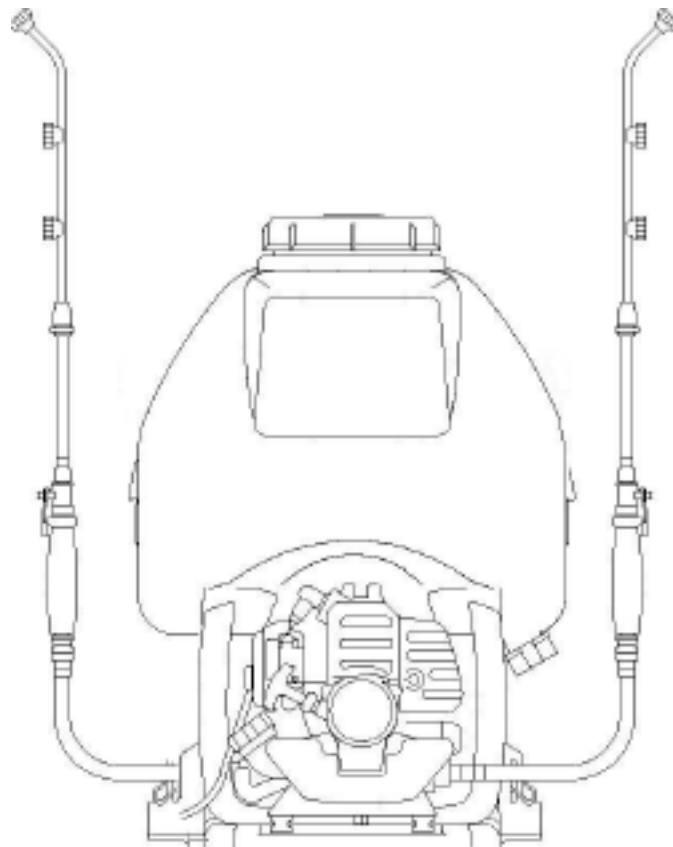


TOMAHAWK POWER SPRAYER USER'S MANUAL

MODEL: TPS25



Warning to Users

1. The gasoline engine must use mixed fuel at a ratio of 30:1, with No.90 gasoline to two-stroke automobile oil.
2. Keep engine at a low speed 3-5 minutes after start and before stop.
3. Using your sprayer at a high engine speed without liquid spray or dust is prohibited and may damage your sprayer engine.
4. When adding fuel, stop the engine and keep away from open flames.
5. In order to avoid electric shock, do not touch the cap of the spark plug or wiring while the engine is on.
6. The surface of the muffler and the cylinder are very hot. Refrain from touching while hot. Children should be kept away from the engine.

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SAFETY PRECAUTION



The use of the machine may be hazardous. The impeller rotating in the volute case may cause harm if you try to touch it. It is important that you read & fully understand the following safety precautions and warning.



Do not lend or rent your sprayer-duster without the Owner's Manual. Be sure that anyone using your sprayer-duster reads and understands the information contained in this manual.

Safe use of the Tomahawk Power Sprayer:

1. The operator

The operator must be in good physical condition and mental health.

The operator must not use the machine if:

- (1) Under the influence of a mind altering substance.
- (2) Under the legal age.
- (3) Has just exercised or has not had enough sleep.
- (4) Has no knowledge of the machine

2. Proper Clothing

To reduce the risk of injury, the operator should wear proper protective apparel.



•Carefully read this manual before using this product.



•Wear ear muffs to protect your hearing.



•Wear glasses and gauze mask to protect your eyes and face to protect against dust and pesticide.



•Wear closed-toed protective shoes.



•Gloves must be worn to avoid contact with pesticide .



•Clothing covering arms and legs must be worn to avoid contact with pesticide.

3. Using the Tomahawk Power Sprayer

Starting the engine

- (1) Set the throttle handle to the stop position before starting the engine, otherwise chemical will be sprayed when starting engine.
- (2) Be sure no one stands in front of nozzle, even though the handle is set, to stop, residual materials in pipe will blow out.

