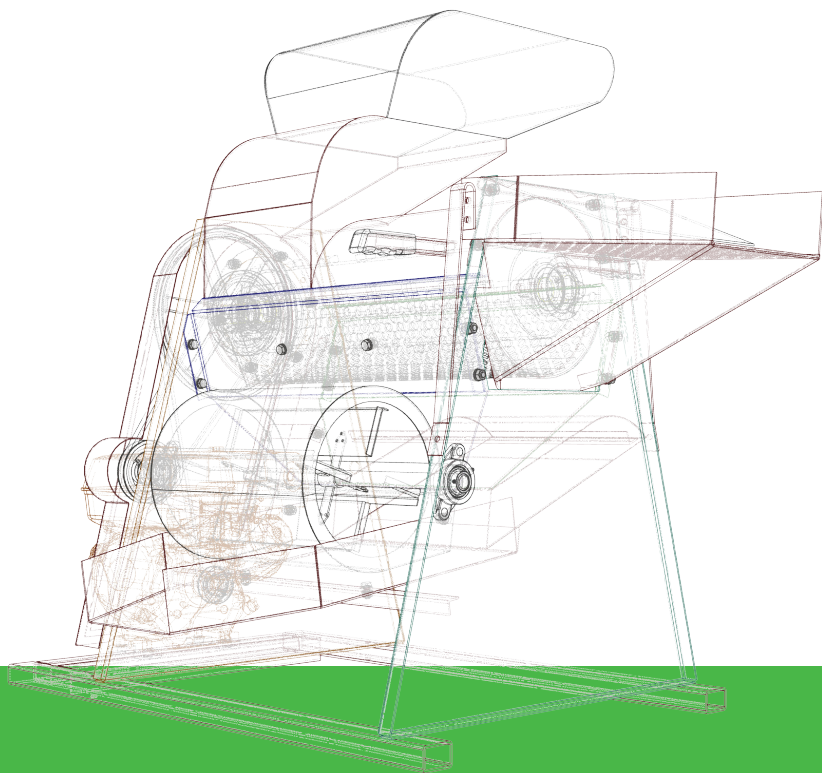


Corn Sheller

Product Manual

A Comprehensive Guide to Operating and Maintaining
Your Corn Sheller



Preface

This manual provides essential information regarding the operation, functionality, safety measures, and standard operating procedures (SOPs) for the SAYeTECH Corn Sheller.

It also contains information on general maintenance and method for troubleshooting.

It is a stock of knowledge for training newly recruited operators, and could serve as a reference material for refresher programmes for machine operators using the corn sheller.

The SAYeTECH Corn Sheller Product Manual could also be useful to farm managers, machine supervisors, and mechanics.

This Corn Sheller Product Manual remains the property of SAYeTECH Company and any unauthorized commercial use, or reprint for sale, or for any other purpose, is strictly banned.

Some of the information in this document have been adopted from the learning material of the Agricultural Mechanization Training Centre (AMTCs) under the Agricultural Engineering Services Directorate (AESD) of the Ministry of Food and Agriculture (MoFA)

CONTENTS

Preface	2
Module 1	5
Parts Of The Corn Sheller	5
Main Features	7
Module 2	9
General Maintenance And Safety Precautions	9
Specific Maintenance Of The Corn Sheller	10
Module 3	11
Operation Guidelines, Procedures And Instructions	11
Before You Start	11
Starting The Corn Sheller	12
Operating The Corn Sheller	12
Stopping The Corn Sheller	12
Post Operation Activities	12
Module 4	14
Troubleshooting Methods	14
Module 5	15
Warranty And Customer Information	15
Warranty Information	15
Module 6	16
Frequently Asked Questions (FAQs)	16



Providing Farmers With Efficient Agricultural Equipment



AE-0492-4335
Agya Junction, Off Ejisu-Konongo Road
Ejisu - Ampabame

+233 24 215 75 12
+233 20 987 93 70

Module 1

Parts Of The Corn Sheller

Technical Specifications

Shelling element	Spike
Cleaning mechanism	Blower
Net weight	225kg
Dimensions	1.6m x 1.3m x 0.9m
Power type	7.5HP Deisel Engine
Grain types	Maize/corn
Feeding type	Manual



Crops
Shells maize



Fuel Consumption

Consumes only 1 gallon of deisel per day



Capacity

*Shells up to 0.6 tons/hr**



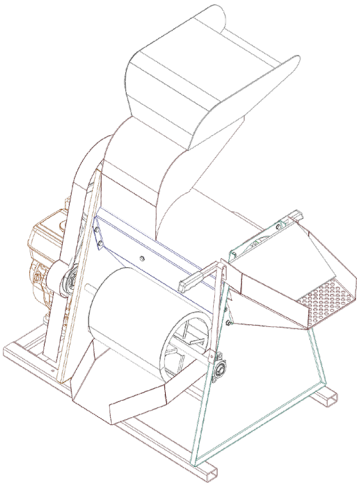
Power

7.5HP deisel engine powered for efficient shelling.



