:</b>	<b>Model No.</b>	<b>Part No.</b>	<b>Size</b>	<b>HP</b>	<b>m<sup>3</sup>h</b>	<b>Dimensions (WxDxH) (cm)</b>	<b>Weight</b>
	SP-18-V-3.0	921-1720	18"	3.0	26639	52.1 x 54.7 x 57.2	kg

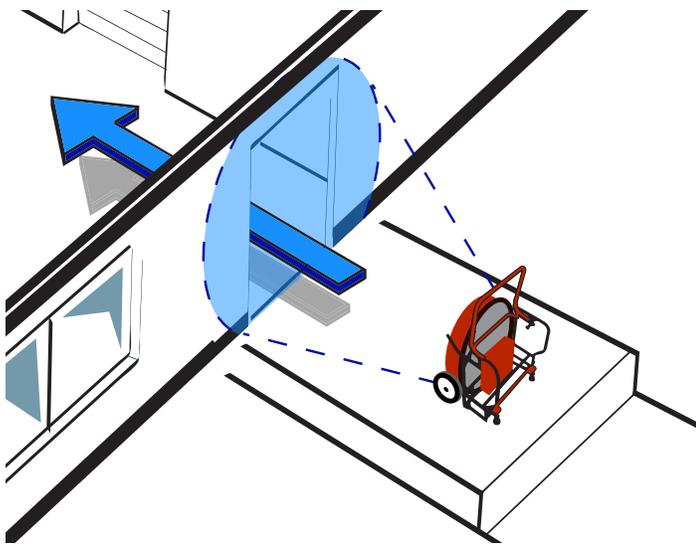
<b>NOISE LEVEL @ 3 METERS:</b>	<b>Model No.</b>	<b>dbA</b>	
	SS-16-S-3.0	921-1218	84.7
	SS-18-S-3.0	921-1238	86.7
	VS-16-R-3.0	921-1418	84.0
	VS-18-R-3.0	921-1438	84.7
	SP-18-V-3.0	921-1720	84.7

## POWER BLOWER™ INFORMATION

The *Tempest Power Blower™* is a high powered, portable fan used for Positive Pressure Ventilation and Attack (PPV/PPA), ventilation techniques that quickly and efficiently replace hazardous interior environments with clean, cool air.

PPV and PPA were pioneered in the firefighting industry where firefighters 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.

PPV and PPA rely on two principles, (1) an air pattern capable of creating an effective door seal, and (2) pressure. To accomplish Positive Pressure Ventilation or Attack, the blower is placed on the outside of the structure. It is positioned so that the air pattern created by the blower completely seals the entrance opening, or at least 2/3 of it. When this seal is achieved, the air pressure is increased equally at all points inside the structure. When 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.



NOTE: The *Tempest Power Blower™* is the most efficient tool for PPV and PPA for two reasons. First, the exclusive Tempest Turbo 2000 aluminum shroud design creates a broad, cone shaped air pattern. Second, the airflex impeller used on all Tempest blowers is designed to create high pressure. These two features working together make the *Tempest Power Blower™* a highly effective and efficient ventilation tool.

As with any new technique, Positive Pressure Ventilation requires training and education in order to be implemented properly and safely. Tempest offers access to a complete line of training materials, which cover many applications for this powerful ventilation technique. For more information visit [www.tempest.us.com](http://www.tempest.us.com), [www.positivepressuretraining.com](http://www.positivepressuretraining.com) or contact us at 800.346.2143 or [response@tempest.us.com](mailto:response@tempest.us.com).

## OPERATING PROCEDURES

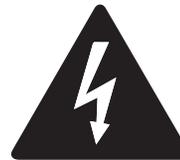
### PRE-OPERATION

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 CORP. IMMEDIATELY AT 800.346.2143 OR [RESPONSE@TEMPEST.US.COM](mailto:RESPONSE@TEMPEST.US.COM).

### OPERATION

#### SET-UP, STARTING AND STOPPING

Assuming the previous Pre-Operation and safety instructions have been followed, the blower is now ready to run.



