



INSTRUCTION MANUAL
WEED CLEANING EQUIPMENT
OV-320BD



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Introduction

The instruction manual is offered together with the equipment and is included in its complete set. The instruction should be available directly at the equipment during both storage and maintenance. This manual gives important information about safe and efficient usage of the machine.

The operator must read these instructions and use them. The main requirement for safe work is following all rules of handling the mechanism and compliance with all health and safety regulations which are in force in your area. The manufacturer is not liable for losses due to non-compliance with operating instructions, or health and safety regulations which are in force in your area or your company. The manufacturer is not responsible for improper use, improper maintenance, as well as for unauthorized technical changes and use of non-original spare parts.

Symbols and pictograms

The equipment has a number of pictographs, the understanding of which is mandatory for safe operation of the mechanism.



Figure 1. Warning signs

- Attention! Read carefully all instructions before using the machine;
- Attention! Danger of injuries;
- Attention! Keep sufficient distance to rotating machine parts;
- Attention! Keep your distance from working equipment;
- Attention! Wait for the mechanism to stop completely;
- Wear eyeglasses or face guard for eyes and face protection and head guard to protect hearing.



Figure 2. Before working fill up the engine crankcase with oil



Figure 3. Danger, threat!

Intended usage of the machine

The ARPAL OV-320BD rotary cleaning machine is intended for cleaning of paving slabs, asphalt, concrete plates, joints and other surfaces of weeds, wetlands, soil, grass, difficult pollution, the pressed snow and ice. weeds. Any other usage is considered improper. The manufacturer is not liable for any damages due to inappropriate or improper use of the equipment.

There is a danger of bystanders standing in the area of the cleaning equipment. The risk of bystanders reaching the dangerous zone may be underestimated and unpredictable, so it is forbidden for any person to approach the operating equipment. Always follow the rules of the working process and make sure there are no people in the dangerous area. Stop work immediately when bystanders or animals are nearby. An area with a radius of 2 meters around the machine is considered to be extremely dangerous. Additionally, foreign objects such as stones, glass, wood and other materials may fly out in the direction of rotation of the brush. Therefore, it is necessary to adhere to the maximum possible distance from the machine from the side of possible output of garbage. It is forbidden to operate in places with the increased explosiveness.

Usage of the equipment with technical malfunctions

It is allowed to use the equipment only in perfect technical condition. If the machine is partially damaged, it is necessary to restore its condition and only then proceed to

work. If technical problems occur during use, stop working. Damage must be repaired by specialists before further use.

Operation conditions

The machine can be operated all over the world, in the temperature range from -10 ° C to +40 ° C. It's not allowed to use the cleaning equipment in poor visibility during heavy fog, rain, sand storms and other natural phenomena which can lead to loss of control over the situation and damage to the equipment, people and animals.

Utilizing

In order to protect the environment, materials to be recycled must be separated and disposed of in accordance with local regulations. The same measures apply to materials that cannot be reused or recycled.

Operator`s requirements

- Operator is responsible for the perfect condition of the equipment;
- Examine the control mechanisms of the weed cleaning brushes before work to ensure they are in good condition;
- Make sure that the machine will not cause any inconvenience to bystanders due to increased noise, debris, dust and exhaust fumes;
- Any maintenance or cleaning work on the machine must only be carried out after the mechanism has come to a complete stop and the engine has cooled down;
- The operator must use personal protective equipment. Use sturdy work shoes that will ensure good contact with the surface. Working clothes should not have hanging parts, cords, cuffs. Use protective gloves. Wear protective headphones and goggles, or a protective screen. Loose clothing, long hair, or jewelry may fall on moving parts. Therefore, make sure that the hair is fixed and hidden behind the clothes and remove the jewelry while using the mechanism. When working with dry material, a large amount of dust may form, so use a dust mask or respirator to protect the respiratory system;
- Operator must perform maintenance, replace consumables and lubricate bearings in a timely manner;
- Be sure to read the operating instructions, make sure you understand the entire contents of the instructions. Learn the proper use of equipment and potential hazards. Check out the controls and how to use them. Contact your dealer or manufacturer for clarification of unclear provisions of the instructions;

- The operator must control the condition of all warning labels on the equipment. Signs must be clean, legible and not hidden;
- Before work, the operator must clean the area of large debris that can be removed without using the weed cleaning brush, such as stones, pieces of metal, glass, wood, etc. Keep in mind that such debris can fly out uncontrollably during operation. Therefore, it is important not to allow people and animals to be in the direction of garbage output;
- Only people over the age of 18 who are physically and mentally healthy and who have no contraindications to working with the mechanisms may be admitted to work. Users must have read and studied this manual, any enclosed graphs and schemes and its identification and danger plates. They must be skilled and trained on any use or maintenance activities, as well as they were instructed by the person responsible for labor protection at the company if the equipment is used at the company;
- Persons under the influence of alcohol or drugs and persons with malaise and fatigue, must not be allowed to work, as this may lead to loss of control over the mechanism and the environment. When taking medications, make sure that they do not affect the ability to control the mechanisms;
- Before work, check the integrity of the protective cover, the operation of the coupling mechanism and the tightening of the bolted connections;
- Keep your legs and hands away from rotating elements.
- Do not leave the device unattended!
- Stop work immediately if you hear unusual or abnormal noise from the equipment;
- Do not carry out any repairing works that are beyond your competence.