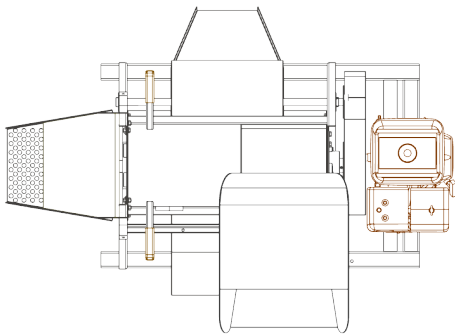
Warranty

comes with 6 month warranty

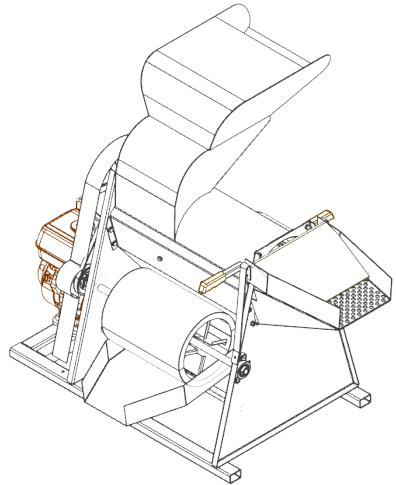


- *The output varies with moisture content*
- *Capacity depends on the feed rate*

