



Illustrative image.

CONCRETE MIXER 400L RENTAL TECHNICAL MANUAL

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1. Manual Utilization

Ensure that you thoroughly review the manual prior to initiating any operations. The manual provides valuable information regarding the product, manufacturer details, safety guidelines, spare parts, maintenance procedures, and conservation advice. To facilitate easy reference, it is recommended to keep this manual readily accessible for your convenience.

2. Safety

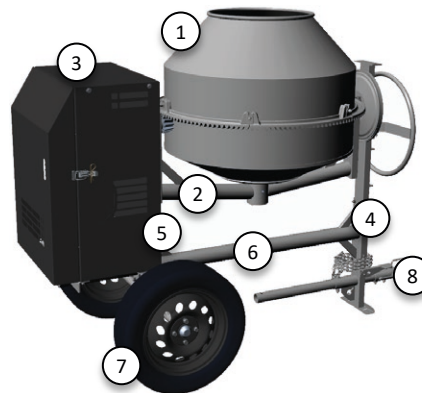
- Thoroughly review this manual and strictly follow the manufacturer's guidelines before operating this equipment to reduce the risk of operational accidents.
- Prohibit any removal or alteration of safety devices or features.
- Follow the instructions outlined in this manual during equipment use.
- Perform a daily inspection of machine parts with the equipment turned off.
- Allocate an exclusive and well-maintained area for equipment operation, ensuring it remains unobstructed and well-lit.
- Operators must undergo training or possess qualifications to operate this equipment.
- Avoid wearing excessively loose clothing that could become entangled in the machinery.
- Always use gloves, safety goggles, and ear protection.
- Qualified professionals should handle the installation of engines.
- Carry out maintenance procedures as detailed in this manual, entrusting qualified individuals and adhering to specified intervals.
- Regularly inspect all electrical extensions for cuts, cable friction, and broken connections.
- Refrain from using extensions in poor condition or operating in wet environments, such as pools of water.
- Avoid throwing water on the engine when cleaning the equipment.
- Disconnect the power cable from the source before undertaking any maintenance on the equipment.
- Exercise caution to prevent contact with hot surfaces.
- Allow the engine to cool down before engaging in any activity or maintenance.
- Steer clear of contact with rotating parts.

3. Technical Specifications

CONCRETE MIXER 400L	
DRUM VOLUME	400L
WET MIX INPUT	270L
DRY MIX INPUT	310L
NUMBER OF CYCLES / HOUR	15 Cicles
HOURLY PRODUCTION	4,65m ³
DRUM ROTATION	30RPM (60Hz) / 28RPM (50Hz)
ENGINE BOX	ELECTRIC
	COMBUSTION
DRUM ROTATION	167Kg
DIMENSIONS (LxWxH) mm	2060 X 1061 X 1573
WHEELS	ARO 14

4. Components

CONCRETE MIXER 400L	
1	DRUM
2	STEEL YOKE
3	ENGINE BOX
4	LARGER COLUMN
5	SMALLER COLUMN
6	CHASSIS
7	WHEEL
8	HANDLE



5. Application

The 400L concrete mixer boasts a robust build, designed specifically for demanding civil construction projects. It incorporates a drum with a mixing capacity of up to 310 liters, driven by a power system that comes in diesel or petrol variants, activated through a "V" belt-driven mechanism. The unloading system is operated manually.

Working and Operating Conditions

- Concrete mixers are suitable for both indoor and outdoor use.
- When filling the concrete mixer with a spade, avoid placing the spade inside the drum.
- Using this equipment for purposes other than its intended use may pose a physical threat to the operator.
- Thoroughly read and adhere to the instructions provided in this manual.
- Operators must undergo training or possess qualifications to operate this equipment.
- Designate an exclusive area for working with the equipment, ensuring it remains free of obstacles and well-lit.
- Disconnect the cable from the power supply whenever performing maintenance on this equipment.
- Calibrate the pneumatic wheel rim 14" to a pressure between 26 and 30 p.s.i (pound force per square inch).

Noise Level During Operation

As the noise level during mixer operation, particularly when stone and gravel are added to the drum, may reach a maximum of 95 decibels, it is advisable to wear ear protection during extended periods of operation.

Equipment Supplied With Electric Engine

- Prior to activating your concrete mixer, verify whether the supply voltage matches the voltage specified on the identity plate of the electric engine. Operating the engine with a voltage different from that indicated on the identity plate may result in engine damage.
- For equipment lacking a voltage selector, seek advice from authorized service personnel before making any adjustments.
- Use of the engine with a voltage other than specified on the electric engine plate can lead to engine damage.
- Ensure that circuit breakers, electric cables, sockets, and grounding are in line with the specified engine requirements.
- Accepted voltage variations should not exceed a range above or below 10%; exceeding this range may cause operational failures or even engine burning.
- When utilizing an electric extension, it is advisable to consult the provided table.