Spray Operation

- (1) Operation during cool weather with little wind is recommended. For example, in the early morning or in the late afternoon. This can reduce the evaporation and drift of chemicals and improve spraying efficiency.
- (2) Operator should face his/her back to wind.
- (3) If your mouth or eyes are spattered with chemicals, wash them with clean water and go to see a doctor immediately.
- (4) If the operator has a headache or dizziness, stop working at once and go to see a doctor immediately.

(5) For the operator's safety, dusting / spraying must be carried out strictly according to the instruction of the chemicals and agricultural requirements.

(6) If you want to stop the engine while dusting, the throttle handle must be set to stop.

Warning



Do not direct the air blast towards bystanders since the air flow can blow small objects at great speed.



Toxic exhaust fumes may be colorless and odorless and contain unburned hydrocarbons and benzol. Never operate the power tool in enclosed or poorly ventilated locations.



During operation, the muffler or catalytic muffler and surrounding cover may become extremely hot. Avoid contact during and immediately after operation. Always keep exhaust area clear of flammable debris. Allow the engine and muffler to completely cool before performing any maintenance activities.



After working, wash your hands and clean all of clothing. NOTE: Residual pesticide can stain what you touch.

Fueling

Keep the fuel tank far away from the flames or sparks. Do not smoke near fuel. When the machine is running, do not add more fuel to the fuel tank.

Open the fuel cap carefully to allow any pressure build-up in the tank to release slowly and avoid fuel spillage.

Fuel your power tool only in well-ventilated areas. If you spill fuel, wipe the machine immediately – if fuel gets on your clothing, change immediately.



Check for leakage. To reduce the risk of serious or fatal burn injuries, do not start or run the engine until the leak is fixed.



After fueling, tighten down the screw-type fuel cap as tight as possible.

This reduces the risk of unit vibrations causing the fuel cap to loosen or come off and spill fuel.



Gasoline is an extremely flammable fuel. Keep clear of naked fires. Do not spill any fuel – do not smoke while operating.

Always shut off the engine before refueling.

Do not fuel a hot engine – fuel may spill and cause a fire.

1. Technical Specification

Name	Specification
L×W×H (in)	18 × 13 × 25
Net Weight (lbs)	19.8
Chemical Tank Capacity (gal)	6.6
Water Absorption Volume (gal)	1.45
Working Pressure (MPa)	0 ~ 2.5
Mating Power	1E31F
Fuel Type	Gasoline/Oil Mixture30:1
Way of ignition	CDI
Way of starting	Recoil starting
Way of stopping	Shutting throttle fully

2. Main Application

This Tomahawk Power Sprayer is the ideal portable tool for prevention of diseases and for plant protection. It is mainly used in prevention and cure of diseases and pests of plants such as cotton, rice, wheat, fruit trees, corn, greens, vines, etc. It can also be used for residential and commercial pest control, city sanitation, and greenhouses.

3. Main Features

3.1 This machine uses a gear structure to decrease speed, so it is very durable.

3.2 The main part is the plunger pump. The structure is simple and compact, so it allows for easy maintenance.

3.3 This machine has high pressure, great flow and high efficiency, so the spraying of the chemicals is highly efficient.

4. Main Structure

This machine consists mainly of:

4.1 Engine. It is the source of power for the machine. It is connected to the plunger pump through a decelerating device and connected to the frame by a bottom support.

4.2 Plunger Pump. It is the heart of the machine. It is connected to the engine and to the frame.

4.3 Frame. It supports the machine.

4.4 Chemical Tank. It is used for holding chemical liquid.

4.5 Spraying Parts. Consists of plastic tube assembly, handle, valve, straight spraying tube assembly and long spraying nozzle.

4.6 Accessories. A single nozzle conical gun and a heavy duty foundation gun are available. Must purchase separately.

5. Operating Instructions

5.1 Preparation before start

5.1.1 Connecting spraying parts. Before starting, verify all the connections are working.

- | | |
|---------------------------|-----------------|
| 1. Long Spraying Nozzle | 4. Valve |
| 2. Washer | 5. Handle |
| 3. Straight Spraying Tube | 6. Plastic Tube |

Never fill the fuel tank to the very top.