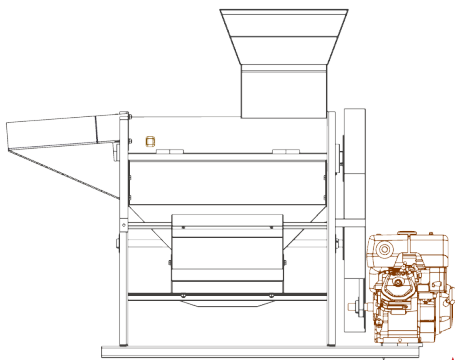
Parts Of The Corn Sheller



Top View

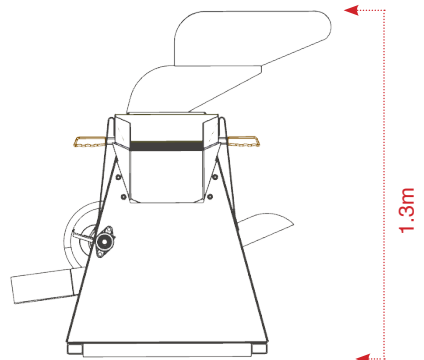


Isometric View



1.6m

Side View

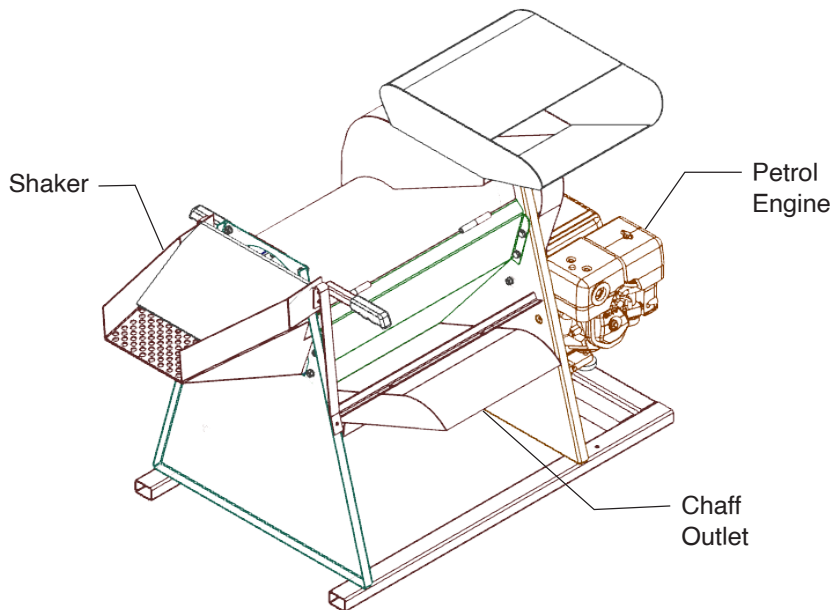
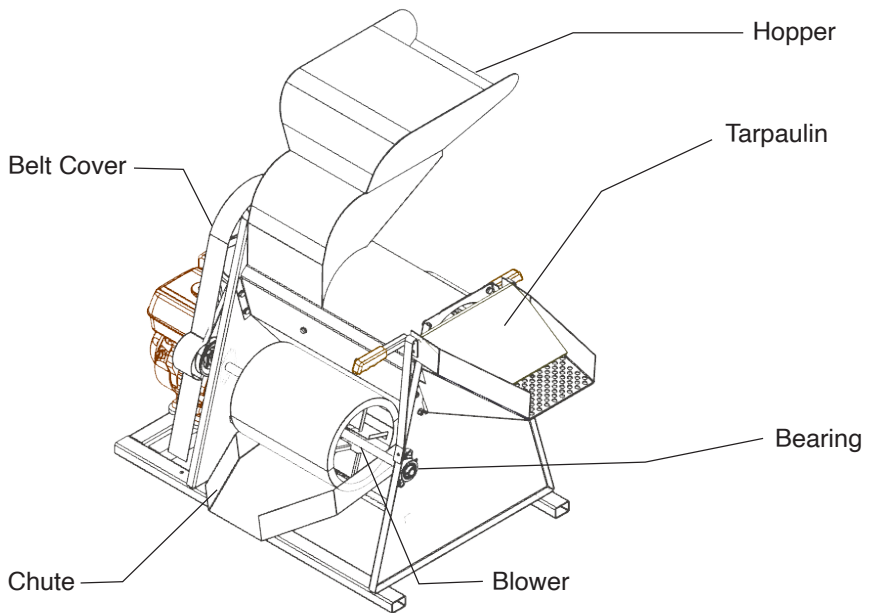


0.9m

1.3m

Front View

Main Features



Part	Function
Shaker	Allows the sieving and separation of the grains from the chaff
Chute	Exit for collecting cleaned grains
Hopper	The dehusked maize are fed into the sheller through this opening
Chaff Outlet	Serves as exit for chaff and light wastes
Belt Cover	Prevents accidental contact with moving parts, reducing the risk of injuries
Petrol Engine	Provides the necessary mechanical energy to operate the various components of the corn sheller, ensuring efficient and effective grain shelling.
Bearing	Reduce friction and allow for smooth, precise movement for shafts
Blower	Creates a controlled airflow that aids in the efficient cleaning and separation of grain.

Module 2

General Maintenance And Safety Precautions

The objective of this module is to ensure utmost safety of the operators and other people present to avoid accidents and damages and additionally give information on practices that ensure efficient operation and maintenance.

General Maintenance And Safety Precautions

To ensure safety during the operation of the corn sheller, the operator is required to:

- 1. Wear appropriate personal protective clothing, PPE;** including sturdy work boots, gloves, goggles, and hearing protection.
- 2. Wear close-fitting clothing and avoid loose items that** could get caught in moving parts.
- 3. Keep a safe distance from the sheller's moving parts** and discharge area during operation.
- 4. Turn off the sheller and wait for all moving parts to come to a complete stop** before performing any maintenance or adjustments
- 5. Do not operate the sheller on the steep or uneven terrain** that may cause that may cause instability.



Specific Maintenance Of The Corn Sheller

Daily Maintenance

1. Ensure the power supply is stable and properly connected.
2. Inspect and tighten loose bolts and moving parts.
3. Grease all bearings and moving parts before or after use.
4. Confirm that all safety guards and shields are in place and securely fastened.
6. Check for any obstructions or damage around moving parts like fans and belts.

Weekly Maintenance

1. Check for any visible damage, wear, or debris buildup on the machine and its components.
2. Inspect belts for wear, tension, and alignment. Check pulleys for damage and proper rotation.
3. Visually inspect electrical components for damage or loose connections.
4. Check for wear, damage, and blockages on the sieve and shaker. Clean as needed.

