



TWINSTORM USER MANUAL

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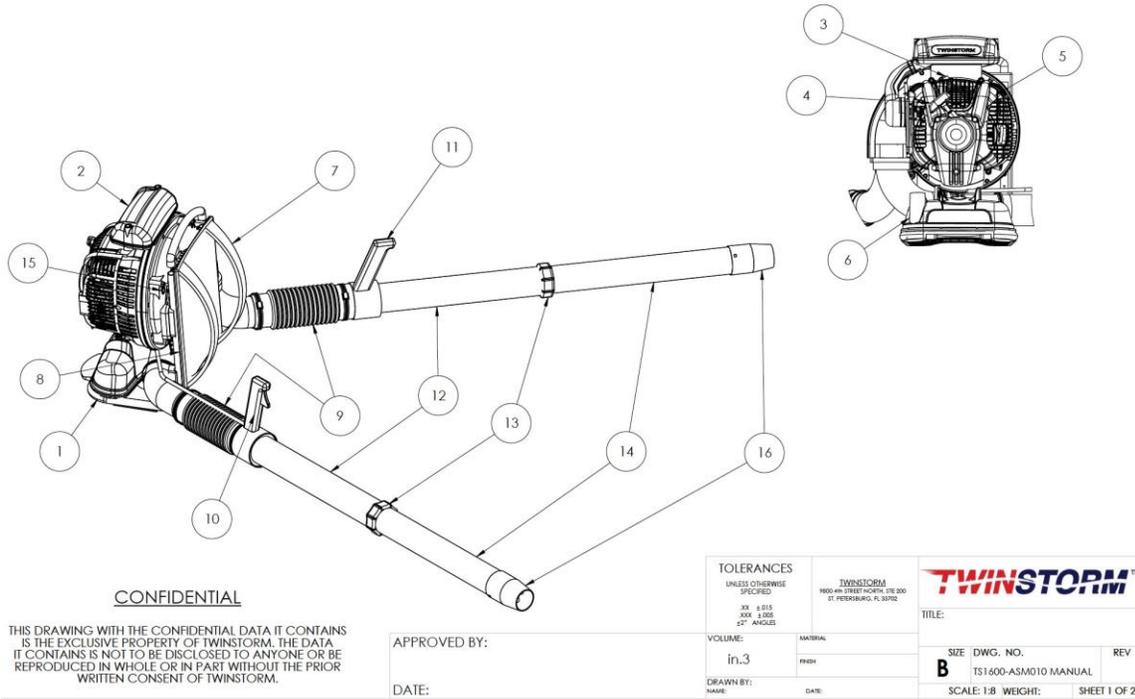
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Image 1



1	Frame
2	Air Filter
3	Spark Plug Cap
4	Starter
5	Engine Cover
6	Fuel Tank
7	Shoulder Straps
8	Cushion
9	Flexible Hose
10	Control Handle
11	Left Handle
12	Swivel Throwing Pipe
13	Ferrule for Throwing Pipe
14	Sliding Throwing Pipe
15	Vibration Spring
16	Tip

MACHINE INFORMATION

Model #:

Engine Serial #:

Registration Date:

OWNER'S INFORMATION

Name:

Address:

Email:

Phone:

SAFETY GUIDELINES

WARNING – Before starting to work, it is imperative that this manual is carefully read and followed. Ignoring these instructions may cause serious physical harm and/or damage to the machine.

WARNING – Before using this machine, please consult with your physician to ensure you are healthy enough and physically able to use this device.

WARNING – If the safety labels are removed or become difficult to read, please contact our customer service department for replacements, free of charge. OTHERWISE THE MANUFACTURER AND DISTRIBUTOR REFUSES ALL RESPONSIBILITIES.

STATE AND LOCAL REQUIREMENTS

This engine is **NOT** equipped with a Spark Arrester System which would comply with the requirements of SAE Recommended Practice J335 and California Codes 4442 and 4443. All national forest land and land managed by states of California, Maine, Washington, Idaho, Minnesota, New Jersey, and Oregon require internal combustion engines to be equipped with a spark arrester screen by law. Other states and federal agencies are enacting similar regulations. Operating this engine in a state or area where such regulations apply could result in a violation of the law.

Note: When operating a blower for logging purposes, refer to the Code of Federal Regulation, Parts 1910 and 1928.

PERSONAL PROTECTIONS

- It is advised to wear work clothes while using this machine.
- In dusty places, always wear a suitable mask for the protection of the respiratory system. Working in places with the presence of organic dust such as mold or pollen, can cause allergic or asthmatic reactions. Please contact a doctor in case of allergic reaction and/or respiratory difficulties.
- To reduce the risk of eye injury, please wear safety glasses with lateral protections.
- To reduce the risk of auditory injury, please use hearing protection such as noise cancelling headphones, to be in compliance with article 46 DL 277.
- It is advised to wear steel toe boots with non-slip soles.
- Never wear oversized clothing, shorts, sandals, necklaces, bracelets, or similar accessories. Keep hair properly secured if necessary.

