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OPERATION MANUAL

ASPHALT AND CONCRETE CUTTERS

ORIGINAL OPERATION MANUAL

(2006/42EC) (version 01/2017)

Models: RZ 122, RZ 172, RZ202

ES/EU PROHLÁŠENÍ O SHODĚ *(originál)*

EC/EU Declaration of Conformity (original)

Prohlašujeme, že zařízení definované níže uvedenými údaji je ve shodě s požadavky níže uvedených NV a směrnic
We declare that the trough below mentioned specifications defined equipment complies with requirements of below cited Directives

Výrobce *(manufacturer):*	**NTC STAVEBNÍ TECHNIKA spol. s r.o.**
Sídlo firmy *(company domicile):*	**Jiřinkováá 120, Česká Skalice 552 03**
Sídlo provozovny: *(office premises)*	
IČ *(identification number):*	**63221152**
Osoba pověřená sestavením a uchováváním technické dokumentace: *(Person in charge of assembling and storing technical documentation)*	**NTC STAVEBNÍ TECHNIKA spol. s r.o.**
Název *(model):*	**ŘEZAČ SPÁR / FLOOR SAW**
Typ *(type):*	**RZ 122, 172, 202**
Výrobní číslo *(serial number)*	
Popis *(description):*	Řezače spár jsou určeny pro řezání spár do asfaltových a betonových povrchů, např. při opravách vozovek, průmyslových ploch apod. Pohon řezače spár je zajištěn čtyřdobým jednoválcovým motorem HONDA (čistý výkon GX270 - 6,3 kW / GX390 - 8,72 kW). *Asphalt and concrete cutters are designed for cutting of joints in asphalt or concrete surfaces, i.e. at repairs of roads, industrial areas, etc. The machine is driven with four-stroke single-cylinder engine HONDA (net power GX270 - 6,3 kW / GX390 - 8,7 kW).*
Všechna příslušná ustanovení, která výrobek splňuje *(The product meets all relevent provisions)*	Strojní zařízení – směrnice 2006/42/ES; NV č.176/2008 Sb. *Machinery Directive 2006/42/EC* Emise hluku – směrnice 2000/14/ES; NV č.9/2002 Sb. *Noise Emission 2000/14/EC* Elektromagnetická kompatibilita – směrnice 2014/30/EU; NV č.117/2016 Sb. *Electromagnetic Compatibility Directive 2014/30/EU*
Harmonizované technické normy a technické normy: *(The harmonized technical standards and technical standards)*	**ČSN EN ISO 12100, ČSN EN ISO 13862** **ČSN EN 60204-1 ed.2, EN ISO 14982:2009**
Naměřená hladina akustického výkonu: *(Measured sound power level)*	L_{WA} = **RZ122 - 99 dB, RZ172 - 101 dB, RZ202 - 101 dB**
Garantovaná hladina akustického výkonu: *(Guaranteed sound power level)*	L_{WA} = **RZ122 - 103 dB, RZ172 - 105 dB, RZ202 - 105 dB**

Poznámka: Veškeré předpisy byly použity ve znění jejich změn a doplňků platných v době vydání tohoto prohlášení bez jejich citování.
Note: All regulations were applied in wording of later amendments and modifications valid at the time of this declaration issue without any citation of them.

Místo a datum vydání:
Place and date of issue:
Česká Skalice, 01.09.2012

Osoba zmocněná k podpisu za výrobce:
Signed by the person entitled do deal in the name of producer:

Jméno (Name):
Ing. Petr Ratsam

Funkce (Grade)
jednatel společnosti *(Company Executive)*

Podpis *(signature)*

Congratulations! You have purchased an asphalt and concrete cutter NTC. You receive high-quality and powerful machine, intended for professional use under the heaviest conditions.

Read carefully this operation manual before starting the machine and always keep the instruction - this way you will secure safe operation, high working output and long durability of the machine.

The manufacturer bears no responsibility for damages arising from not keeping the operation manual.

This machine was manufactured by NTC STAVEBNÍ TECHNIKA spol. s r.o.
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NTC STAVEBNÍ TECHNIKA spol. s r.o. is a light construction equipment manufacturer with a long-term experience. NTC machines are exported to many European countries, among others to Spain, Netherlands, Italy, Hungary, Romania and Russia.
NTC has certified quality control system according to ISO 9001:2009.
All manufactured models undergo testing, measuring and consideration of safety risks; all machines conform to safety standards and bear the CE mark.

