

WOOD CRUSHER

OPERATION MANUAL

Widely used in biomass energy processing, landscaping and wood recycling projects.

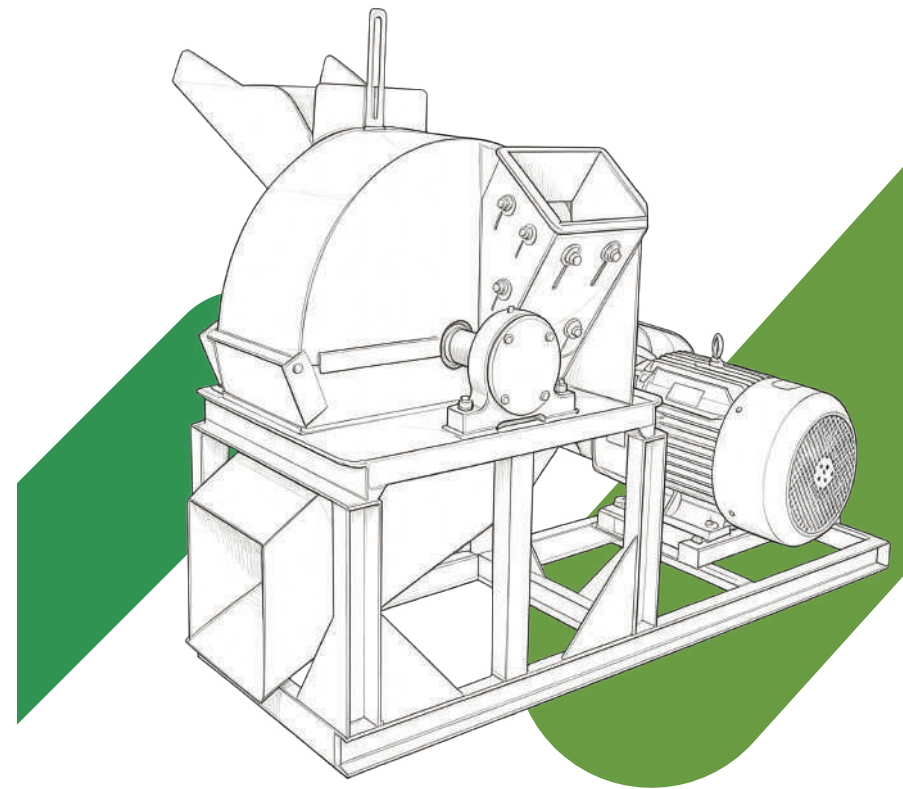


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I. Overview

The wood crusher is mainly used for crushing and processing materials such as branches, wood chips, offcuts and wood waste. The equipment cuts and crushes materials through high-speed rotating blades, turning large pieces of wood into small fragments for convenient subsequent transportation, stacking, fermentation, pelletizing or fuel processing.

The equipment features compact structure and simple operation, and is suitable for farms, garden pruning, wood processing factories, biomass fuel processing and other scenarios. Before use, please carefully read this manual to understand the equipment structure, operation methods, safety requirements and daily maintenance, so as to avoid equipment damage or personal injury caused by improper operation.

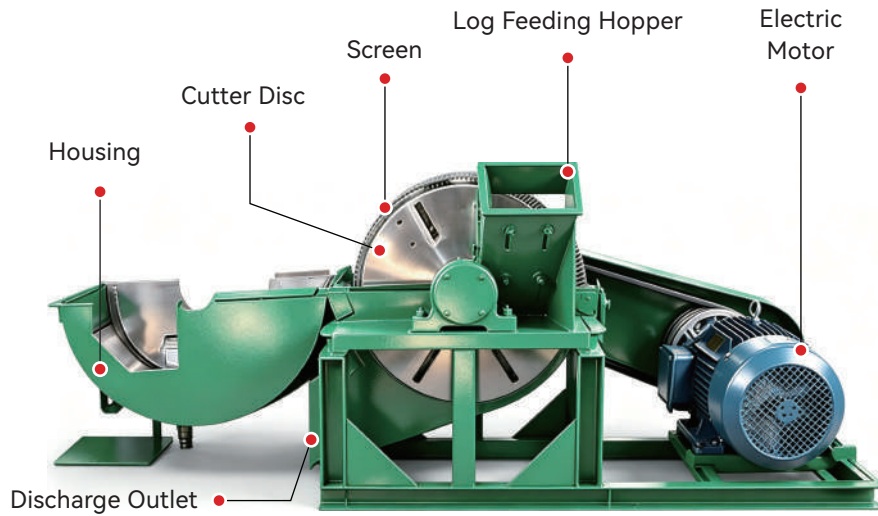


SAFETY WARNINGS

Please read this manual carefully before use and operate in accordance with the requirements. Any equipment damage, personal injury and other accidents caused by improper operation, unauthorized modification, removal of protective devices or operation with faults shall be borne solely by the user.