CONCRETE MIXER 400L			
Extension electric	0 a 20m	20 a 30m	above de 30m
Diameter of the electric wire	4,0 mm ²	6,0 mm ²	not recommended

Equipment Supplied Without Electric Engine

The installation of the engine, electrical appliances, and their corresponding setups and grounding must comply with the current regional standards, overseen by a qualified and responsible professional. In the absence of regional standards, installations should adhere to international standards. Any uncertainties arising during the installation process should be resolved by contacting the authorized service.

Equipment supplied with Combustion Engine

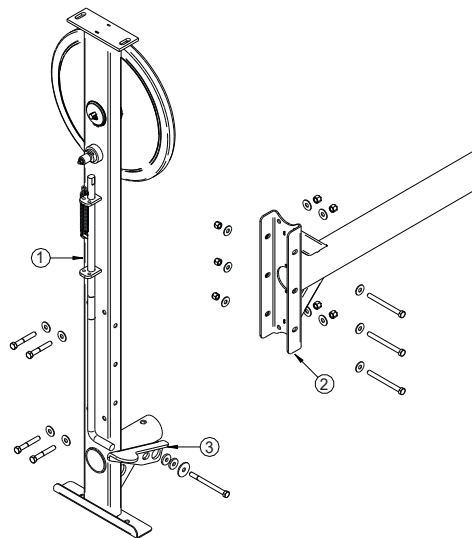
- Avoid inhaling exhaust fumes, as they can pose health risks.
- Carbon monoxide emitted from internal combustion engine exhausts can be fatal in confined spaces.
- Refrain from operating or refueling gasoline or diesel engines in enclosed spaces without adequate ventilation.
- Exercise caution and avoid fueling equipment when the engine is hot; ensure proper ventilation to prevent potential hazards.
- Never touch the running engine, as it can cause burns to your skin.
- Use fuel according to the specifications of the engine model.
- Refrain from using fuel of uncertain origin.
- To prevent electric shock, never touch the spark plug while the engine is in operation.
- Always follow the instructions outlined in the engine manufacturer's manual for the correct use, cleaning, and maintenance of combustion engines.

6. Installation

Follow the instructions in the pictures to install the concrete mixer. Please check the product contents immediately after receipt for any eventual transport damage or missing parts. Claims from transport damage or missing parts must be placed immediately after initial machine receipt and unpacking before putting the machine into operation. Please understand that later claims cannot be accepted anymore.

→ Insert the larger column (1) with the hex. screws $3/8" \times 4"$, hex. screws $3/8 \times 2.1/2"$ and with the nuts and washers into the spacer tube (2).

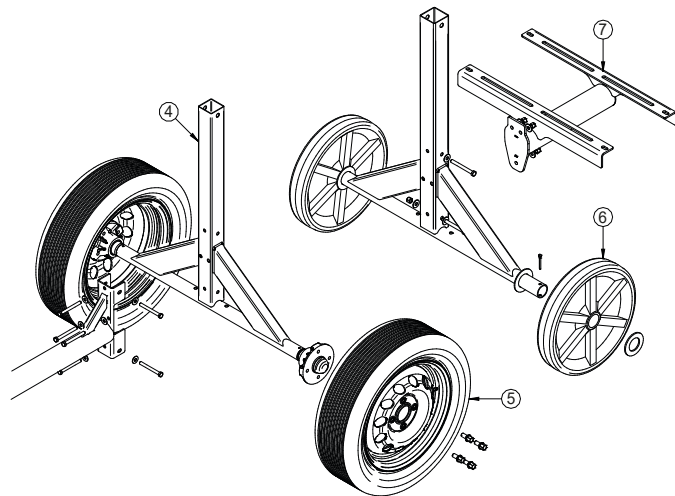
→ Connect the pedal (3) to the bottom of the larger column.



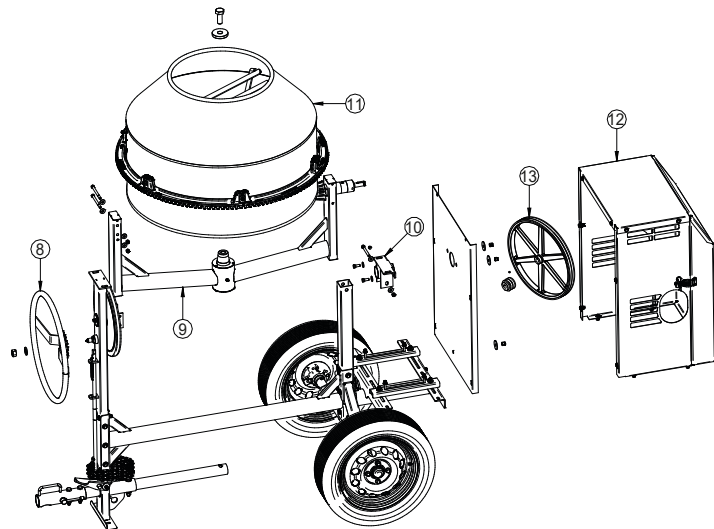
→ Screw the rear part of the spacer tube onto the smaller column (4). Attach the pneumatic wheel to the wheel hub using the M12 hex screws as shown in the figure below (5).