CONTENT:

1. SAFETY INSTRUCTIONS

1.1. General instructions for operation of light construction equipment

1.1.1. Requirements for qualification of the operator

1. The machine must be operated by trained reliable operators of age above 18. The operator must read and understand the safety instructions, the regulations valid for the respective jobsite and valid technological procedure. This should be proved by getting the operator's signature.
2. The operator is obliged to use suitable working dress, safety gloves and firm boots with hard tip. Do not wear loose or torn clothes, chains or jewelry that could be caught by moving parts of the machine. The operator is obliged to use safety goggles and ear protection.
3. The machine may be used for intended purpose only, in accordance with this operation manual.

1.1.2. Contractor's obligations

The contractor is understood to be a physical or legal person that carries out construction works and for such purpose uses construction equipment. The contractor is responsible for operational safety.

The contractor is obliged to:

- designate the operator and arrange his training
- ensure safe working conditions
- inspect attendance of the safety regulations
- inspect that the operator works with the machine in accordance with the Operation Manual
- ensure regular inspections, maintenance and repairs of the machine
- store the Operation Manual so that it is readily available
- arrange suitable, safe and adequate storing of the machine when not in use

The contractor is also responsible for proper attendance of lawful regulations of work safety and regulations valid for each respective jobsite.

1.1.3. Operator's obligations

The operator is to be designated by the contractor, while keeping conditions of the article 1.1.1.

The operator is namely obliged to:

- prior to starting, he should read and understand the Operation Manual including the safety instructions
- attend all instructions of the Operation Manual
- learn about the jobsite and the locally valid safety regulations; these must be kept during the work
- pay full attention to operation of the machine
- arrange that regular inspections, maintenance and repairs of the machine are carried our as according to the Operation Manual
- require from the contractor proper conditions for keeping safety instructions, regular inspections, maintenance and repairs
- avoid damage, misuse or unauthorized use to the machine, namely by proper storing the machine to a secured place

1.1.4. Operation of the machine

When operating the machine, following steps need to be done:

1. Before starting inspect the machine visually, mainly all protective elements (for example covers) and controls. Also check the fuel system for fuel leakage and engine oil leakage. In case of finding any failure it is

prohibited to operate the machine until fixing the problem.
2. During operation use suitable working dress required by related regulation (helmet, ear protection, protective glasses, gloves, shoes, etc.) Don't wear loose or torn clothes, chains or jewelery which could be caught by moving part of the machine and cause injury.
3. Before beginning the work check if it is possible to start the machine without causing harm to the operator or other people.
4. Don´t start the engine in closed rooms, if sufficient air ventilaiton isn´t ensured.
5. During operation pay full attention to operating the machine, to not cause harm to the operator or other people or to not cause any collision with obstacles or other machines and vehicles.
6. Check the machine during operation for any unusual noise or for smoke which could signalize any defect. In such cases stop the operation immediately and arrange repair of the machines.
7. Stop the engine before refuelling. Avoid contact of fuel and hot parts of the engine. Don´t fill the fuel up to the edge of the tank. Clean any fuel which runs over the tank.
8. It is necessary to keep the fuel tank tightly closed. Close the fuel tap when not in operation. Drain the fuel before transporting the machine for longer distances.

DANGER! Leaking fuel tank and distribution may cause explosion. Replace these parts immediately if damaged.

9. It is prohibited to operate the machine in areas with danger of explosion of flammable gas or dust.
10. If operated in closed spaces (halls, tunnels, pits), sufficient air ventilation must be ensuredo not operate the machine in areas with explosion danger.
11. After finishing operation, turn the engine off and store the machine in a safe place and secure it against stealing or unauthorised use. Store the machine so it would not fall or overturn or hinder the movement of other machines or vehicles.

1.1.5. Maintenance and Service

1. Check the technical condition of the machines regularly, with special attention to proper function of protective and control units. In case of any defects ensure the repair.
2. Service works can be done only by qualified person authorized by the machine user or worker by service company.
3. Service works can be done only at such place, where the ecological regulation, cleanness and safety of the work. If possible, do the service work in workshop with sufficient equipment.
4. Service works can be done only when engine is turned off. If the engine needs to be started for some purposes, pay full attention to work safety.
5. Always use only original spare parts. Only original spare parts were tested by the manufacturer and guarantee safe machine operation.
6. Any changes and modifications of the machine can be done only with explicit approval of the manufacturer.

1.1.6. Transport and Storage

1. It is allowed to use only equipment with sufficient carrying capacity for loading and transporting the machine (machine weight is mentioned in chapter "Basic technical parameters".
2. When loading the machine by crane, it is necessary to oblige the valid rules of working with crane. This can be done only qualified person with proper authorization.
3. Attach the hoist belts to indicated machine spots.
4. When manipulating by hand, usually cooperation of more people is necessary, so the maximum lifting limit for one person would not be broken.

5. Always secure the machine against falling, tipping or sliding during transport.
6. Machine can be transported only in upright position with hand brake engaged.