Treatment of the internal combustion engine:

- Learn how to control the engine. Remember how to turn off the engine in case of emergency. A separate instruction is supplied with the engine, read it.
- Do not place any objects on the engine or store flammable materials and liquids nearby.
- Do not incline the equipment at an angle of more than 20 °, otherwise fuel may leak.
- The internal combustion engine heats up to high temperatures during operation. Make sure there are no people or objects near the hot engine that could be damaged. Touching the hot engine parts can cause burns, and the presence of dry flammable substances can cause a fire.
- Before storing the equipment indoors, make sure that the engine has cooled down to ambient temperature.
- Do not refuel a running or hot engine.
- Thoroughly wipe off traces of fuel and oil.

- Do not start the engine if fuel is spilled nearby.
- Do not use fuel as a cleaning agent.
- When filling the tank, stay away from possible ignition sources.
- Keep the machine away from potential ignition sources.
- Do not use the machine indoors and in a poorly ventilated area. During operation, the engine emits exhaust gases, which at high concentrations can cause poisoning or death.
- Do not use the wood chipper in poor visibility.
- Do not smoke while filling the tank with fuel.
- Do not fill the tank in the cramped, confined and enclosed space.
- After filling the tank with fuel, close the tank cap tightly.

Dimensions and weight of the equipment

Structurally there are two operating positions provided for OV-320BD - working and transportation.

	Working position	Transportation position
Length (mm)	1670	1000
Width (mm)	750	750
Height (mm)	1125	1150
Weigh (kg)	73	73

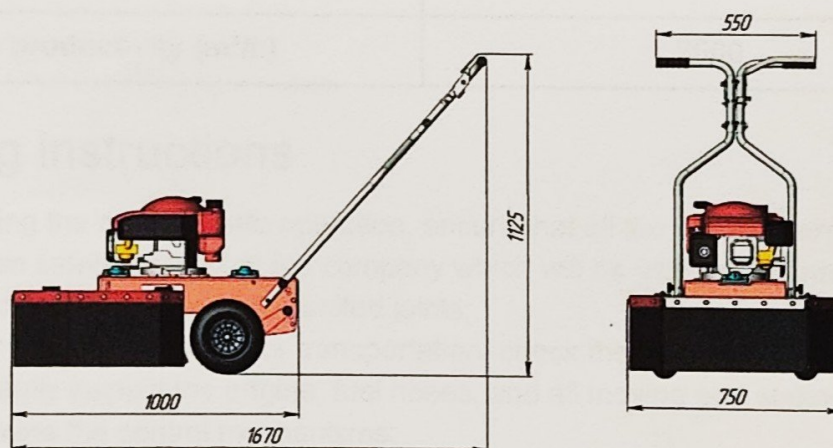


Figure 4. Dimensions of the equipment in the working position

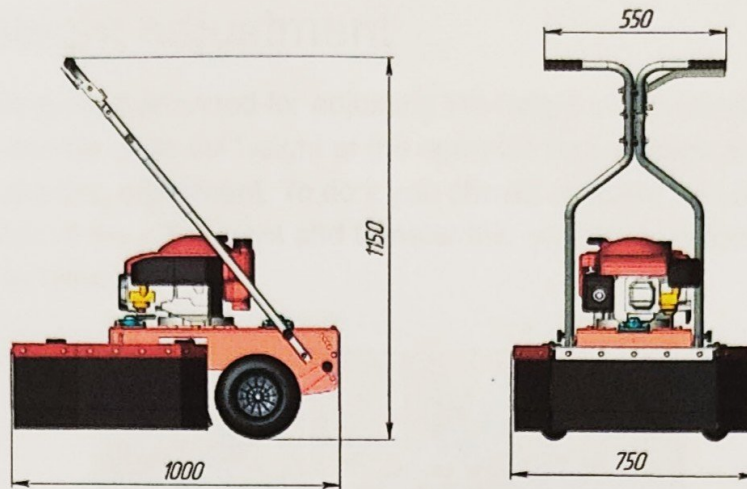


Figure 5. Position for transportation

Specifications

Engine power (HP)	5
Fuel type	Regular
Working area width (mm)	520
Direction of rotation	Clockwise
Brush materials	Steel
Maximum productivity (m³/h)	2500

Starting instructions

Before putting the machine into operation, ensure that all the requirements of local legislation on safety are met at the company which will be using equipment.

