



EN

PROFESSIONAL TILLER DAC 185





content

1. Introduction.....	3
2. Safety instructions	4
2.1 Warnings on the machine.....	4
2.2 Warnings.....	5
3. Overview of the machine.....	7
4. Technical data	8
5. Assembly	9
6. Fuel and oil supply	14
6.1 Oil supply	14
6.2 Fuel supply.....	15
7. Pre-operation checks	15
8. Running-in period.....	16
9. Commissioning.....	16
10. Symptomatic starting problems	19
11. Maintenance	19
12. Packaging and storage of the machine.....	20
12.1 Packaging	20
12.2 Storage	20
13. Accessories compatible with the machine	20
14. Coupling of accessories	22
14.1 Plug coupling.....	22
14.2 Coupling the device for removing potatoes.....	23
14.3 Cultivator coupling.....	23
14.4 Adjustable rare coupling.....	23
14.5 Trailer Coupling.....	24
14.7 3-row seeder coupling TS3.....	24
14.8 PTS2 high precision sowing coupling	24
14.9 Coupling depth adjustment support and Buried plow	25
15.0 DECLARATION OF CONFORMITY	26



1. INTRODUCTION

Dear Client!

Thank you for your decision to purchase a RURIS product and for your trust in our company! RURIS has been on the market since 1993 and during all this time it has become a strong brand, which has built its reputation by keeping promises, but also by continuous investments aimed at helping customers with reliable, efficient and quality solutions.

We are confident that you will appreciate our product and enjoy its performance for a long time. RURIS does not offer its customers only machines, but complete solutions. An important element in the relationship with the customer is advice both before and after the sale, as RURIS customers have at their disposal a whole network of partner stores and service points.

To enjoy the purchased product, please read the user manual carefully. By following the instructions, you will be guaranteed a long use.

The RURIS company is continuously working on the development of its products and therefore reserves the right to modify, among other things, their form, appearance and performance, without having the obligation to communicate this in advance.

Thank you once again for choosing RURIS products!

Information and customer support :

Phone: 0351.820.105

e-mail: info@ruris.ro



2. SAFETY INSTRUCTIONS

2.1 WARNINGS ON THE MACHINE



Warning! Danger!



Careful! Flammable material



Beware of rotary cutters. Keep your hands and feet away while the machine is operating.



Careful! Asphyxiating atmosphere. Do not start the machine in closed spaces.



Careful! Hot surfaces.



Careful! Risk of bodily injury to people near the machine.



Careful! Start the cutters only with the guards installed.



Careful! Keep your distance.



The operator must wear Personal Protective Equipment (PPE). If the machine is in use, you must wear protective glasses against objects projected in the air, you must wear hearing protection such as an acoustically insulated helmet.



Read the instruction manual before use.



Do not touch the moving parts of the machine.



Do not dispose of the machine or its components in household waste.



Do not insert your hand.

2.2 WARNINGS

Exercise:

- Read the instructions carefully. Familiarize yourself with the controls and proper use of the machine.
- Never allow children or persons unfamiliar with these instructions to use the machine.
- You don't work never When people , in special the kids or pets are in the proximity .
- The user is responsible for accidents or the dangers that arise on OTHER people or on property them .

Training:

- Always wear safety shoes and long pants when working. Do not use the machine when you are barefoot.



b) Carefully inspect the area where the equipment will be used and remove all objects that can be thrown from the machine.

c) **WARNING** - Gasoline is highly flammable:

- store fuel in specially designed containers.
- refuel outdoors only and do not smoke while refueling.
- add fuel before starting the engine. Never remove the tank cap or add gasoline while the engine is running or when the engine is hot.
- if gasoline has been spilled on the machine, do not try to start the engine, move the machine away from the spill area and avoid creating any source of ignition until the gasoline vapors have evaporated.
- make sure the tank cap seals tightly when tightened. If it is damaged, replace it.

d) If the muffler is damaged, replace it.

e) Before use, always visually check the component parts of the machine. Replace worn or damaged elements and screws.