1.2. Prohibited activities

Never:

- use the machine for other than intended purposes
- use the machine in other way than as described in the Operation Manual
- operate the machine drunk or intoxicated
- operated the machine if its operation could cause harm to other people
- start and operate the machine if there are other people within the dangerous area
- operate the machine if some safety device (i.e. cover) is damaged or missing
- operate the machine in areas with external risks (risk of soil flow, dangerous fumes, risk of explosion, risk of electrical shock, etc.)
- operate the machine in areas where its operation may cause damage to buildings, structures or utility lines
- operate the machine within the protective range of power lines or transformer stations
- operate the machine under poor visibility or at night, unless the jobsite is sufficiently illuminated
- leave unprotected machine
- disable or modify safety devices, protective and safety systems
- operate the machine with leaking oil, fuel or other liquids
- start the engine in other way than described in the Operation Manual
- clean a running machine
- smoke or use naked flame when refueling

1.3. Hygienic principles

Oil derivates (fuel, lubricants) as well as paints and thinners are harmful agents. Anyone who gets into contact with such agents is obliged to protect himself and follow general principles health protection as well as to follow instructions valid for each specific agent.

Pay special care to:

- skin care
- wash hands properly after finishing the work and apply suitable cream

Store the fuels, lubricants, paints, thinners, cleansing and conservation agents, as well as other dangerous agents in original containers, properly sealed. Never allow storing in unmarked bottles or containers or even in beverage bottles. Store such agents in safe place, out of reach of children.

In case that the agent gets into touch with skin or eyes, or when it is eaten or inhaled, apply the first aid and get immediately medical aid.

1.4. Environmental principles

Fuel, lubricants and other operational fluids are harmful to environment. This category also includes part of the machine that get into contact with operational fluids, such as filter and hydraulic hoses.

After use these belong to dangerous waste.

Pay high attention to avoid leakage of the fluids and their escape into soil or water (including the sewage).

Store the fluids in such manner, that the fluids gets caught in case of accidental leakage.

If these agents still escape, arrange their safe collection and liquidation.

1.5. Liquidation of the machine

By liquidation of the machine after its lifefime the user is obliged to meet the requirements of all regulations of wastes and environmental protection. Engine oil has to be drained and used filters have to be removed from machine for liquidation.

In accordance with regulation of wastes the owner of liquidated machine needs to oblige:

- pass the iron parts only to companies who are authorised to handle and dispose of this kind of waste
- pass the used engine oil only to companies who are authorised to handle the waste oils

NTC is not responsible for harm of user´s health or environment in case of breaking higher mentioned hygienical an ecological rules.

1.6. Safety Instructions

Besides of general safety instruction, the following special instruction must be followed:

1. Prior to starting the work, find out where are underground spaces, utility lines, etc.
2. Never remove the blade cover when the engine is running.
3. After stopping the engine, wait till the blade gets fully halted.
4. After fitting the cutting blade, pace on the cover and secure it.
5. Be sure to remove the wrenches from the blade shaft!
6. Do no allow other people close to running machine.
7. **DANGER!**
   The cutting blade is always turning as soon as the engine is started. The revolving blade presents a risk of injury!

1.7. Hygienic data

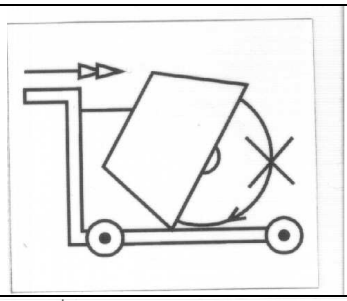
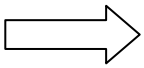
	RZ 122	RZ 172	RZ 202
Declared noise emission level at the operator $\mathbf{L_{pAd}}$ [dB]	90	92	92
Guaranteed sound power level $\mathbf{L_{WA,G}}$ [dB]	99+4	101+4	101+4
Acceleration transferred to hands $\mathbf{a_{hvd}}$ [m.sec^{-2}]	10,42+4,17	5,22+2,09	5,22+2,09

Information for users of above mentioned machinery, requested by directives: 2003/10/ES – exposure of operators to noise and 2002/44/ES – exposure of operators to vibrations (czech equivalent NV no. 272/2011 Sb.):
With regard to declared acoustic pressure value A at working place of the operator and to declared aggregate value of hand-arm vibrations transferred to the operator it is necessary to use protective equipment effective against above mentioned noise value and hand-arm vibrations when operating the particular type of the floor saws and further it is necessary to modify the working processes because of setting technological breaks due to reduce the exposure of the operator to the hand-arm vibrations.