- Check the clamping of the bolted joints;
- After long-term storage or transportation, check the integrity of the equipment. Carefully inspect the engine, fuel hoses, and all moving and stationary parts;
- Examine the control mechanisms;
- Lubricate bearings and moving parts if the equipment has not been used for a long time;
- Check the oil level;
- Check the condition of the bristles, replace it in case of wear or damage.

Handle height adjustment

A special mechanism is provided for adjusting the height of the handle. Change the position of the handle up to the height of the operator for confident and comfortable control of the cleaning equipment. To do it you should unscrew two blockers which are on both sides of the equipment and transfer the handle to convenient position then screw back blockers back.

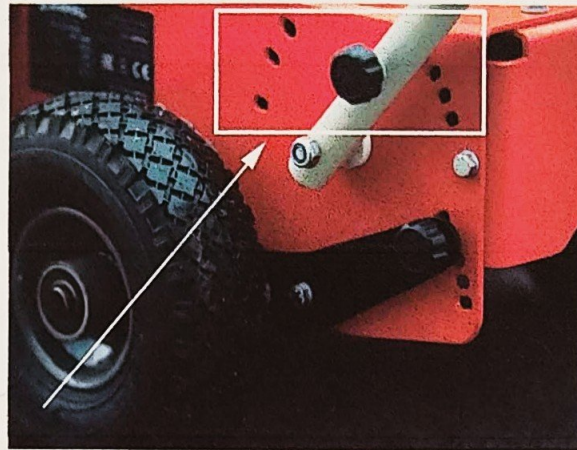


Figure 6. The mechanism for changing the position of the handle
This mechanism is also used to move the handle to the transportation position.

Adjusting the height of the bristles relative to the surface

The OV-320BD weed cleaning brush has a mechanism for changing the height of the brush relative to the surface.

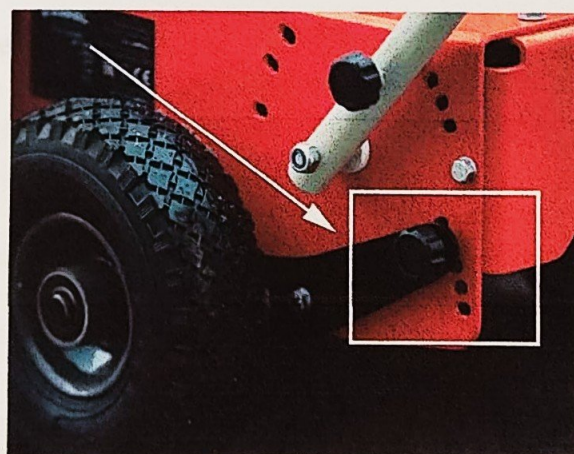


Figure 7. Mechanism for adjusting the height of the bristles relative to the surface

Height adjustment is used for gradual wear of the bristles, to adjust the pressure of the brush and to change the angle of the brush relative to the surface.

Starting the engine

- Ensure that all bolted connections are tightened. Before starting, make sure that there are no tools left inside or outside the equipment. For example, a wrench, screwdrivers, etc.;
- Fill the crankcase with oil. Use 10W40, 10W40 or 20W40 engine oil;
- Fill the fuel tank with fuel. Use regular fuel;
- Turn the switch to "On";

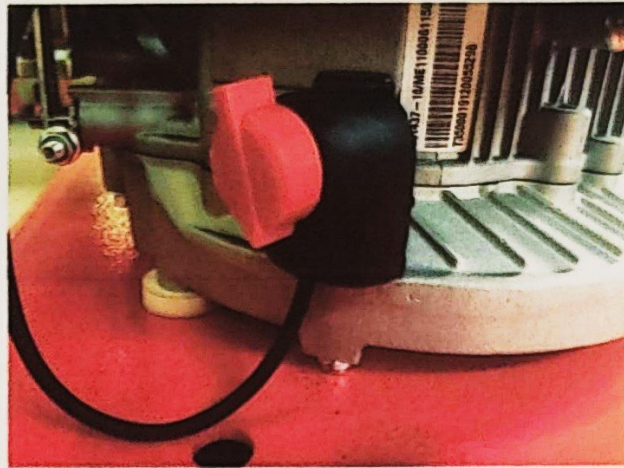


Figure 23. Switch and position marks

- Set the speed control (throttle valve) to the max speed position (you will open the air damper);
- Gently pull the starter rope to the point of resistance, the cord must be tightened;
- Pull the starter cord sharply to start the engine;
- Slowly return the starter cord to its original position;
- Adjust the speed and close the air damper immediately after starting the engine;
- Warm up the engine for a few minutes before starting to work;
- To stop the engine, turn the switch to the "Off" position or move the throttle to the minimum position

Important! It is not allowed to run the brush with opened the air damper

Specifications of the engines may vary, **READ** engine's manual before starting.