Operation:

a) Do not start the engine in enclosed spaces where dangerous carbon monoxide vapors may accumulate.

b) Work only in daylight or in spaces with good artificial light.

c) While using the machine, walk after it, do not run.

d) Be extremely careful when changing direction on slopes. Do not use the machine on slopes greater than 10°.

e) When working on a slope, keep the fuel tank just over half full to minimize the risk of fuel spillage.

e) Be extremely careful when operating the machine in reverse or when pulling it towards you.

f) Start the engine carefully, according to the manufacturer's instructions and with your feet away from the cutting blades.

g) Do not put your hands or feet near or under the moving parts of the machine.

h) Stop the engine before refueling or when leaving the machine.

i) Do not block the clutch engagement lever or engine stop lever. Before use, make sure it is working properly.

j) Do not use other types or sizes of tires than those recommended by the manufacturer.



k) All operations related to maintenance , adjustment and service must to be carried out with ENGINE MACHINE torn off .

3. OVERVIEW OF THE MACHINE

The excavator is composed of the following elements:



1. Throttle lever 6. Tank cap 11. Plate
2. Shift lever 7. Air filter 12. Cutter assembly
3. Clutch lever 8. Fuel tank 13. Front support
4. Engine-stop lever 9. Shock/gasoline lever 14. Starter
5. Muffler 10. Fenders



4. TECHNICAL DATA

WARNING:

The excavator is not delivered with oil in the engine unit. Before commissioning, check and top up with recommended engine oil according to manual instructions.

There is oil below the level in the engine sump, this is for conservation only and not for operation.

Motor	General Engine
Operating cycle	4 times
Net power	7.5 hp
Maximum power	8.5 hp
Cilindrical capacity	208 cc
Ignition system	Electronic
Emergency stop lever	Standard equipment
Starting	manually
Lighting system	-
Shifter	Comfort-fast
Transmission	Pinions in oil bath
Transmission housing	Nodular Cast Iron
Cable drive	Mechanics
speeds	2 forward + 1 backward
Working width	610-930 mm
Working depth	Max 340 mm
Combustible	Unleaded gasoline
Tank capacity	3.9 l
Average fuel consumption	1l/h
Engine oil bath	0.6 l
Transmission oil bath	1.8 l
Average worked surface	600-1000 sq/h
Tire wheel	5.00-8
Net weight with accessories	79 kg
vibration handle	left 4.84m/s ² - right 5.82m/s ²
Product warranty	24 months

NOTE: Maximum power is engine power, at bench, without air filter and muffler. Net power is engine power with air filter and muffler.

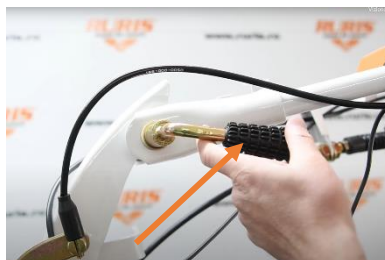
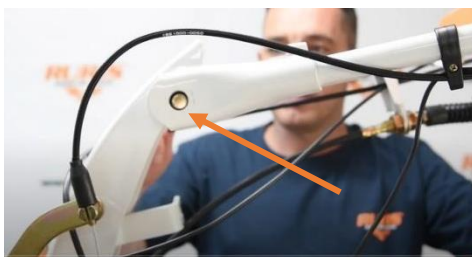


Change engine oil every 25 hours of operation and transmission oil every 50 hours of operation or 6 months.