→ To fit the wheels of the smaller column to the plastic wheels, use only the $3/16" \times 2"$ cotter pin and washer (6).

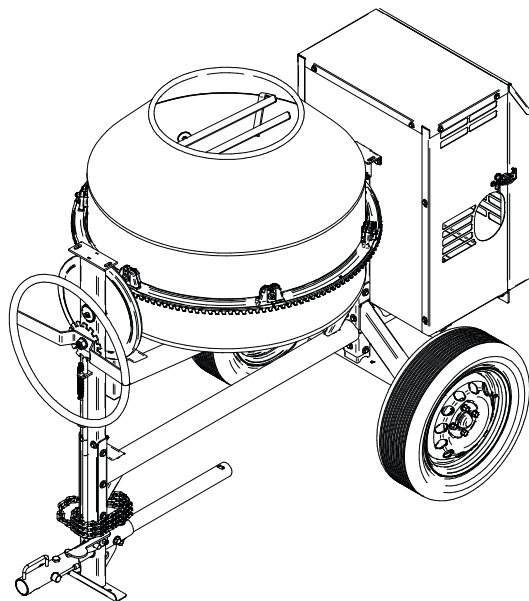
→ Insert the engine support tube into the lower column (7) and fasten it with a hex. screw $3/8 \times 3.1/2"$. Secure the engine support onto the guide using a hex. screw sized $3/8" \times 2"$.



- Attach the steering wheel (8) to the pinion shaft and securely tighten it using a self-locking hexagonal nut with a size of 3/4".
- Connect the steel yoke (9) to the structure and secure it with a 3/8" x 4.1/2" screw reducer.
- Position the bearing (10) on the tipper following the image, and fasten it to the lower column using a 3/8" x 3.1/2" screw.
- Tilt the steel yoke to a 30° angle. Place the drum (11) onto the steel yoke shaft and fasten it by tightening the hex screw sized 7/8" x 2.1/4" along with toothed washer A-22.
- The engine box (12) must be assembled from the sides and the top cover, fasten with hexagonal bolt 5/16"x3/4". And assemble the door.
- Fit pulley (13) on the pinion shaft, securing with hexagon socket screw 1/4"x1/4".



→ Assembly completed.



7. Operation

- Position the mixer on a flat and stable surface to ease the loading and unloading process.
- Turn on the switch located on the engine enclosure.
- Adjust the drum to the desired angle by turning the steering wheel and pressing the pedal to unlock the swivel rocker simultaneously.
- Lock the chosen angle in place and secure it by releasing the pedal.
- Load the drum with the ingredients and start the blending process.
- Once the mixture is ready, tilt the drum to discharge the entire blend.
- Ensure the drum is in continuous rotation or the equipment remains operational throughout the cycle.



1. Use a measuring bucket to quantify the components.



2. Place the aggregate (gravel) into the cement mixer.



3. Use a measuring bucket to quantify the components.



4. Add the cement.



5. Conclude by incorporating the sand and the remaining water.



6. Allow the concrete mixer to rotate for 2.5 minutes before using the concrete.

8. Cleaning

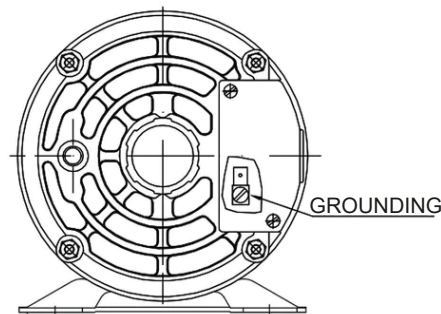
- Prior to cleaning, disconnect from the mains, and perform the cleaning operation at the end of usage.
- Wash the drum with water, removing any residue from the blades, and address both internal and external parts of the drum during cleaning.
- Clean the rack and pinion thoroughly, removing any abrasive materials from the components.
- Refrain from applying water to electrical components and the engine during the cleaning process.