1.8. List of used safety stickers

In accordance with requirement of regulation no. 22/1997 Sb. about technical requirements of products, there are decals of safety marks and symbols placed on mentioned models of floor cutters (models – in point 2.1.). Images of these decals are in accordance of appropriate technical ČSN directive.
The individual decal types are describe below, in the order of their placement on the machine. There is explaining text attached to each decal and symbol below.

1.	Associated decal containing safety marks according to ČSN ISO 3864 (symbol no. B.2.5, B.3.1 and NB.2.26), mark according to ČS ISO 6405-1 (symbol no. 7.28) and information for machine operation in practice. Safety mark, symbol no. B.2.5 instructs the operator to wear the ear protection for the whole time of operation. Mark, symbol no. 7.28 instructs the operator to read manual before starting operation. Safety mark, symbol no. NB.2.26 instructs the operator to use protective gloves as protection against vibration for the whole time of operation. Alert safety mark, symbol no, B.3.1 (exclamation mark) warns the operator of danger risk. Information for the operator how to acts when repairing, cleaning or adjusting the machine.	
2.	Decal of symbol no. 7.23 according to ČSN ISO 6405-01 (decal marks the spot, which should be lubricated with grease, according to operation manual).	
3.	Decal of symbol no. 8.1according to ČSN ISO 6405-1 (decal marks the spot, where the engine oil drain bolt is located).	
4.	Associated decal containing warning mark no. B.3.1 according to ČSN ISO 3864, further warning symbol and text of safety orders important for operating the machine. Warning safety mark, symbol B.3.1 (exclamation mark) warns the operator of danger risk. Symbol shows the cutting blade and shoe, which express: WARNING, DANGER OF FOOT INJURY BY ROTATING CUTTING BLADE“. Written information of instructions for machine operation.	
5.	Decal no. 7.25 according to ČSN ISO 6405-1 (symbol marks two lifting points = points that can be used for hoisting the machine).	

6.	Decal informing, that the machine can´t be moved over the site with running cutting blade (when the cutting blade is not in operation)	
7.	Decal informing about fuel type	
8.	Decal BLACK ARROW (decal marks the rotation direction of the cutting blade)	
9.	Decal WHITE ARROW (decal marks the grade of cutting blade setting towards the cut material on the depth scale)	
10.	Decal showing the depth scale	
11.	Decal showing the noise emission value, which was measured by test according to conditions of NV no. 9/2002 Sb. in the machine (models – see point 2.1) The value is only informative, it varies according to machine model.	

1.9. Packing material handling

Company NTC STAVEBNÍ TECHNIKA spol. s r.o. is registered by company EKO-KOM a.s.
Agreement about the repurchase of all kinds of packing materials "Agreement of associated fulfillment" is concluded with company EKO-KOM a.s., by company NTC STAVEBNÍ TECHNIKA spol. s r.o. or suppliers of packing materials.

2. TECHNICAL DESCRIPTION

The asphalt and concrete cutters RZ are intended for cutting of asphalt and concrete floors or road layers when repairing roads, industrial areas, etc.
The machine is based on a rigid frame with fixed spindle; the cutting disc is lowered to the cut together with the whole frame. Lowering and rising of the cutting disc is controlled by means of a arrested handle that enables fine regulation of cutting depth.
The machine is intended for wet cutting and therefore it is equipped with a sprinkling system. Water for sprinkling can be brought either from machines-mounted water tank of from external source.
The machines can be used also for dry cutting, assuming a suitable cutting disc is used. This method however causes high generation of dust and thus breathing protection would be required.
The machine is driven by a single-cylinder, four-stroke gasoline engine HONDA.
Travel is manual; the operator pushes the machines by height-adjustable handle.
Floor saws RZ are equipped with a reference depth scale.

2.1. Basic Technical Data:

		RZ 122	RZ 172	RZ 202
Cutting depth	(mm)	120	170	200
Cutting disc fastening		at right	at right	at right
Max. disc dia	(mm)	350 (400)	450	520
Travel		manual	manual	manual
Cutting depth adjust.		mechanical, adjustable		
Fastening hole dia	(mm)	25,4	25,4	25,4
Spindle speed	(RPM)	3400	2800	2500
Water tank capacity	(ltr)	33	33	33
Weight (waterless)	(kg)	103	113	116
Dimensions L x W x H	(mm)	1120x550x1060	1120x550x1060	1120x550x1060
Engine		HONDA GX270	HONDA GX390	HONDA GX 390
Max. power	(kW)	6,3	8,7	8,7
Max. speed	(RPM)	3600	3600	3600
Oil sensor		yes	yes	yes
Fuel consumption	(ltr/hr)	1,5	2,2	2,2

- Engine output is mentioned according SAE J1349

Actual output of the engine installed in the machine can be different with regard to various factors, such as operation speed of the engine, operation conditions, maintenance and other factors.
Engine operation speed is not identical with engine rated speed and this is set according to technical parameters of the machine.