Never add fuel to the tank in a closed non-ventilated area.

Do not add fuel to this unit close to a open fire or sparks.

Be sure to wipe off spilled fuel before attempting to start the engine.

Do not attempt to refuel a hot engine.



Figure 2

5.2 Start

5.2.1 Adding fuel. This gasoline engine is a single-cylinder, two stroke. The engine uses a fuel mixture of No. 90 gasoline and two-stroke oil. The gasoline oil mixture ratio is of 30:1 (gasoline : oil)

5.2.2 Push the fuel-injecting pump continuously until the pump is visibly is full.

5.1.2 Check that all the connections are correct and stable.

5.1.3 For long term storage, oil sealed must be removed first. To remove: Take off the spark plug, use the lift thumb to stop the spark plug hole and pull the starter to remove oil.

5.1.4 Check the spark of the spark plug. Normally the sparks should be blue.

5.1.5 Check if the air filter is clean. A dirty air filter will influence the volume of incoming air that may cause bad engine performance.

5.2.3 Move the fuel handle in the starting position (about one third of the whole scale).

See Figure 3.

5.2.4 Pull the starter lightly 3-5 times to push fuel into the cylinder. Then pull faster to start the engine.



Figure 3

Note: After starting the engine, the recoil starter should be retracted slowly. If the rope on the recoil retracts fast, it may cause damage to the engine.

5.2.5 Next, move the choke slowly to full open position. Regulate the fuel handle to a proper position to run at a low speed for 3-5 minutes.

5.2.6 New machines should not work at full open position within the first 4 hours. The speed should be controlled at 4000-5000 rpm.

5.3 Spraying

5.3.1 When adding chemical liquid, it should be poured slowly into the chemical tank. The liquid must be poured through the filter in order to avoid undesired matter from entering into the liquid tank, which could cause harm to the chemical tank or engine. After adding liquid, screw down the chemical tank lid in order to avoid leakage.

5.3.2 Regulate the choke (see Figure 4) to the closed position to start and then move to the full open position when the engine is hot.

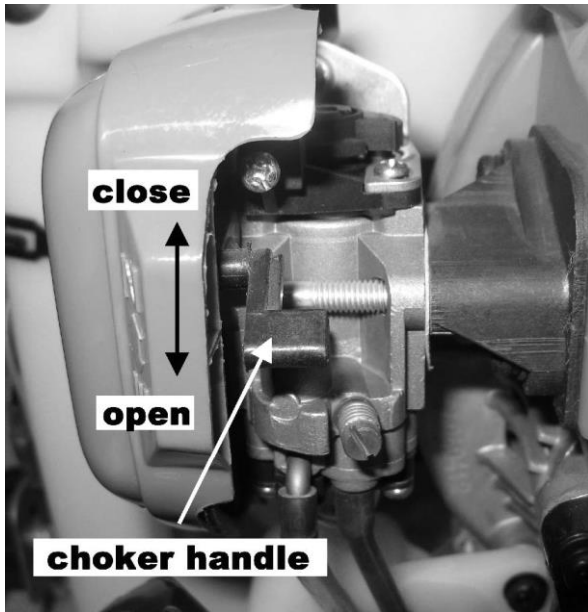


Figure 4

5.3.3 Important notes when spraying:

- A) Swing the spraying tube with your hand after turning on the handle valve. In order to avoid chemical harm, it is strictly prohibited to spray only in one place.
- B) Operator should face the wind. The spraying tube should form an approximate 15° angle.
- C) During spraying, the spraying tube should be swung continuously between the left and the right to increase spraying range.

5.3.4 Pressure regulation. When the engine's speed is 5000-6000rpm, regulate the water pressure of the plunger pump.

If it is necessary to regulate, please do this procedure as per the instructions on Figure 5.

5.3.4 Spraying. Regulate the fuel handle to allow the machine to run at about 6500r/min and turn on the handle spraying valve to begin spraying.