Monthly Maintenance

1. Disassemble major components like fans, augers, and sieves for a deep cleaning.
2. Visually inspect the engine for any signs of overheating, damage, or loose connections.
3. Contact SAYeTECH if needed.

Module 3

Operation Guidelines, Procedures and Instructions

This module outlines the preparatory steps, operational protocols, and post-operational procedures.

Before you start

1. Verify that the fuel tank contains the correct type and sufficient amount of fresh fuel.
2. Inspect the wiring for any damage or signs of overheating.
3. Ensure all moving parts are free of obstructions and operating smoothly.
4. Check there are no cuts or wiered hole on the seive of the shaker
5. Inspect belts for wear, fraying, or misalignment.
6. Check that all safety guards and shields are in place and securely fastened.
7. Make sure all bolted connections are tight.
8. Ensure that bearings are greased before operating the cleaner.
9. Test the engine kill switch to ensure it functions properly and immediately shuts off the engine.

Starting the Cleaner

1. Verify that the fuel tank contains the correct type and sufficient amount of fresh fuel.
2. Clear the feed hopper, chute and shaker of any foreign objects or debris.
3. Ensure the chute and shaker are open and unobstructed.
4. Open the fuel cock of the engine.
5. Put the lever in the “Start” position.
6. Pull the starting handles until you feel resistance then return it slowly.
7. Push the decompression lever down and release.
8. Observe the machine’s performance. Listen for any unusual noises or vibrations.

Operating The MGC

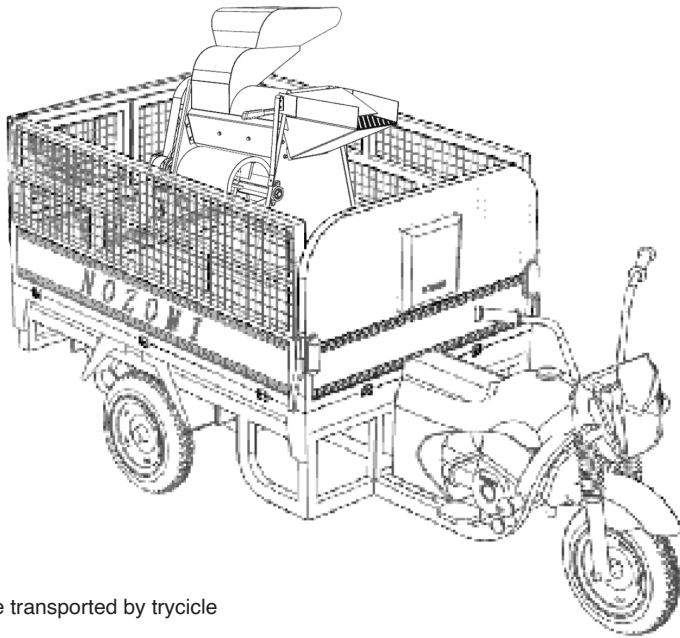
1. Gradually introduce the maize into the hopper while avoiding overload to prevent jamming, ensuring a steady flow.
2. Monitor the shelling and cleaning process to ensure the desired level of cleaning is achieved, listening for any unusual noises and checking for signs of overheating and wear.
3. Collect the shelled grains from the chute, and make sure it is cleaned correctly.
4. After use, clean the corn sheller to remove any grain residue or debris, paying attention to the sieves, chute, and other critical components.

Stopping The MGC

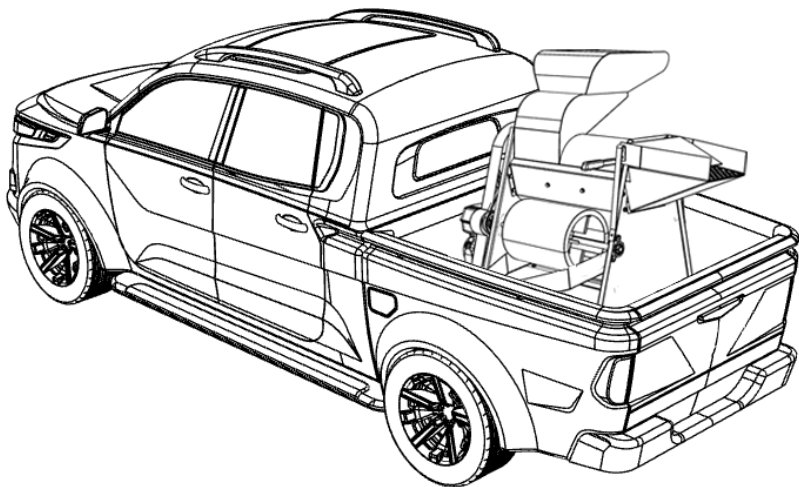
1. When shelling is completed, allow the machine to run for about 5 minutes to evacuate any debris within the chamber.
2. Locate the engine kill switch and turn it to the “off” position.
3. Allow the engine to come to a complete stop before opening the hopper or accessing any moving parts.
4. Lubricate moving part and inspect the machine for damage.