9. Grounding the Machine

- Guaranteeing the correct grounding of the concrete mixer is essential to minimize the risk of electrical shocks.
- Before activating your concrete mixer, verify that the socket is equipped with a ground pin and is correctly installed. If the socket lacks grounding, arrange for the installation of a ground before using the concrete mixer.
- It is advisable to use a copper rod with a length and depth of 2 meters for grounding.
- Ensure that the ground wire passing through the on/off switch remains uninterrupted and is not connected to any contacts.
- Avoid directly connecting the ground wire to the mixer's neutral wire mains.
- Grounding procedures should adhere to the prevailing standards in the region and be supervised by a qualified and responsible professional. In the absence of such standards, follow international standards. If there are uncertainties during the installation, please contact your authorized service.



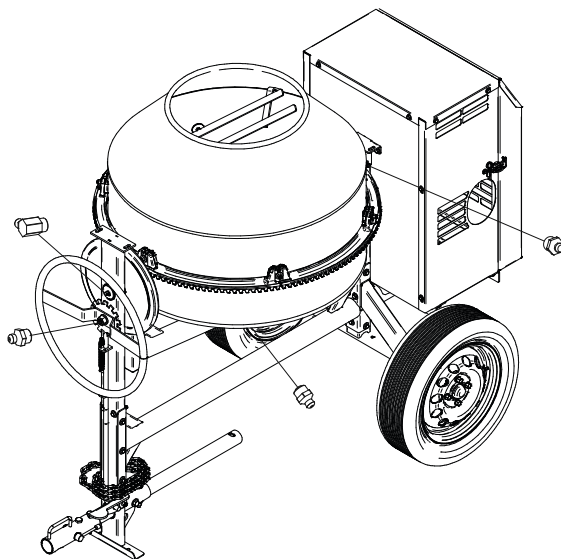
Ground Connection for the Current of the Engine.



Current Ground Location for the Engine.

10. Lubrication

- Ensure the continuous lubrication of rotating machine components, including pinions, rack gears, bushings, and bearings.
- Apply grease to all lubrication points at the beginning of equipment operation for optimal functioning.
- Exercise caution during the lubrication of the pinion/rack gear assembly, as the adherence of aggregates like sand, cement, and gravel dust to the lubricating agent can create an abrasive mixture, leading to premature wear.
- When lubricating the pinion shaft bearing, orient the concrete mixer drum so that the steel yoke arm is perpendicular (90°) to the machine column, and the drum mouth is turned toward the side where the grease fitting is located. Failure to do so may result in inadequate lubrication of the bearings.



RECOMMENDED GREASES

Esso: Beacon 2

Mobil: Mobilux 2

Shell: Shell Avania R2

Texaco: MultiFlax EPO

Castrol: Grease LM2

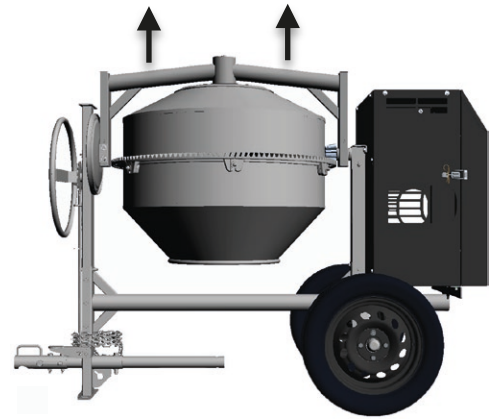
Atlantic: Litholine 2

11. Transport and Lifting

- The yoke is crafted to raise the equipment a few centimeters above the ground for easy transportation using the wheel movement.
- During operation, tilt the equipment with the drum facing downward while maintaining the levelness of the mixer.
- The yokes come with columns for convenient stacking; secure them using screws, limiting stacking to one level only.
- Adhere to a maximum speed of 60 km/h for pneumatic wheels.