2.2. Lubricants

For use in both engine and the vibrator use high-quality engine oils of the following specifications: 15W-40 API SJ/CF

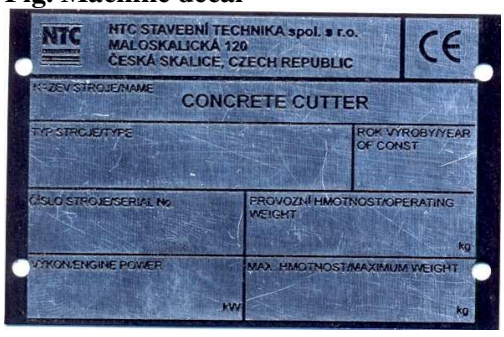
- engine oil	HONDA GX270	approx. 1,1 ltr
	HONDA GX390	approx. 1,1 ltr

Alternatively also other brand quality oils of viscosity class SAE 15W-40 and output classification API SG/CF 4, API SG/CE can be used.

2.3. Identification

For communication with the manufacturer (i.e. for warranty claims, service requests, spare parts ordering) always report exact model and serial number of your machine.
These data are stamped on the machine decal.

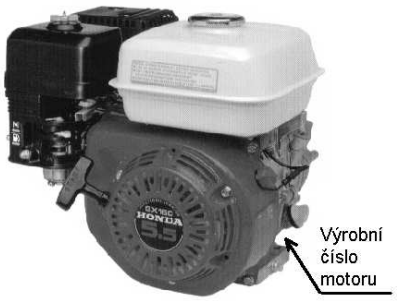
Fig. Machine decal



2.4. Engine Identification

In case of problems related to the engine report also engine type and serial number. This number is stamped on the engine block (HONDA) If you have doubts, contact the manufacturer.
In case of warranty claims, contact your local Honda distributor.

Fir. Location of the S/N on engine HONDA



3. PRIOR TO STARTING

- Check whether the engine leaking (leaks) oil. In case of defect, contact an authorized service center or manufacturer.
- Bolted connections for loop control of depth of cut and the matrix arm guidance (SS 120, 170) are glued. Screws at the pulleys, the drive chassis are tight and prescribed the query moment. We therefore recommend against any potential activity associated with permitting and tightening of joints, and contact information to an authorized service center or manufacturer.

3.1. Check - Oil Level

It is highly recommended to check regularly the engine oil level even at machines equipped with the oil sensor.
In case of a machine without the oil sensor, daily check is a must.

NOTE :
Operation with insufficient oil level may cause serious damage to the engine.

Check the engine oil level daily!

Oil level check:

Place the machine in horizontal position. Unsrew the plug from the check / filling hole on the engine. If the oil level is correct, the oil flows out slightly.

3.2. Visual Inspection of the Machine

Check regularly the machine for:

- missing parts
- released bolts and screws
- oil or fuel leakage
- free motion of the cutting disc spindle

Pay special attention to safety devices (covers) and controls.

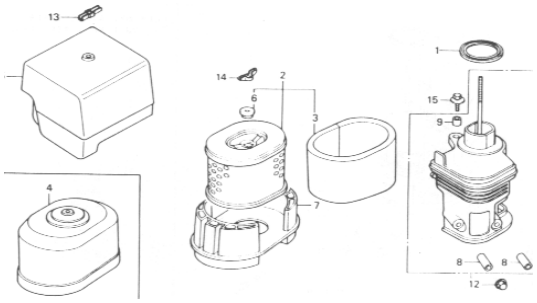
3.3. Adding Fuel

1. **Gasoline engines:**
   Use unleaded or leaded gasoline for motor vehicles, with octane number 91 or more.
   Top up fuel as necessary.
   Never use dirty fuel or mixture with oil.
   Avoid water and dust from entering the fuel tank.

3.4. Check - Air Filter

Check the air filter for cleanness on a daily basis. Clean or replace the filter if dirty.
Never run the machine with air filter missing or damaged. Dust and dirt which get into the engine would cause rapid wear.

Fig. Air filter - HONDA



3.5 Tipping machine

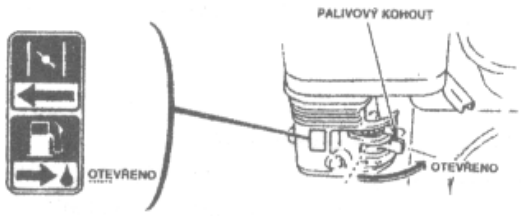
Tipping machine when the machine tipped over may break of oil into the carburetor, or the plunger. Therefore, we recommend to inform the authorized service center, or the manufacturer about how to proceed.