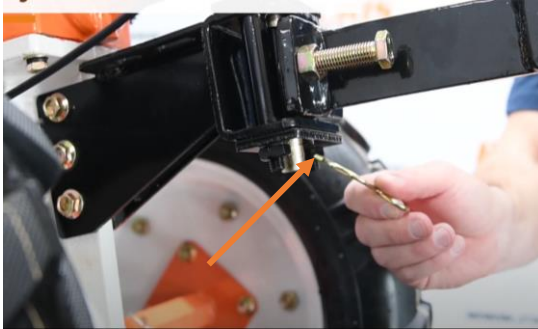
5. ASSEMBLY

The video montage can be viewed at: <https://www.ruris.ro/filme-montaj>

Component parts



Mount the horns in position, fixing them with the horn tightening lever.



mount the support leg/depth adjustment, securing with the pin lock





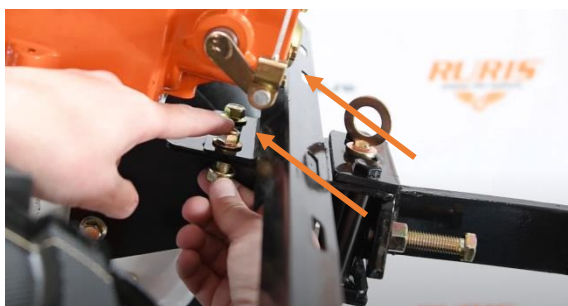
The tension of the shifter cables is adjusted.



The bushing is inserted and the cable is connected to the gearbox lever, securing it with the safety pin.

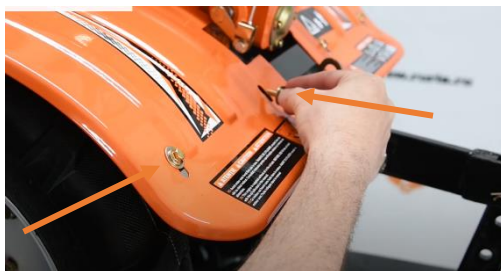
Connect the gearbox cable to the lever, fixing them with the bolt and the fuse.

Mount the rear support of the wings, fixing it with the 2 screws.





Install the front fender supports.



Place the wings in position and secure.



Fix the ground cable on the tank support. (if it is not already installed)



Mount the horn trim and secure with screws.



The machine is fully assembled.

The images are informative, the supplier reserves the right to make structural and functional changes to the machine presented in this manual.



6. FUEL AND OIL SUPPLY

6.1 OIL SUPPLY

Engine oil supply

Before starting the engine, fill the engine with RURIS 4T-MAX oil or an API classification oil: CI-4/SL or higher.

Engine oil bath capacity 0.6L

Oil level

The excavator is not delivered with oil in the engine, gearbox and transmission.

CAREFUL! Before each use, check the oil level in the engine oil pan (Fig. 4) and in the transmission assembly (Fig. 5) and top up to the maximum level.



Fig. 5 – Checking the engine oil level

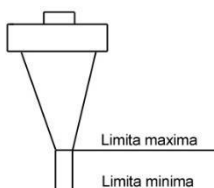


Fig. 5 – Checking the transmission oil level

If you do not check the oil level (engine and transmission) you risk destroying the engine and transmission.



Always, before each start, gently pull the starter cord from the engine (start button in the OFF position) no more than 4 times so that the oil penetrates into all the holes of the cylinders, valves.

Otherwise, if you attempt to jump-start the engine by pulling the starter cord directly, you risk seizing the engine or seriously damaging it.

Transmission oil supply

The capacity of the transmission oil pan is 1600 ml.

Use RURIS G-Tronic transmission oil or an API classification oil: GL-4 or higher. The maximum oil level of the reducer is at the bottom of the filler hole located on the right side of the reducer.

The excavator is not delivered with oil in the gearbox.

TRANSMISSION OIL CHANGE IS DONE EVERY 50 HOURS OF OPERATION OR 6 MONTHS.

6.2 FUEL SUPPLY

Use quality fuel from authorized Peco stations.

Fill with the best quality UNLEADED PETROL fuel, using a metal funnel, in open areas and away from sources of fire or sparks that could cause a fire.

CAREFUL!

Do not feed on the ground or near plants, as you risk damaging the environment.