- ⚠ Please read this manual carefully before operation, and be familiar with equipment structure, operating methods and safety requirements.
- ⚠ During operation, the operator shall wear protective gear such as safety goggles, gloves and dust mask.
- ⚠ Never put hands, tools or other objects into the feed inlet, discharge outlet or transmission parts.
- ⚠ Do not feed hard foreign matters such as stones, metals, iron wires, screws and glass to prevent blade damage and potential hazards.
- ⚠ Before startup, check that blades, bolts, belts and protective guards are firmly installed.
- ⚠ Do not open the protective guard or approach rotating parts such as pulleys, cutter discs and motor during operation.
- ⚠ Feed materials evenly; do not overload at one time to prevent material blockage, machine jamming and motor overload.
- ⚠ Wood diameter and length shall comply with equipment specifications. Do not force-feed over-thick, over-hard or foreign-mixed materials.
- ⚠ Stop the machine immediately for inspection if abnormal noise, severe vibration, smoking or material blockage occurs.
- ⚠ Stop the machine and cut off the power or shut down the diesel engine before inspection, cleaning, maintenance or blade replacement.
- ⚠ Do not operate the equipment under overload. Monitor the temperature of motor, bearings and diesel engine during long-time continuous work.
- ⚠ Keep the surrounding area clean; do not pile flammables, sundries or obstacles that affect operation.

II. Equipment Structure Display



Two power options available



Electric Version



Diesel Version

Optional additional accessories



Wood chips and scrap inlet



Mobile tires

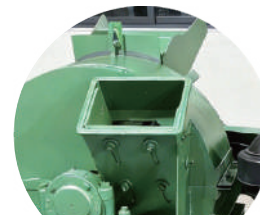


Trailer hitch



Cyclone dust collector

Feed Inlet Corresponding Functions



Log feeding hopper

Solid wood / Log
Branch / Wood stick



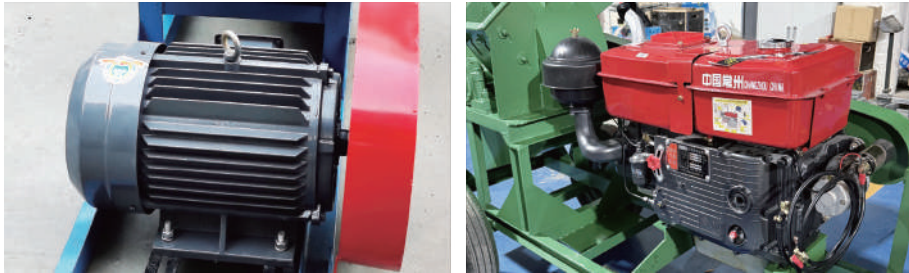
Wood chips and scrap inlet

Wood chip / Wood block
Offcut / Plate waste / Straw

III. Standard Operation for First Use

Check the whole machine condition before first use. Start it only after confirming firm installation, correct connection and intact protective devices.

Do not operate the machine with loose parts, missing guards or abnormal conditions.



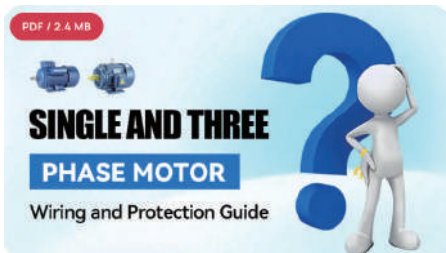
1. Power Connection and Startup Guidelines

Electric Motor Model

Wiring of electric motor model shall be completed by users after arrival. Before wiring, confirm that local voltage and phase number conform to equipment requirements, and have the wiring done by professional electricians. After wiring, perform inching test run first, and put into normal use after confirming correct rotating direction.