PROHIBITIONS

WARNING – The use of this machine is strictly prohibited for people with pacemakers or other electronic medical devices.

Do not smoke, eat, or drink while using this machine.

Minors may not operate this machine.

Never use indoors, always operate this machine in a well-ventilated area.

Do not climb ladders, trees, or any other elevating devices while wearing this machine.

Never use this machine when tired, sick, or under the influence of alcohol, drugs, medicines, or any other impairments. User must be in good health.

Never use this machine if only partially assembled. All parts must be properly assembled and in good operating condition as indicated in this manual.

If the machine is altered from the original design or assembly, the user assumes full responsibility for any accidents or injuries.

Never leave the machine unattended when running.

Always use the machine in a well-lit area.

Never use the machine with the air flow directed at people or animals.

SAFETY CHECKLIST

For your safety, please periodically test the integrity of the following parts:

Elbow	Shoulder Straps	Ground Cable
Fan Cover	Control Handle	Engine Cover
Fan	Fuel Cap	
Frame	Fuel Tank	

OPERATIONAL WARNINGS

Before Starting

Start the engine using only the instructions found in this manual.

Adjust the shoulder straps according to the user's height in order to achieve a secure fit on the back and shoulders.

Be aware of and comply with local ordinances regarding noise levels.

Be sure you have immediate access to a first aid kit and replace any used items. Be sure to always have access to a tank of at least 4 gallons of clean water.

Ensure all screws are well positioned and tightened. Be sure the noise dampener has been correctly assembled. Never use the machine without the noise dampener properly assembled and in good working order.

Be sure the four bolts between the frame and the engine are tight and secure.

Verify the machine is wholly assembled and without damage. In case of impact, check for damages and turn of the machine immediately. If needed, please contact the Twinstorm Customer Service department.

The ignition system of the machine generates a very low intensity of electromagnetic field which may interfere with some pacemakers and other electronic devices. Please consult your physician and/or pacemaker manufacturer to reduce risk and possible injury.

During Use

Only operate this machine for the uses described in the manual. Remember that the user is solely responsible for the safe operation of the machine.

Always wear the machine with both shoulder straps securely on the shoulders.

Remain in an upright, steady and balanced position at all times while operating the machine.

(Operational Warnings, continued)

Never point the blowers towards people or animals.

Always turn off the engine before removing the machine from your shoulders.

Remember to take breaks when feeling tired, operating this machine while weary may cause physical harm an/or damage.

Be watchful for potential projectiles and obstacles in your path. Use extreme caution when operating the machine in wet, icy or snowy conditions.

Do not walk backwards while wearing the machine.

Never use the machine close to glass doors or windows.

When using in areas of high dust, it is recommended to wear a mask.

Prolonged use of power tools may cause physical symptoms related to the continuous vibration.

Although Twinstorm is equipped with an anti-vibration system, it is advisable to wear gloves, check the anti-vibration system every time the machine is used, always hold the machine firmly and take frequent breaks.

The exhaust and engine will become warm during use. Avoid touching these parts until they have properly cooled. Also, until the machine has cooled, do not store near any flammable objects or liquids.

After Use

Always store your Twinstorm machine with an empty fuel tank, cool engine, and out of the way so as not to cause injury.

When the machine needs maintenance, please refer to Troubleshooting on page 12. For further questions, please contact the manufacturer. Any attempt to disassemble or change a material component of the machine will immediately void the warranty and the owner will assume liability for all consequences.

ADJUSTING THE HANDLE

The correct positioning of the handle is vital to the comfort and safety of the user. To adjust the handle position, please follow these steps:

1. If necessary, turn the engine off and let cool
2. Raise the locking lever
3. Find the working position most comfortable by sliding the handle while raising and lowering the arm
4. Once the correct position has been found, lock into place with the lever.
5. Once the correct position has been found, lock into place with the lever.

ADJUSTING THE RAPID RELEASE SHOULDER STRAPS

The correct weight distribution and balance of the machine will prevent discomfort and possible injury. Please follow these steps to properly fit the machine to the user's body.

1. If necessary, turn off the engine and let cool
2. Place arms through the straps to wear the machine as a backpack
3. Pull the straps to tighten each side to the body
4. To loosen, lift the buckle and let the strap slide through
5. To operate the quick release feature, press the tab on the right side buckle while shifting your weight to the left. The machine will fall away from the body.

FUELING

Never fill the fuel tank when the engine is running or being worn by the operator.

Fuel is highly flammable and produces toxic fumes. Mix and fill outdoors and away from flames, sparks, fire, or similar conditions. Always remove fuel cap slowly.

Do not smoke while mixing or fueling.

Any fuel reserve must be stored and transported in suitable homologated tanks, away from children and heat sources.

Check for fuel leakage, always wipe away leaked fuel and change any clothing that comes in contact with spilled fuel.

Do not start the engine within 10 feet of fueling sources.

This engine will operate with a mixture of both leaded or unleaded fuel and oil for two stroke engines. Never use fuel mixed with alcohol.