Post Operation Activities

1. Allow the heated parts to cool before carrying on any subsequent activities.
2. Tighten any loose bolts and moving parts.
3. Clean the cleaner and chute after use.



Can be transported by tricycle



Can be transported by pickup

Module 4

Troubleshooting Methods

This module addresses starting difficulties, power insufficiency, engine stall, reduced efficiency of thresher and other problems that may interfere with the smooth operations of the cleaner.

Problem	Possible Cause	Solution
Kernels remain on the cob after shelling	• Corn is too wet or moist (kernels cling tightly to the soft cob). • Shelling drum bars are worn out. • Inconsistent feeding. • Ineffective fan operation.	• Dry the corn before shelling. • Feed corn continuously and evenly. Avoid overloading the machine. • Clear any blockages. • Contact SAYeTECH.
Too many broken or cracked kernels.	• Corn is too dry. • Shelling drum speed is too high.	• Ensure that the grains are not overdried. • Contact SAYeTECH.
Machine vibrates strongly or makes abnormal noise.	• Worn-out or damaged bearings • Foreign objects in the shelling chamber. • Incorrect belt tension.	• Lubricate moving parts to reduce friction. • Tighten any loose bolts. • Contact SAYeTECH.

Module 5

Warranty And Customer Information

This module spells out the warranty terms, including coverage duration and what actions may void warranty. It also provides information on frequently asked questions (FAQs)

Warranty Information

SAYeTECH offers a limited product warranty valid for 6 months from the date of delivery. The warranty covers defects in material and workmanship that affects the product's function and render it inoperable provided that is operated and maintained in accordance with the instructions in the product manual or operator training session.

During this time, the company will repair or replace any product or parts that proves flawed due to a defect in manufacturing. The warranty does not cover the motor, damages resulting from negligence or misuse of the machinery, normal wear and tear of parts, or damage caused by external factors such as accidents, floods, fire or earthquake.

Customers are given the option to extend their warranty period the original period as stated. However, service rendered by SAYeTECH in such event will come at a reasonable charge. To claim the benefits provided by the warranty, the customer must:

1. Contact the company to determine the problem and present a copy of the purchaser's receipt.
2. Demonstrate to the SAYeTECH's satisfaction that the customer complied at all times with the maintenance and operations procedure as stipulated in the manual.
3. Be ready to go through our troubleshooting, checks and recommendations

Module 6

Frequently Asked Questions (FAQs)

1. **What is a corn sheller?**
A corn sheller is a machine that removes the kernels (seeds) from the dry cob. It separates the good corn from the waste cob.
2. **How does the corn sheller work?**
The machine uses a spinning drum (cylinder) inside a fixed metal screen to rub the kernels off the cob.
3. **What are the main benefits of using a sheller?**
It makes the work much faster and easier than shelling by hand, saving you a lot of time and labor.
4. **What kind of fuel does this machine use?**
It uses petrol to run the engine. Make sure the fuel is fresh and clean.
5. **Can the machine also clean the corn?**
Yes. It uses a fan (blower) to remove dust and light chaff from the shelled corn as it comes out.
6. **Is it safe to put my hands inside the machine?**
Never! You must turn off the engine completely before you try to check or fix anything inside.
7. **Does the machine need water?**
No, never put water into the engine or the shelling part. It only needs petrol and engine oil.
8. **How often should I clean the machine?**
Every time you finish shelling, clean out all the dry pieces of cob and trash.
9. **Where do I get help if the machine breaks?**
Contact SAYeTECH for genuine spare parts and maintenance services.

Contact Informatiton

For technical/customer support call

Phone: +233 (0)20 987 9370

+233 (0)24 215 7512

Or visit our workshop for assistance

GhanaPost GPS Address : AE-0492-4335

Agya Junction, Ampabame

Off Ejisu-Konongo Road

Ejisu - Ampabame