5.3.5 Stopping. Move the stop switch to the STOP position when the engine idles.

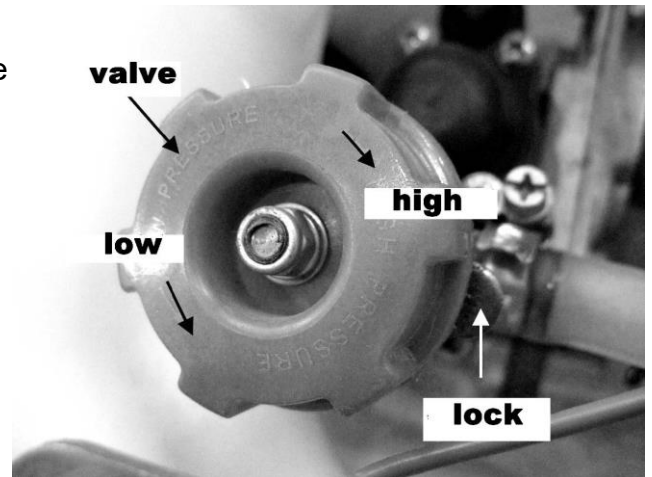


Figure 5

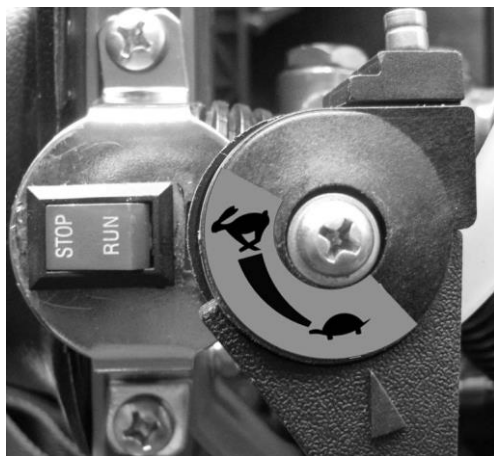


Figure 6

5.4 Avoid fire.

- a) NEVER start a fire or smoke near the machine.
- b) NEVER refuel the machine when it is hot or running.
- c) NEVER pour fuel on the machine. If you do, clean it immediately. After adding fuel, screw down the fuel tank lid, then move the machine to a new place to start the engine.

5.5 Spraying operation.

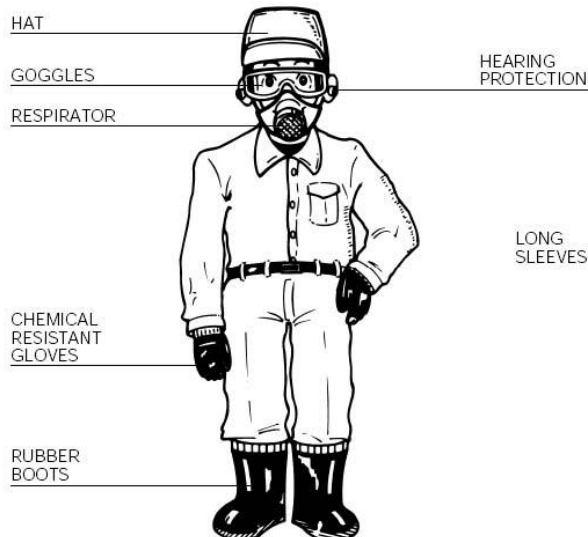
- a) Chemical spraying should be performed under cool weather with little wind. We recommend spraying early in the morning or in the late afternoon. This will reduce evaporation and drift of chemicals improving spray efficiency.
- b) The operator must walk facing the wind.
- c) If chemical touches the operator's mouth or eyes, wash them immediately with clean water and then visit a doctor.
- d) If the operator has a headache or feeling dizzy, he must stop working immediately and should visit a doctor.
- e) For the operator's safety, spraying must be carried out strictly according to the instruction of the chemicals being used.