7. PRE-OPERATION CHECKS

1. Check that all screws are tight and adjust if necessary.
2. Check each handlebar grip (throttle, shifter, and reverse) for functionality. If the handle positions are incorrect, adjust them to be in the proper positions.
3. Move the shifter to the neutral position.
4. Topping up the oil.
 - Fill the engine oil sump with RURIS 4T-MAX lubricating oil.



- Place the machine on a level surface while adding transmission oil to the gearbox.
 - To check the oil level use the oil dipstick, the oil must be at maximum level.
 - Check for oil leaks.
 - Check the air filter decanter.
 - Add oil to the air filter.
5. Clean the unit of dust and dirt, especially the air filter.
 6. It is not recommended to use the machine if the work surface has an inclination greater than 10°.

8. RUNNING-IN PERIOD

The excavator must operate for 5 hours under light load. After this period, change the oil in both the transmission and the engine. Then fill the transmission oil sump with RURIS G-Tronic oil or an API classification oil: GL-4 or higher, and the engine oil sump with RURIS 4T-MAX oil or an API classification oil: CI-4 /SL or higher.

Unleaded gasoline will be used for excavators. It is recommended that before use, the gasoline is decanted and filtered through a metal sieve.

9. COMMISSIONING

The engine that equips your excavator is run-in at the factory and does not require running-in at idle.

Before operating the excavator, you must ensure that the following conditions are met:

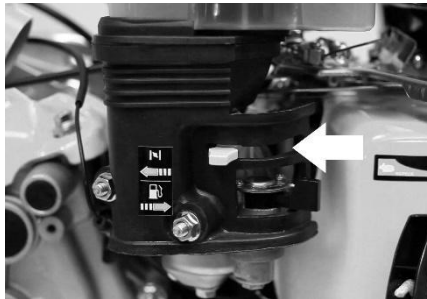
- fill the air filter container with clean engine oil, up to the indicated maximum level;
- within a radius of 5 meters on either side of the motor excavator, there are no people or objects with which it could come into contact;
- the excavator is placed in a horizontal position;
- the front wheel is mounted and raised off the ground;



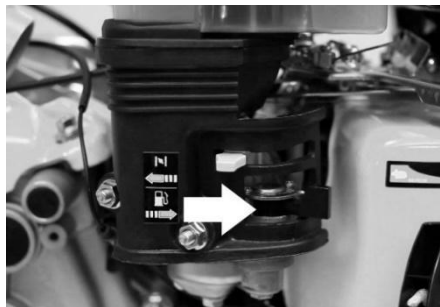
- the engine has oil in the bath at maximum level;
- the gearbox has the oil at maximum level;
- the engine has a minimum of 500 ml of petrol in the tank;
- the cutting knives are secured with the fixing bolts or, if the transport wheels are mounted, they are secured with the fixing bolts, and the tire pressure is between 1.5-2 bar;
- all backhoe bolts are properly tightened.

Starting the engine

- position the choke valve in the direction indicated for cold starting.



- position the gas valve flap in the direction shown.



- pull the starter rope 4 times gently to prime all internal engine ports with oil



- operate the accelerator lever to the maximum (in position H)



- lock the engine-stop lever



- place the gear shifter in the neutral (0) position.
- pull steadily and firmly on the starter rope from the engine after pre-tensioning it (pull gently until you experience engine compression resistance).
- move the throttle slightly as far as it will go in the opposite direction of the choke until the engine runs at parameters, i.e. it has no stall symptoms.
- with your left hand tighten the clutch lever to the maximum.
- position the shifter in the desired gear and with your left hand gradually release the clutch handle and the excavator will engage the transmission system.

Reverse (going backwards)

- with your left hand tighten the clutch lever to the maximum.
- pull the shifter into neutral with your right hand. Then with your right hand press the reverse clutch lever located on the right horn and with your left hand gently release the clutch lever.

WARNING:

Depress the clutch lever and the transmission will disengage.

If you hear a continuous slipping noise when engaging, or if the tiller does not move, recheck the transmission drive cable as it has been adjusted to short travel.

Do not use on slopes with an inclination greater than 12 °.