Details Link

<https://www.kwmach.com/manual/single-three-phase-motor-wiring-and-protection-guide>



Single And Three Phase Motor Wiring and Protection Guide

Series: Guide

Guide to single phase 220V and three phase 380V motor wiring and electrical selection, covering cable sizing, circuit breaker setup, and star delta starting for safe installation.

Diesel Engine Model

Diesel engine models are available in manual start and electric start types. Before starting, check the engine oil, diesel fuel, cooling water and all connecting parts for normal condition. Operation procedures vary by starting mode, please refer to corresponding instructions according to your equipment configuration.

Details Link

<https://www.kwmach.com/manual/diesel-engine-pellet-mill-startup-guide>



Diesel Engine Startup and Maintenance Guide

Series: Guide

This guide covers startup and routine care for feed and biomass pellet machines with water cooled diesel engines, including manual and electric starting and basic troubleshooting.

2. Correct Rotation Direction Inspection

Perform no-load trial run before first use to check if the rotation direction is consistent with the arrow mark on the machine body. Normal feeding is allowed only after confirming correct rotation, stable operation and no abnormal noise or vibration.



3. Install screen mesh / feed inlet

Screen Installation Steps

Cut off the power or shut down the diesel engine and ensure the machine stops completely before operation.

- 1 Open the outer cover of the crushing chamber and clear residual wood chips and debris inside.
- 2 Put the screen into the crushing chamber along the arc to fit the inner wall tightly.
- 3 Adjust the screen to align the steel plate joints at both ends.
- 4 Fasten the steel plates at both ends tightly, make sure no dislocation, warping or looseness.
- 5 Check the screen is fully attached to the inner wall to avoid friction with blades.
- 6 Close the outer cover and tighten the fixing bolts, ensure no foreign objects left inside.
- 7 Conduct no-load test run after installation. Start feeding only if no abnormal friction, vibration or collision noise occurs.

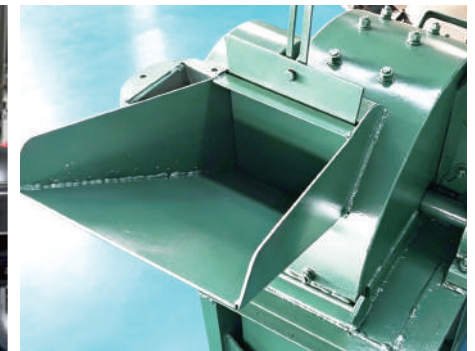


Feed Inlet Installation Steps

- 1 Distinguish the two feed inlets according to the machine structure.
- 2 Align the feed inlet with the connecting position and bolt holes of the main unit.
- 3 Slightly fasten the bolts first, then tighten them one by one after confirming correct installation direction.
- 4 Check the joint between feed inlet and main unit, no obvious gaps or shaking allowed.
- 5 Ensure no tools, screws or other foreign objects remain inside after installation.



Log Feeding Hopper



Wood Chips and Scrap Inlet

4. Install Cyclone Dust Collector (Optional)

- 1 Place the cyclone bracket on flat ground and fix its base to prevent shaking after installation.
- 2 Mount the cyclone cylinder on the bracket with the conical discharge port downward and side air inlet facing the discharge direction of wood crusher.
- 3 Connect crusher discharge port to cyclone side air inlet. Align pipe joints and fasten tightly with clamps or bolts to avoid air and material leakage.
- 4 Fit collecting bag under the conical outlet and fasten the bag mouth firmly to prevent wood chip leakage.
- 5 If equipped, install dust filter bag on top air outlet and fix securely to avoid falling off and dust overflow.
- 6 Check all pipes, joints and bags for firm installation. Keep pipes unbent, unblocked and correctly connected.
- 7 Run the machine idle after installation to check for air leakage, material leakage and shaking. Start trial feeding only after smooth discharging is confirmed.



5. Operation Process for Log and Branch Crushing

Use the small feed inlet when crushing long materials such as logs, branches and wooden sticks.



- 1 Close and fasten the baffle of the large feed inlet before operation, to prevent wood chips and fragments from flying out.
- 2 Start the machine and run it idle first. Begin feeding only after stable operation with no abnormal noise, vibration or friction sound.
- 3 Feed logs and branches slowly and evenly through the small inlet, do not force materials in.
- 4 Ensure wood diameter meets machine processing standard. Never feed materials mixed with iron blocks, stones, iron wires, nails and other sundries.