6.Safe Operation

6.1 Read the instruction manual carefully.

6.2 Protective gear:

- a) Wear a flanged cap
- b) Wear dirt/fog-proof goggles
- c) Wear a gauze mask
- d) Wear a coat guard
- e) Wear long sleeve gloves
- f) Wear boots



7.Troubleshooting

7.1 Engine troubleshooting guide

Problem	Cause	Remedy
Fails to start	Fail to push the fuel-injecting pump	Push continuously
	Water mixed with fuel	Replace the fuel
	Deterioration or carbon deposit of spark plug	Replace the plug
	Bad contact between spark plug and lead wire	Check spark plug
It starts but cannot run at high speed	The choke is not on the full open position	Open to full position
	Wrong ratio of fuel	Replace
	Water in fuel	Replace the fuel
It runs but does not work efficiently	The air filter is dirty	Check and clean
	Outlet of cylinder and muffler are dirty	Remove the dirt
	Piston, piston ring, cylinder have been worn	Replace
Stops while running	Fuel is out	Add fuel
	The lead wire of plug is loose	Check and replace
	Plug covered with carbon	Replace the plug
	The filter is clogged	Clean
	Water in fuel	Replace fuel
	The air hole in the tank lid is clogged	Clean

7.2 Troubleshooting for spraying

Problem	Cause	Remedy
Liquid does not spray out	Inlet valve and outlet valve blocked	Replace or clean
	Washer is damaged	Replace
	6004Z bearing is damaged	Replace
	Piston is damaged	Replace
Low or no spraying pressure	Not enough pressure	Regulate
	Not enough elastic force on regulating spring	Replace
	Corrosion resistant steel ball worn	Replace
	Pressure regulating valve seat worn	Replace
Pressure is fine but spraying is low	Piston is worn	Replace
	Piston running distance is not enough	Replace
	Inlet valve and outlet valve are worn	Replace
	Spraying parts are clogged	Clean
Spraying mist is low	The holes of spraying sheet are worn	Replace
	Spraying parts are clogged	Clean

9. Technical Maintenance and Long Term Storage

(1) Spraying units

a. Clean out any residual chemical mixture in the chemical tank and all other parts after operation with clean water and and dry.

b. Clean the chemical tank inside and out after spraying.

c. Loosen the chemical tank lid.

d. Let the machine run at a low speed 2-3 minutes after cleaning.

(2) Fuel system maintenance

a. Water or dirt in fuel is one of the main cause of the engine trouble, clean the fuel system regularly.

b. Residual fuel remaining in the fuel tank and carburetor for an extended period will clog the fuel system, causing the engine not to work properly. Fuel should be discharged if the machine will not be in use for a week.

(3) Air filter and plug.

a. Clean the filter after every day operation. Dirt adhering to the filter reduces the engine power.

b. Dry filter before reinstalling.

c. Clean stains or carbon off the spark plug and adjust spark gap to 0.6~0.7mm.

d. The plug model of this machine is 4106J, as seen on Figure 13.

Do not use other models.



0.6-0.7mm

Fig 13

Note:

The work including maintenance, cleaning and adjusting must be done after stopping the machine.

Periodically check the braces. Without delay, replace the worn out braces.

(4) Long term storage

a. Clean the machine and apply antirust oil to metal parts.

b. Remove the spark plug and pour 15~20g of 2-stroke engine oil into the cylinder through the spark plug pole. Pull the starter handle 4~5 times to distribute the oil inside the engine. Pull the handle slowly until the piston reaches the top of its travel and leave it there, then install the spark plug.

c. Remove the chemical tank lid, and clean inside and outside, then leave the lid loose.

d. Remove spray wands and clean them. Store separately.

e. Discharge fuel in the tank and carburetor entirely.

f. Cover the machine with a plastic dustcoat and store it in a dry and clean place.