**NOTE:**

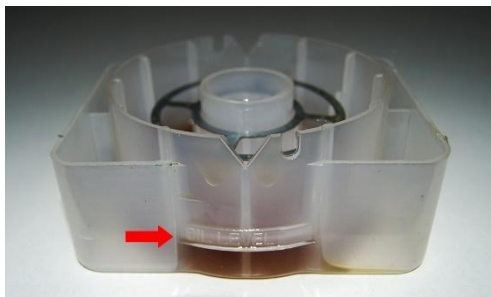
At this point you can start digging the soil.

10. SYMPTOMATIC STARTING PROBLEMS

- check that the oil in the engine is at the level, because the engine that equips your excavator may be equipped with an oil sensor that cuts off the spark to the spark plug if it is not at the maximum level in the engine
- check that the fuel valve is open to the position shown
- check that you have fuel in the tank and that it is correct (it must not be any other type of fuel than the one indicated or older than 1-2 weeks)
- check that the throttle lever is fully operated
- check that the shock flap is operated in the closed position
- check that the air filter is not clogged with impurities
- replace the spark plug with a new one.

11. MAINTENANCE

- after each use, clean the air filter and replace the oil in the filter chamber, with a clean one, if necessary, or with the engine oil change.



- after each use clean the cutting knives and check them
- after each use grease the spindle on which the cutting knives are fixed
- adjust the cables if you notice that the blades do not respond to commands or stop under load
- transmission/engine oil change every 50/25 hours of operation or 6 months.



12. PACKAGING AND STORAGE OF THE MACHINE

12.1 PACKAGING

The packaging is done in cardboard boxes, closed, for easy movement.

Inside it you find:

- user manual
- warranty certificate
- tiller
- set of keys

12.2 STORAGE

- The excavator must be stored in a dry place, covered and protected against moisture, in rooms with windows and adequate ventilation
- The fuel must be emptied from the tank, the fuel tap is closed and the machine is allowed to operate until all the fuel in the carburetor is consumed.
- Active metal parts must be lubricated with petroleum jelly
- The oil must be left in the engine sump during storage
- The engine oil must be changed if the excavator has been stored for more than 6 months.

13. ACCESSORIES COMPATIBLE WITH THE MACHINE

Adjustable rarity	Plow to bury (rare) TS103	TS potato remover
		



Cultivator TS103 	Multifunctional cultivator with two rars 	Set of rubber wheels 400x10 TS103 
PTS2 high precision seeder 	TS3 3-row seeder 	Set of rubber wheels 400x8 TS103 

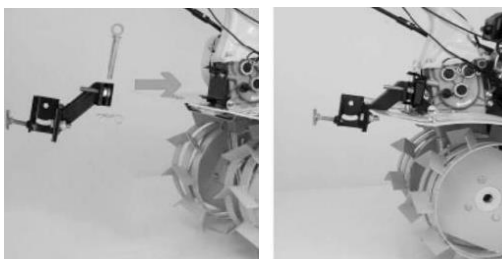
350 TS 103 Metal Wheelset 	400 TS 103 Metal Wheelset 	Accessory adapter 
Universal sleeve set with lock TS103 	Universal sleeve set TS103 	Plug TS103 
Trailer: Load : 550 kg 	Trailer: Load: 450 kg 	



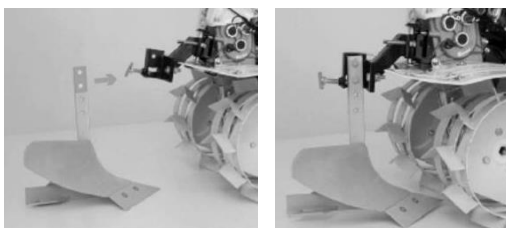
Navigator 88 trailed accessory 	Trailer: Load: 750 kg 
--	---

14. COUPLING OF ACCESSORIES

14.1 PLUG COUPLING



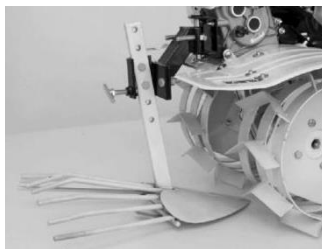
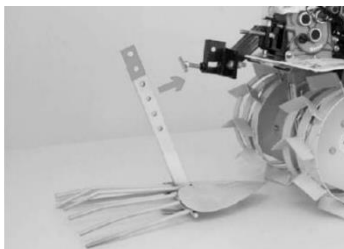
1. Fit the accessory adapter and bolt it in place.