**⚠️ WHEN USING A GENERATOR, IT IS IMPERATIVE THAT THE GENERATOR BE RUNNING AT FULL CAPACITY BEFORE PLUGGING IN ANY ELECTRIC BLOWER. ALWAYS VERIFY SUFFICIENT GENERATOR OUTPUT BEFORE USE. IMPROPER VOLTAGE SUPPLY MAY DAMAGE UNIT AND VOID WARRANTY.**

**⚠️ CAUTION: DO NOT 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.

#### HANDLE OPERATION

To operate the handle, pull the locking pin and rotate the handle to the full up or full down position, release the pin and make sure the pin locks in place.



## TILT OPERATION

While standing behind the blower and holding the handle, step on the foot pad on the tilt adjustment mechanism to release it from the frame. Tilt the blower to one of the available angle positions. Take your foot off of the foot pad and allow the pins of the tilt mechanism to lock in place with the holes in the frame.



NOTE: The following sections cover separate operating instructions for each type of electric blower. Please be sure to follow the operating instructions specific to your particular blower model. ( VSR or Single Speed)



## STARTING - SINGLE SPEED

1. Ensure the power switch on the blower is in the OFF position.
2. Plug the blower power cord into power source receptacle.
3. Push the switch to the ON position.

## STOPPING - SINGLE SPEED

1. Push the switch to the OFF position.
2. Unplug the blower from the power source.

## ⚠️ POWER INTERRUPTION - SINGLE SPEED

In the event that the power is cut off from the blower during operation, the power switch must be pushed to the off position and then pushed back to the on position to restart the blower.



## STARTING - VSR & SP-V

1. Check that the speed control knob is set to "0".
2. Plug the blower power cord into power source receptacle.
3. Turn the speed control knob to the desired position. The blower will turn on and ramp up speed.

## STOPPING - VSR & SP-V

1. Turn the speed control knob to the "0" position. The blower will slow down and stop.
2. Unplug the blower from the power source.

## ⚠️ POWER INTERRUPTION - VSR & SP-V

In the event that the power is cut off from the blower during operation, the speed control knob must be turned to the off position ("0"), then turn the speed control knob to the desired position. The blower will turn on and ramp up speed.

## MAINTENANCE PROCEDURES

Although Tempest electric *Power Blowers™* are designed to eliminate most maintenance issues, it is imperative that the blowers be inspected before startup on each use. Please review the following list before using this product.

### MAINTENANCE SCHEDULE

#### EVERY USE

- INSPECT BLOWER FOR DAMAGE AND FIX IF ANY
- TIGHTEN/REPLACE ANY LOOSE OR MISSING PARTS

#### EVERY MONTH OR 10 HOURS

- INSPECT & CLEAN SHROUD & GRILLES

 **IMPORTANT:** Always operate the blower in an area free of debris which may be pulled into the unit's blades. If you suspect the fan's blade may have contacted a hard object, thorough inspection of the blade assembly should be conducted immediately to ensure safety. You may contact Tempest Technology Corp. in order to find out how to properly inspect the blade assembly.

## POWER BLOWER™ TROUBLESHOOTING

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

### 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.
- Ensure the blower is sitting flat and not on small rocks or other objects.
- If blower is still walking, contact Tempest at 800.346.2143 or [response@tempest.us.com](mailto:response@tempest.us.com).

### SINGLE SPEED

#### BLOWER FAILS TO START

- Make sure the unit is connected to the power source.
- Thoroughly check the power cord. If the cord shows any signs of serious wear it may need to be replaced before running properly.
- Many blowers are equipped with an “automatic reset.” This reset will kill power to the blower when the unit is at risk of overheating. Let the blower cool and attempt to start it again.
- There may be damage to the internal wiring. Have a qualified technician or electronics specialist examine the blower circuitry and wiring and make any necessary repairs.
- If your Tempest Single Speed blower is not running after pursuing the steps mentioned above, please contact us at 800.346.2143 or [response@tempest.us.com](mailto:response@tempest.us.com).

### VSR & SP-V

#### BLOWER FAILS TO START

- Make sure the unit is connected to the power source.
- Confirm that adequate power is being supplied to blower. If power supply is adequate, **DISCONNECT BLOWER FROM POWER SOURCE** and check for loose or faulty wiring on blower electrical system and have a qualified professional perform repairs if needed.
- Connect blower to power source and attempt restarting. If blower still does not run, contact Tempest at 800.346.2143 or [response@tempest.us.com](mailto:response@tempest.us.com).