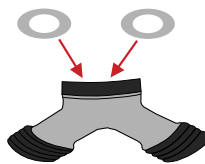
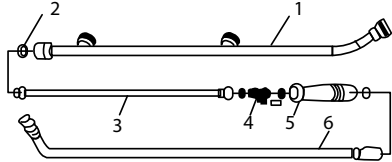
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QUICK HOW-TO GUIDE

www.tomahawk-power.com

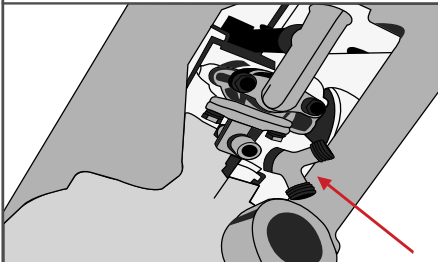
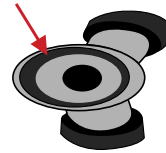
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Start by assembling sprayer wands



Place washers inside brass connectors

Washers



- Double check that all connections are correct and stable.
- Place washers inside brass connectors & screw onto the machine.



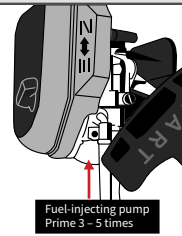
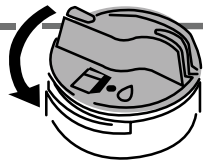
-Do not add fuel while the engine is hot or running

-Avoid filling the tank all the way to the top

-Do not spill fuel on the machine

2

2 stroke oil only



Fuel-injecting pump
Prime 3 - 5 times

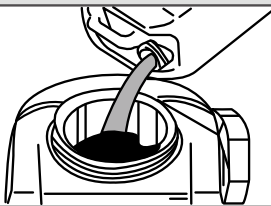
- Mix 30:1 2-Stroke Engine Oil to Gas mixture and pour it in the tank.



-Keep away flammable objects

-Do not add oil near fire sources

3

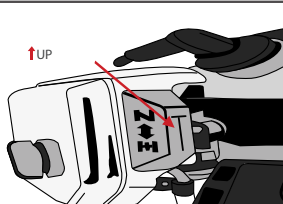


- Slowly pour pesticide liquid into the chemical tank

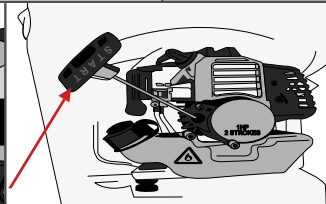
-Keep away flammable objects

-Do not add oil near fire sources

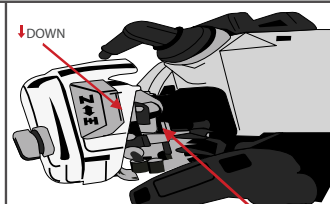
4



- Place choke into its closed position



- Pull the recoil starter a couple of times until engine is running

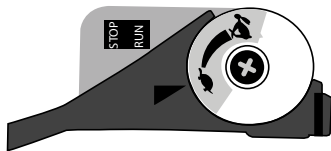


- Move choke to the open position



-Smoking near the machine is strictly prohibited

5



- Maintain the engine running on idle for 3-5 minutes



-Do not add fuel or operate inside an enclosed area

6



- Begin spraying

For questions call:
(866) 577-4476

Warranty and Service

Tomahawk guarantees problem-free quality and will assume the costs for defect remediation by replacing the defective parts in the case of material or manufacturing defects that occur within the guarantee period after the date of purchase. Please note that specific guarantee conditions apply in some countries. Ask your sales person if you have any questions. As vendor of the products he is responsible for the guarantee. We request your understanding that no guarantee can be assumed for damages due to the following: • Non-compliance with the operating instructions. • Neglecting required maintenance and repair work. • Damages due to improper carburetor adjustment. • Normal wear and tear. • Obvious overload through persistently exceeding the upper performance limits. • Using non-approved tools and cutting fixtures, Using non-approved cutting bar and chain lengths in the case of chain saws. • The use of force, improper handling, misuse, or accident. • Damages caused by overheating due to dirt build up on the ventilator casing. All guarantee work must be carried out by a Tomahawk dealer.

Parts subject to wear and tear must be replaced in good time, when required.

The following parts are subject to normal wear and are not covered by the manufacturer's warranty:

- Air filter
- Fuel filter
- All rubber parts which come into contact with fuel
- Spark Plug
- Starter

If you have any questions please contact and visit Tomahawk at

www.tomahawk-power.com