6. Operation Process for Wood Chip & Offcut Crushing

Adopt the large feed inlet to crush short or irregular materials like wood chips, short wood blocks, plate offcuts and wood waste.



- 1 Run the machine idly after startup, start feeding only after stable operation is confirmed.
- 2 Feed materials evenly. Do not dump excessive materials at once to avoid blockage, jamming and motor overload.
- 3 Keep a safe distance from the feed inlet during feeding. Never push materials by hand into the inlet.
- 4 Do not feed materials from two inlets simultaneously to prevent material rebound, debris splashing and excessive machine load.

Stop feeding and shut down the machine immediately for inspection in case of difficult feeding, material rebound, poor discharging, abnormal noise or severe vibration.



IV. Equipment Maintenance

To ensure long-term stable operation of the wood crusher, regularly inspect bearings, blades, hammers, screens, belts, fasteners and protective devices during use.

Bearing Lubrication

Bearings are core components for high-speed operation. Inject butter or lithium-based grease regularly with an oil gun for initial use and daily operation to keep well lubricated.



Clean wood chips, dust and dirt around grease nipples before refueling to prevent impurities from entering bearings.

Hammer Blade / Cutter Blade Replacement

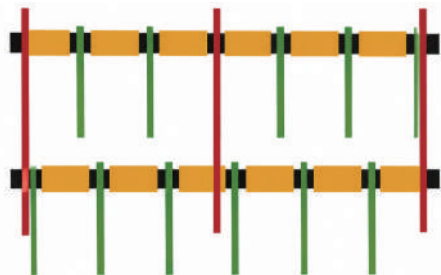
All operations must be performed when the machine is completely shut down.

Hammer Blade Replacement

- 1 Remove the fixing pins on both sides of the hammer shaft, take out the shaft, then dismount old hammer blades, sleeves and spacers in order.
- 2 Install new hammer blades in original staggered arrangement, fix their positions with sleeves and spacers. Ensure flexible rotation without jamming, reverse installation or deflection.
- 3 Refit and lock the pins after installation, close the safety guard and tighten bolts.
- 4 Start trial operation, check normal running of hammer blades with no abnormal vibration or noise.

Notes

Ensure the same quantity of hammer blades are installed on the cutter disc during replacement. Complete set replacement is recommended.
If the weight deviation between hammer blades exceeds 3 grams, it will cause center of gravity shift, increase machine vibration and even damage bearings and other components.



Staggered Arrangement of Hammer Blades

- Cutter disc
- Hammer blade shaft
- Hammer blade
- Sleeve

Cutter Blade Replacement

The blades are sharp. Wear gloves to avoid scratches during replacement.

- 1 Loosen blade fixing bolts with proper tools and remove old blades in order.
- 2 Inspect new blades for cracks, notches or deformation before installation, confirm consistent specifications with original ones.
- 3 Install new blades in original direction. Keep cutting edges aligned with machine cutting direction, no reverse installation or deflection allowed.
- 4 Tighten fixing bolts firmly. Ensure blades are tightly fitted without looseness, warping or interference with crushing chamber wall.
- 5 Close safety guard and fasten all fixing bolts after replacement.
- 6 Perform no-load trial run before formal use. Start feeding materials only after no abnormal collision noise, friction sound and obvious vibration are confirmed.

Notes

Replace blades in groups as far as possible and keep symmetrical installation positions to avoid unbalanced operation of cutter disc and excessive machine vibration.



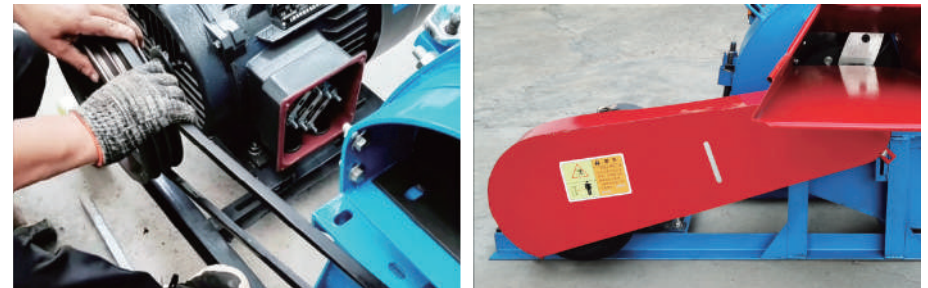
Screen Replacement

- 1 Stop the machine and cut off power before replacement, make sure the equipment is fully stationary.
- 2 Open the protective cover of the crushing chamber and clean out residual wood chips and sundries inside.
- 3 Take out the old screen, check the chamber for blockage, deformation and abnormal wear.
- 4 Place the new screen into the chamber along the arc direction to fit closely with the inner wall.
- 5 Align and clamp the steel plate joints at both ends, ensure no dislocation, warping or looseness.