4. OPERATION

4.1. Starting

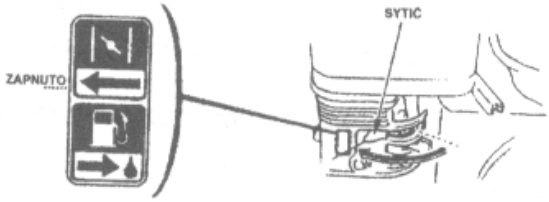
4.1.1. Gasoline Engines HONDA

1. Turn the fuel tap into the ON position.

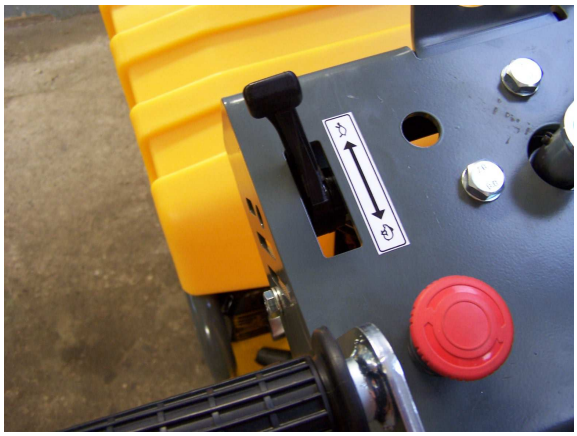


2. Turn on the electric switch of ignition.

3. Engage the choke („CHOKE“). Do not use it at warm engine or at high ambient temperature.



4. Adjust the throttle control lever to idle (turtle image)



5. Pull out the starter grip slowly till some resistance is felt, then pull vehemently. Do not release the grip, but return it slowly into the original position.
6. Let the engine to warm up, then disengage the choke.
7. Let the engine to run at idle for a while before loading.
8. For cutting, shift the throttle control lever to fully open position.

DANGER!

The spindle and the cutting disc begins to rotate immediately. Be sure that the revolving disc would not cause any danger for the bystanders. Have the disc cover closed before starting.

By operating HONDA engines obey the instructions of the HONDA engine manual.

4.2. Operation

4.2.1. Selection of the Cutting Disc

For safe and efficient operation, right selection of the cutting disc is highly important. Choose a high-quality diamond cutting disc and appropriate type depending on the material to be cut (asphalt, concrete).

Cutting discs of most suppliers are divided in quality categories (standard/profi etc.), sometimes also according to length and height of the diamond segments, spacing, etc.

Cutting disc diameter is to be selected according to the type of the machine; if possible, choose always the maximal allowed diameter (RZ 122 350 mm, RZ 172 450 mm, RZ 202 520 mm). The spindle speed is adjusted for this size to keep optimal circumferential cutting speed of the disc.

4.2.2. Fastening of the Cutting Disc

1. Turn off the engine and open the disc cover.
2. Use the enclosed wrenches to hold the spindle and unscrew the fastening nut. NOTE: Left thread!
3. Fit the cutting disc on the spindle and secure it.
4. Close the disc cover and secure it.

4.2.3. Cutting

1. Have the disc raised above floor. Start the engine and set full throttle.
2. Open the water tap to engage sprinkling.
3. Move the machine to the beginning of the cut.
4. Lower slowly the disc into the cut, till required cutting depth is reached.
5. Sensitively push the machine forward and follow the marked path (use the guide).
6. The machine can only cut in straight direction. In case the direction must be changed, raise the disc from the cut, take new direction and lower the disc again.
7. At the end of the cut, raise the disc, set the throttle to idle.

NOTE! The cutting disc should be sprinkled all the time. Follow the water level in the tank and timely add water as necessary. Dry cutting may cause fast damage to the disc.

For optimal service life of the cutting disc, the operator should work carefully and sensitively. Do not force the machine!

Nevertheless, lifetime of the disc may vary depending on the material to be cut and other factors.

4.2.4. Cutting Depth Scale

Cutters RZ 122, RZ 172, RZ 202 have the cutting depth scale. Use the scale as follows:

1. Lower the disc just to touch the ground. In this position, adjust the "zero" using the wing nuts below the scale.
2. Alternatively you can just remember the value on the scale and then add or subtract required cutting depth as necessary.

The cutting depth is to be set up as follows: Turn the handle by 1 revolution = disc rising/lowering by 15 mm.

4.3. Engine Turning-Off

1. Shift the throttle control lever to idle position (see point 4.1.1.4)
2. Let the engine to idle for a while to cool down.
3. Turn the ignition switch to "OFF" (see point 4.1.1.2).
4. Close the fuel tap (see point 4.1.1.1).