2. Connect the plug to the adapter and fix it with two screws.



14.2 COUPLING THE DEVICE FOR REMOVING POTATOES



1. Fit the accessory adapter and bolt it in place.
2. Mount the potato remover and secure with two screws

14.3 CULTIVATOR COUPLING



1. The cultivator engages using the bolt and safety provided

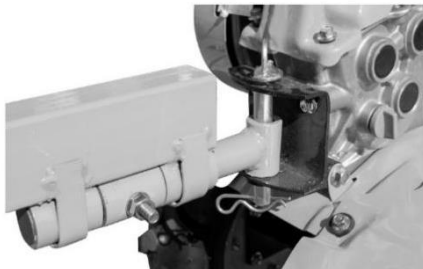
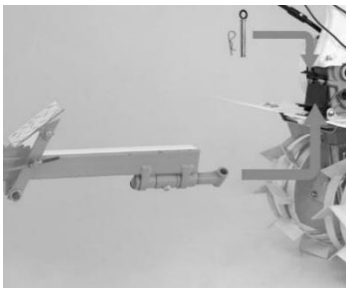
14.4 ADJUSTABLE RARE COUPLING



1. The rarity engages using the bolt and fuse provided



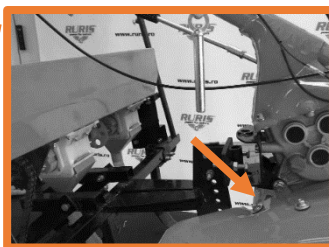
14.5 TRAILER COUPLING



1. The trailer is coupled using the bolt and fuse provided

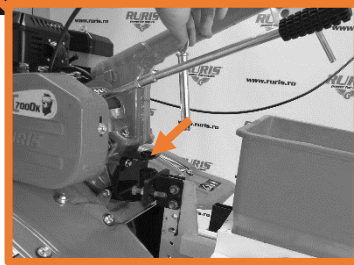
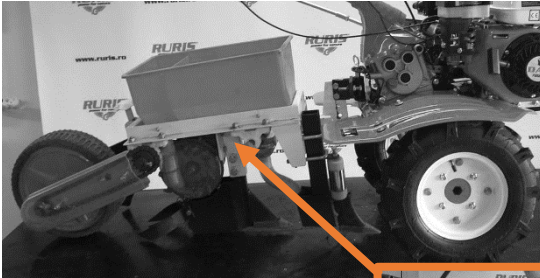
14.7 3-ROW SEEDER COUPLING TS3

1. The seeder is engaged using the bolt and safety provided



14.8 PTS2 HIGH PRECISION SOWING COUPLING

1. The seeder is engaged using the bolt and safety provided



14.9 COUPLING DEPTH ADJUSTMENT SUPPORT AND BURIED PLOW

1. The depth adjustment bracket and the plow are connected using the screws



provided



15. DECLARATIONS OF CONFORMITY

DECLARATION OF CONFORMITY CE



Manufacturer : SC RURIS IMPEX SRL

Bldv. Decebal, no. 111, Administrative Building , Craiova, Dolj, Romania

Goal. 0351 464 632, www.ruris.ro, info@ruris.ro

Authorized representative: Eng. Stroe Marius Catalin – General Manager

Authorized person for the technical file: Eng. Radoi Alexandru – Production Design Director

Product description: **PROFESSIONAL TILLER** has the role of soil processing and other works , the backhoe being the basic energy component, and the rotary cutter with knives and other accessories the actual work equipment.