Belt Replacement

- 1 Stop the machine and cut off power, operate only after the equipment comes to a complete stop.
- 2 Open the belt guard, loosen the base bolts of motor or diesel engine, then remove the old belt.
- 3 Take off the old pulley and key block, check shaft end and keyway for wear and deformation.
- 4 Install the new pulley, ensure the key block fits into the slot correctly. Keep the pulley installed flat without shaking. Align the main pulley and power end pulley on the same plane.
- 5 Adjust the position of motor or diesel engine to get proper belt tension, then tighten the base fixing bolts.
- 6 Refit the belt guard and conduct no-load trial run. Put into normal use only when the belt runs stably without jumping, slipping, abnormal noise or obvious overheating.



Regular Maintenance & Inspection

After continuous operation, regularly check bearing lubrication, wear degree of blades and hammers, screen unobstructed condition, belt tightness and firmness of all connecting parts. Good maintenance habits can reduce machine faults, lower wear parts loss, ensure stable operation and effectively extend the service life of the equipment.

V. Common Faults and Solutions

Abnormal Equipment Operation

Possible Causes	Solutions
Power not connected, loose motor wiring or abnormal switch	Check power supply, switch, wires and terminals to ensure normal connection
Voltage, phase number or motor rotation direction does not meet requirements	Check voltage and wiring according to equipment requirements; consult a professional electrician if necessary
Wood blocks or foreign objects stuck in the crushing chamber	Stop the machine, cut off power, open the crushing chamber and clear blockages and foreign objects
Belt is too loose, fallen off or broken	Check belt condition, readjust or replace the belt
Diesel engine fails to start normally	Check diesel, engine oil and cooling water, and operate according to the diesel engine start-up instructions

Abnormal Noise During Equipment Operation

Possible Causes	Solutions
Hard objects such as iron blocks, stones, or screws mixed into materials	Stop the machine immediately, remove foreign objects, and check if blades, hammers, and screen are damaged
Loose blades, hammers, or screen	Stop the machine, check fixing bolts, pins, and screen joints, then retighten them
Improperly installed screen causing friction with blades or hammers	Reinstall the screen, ensure the steel plates at both ends are aligned and clamped tightly
Insufficient lubrication or worn bearings	Inject grease; if abnormal noise persists, inspect or replace the bearings
Belt deviation or misaligned pulleys	Adjust pulley positions to ensure the belt runs smoothly

Excessive Vibration During Equipment Operation

Possible Causes	Solutions
The equipment is not placed stably	Place the equipment on a flat and solid ground, and fix the frame if necessary
Unevenly installed or inconsistently worn hammers	Check the arrangement of hammers, and install them in the original staggered and symmetrical positions
Loose or severely worn blades	Check the blade fixing bolts, and replace the blades if necessary
Belt is too loose, too tight, or pulleys are not on the same plane	Adjust the belt tension and correct the pulley positions
Abnormal bearings or main shaft	Stop the machine to inspect bearings and main shaft, and replace them promptly if damaged

Abnormal Discharge Particle Size

Possible Causes	Solutions
Discharge too coarse due to oversize screen aperture	Replace with a screen with smaller aperture
Discharge too fine due to undersize screen aperture	Replace with a screen with larger aperture
Reduced crushing effect due to worn blades or hammers	Inspect blades and hammers; replace them promptly if severely worn
Materials not fully crushed due to too fast feeding speed	Slow down the feeding speed and maintain even feeding
Poor discharging due to screen clogging	Stop the machine and clean the screen and crushing chamber
Large variations in material size, hardness or moisture content	Use materials with similar specifications and appropriate moisture content as much as possible

Recommended Flagship Equipment



Flat Die Feed Pellet Mill

Ring Die Feed Pellet Mill

Extruder



Hammer Mill

Forage Chopper

Stainless Steel Mixer



For Any Other Questions, Please Contact Us

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