4.4. Handling, Transport, Storing

When handling the machine keep safety regulation shown in this manual and well as general safety rules valid for operation of lifting or hoisting equipment.

4.4.1. Manual Handling

For manual lifting, cooperation of mode people is required. Hold the machine by frame or the base plate. Never lift the machine by engine.

4.4.2. Handling by Crane

Use a crane of sufficient payload (see Technical Data). Observe the regulations valid for operation of cranes. Only qualified personnel may carry out this work.

Fasten the lifting cable to the marked point at the machine.

4.4.3. Handling by Forklift

Should be the machine extensively handled by a forklift (as when sending it by a parcel service), it is recommended to palletize it. For one machine one small pallet (0,6x0,8 m) can be used, for two machines use standard EUR pallet (1,2x0,8m).

4.4.4. Transport

Secure the machine against rolling over, falling down or sliding on the carrier. Fasten the binding means to suitable points at the frame.

NOTE:
The machine must be kept in upright position. In case of tipping the machine, see point 3.5.

4.4.5. Storing

Store the machine on a safe place, secured from theft and misuse. We recommend an indoor dry place, without excessive concentration of chemical agents and dust.

Prior to long-term storing clean the machine, repair the paint and apply suitable preservation agents. Mark visibly that the machine has been conservated.

4.5. Special Conditions of Operation

4.5.1. Work at Low Temperatures

The cutter is able to work even at low temperatures. Let the engine to warm up sufficiently before commencing the work.

In case that the machine is difficult to start, let it warm up at room temperature first.

4.5.2. Work at High Altitudes

With rising altitude the engine power decreases due to changed air/fuel ratio. The engine power can be partially improved by changing of the main nozzle and different adjustment of the carburetor (gasoline engines) or different adjustment by the injector (diesel engines).

In case that the engine should work long-term above 1500 m above seal level, we recommend to contact a nearest authorized service for the respective engine.
In case that you plan this kind of operation already when purchasing a new machine, notify the manufacturer.

4.5.3. Work in Dusty Environment

In case of dusty environment shorten the cleaning/replacement intervals of the air filter to half. Clean the machine from dust regularly.

5. MAINTENANCE

The basic activities of maintenance, which are described in this Manual can be carried out by the designated operator.
Repairs and adjustments beyond the extent of this Manual should be committed to an authorized service.

Bolted connections to the loop control of depth of cut and the nut of guide arm are glued. Bolts by a pulley, the drive chassis are torque tightened. We therefore recommend against any potential activity associated with permitting and tightening of joints, and contact information to an authorized service center or manufacturer.

5.1. Maintenance of the Engine

- see enclosed Engine Operation Manual

5.2. Tensioning of the Drive Belts

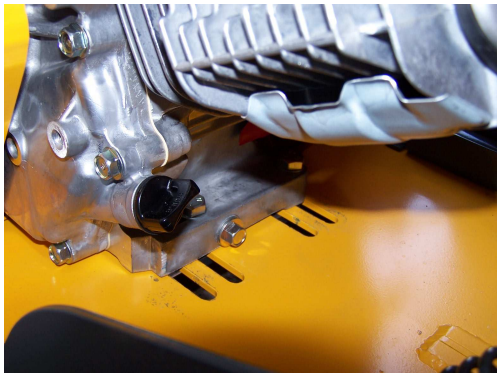
check regularly tensioning of the drive belts that drive the cutting disc. Deflection of the belts under finger pressure should be about 5 mm. To tension the belts, proceed as follows:

- loosen 4 bolts which fasten the engine to the base plate

- turn the tensioning screw to tension the belts
- re-tighten the fastening bolts

When replacing the belts, use all belts of the same type and dimension.

NOTE! Do not over-tension the belts!



5.3. Inspection of Bolted Connections

It is recommended to inspect the bolted connections daily before work.

5.4. Adjustment of Engine Speed

In case of engine replacement or repair it is necessary to adjust engine speed. Speed is measured by a digital tachometer.
Therefore, the speed setting is entrust a qualified serviceman.

6. MAINTENANCE SCHEDULE

This maintenance schedule contains only the most important operations. Besides of these operations, carry out maintenance and repairs of the machine as necessary depending on the respective conditions of operation. Check also the engine operation manual.

WARNING:

Turn off the engine before any maintenance or repair activity.
Use genuine spare parts only. Use of non-original spare parts may lead to damage to the machine. The manufacturer will not honor any warranty claim arising from such reason.