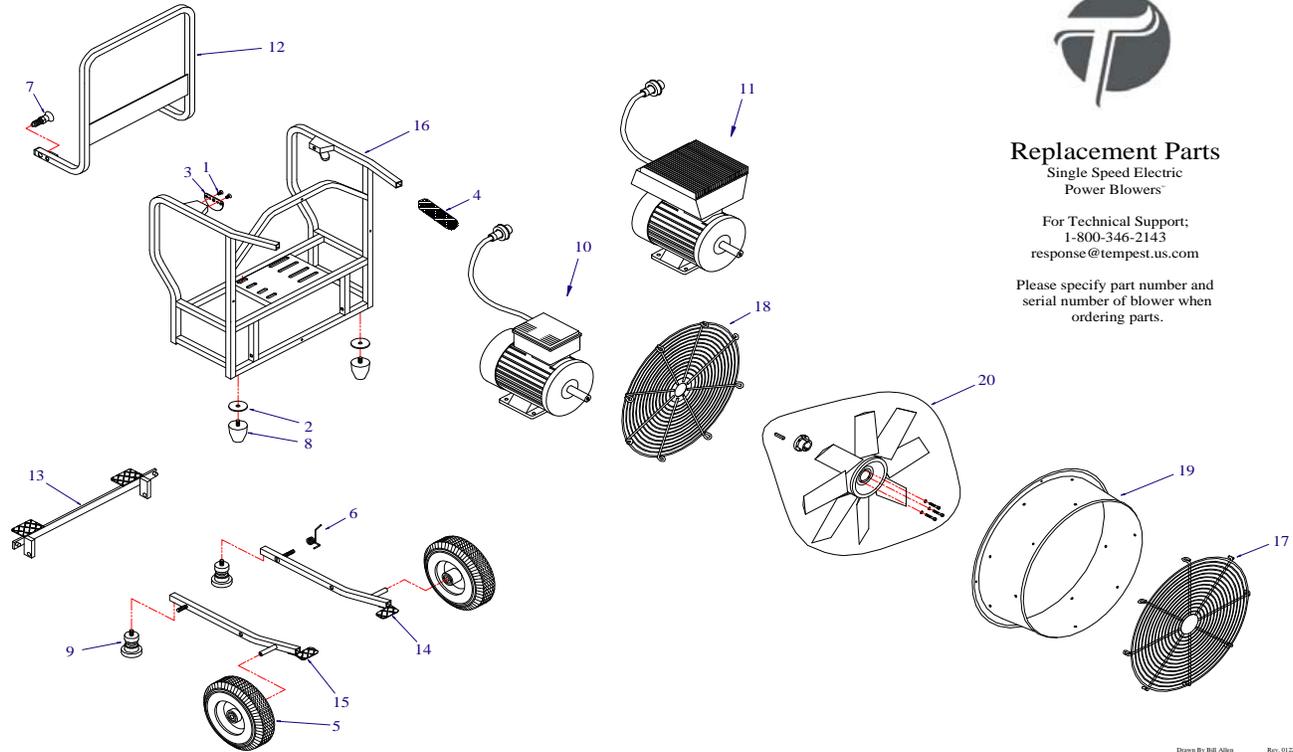


## Replacement Parts

Single Speed Electric  
Power Blowers

For Technical Support:  
1-800-346-2143  
response@tempest.us.com

Please specify part number and  
serial number of blower when  
ordering parts.