The product: **PROFESSIONAL TILLER**

Product serial number: AAMQ0100001XXXXXDAC185, (where AA represents the last two digits of the year of manufacture, characters 5 and 6 batch number, characters 7-11 product number)

Type : DAC

Engine : thermal, on gasoline, 4 strokes

No. speeds : 2 forward + 1 reverse

Transmission : Conical pinions in oil

Model : 185

Maximum power : 8.5 hp

Max. number of knives : 24 (4x6 sets)

Working width : 560-1000 mm

We, SC RURIS IMPEX SRL Craiova, manufacturer , in accordance with HG 1029/2008 - regarding the conditions for the introduction of cars on the market, **Directive 2006/42/EC - cars ; safety and security requirements** , Standard EN ISO 12100:2010 – Machinery . Security, **Directive 2014/30/EU** on electromagnetic compatibility (HG 487/2016 on electromagnetic compatibility, updated 2019), **EU Regulation 2016/1628 (amended by EU Regulation 2018/989) - establishing measures to limit gaseous emissions and polluting particles from to engines** and HG 467/2018 regarding the enforcement measures of the mentioned Regulation , we have certified the conformity of the product with the specified standards and declare that it complies with the main safety and security requirements.

The undersigned, Stroe Catalin, the manufacturer's representative , declare on my own responsibility that the product is in accordance with the following European standards and directives:

SR EN ISO 12100:2011 / EN ISO 12100:2010 - Safety of machines . Basic concepts, general design principles. Basic terminology, methodology. Technical principles

SR EN ISO 11102-1:2010/ ISO 11102-1:2020- Internal combustion engines with reciprocating motion . Manual starting equipment. Part 1: Security requirements and tests

SR EN ISO 3744:2011 / EN ISO 3744:2011 - Forestry machines and machines for gardening. Acoustic test code for cars equipped with an internal combustion engine.

SREN ISO 11850:2012/ENISO 11850:2011 -Forestry machines. General Security Requirements

SR EN ISO 4254-1:2016/ EN ISO 4254-1:2015 - Agricultural machinery . Security.

SR EN ISO 4254-5:2018/ EN ISO 4254-5:2018 - Agricultural machinery . Security. Part 5: Tillage machines with engine- driven implements

SR EN 709+A4:2010/EN 709:1997+A4:2009/AC:2012 - Agricultural and forestry machines . Motor cultivators equipped with mounted tillers, motor sweepers and cutters on the driving wheel (s). Security

SR EN ISO 13857:2020/ EN ISO 13857:2020- Machine safety. Safety distances to prevent upper and lower limbs from entering hazardous areas

SR EN 14930+A1:2009/ EN ISO 14930:2007+A1:2009 - Agricultural and forestry machines and machines for gardening. machinery held by hand and with a pedestrian conductor. Determining the risk of contact with surfaces hot



SR EN 12733:2019/ EN 12733:2018- Agricultural and forestry machines . Chainsaws with pedestrian operator. Security

SR EN 11850:2012/A1:2016/ EN ISO 11850:2011/A1:2016 - Forestry machines . Self-propelled cars . Security requirements

SR EN ISO 14982:2009/ EN ISO 14982:2009 – Agricultural and forestry machines . Electromagnetic compatibility. Test methods and acceptability criteria

- **Directive 2000/14/EC** (amended by Directive 2005/88/EC) – Noise emissions in the outdoor environment
- **Directive 2006/42/EC** - on machines - placing machines on the market
- **Direction 2014/30/EU** - on electromagnetic compatibility (HG 487/2016 on electromagnetic compatibility, updated 2019);
- **EU Regulation 2016/1628 (amended by EU Regulation 2018/989)** - establishing measures to limit gaseous emissions and polluting particles from engines

Other Standards or specifications used:

- **SR EN ISO 9001** - Quality Management System
- **SR EN ISO 14001** - Environmental Management System
- **SR ISO 45001:2018** - Health and Safety Management System Occupational .