Transport

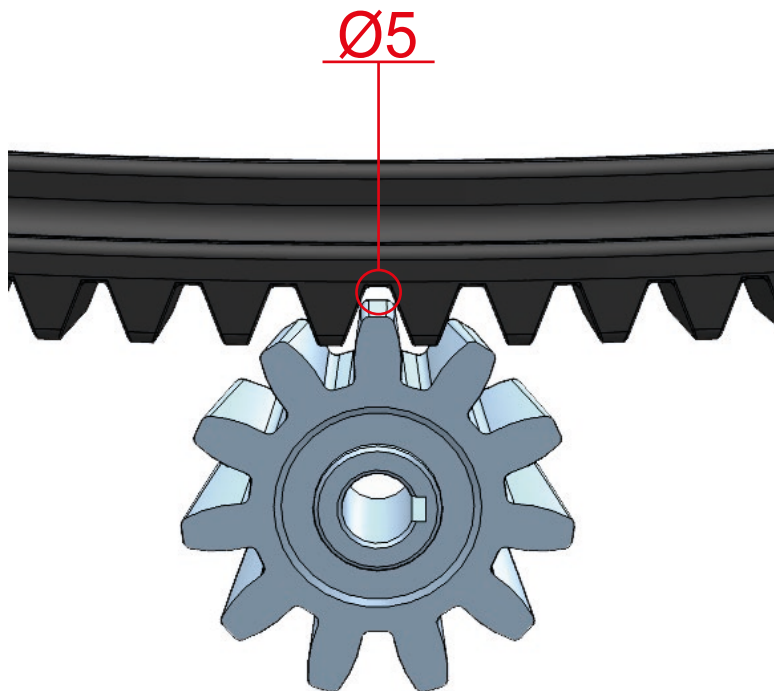


Lifting

12. Maintenance

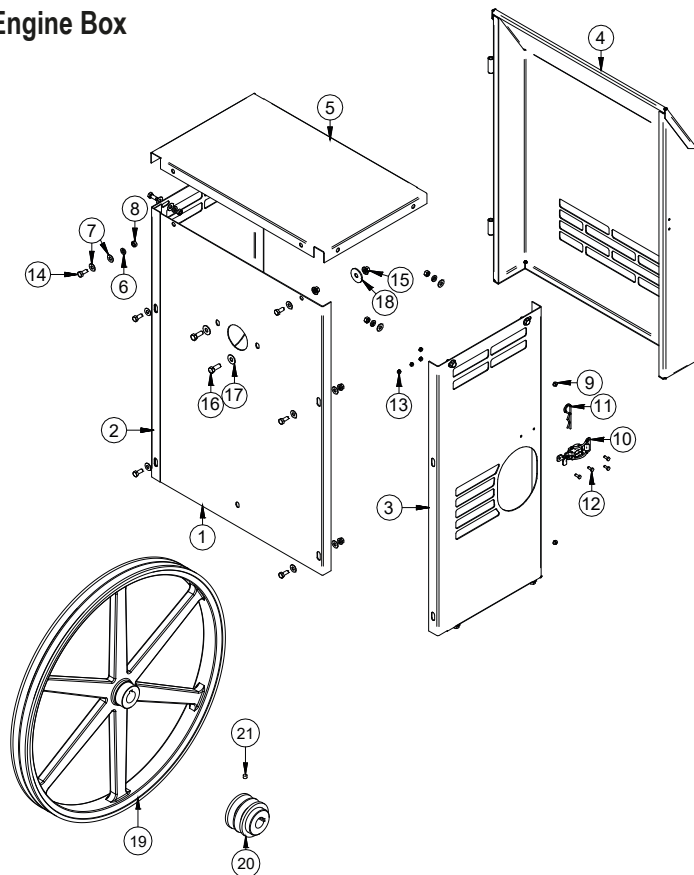
Rack Gear Replacement

- Unscrew and replace the damaged rack gear screws (01) following the provided assembly recommendations.
- Use one Ø 5 mm pin or allen key (A) to establish the gap between teeth, ensuring the optimal functioning of the pinion and rack gear.
- It has a 5 mm gap between the pinion and the rack gear.