Drawn By Bill Allen Rev. 01/22/16, USA

Item #	Description	SS-16-S-3.0	SS-18-S-3.0	VS-16-R-3.0	VS-18-R-3.0
		921-1218	921-1238	921-1418	921-1438
Item #	Description	Part No.	Part No.	Part No.	Part No.
1	1/4 X 1/2 FLAT SOC C/S ZINC	100-079	100-079	100-079	100-079
2	WASHER 3/8 X 2 FENDER HVY Z	120-037	120-037	120-037	120-037
3	HANDLE BRACKET	220-069	220-069	220-069	220-069
4	GRIP BASIC BLOWER HANDLE	220-248	220-248	220-248	220-248
5	WHEEL FLAT FREE	240-008	240-012G	240-008	240-012G
6	SPRING TORSION	300-019	300-018	300-019	300-018
7	SPRING PLUNGER W/HANDLE	300-170	300-170	300-170	300-170
8	FOOT TAPERED	580-006	580-006	580-006	580-006
9	SPRING ASSEMBLY	600-001	600-001	600-001	600-001
10	ELECTRIC MOTOR ASSEMBLY SS	360-063	360-063	-	-
11	ELECTRIC MOTOR ASSEMBLY VSR	-	-	360-064	360-064
12*	HANDLE RED	600-677K	600-678K	600-677K	600-678K
13*	WIN STEP RED	600-683K	600-684K	600-683K	600-684K
14*	LEG ASSEMBLY LEFT TEX BLACKY	610-1001K	610-1020K	610-1001K	610-1020K
15*	LEG ASSEMBLY RIGHT TEX BLACK	610-1002K	610-1021K	610-1002K	610-1021K
16*	FRAME TEX BLACK	610-1300K	610-1320K	610-1300K	610-1320K
17	FRONT GRILLE DARK GREY	610-1400K	610-1420K	610-1400K	610-1420K
18	REAR GRILLE DARK GREY	610-1401	610-1421	610-1401	610-1421
19*	SHROUD, RED	705-103	705-108	705-103	705-108
20*	BLADE ASSEMBLY SS MODELS	705-300	705-301	-	-
20*	BLADE ASSEMBLY VSR MODELS	-	-	705-302	705-303

\* denotes item includes necessary hardware for installation

NI not Illustrated

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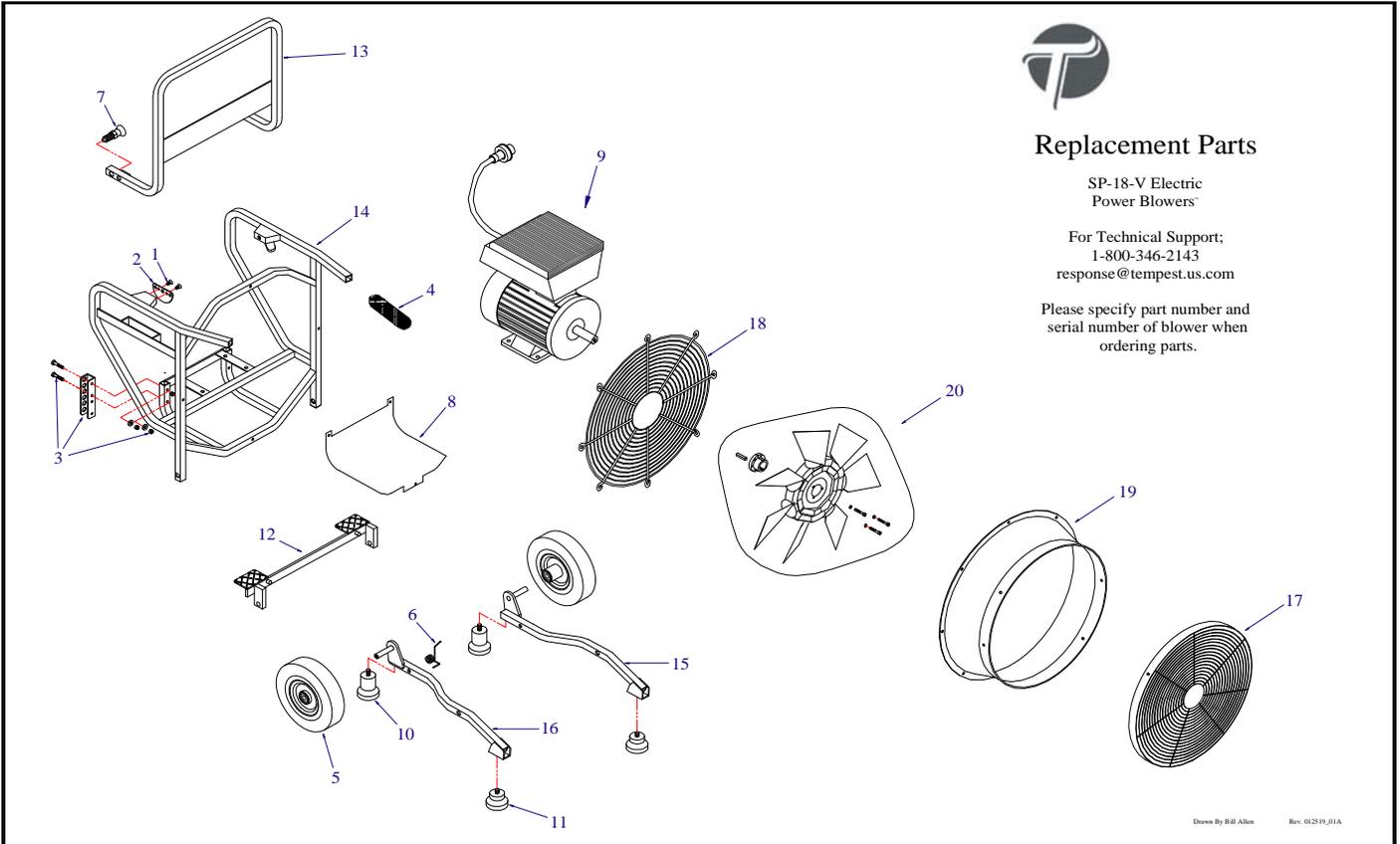