If the air damper is open for a long time after starting the engine, it may cause the carburetor to "flood" and stop the engine. Excess fuel in the combustion chamber can increase engine wear. Hold the damper open only to warm up the engine at idle.

Do not keep the air damper open during operation.

Before starting, make sure that the disc is not clogged.

Avoid any contact with rotating parts.

Stay away from the rotating parts.

To transfer the speed from the motor to the brush, clamp the clutch lever.



Figure 8. Clutch lever

To stop, release the clutch lever. The engine will idle, but the speed will not be transmitted to the brush.

Maintenance

To run in the engine, do not give the maximum load during the first 20 hours of operation. After running-in, change the oil.

Be sure to check the tightening of the bolts before each use.

A description of engine maintenance and care can be found in the engine operating instructions. It includes all the necessary maintenance steps, such as oil change and spark plug replacement intervals.

After each usage, remove the stuck dirt from the brushes and wheels and wipe the dust of the entire cleaning equipment.

Inspect bearings regularly, and inject grease every 50 hours of operation.

Inspect the bristles regularly. If the bristles are worn and have a length of less than 3-4 cm, which is not enough for normal contact with the surface, install a new kit. Each bristle is fastened to the base with two bolts. To replace them, the brush must be inclined. Make sure that the fuel tank is empty and that the fuel does not spill when inclined, and also ensure that the brush is securely locked in an inclined position to prevent the equipment from tipping over and injuring the operator.

Check drive belts, if they show signs of wear, replace them.

Storage conditions

Store the weed cleaning equipment in a dry place, with ventilation and out of direct sunlight. Be sure to clean the machine before storage, dirt accumulates moisture, which leads to corrosion. If necessary, repair the damaged paint and cover all unprotected metal surfaces with a thin layer of oil. For long-term storage, drain the fuel from the fuel tank. Make sure that the machine is securely locked and will not move spontaneously.

Cleaning

The machine must not be cleaned with high pressure washers. Use brushes for cleaning, compressed air and damp cloths for dust removing.

Troubleshooting

Problem	Possible cause	Solution
Engine doesn't start	<ul style="list-style-type: none"> • Engine malfunction. • The throttle is not set to the start position. • Lack of fuel. • Lack of engine oil. • No spark on the spark plug. • Dirty air filter. • "Flooded carburetor". • Inappropriate fuel. 	<ul style="list-style-type: none"> • Refer to the engine operating instructions for more detailed detecting of the problem. • Move the throttle to the engine start position. • Pour fuel into the tank. • Pour engine oil into the engine. • Check and, if necessary, clean or replace the spark plug. • Clean the air filter • Unscrew the spark plug, clean it and dry it. Pull the starter cord for several times. • Drain fuel and clear the carburetor. Fill the carburetor with clean, fresh fuel.
When the clutch is clamped, the brush does not rotate, or rotates intermittently and stops when it is pressed against the surface. The engine continues to run.	<ul style="list-style-type: none"> • The belts are loose or worn out. 	<ul style="list-style-type: none"> • Adjust or replace the belts.
Abnormal noise, rattling, vibration.	<ul style="list-style-type: none"> • Loose bolted joints 	<ul style="list-style-type: none"> • Check and tighten all bolted joints.

Warranty policy

1. The warranty on the weed cleaning equipment OV-320BD is 3 years. Engine warranty - 1 year. The manufacturer is responsible for the warranty of the engine. The description and conditions of a guarantee to the engine are specified in the separate document.
2. The warranty covers defects in materials used in the process of producing the materials, errors of the manufacturer during the parts producing and assembly of the finished structure. The manufacturer will send the required part at his own expense instead of a defective one. Otherwise, the manufacturer will carry out repairs at the customer's place at his own expense.
3. The warranty does not cover consumables such as belts, work brushes, protective curtain made of PVC textiles, starter rope, spark plugs, air filter, etc. If at the time of delivery they were in working order and if it is impossible to demonstrate the delivery of defective or damaged items.
4. Warranty claims are not accepted if equipment has been used improperly or incorrectly. Improper use also includes untimely maintenance and improper storage of equipment.
5. Breakdowns caused by the use of equipment without studying the instructions and with the usage of elements or spare parts of non-original production are not covered by the warranty. The same applies to self-interference in the design of the equipment.
6. The warranty does not cover damage caused by careless handling and maintenance of the equipment, or its overload.
7. The warranty does not cover damage caused by natural disasters.
8. Any warranty claims must be made in writing with the documents confirming the manufacturer's warranty.