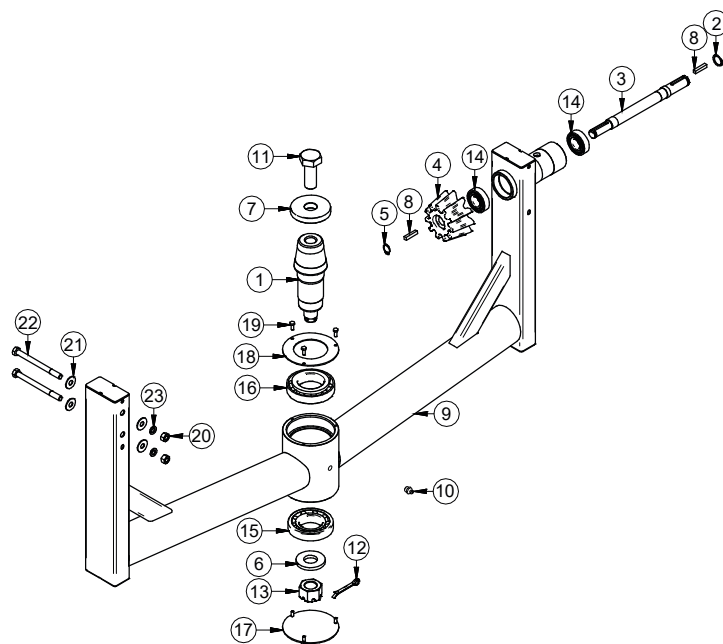
13. Parts List

Engine Box



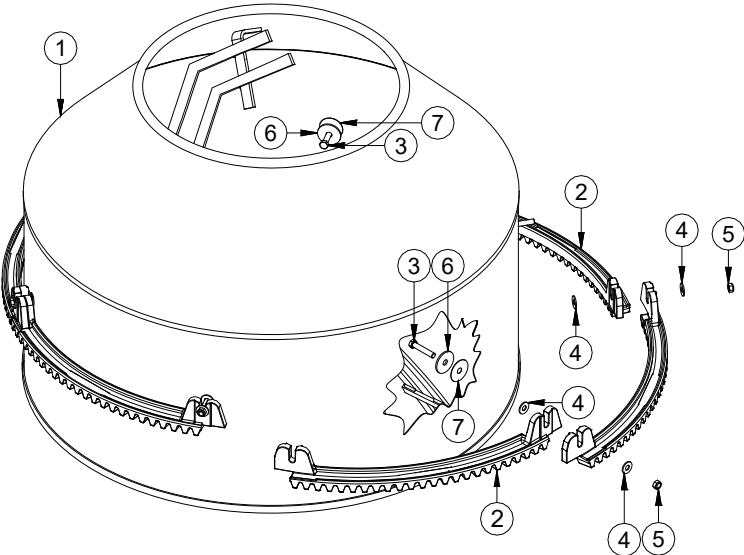
POS.	DESCRIPTION	QTY.	CODE	DRAWING
1	UNIVERSAL BOX BACK	1	33108471	3108471
2	RIGHT SIDE	1	33108469	3108469
3	LEFT SIDE	1	23108475	3108475
4	UNIVERSAL BOX DOOR	1	33108473	3108473
5	TOP COVER	1	33108474	3108474
6	MEDIUM PRESSURE WASHER 5/16"	14	21030112	-
7	FLAT WASHER 5/16"	28	21030252	-
8	HEXAGON NUT 5/16"UNC CH1/2"	14	21021052	-
9	RUBBER STOP	2	24030222	4122072
10	INDUSTRIAL GALVANIZED DOOR LATCH	1	29758131	-
11	CLAMP R-3,5 X 70	1	21050153	-
12	HEXAGONAL SCREW 3/16"X 1/2"	4	29117880	-
13	SELF-LOCKING HEX NUT 3/16"	4	21021002	-
14	HEX SCREW 5/16"X3/4"	14	21010268	-
15	3/8" HIGH SELF-LOCKING HEX NUT	2	21021059	-
16	HEX SCREW 3/8"X1"	2	21010266	-
17	FLAT WASHER 3/8"	2	21030251	-
18	STEEL SEALING FLAT WASHER	2	30100070	4107003
19	DRIVEN PULLEY	1	3108301	3108301
20	ENGINE PULLEY Ø60X25.4MM	1	31090268	4109069
21	HEXAGON SOCKET SCREW 1/4"X1/4"	1	21010919	-