The use of gasoline containing ethanol with a rating greater than 10% can damage the engine.

The use of gasoline with a lower octane rating may more quickly increase the temperature of the engine, causing the risk of piston seizure and/or further damages to the engine.

Never use automobile engine oil or diesel, only oils suitable for a two stroke engine.

Only use fresh fuel, fuel older than one month may no longer be usable. If using a mixture from the previous use, be sure to remix the fuel and oil before operating the machine.

When using leaded fuel, mix only with mineral oil at a ratio of 25:1

When using unleaded fuel, mix only with synthetic oil at a ratio of 32:1 or 50:1, as specified by the oil manufacturer.

Using any other fuel, oil, or other mixtures than what is specified will immediately void the warranty

BLOWER CONTROLS

Starting

Press the bulb slowly and deeply 10 times

Place the choke lever in the down position until it clicks

Verify that the switch is on “—” (turned on)

Place a hand on the cover of the engine and a foot on the base of the machine to stabilize

Start by slowly pulling the starting handle until you feel resistance, then continue with a short, strong pull. A loose pull could flood the engine

When you hear the first stroke of the engine, raise the choke lever in the horizontal position until it clicks

Pull the start handle once more to start the engine. Keep at idle speed for at least one minute before accelerating to maximum speed

Do not run the machine at maximum speed until it has run through at least three full fuel tanks

Operating

To turn on the power, move the switch to “—”

To increase RPM, move the throttle towards the plus “+” sign

To decrease RPM, move the throttle towards the “-” sign

To turn off the engine, move the switch to “0”

Stopping

Let the engine run at idle speed for at least one minute

Move the switch to “0”

Do not remove the machine from the back until the engine has completely stopped

Do not touch any parts of the engine until they cool completely

PROCEDURE FOR FLOODED ENGINE

Unscrew and remove spark plug, wipe and dry it

Verify that the choke lever is in the horizontal position

Pull the starting handle at least 20 times

Mount the spark plug; accelerate to maximum speed using the throttle controls

Start the engine

If the engine does not start, please follow these additional steps:

Unscrew and remove the spark plug, wipe and dry it

Turn the engine upside down so the hole for the spark plug faces down

Pull the starting handle at least 20 times while watching for fuel from the downturned spark plug hole

If necessary, dry the outside

Replace the spark plug and repeat the starting procedure

CHECK UP AND MAINTENANCE

Your machine will need few checkups and if regularly completed, your machine will continue to run efficiently.

Before Starting:

Inspect the entire machine, be sure all hardware is secure and there are no leaks

Use:

Check all hardware is secure, there are no leaks and the cylinder fins are intact

After 10 hours Run Time:

Tighten nuts and screws, clean the air filter

After 25 hours Run Time:

Check the starting handle and spark plug

After 50 hours Run Time:

Check the fuel filter and clean the fan cover

Air Filter

To check and remove the air filter:

(Check up and Maintenance. continued)

Unscrew the two knobs to remove the cover and expose the filter

Remove the filter and clean it by knocking it against a flat surface. Then, use compressed air to blow through the filter and along the length of the fins

Replace the filter and secure the cap by screwing in the two knobs

Spark Plug

To remove the spark plug:

Wear gloves if the machine is not completely cooled from the last use

Disconnect the cap of the spark plug, shown in Image 1, position 3

Unscrew the spark plug with a socket wrench and appropriate spark plug socket

When the central electrode is worn out or rounded, replace the spark plug using the part specified on of this manual

If a carbon incrustation between the electrodes forms too often, clean the cylinder head, piston inlet and outlet of exhaust

TROUBLESHOOTING

Problem	Solution
Engine won't start	Be sure the switch is in the "—" position
	Be sure there is a proper amount of fuel
	Check spark plug, clean if necessary
Flooded Engine	Refer to Page 9 for instructions
RPM not steady, engine stops	Tighten spark plug
	Check ground cables, insulate or replace if necessary
	Check ignition coil and cable
Backfiring	Incorrect spark plug, replace with recommended part
	Encrustation on spark plug, clean or replace as necessary
Engine doesn't idle properly	Check screws and gaskets for any air leaks
High vibrations during use	Check fan, replace if necessary
	Check suspension mounts for loosening
Engine does reach maximum RPM's	Check and clean exhaust point
	Check for air leaks through gaskets
	Check oil rings on the crankshaft, replace if necessary
	Insufficient pressure in cylinder, contact service

Twinstorm Specifications

Engine	Cifarelli C7 2 Stroke, single cylinder, air cooled
Displacement	77cc
Maximum Power	kW 3.6 (5 HP)
Carburetor	Diaphragm WALBRO
Spark Plug	Champion RCJ6Y
Fuel	Oil and gas mix for 2 stroke
Fuel Tank Capacity	.6 gallons
Weight (empty)	31.6 lbs
Air Volume	1000 cfm (combined tubes)
Air Speed	165 mph
Noise	101dB, at 50 ft 79.4 dB
Vibrations	Aww < 2.5 m/s ²