Item	Operation	Initial inspection	After 1st month or 20 hrs.	Every 3 months or 50 hrs.	Every 6 months or 100 hrs.
Engine oil	Inspection of oil level	☑	DAILY		
	Exchange		☑		☑
Air filter	Inspection Cleaning	☑	☑ (1)		
Spark plug (gasoline engines)	Inspection - cleaning				☑
Filter bowl	Cleaning				☑
Fuel hose	Inspection - Exchange	Every two years			
Valve clearance	Inspection - adjustment	Every 12 months or 250 hrs. (2)			
Fuel tank and sieve	Cleaning	Every 12 months or 300 hrs. (2)			
Drive belt	Tensioning			☑	

1. **To be carried more often when operating in dusty environment!!!**
2. **Such maintenance should be performed by service technicians NTC, respectively. authorized service according to engine type, especially if the user does not have the proper tools and knowledge about these devices.**

7. WARRANTY CONDITIONS

Construction machines manufactured by NTC are designed and manufactured to suit longterm operation by most difficult conditions. Based on our experience we can say that these machines do work reliably not during the warranty period but also long time after the warranty expires.
If it happens that the machine does not work to your satisfaction, we are always here to help. In case of any failure please proceed as following:

1. Check if the failure isn´t caused by breaking operation manual or if it isn´t caused by a basic cause (not enough fuel in the tank, low level of engine oil, dirty air filter).
2. If you were unable to fix the failure, contact the manufacturer or its authorized service (see warranty protocol).
3. Mention following info there:
   Company name, your name, phone and fax number
   Machine type, serial number
   Type of failure
   If the machine is in warranty, write date of purchase and let the serviceman know it is a warranty case
4. Warranty claim needs to be done in written form, best if Warranty claim form is used.
5. Every warranty claim will be checked by authorized staff immediately and the way of repair will be suggested.

Warranty conditions are described in the agreement with particular distributor.

- The right for warranty expires in following cases:
  - Machine was not used and maintained according to operation manual or was damaged by inadequate intervention by operator or unathorised service
  - Machine was not serviced according to maintenance plan in operation manual
  - Machine was used in different conditions or for different purpose than it is determined to
  - Other refills or spare parts than recommended were used for repair or maintenance
  - Machine had an accident or was damaged by force majeure
  - Intervention to the machine construction was done without manufacturer approval
  - Failures were caused by inadequate storing or manipulation
  - Items of common wear such as drive belts, bowdens, filters, plastic washers, blades, etc. are excluded from warranty

The warranty protocol of NTC company can be found at www.ntc.cz or www.ntc.eu

The warranty condition of NTC company can be found in warranty cerificate

NTC STAVEBNÍ TECHNIKA spol. s.r.o.
Jiřinková 120, 552 03 Česká Skalice
tel: 491 452 184 fax: 491 401 609
E-mail: ntc@ntc.cz www.ntc.cz

P-913-5

Warranty protocol

Number: (to be filled by warranty dept.)

Failure description (to be filled by machine operator):

Machine type:		**Serial number:**	
Detailed failure description:			
Is the machine capable of operation?		YES*	NO*
Date of failure occuring:		**Date of failure reporting:**	
Machine sale date:		**Machine purchased from:** NTC / dealer*	Dealer:
Machine owner: (adress, phone no., contact person)			
Machine operation site: (if different from owner´s address)			

Please send properly filled protocol by fax, e-mail or post to above mentioned address, you will speed the process up!

Accepting the warranty (to be filled in by warranty dept. of NTC):

Date of repair start:		**Date of repair finish:**	
Internal no:		**Signature:**	

Claimed failure remedy (to be filled by NTC production dept.):

Way of repairing the failure:	Repair by the user		Repair by NTC	Further way (sending spare parts)
Description of repairing the failure:				
Warranty claim assessment:	YES/NO*	Reason:		

Used spare parts:	**Part no.**	**Description**	**Pcs**

Tech. director sign. **:** Production director sign**:**

Finishing warranty management (to be filled by warranty dept. of NTC):

Returning the machine to owner (in case of repair in NTC):	Arranged by:	Way of transport:	Shipment date:
Warranty extension:	Amount of days:	Warranty valid to:	
Warranty solution information to owner:	Date:	Name:	Signature:

Repair costs:		**Costs charged to supplier:**	
		Final repair costs:	

ОФИЦИАЛЬНЫЙ ДИЛЕР В УКРАИНЕ:
storgom.ua

ГРАФИК РАБОТЫ:
Пн. – Пт.: с 8:30 по 18:30
Сб.: с 09:00 по 16:00
Вс.: с 10:00 по 16:00

КОНТАКТЫ:
+38 (044) 360-46-77
+38 (066) 77-395-77
+38 (097) 77-236-77
+38 (093) 360-46-77

Детальное описание товара: https://storgom.ua/product/shvonarezchik-ntc-rz1-2.html
Другие товары: https://storgom.ua/shvonarezchiki.html