Steel Yoke



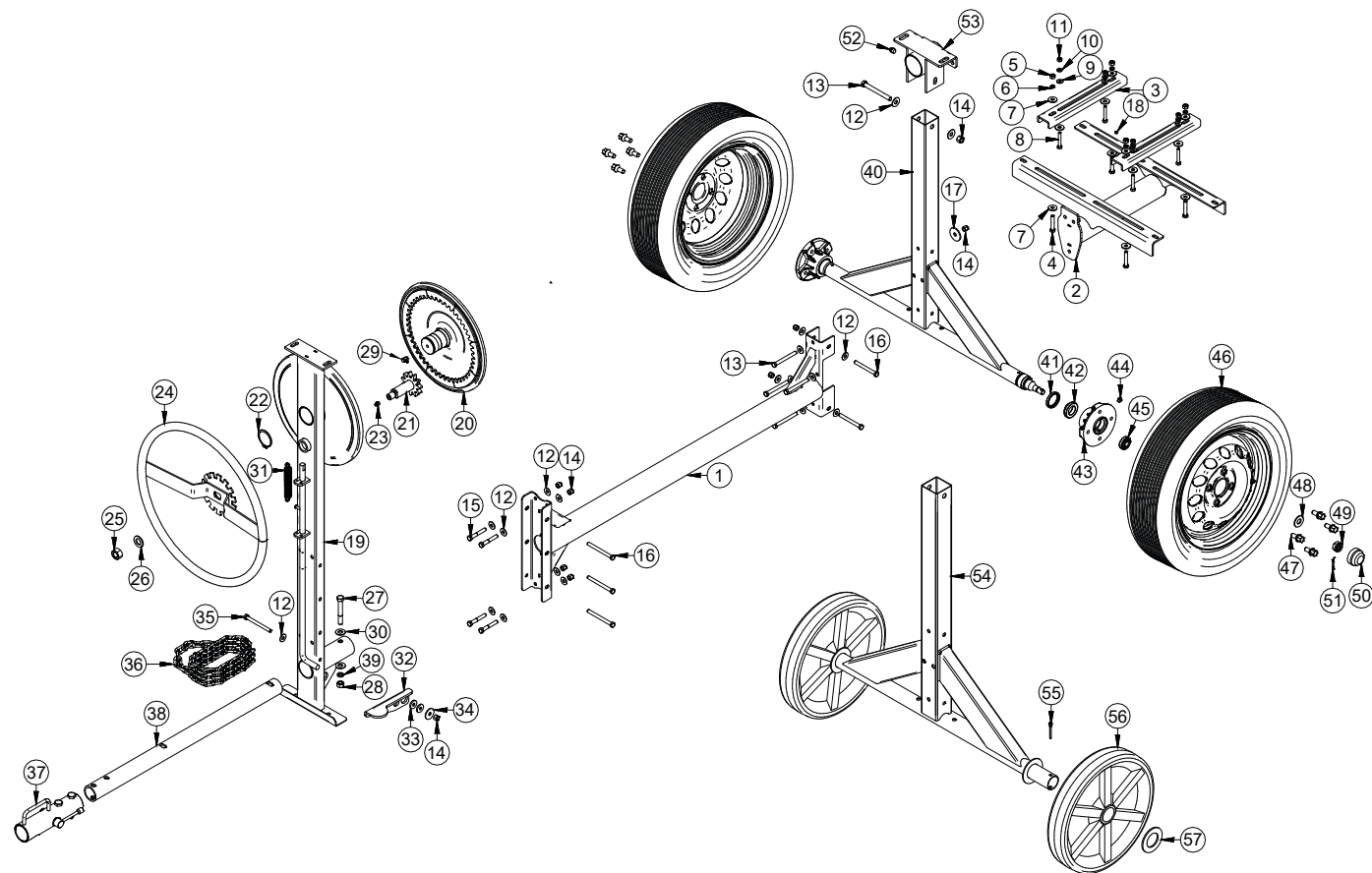
POS.	DESCRIPTION	QTY.	CODE	DRAWING
1	CENTRAL AXIS	1	3114039	3114039
2	ELASTIC RING E-20	1	21060118	-
3	PINION AXLE	1	31020026	3114002
4	PINION Z-11	1	31030007	4123001
5	ELASTIC RING E-17	1	21060115	-
6	FLAT AXLE WASHER DN26	1	30100079	4122006
7	DRUM WASHER	1	21030232	4122008
8	KEY 6X6X30	2	30160002	4122009
9	STEEL YOKE	1	33106068	3106068
10	STRAIGHT GREASE FITTINGS 1/8" BSP	1	21040101	-
11	HEXAGONAL SCREW 7/8"X2 1/4"	1	21013442	-
12	COTTER PIN	1	21050106	-
13	CASTLE NUT	1	21020959	-
14	BEARING 6204-Z	2	22020206	-
15	BEARING 30209	1	22020607	-
16	BEARING 30210	1	22020608	-
17	CLOSED COVER	1	4122460	4122460
18	OPENED COVER	1	4122461	4122461
19	HEXAGONAL SCREW 3/16" X 1/2"	6	29117880	-
20	SELF-LOCKING HEXAGON NUT 3/8"	2	21021059	-
21	FLAT WASHER 3/8"	4	21030251	-
22	HEXAGONAL SCREW 3/8" X 4 1/2"	2	21010250	-

Drum



POS.	DESCRIPTION	QTY.	CODE	DRAWING
1	DRUM 400L	1	33107150	3107150
2	SEGMENTED CROWN RACK GEAR	6	32124011	2124011
3	HEXAGONAL SCREW 3/8" X 2.1/4"	6	21013824	-
4	FLAT WASHER 3/8"	12	21030230	-
5	HEXAGONAL NUT 3/8"	6	21021059	-
6	WASHER DRUM	6	30100070	4107003
7	WASHER SEALING	6	30100114	4107002