## Replacement Parts

SP-18-V Electric  
Power Blowers

For Technical Support:  
1-800-346-2143  
response@tempest.us.com

Please specify part number and  
serial number of blower when  
ordering parts.



Drawn By Bill Allen Rev. 012519\_01A

		SP-18-V-3.0
		921-1720
Item #	Description	Part No.
1	1/4 X 1/2 FLAT SOC C/S ZINC	100-079
2	HANDLE BRACKET SP18/21	220-069
3*	HEIGHT ADJUST BRACKET SST	220-074K
4	GRIP BASIC BLOWER HANDLE	220-248
5	WHEEL 8" x 2" OFFSET FLAT FREE	240-012G
6	SPRING TORSION LHW RIGHT	300-018
7	SPRING PLUNGER LOCK	300-170
8	DEBRIS GUARD SP	300-206
9	ELECTRIC MOTOR ASSEMBLY VSR	360-064
10	FOOT PAD 2.23 X 2.50 7815-03	580-012
11	FOOT PAD 2.23 X 1.50	580-015
12*	WIN STEP SP	600-454K
13*	HANDLE SP	600-455K
14*	FRAME SP	610-1326K
15*	LEG ASY SP LEFT	610-1025K
16*	LEG ASY SP RIGHT	610-1026K
17*	A/S GRILLE SP	610-1423K
18	GRILLE HP REAR	610-1426
19*	SHROUD SP-V RED	705-122
20*	BLADE ASSEMBLY SP	705-255

\* denotes item includes necessary hardware for installation

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# WARRANTY INFORMATION

Except as otherwise set forth below, any claim by Customer with reference to the Goods sold shall be deemed waived by the Customer unless submitted in writing to Tempest within the earlier of (i) five (5) business days following the date Customer discovered, or by reasonable inspection should have discovered, any claimed breach of the foregoing warranty, or (ii) thirty (30) calendar days following the date of shipment. Any cause of action for breach of the foregoing warranty shall be brought within one (1) year from the date the alleged breach was discovered or should have been discovered, whichever occurs first.

## **Limited Power Blower Warranty**

Tempest warrants to the original purchaser that all Tempest gasoline and electric powered blowers (except the engine or motor and drive) will be free from original defects in workmanship and material, under normal-use conditions, and Tempest will replace any defective power blower part (except the engine or motor and drive) if returned during the applicable warranty period, for the time frame indicated below:

Firefighting Industry:

Two (2) years from date of shipment

Industrial/Rental Industry:

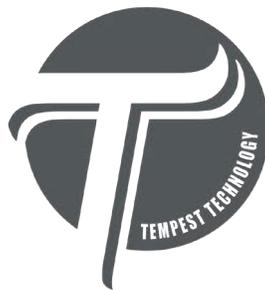
One (1) year from date of shipment

## **Blower Engine / Motor & Drive Warranty**

Electric motors are covered by a separate manufacturer's warranty for a period of one (1) year.

**Note: Unauthorized repair or modification of the factory assembly or parts voids the warranty.**

All information provided in this operations manual is subject to change without notice. Please refer to our website for the most recent sales terms and conditions.



## **Manufacturer**

### **Tempest Technology Corporation**

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