MARKING AND LABELING OF ENGINES

Gasoline engines with spark ignition received and used on RURIS equipment and machines , according to **EU Regulation 2016/1628 (amended by EU Regulation 2018/989)** and HG 467/2018 are marked with:

- Manufacturer's brand and name: CMI Co. LTD .
- Type: KB208
- Type approval number obtained by the specialized manufacturer :

e24*2016/1628*2022/992SYA1/P*1109*01

- Engine identification number – unique number .
- Concept General Engine

Note: the technical documentation is owned by the manufacturer .

Clarification: This declaration is in accordance with the original.

Validity period: 10 years from the date of approval .

Place and date of issue: **Craiova, 12.04.2024**

Year of application of the CE marking: **2024**

No. reg : **348/12.04.2024**

Authorized person and signature :

Ing. Stroe Marius Catalin

Director General of

SC RURIS IMPEX SRL

**DECLARATION OF CONFORMITY EC****Manufacturer :** SC RURIS IMPEX SRL

Blvd. Decebal, no. 111, Administrative Building , Craiova, Dolj, Romania

Goal. 0351 464 632, www.ruris.ro, info@ruris.ro

Authorized representative: Eng. Stroe Marius Catalin – General Manager

Authorized person for the technical file: Eng. Alexandru Radoi – Production Design Director

Product description: **PROFESSIONAL TILLER** has the role of soil processing and other works , the backhoe being the basic energy component, and the rotary cutter with knives and other accessories the actual work equipment

The product: PROFESSIONAL TILLER

Product serial number: AAMQ0100001XXXXDAC185, (where AA represents the last two digits of the year of manufacture, characters 5 and 6 batch number, characters 7-11 product number)

Type : DAC**Engine :** thermal, on gasoline, 4 strokes**No. speeds :** 2 forward + 1 reverse**Transmission :** Conical pinions in oil**Model :** 185**Maximum power :** 8.5 hp**Max. number of knives :** 24 (4x6 sets)**Working width :** 560-1000 mm

Acoustic pressure level: 85.8 dB

Acoustic power level: 103.8 dB

The sound power level is certified by Hangzhou Wanve Certification Technology through report no. MD-20195080-1/16.01.2020 in accordance with the provisions of Directive 2000/14/CE amended by Directive 2005/88/CE and SR EN ISO 3744:2011

We, SC RURIS IMPEX SRL Craiova as a manufacturer , in accordance with Directive 2000/14/EC (amended by Directive 2005/88/EC), HG 1756/2006 - on limiting the level of noise emissions in the environment produced by equipment intended for use outside the buildings, we have verified and attested the conformity of the product to the specified standards and declare that it complies with the main requirements.

The undersigned, Stroe Catalin, the manufacturer's representative , declare on my own responsibility that the product is in accordance with the following European standards and directives:

- **Directive 2000/14/EC (amended by Directive 2005/88/EC)** – Noise emissions in the outdoor environment
- **SR EN ISO 3744:2011** - Acoustics. Determination of sound power levels emitted by noise sources using sound pressure
- **Directive 2006/42/EC** - regarding machines - placing machines on the market
- **Directive 2014/30/EU** on electromagnetic compatibility (HG 487/2016 on electromagnetic compatibility, updated 2019);
- **EU Regulation 2016/1628** (amended by EU Regulation 2018/989) - establishing measures to limit gaseous emissions and polluting particles from engines

Other Standards or specifications used:

- **SR EN ISO 9001** - Quality Management System
- **SR EN ISO 14001** - Environmental Management System
- **SR ISO 45001:2018** - Health and Safety Management System Occupational .

Note: the technical documentation is owned by the manufacturer .

Clarification: This declaration is in accordance with the original.

Validity period: 10 years from the date of approval .

Place and date of issue: **Craiova, 12.04.2024**Year of application of the CE marking: **2024**No. reg : **349/12.04.2024****Authorized person and signature :**

Ing. Stroe Marius Catalin

General Manager of Ruris Impex SRL