Chassis



Chassis

POS.	DESCRIPTION	QTY.	CODE	DRAWING
1	DISASSEMBLED CHASSIS ASSEMBLY	1	33125143	3125143
2	ENGINE SUPPORT TUBE ASSEMBLY	1	33125143	3125144
3	ENGINE SUPPORT	2	3112201	3112201
4	HEXAGONAL SCREW 3/8" X 2"	3	21010241	-
5	HEX NUT 3/8"	3	21020117	-
6	SPRING WASHER 3/8"	3	21030163	-
7	FLAT WASHER 3/8" IN	11	21030230	-
8	HEX SCREW 5/16" X 2" ZINC PLATED WHITE	4	21010228	-
9	FLAT WASHER 5/16" ZB	4	21030252	-
10	SPRING WASHER 5/16"	4	21030112	-
11	HEX NUT 5/16"	4	21021052	-
12	FLAT WASHER 3/8" ZB	35	21030251	-
13	HEX. SCREW 3/8/3.1/2 GALV.	7	21013826	-
14	SELF-LOCKING NUT 3/8 HIGH	15	21021059	-
15	HEX. SCREW. 3/8 X 2.1/2"	4	21010127	-
16	HEX. SCREW 3/8" X 4"	3	21010124	-
17	FLAT DRUM SEALING WASHER	1	30100070	4107003
18	SELF-LOCKING NUT 1/4"	1	21021004	-
19	BIGGER COLUMN PNEUMATIC WHEEL	1	33110212	3110212
	BIGGER COLUMN RUBBER WHEEL		33110216	3110216
20	REDUCER ASSEMBLY 75MM	1	33121004	3121004
21	STEERING WHEEL AXLE WITH Z-11 GEAR	1	31020414	4114005
22	ELASTIC RING E - 54	1	21060146	-
23	STRAIGHT GREASE FITTINGS 1/8"	1	24040101	-
24	STEERING WHEEL	1	33122180	3122180
25	LOW SELF-LOCKING HEX NUT 3/4"	1	21021011	-
26	FLAT WASHER 3/4"	1	21030225	-
27	HEX HEAD SCREW 1/2" X 3.1/2"	1	21010433	-
28	HEX NUT 1/2"	1	21020207	-

POS.	DESCRIPTION	QTY.	CODE	DRAWING
29	CURVED GREASE 1/8"	1	24040105	-
30	FLAT WASHER 1/2"	2	21030250	-
31	TRACTION SPRING	1	21090116	-
32	PEDAL	1	4122585	4122585
33	FLAT WASHER 3/8" WHITE ZINCED	2	21030204	-
34	FLAT WASHER 3/8"	2	21030233	-
35	HEX SCREW HEX 3/8" X 4"	1	21010124	-
36	SHORT LINK CHAIN 1-4 INCH	1	22060303	-
37	QUICK HITCH TRAILER SPHERE DN2"	1	21120102	3122022
38	CAMBON TUBE	1	4110105	4110105
39	LOCK WASHER 1/2"	1	21030164	-
40	LOWER COLUMN PNEUMATIC WHEEL	1	33112199	3112199
41	O'RING 38 X 7MM	1	24020659	-
42	BEARING L45449-L45410	1	22020615	-
43	WHEEL HUB	1	31150023	3137014
44	STRAIGHT GREASE FITTING 1/8"	1	24040101	-
45	BEARING LM11749-LM11710	1	22020617	-
46	PNEUMATIC WHEEL 14" RIM	2	31260080	4115052
47	HEX SCREW PNEUMATIC WHEEL M12	8	21015320	-
48	FLAT WASHER M16 DIN125	1	21030221	-
49	CASTLE NUT W/O CROWN 5/8"	1	21020956	-
50	EXTERNAL HUB GUARD	1	30130024	4122078
51	COTTER PIN 1/8"X1" DIN94	1	21050102	-
52	STRAIGHT GREASE FITTING 1/8"	1	24040101	-
53	BEARING SUPPORT	1	3116035	3116035
54	LOWER COLUMN RUBBER WHEEL	1	33112203	3.112.203
55	COTTER PIN 3/16" X 2"	2	21050107	-
56	RUBBER WHEEL	2	24110161	3.115.001
57	WASHER DN43.5	2	21030222	4.122.004

14. Term of Warranty

This certificate guarantees protection against manufacturing defects for a period of 12 months, starting from the date of issuance of the first invoice to the final consumer. The customer should receive information and technical guidance in accordance with the manual. Wear components, such as bearings, steel cables, electrical plugs, gears, etc., are not covered by this equipment warranty.

The warranty does not cover defects resulting from misuse, neglect, negligence, carelessness, imprudence, or inexperience, including any unauthorized repairs or alterations to parts/equipment. It also excludes assemblies performed by entities other than the authorized factory or technical assistant, applications that exceed specified mechanical or electrical limits, user environments not designed for, incorrect voltages/frequencies, lubrication errors, and damages caused by accidents or transportation incidents.

The removal or alteration of serial numbers nullifies the warranty, requiring the presentation of the sales invoice and the equipment's warranty certificate. The consumer is responsible for freight expenses in transporting the product to the technical assistant or factory. In the case of equipment with electric engine, the warranty covers manufacturing defects in the drive. However, it does not cover defects related to overload, use of incorrect voltage, damage caused by negligence during transport/storage, energizing the drive outside specified parameters, and general defects resulting from improper use or installation.

This warranty takes precedence over all other express or implied warranties, releasing our company from any obligation or liability related to the product.

