

Redline



Implements

Tel: 0800 872 2767

www.jinma.co.za/implements.html

Model: WC-8



Important:

Read these instructions before installing and using this implement.

Wood Chipper

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PRODUCT SPECIFICATIONS

Product No.

- WC150 PTO driven ~ safety feed drive cutout
 ~ large chipping capacity up to 150mm diameter
- WC200 PTO driven ~ safety feed drive cutout
 ~ large chipping capacity up to 200mm diameter

Implement Specifications

MODEL	WC150	WC200
Tractor HP	25-30hp	30-55hp
3-Point Linkage	Cat-1	Cat-1
Length	1680mm	1680mm
Width	1000mm	1000mm
Height	1620mm	1620mm
Weight	370kg	370kg
Chipping diameter (∅)	150mm	200mm
Fly Wheel Blade	300mm	300mm
Throughput m ³ /h	1-2	1.5-3
PTO Speed	540r/min	540r/min

The Wood chipper is available in two models, 150mm and 200mm chipping diameter, suitable for category I three point linkage tractors up to 55 hp.

Uses:

Perfect for those clean- ups after a storm, pruning or just processing general gardening wastes ~ creating mulch for garden plants and trees for conserving water.

Features:

PTO driven ~ large capacity up to 200mm diameter log ~ safety feed drive cutout

SAFETY INSTRUCTIONS



Before operating the Wood Chipper read the following safety instructions. Failure to comply with these warnings may result in serious injury or death.

CONGRAGULATIONS! On the purchase of your new Red line Wood Chipper. This information is to assist you in preparing, operating and maintaining your Wood Chipper. Please read and understand the information completely before operating your Wood Chipper, paying special attention to all the safety details. Keep this manual handy for a ready reference.

1.1 SAFETY FIRST

YOU are responsible for the SAFE operation and maintenance of your wood chipper. YOU must ensure that you and anyone else who is going to operate, maintain or work around the wood chipper is familiar with the operating and maintenance procedures and related SAFETY information contained in this manual. This manual will take you step-by-step through your working day and alert you to all good safety practices that should be adhered to while operating the wood chipper.

Remember, YOU are the key to safety. Good safety practices not only protect you but also the people around you. Make these practices a working part of your safety program. Be certain that EVERYONE operating this equipment is familiar with the recommended operating and maintenance procedures and follows all the safety precautions. Most accidents can be prevented. Do not risk injury or death by ignoring good safety practices.

- 1 Wood chipper owners must give operating instructions to operators or employees before allowing them to operate the machine.
- 2 The most important safety feature on this equipment is a SAFE operator. It is the operator's responsibility to read and understand ALL Safety and Operating instructions in the manual and to follow these. All accidents can be avoided.
- 3 A person who has not read and understand all operating and safety instructions is not qualified to operate the machine. An untrained operator jeopardize himself and bystanders to possible serious injury or death.
- 4 Do not modify the equipment in any way. Unauthorized modification may weaken the function and/or safety and could affect the life of the equipment.
- 5 Think SAFETY! Work SAFETY!

SAFETY INSTRUCTIONS

1.2 SETUP INSTRUCTIONS

The PTO shaft needs to be sized for your tractor – see installation in the manual for this procedure.

Make sure that the shaft will not bottom out in the shortest position.

Keep the PTO shaft straight and within 15 degrees of level when operating the unit.

Do not allow the chipper to be operated without the chip deflector properly in place, because the flywheel and blades will be exposed and the flow of chips cannot be controlled.

Agriculture is recognized as one of the most hazardous of occupations-today's spends long hours in close proximity to increasing complex and powerful machinery.

To avoid accidents, everyone from the supplier and the company who manufactures and assembles the machinery, to the dealers and ultimately the actual user, must keep safe work practices in mind. Also refer to other general safety literature, and the standards published by local governments.

1.3 GUARDING

For hazards which cannot be eliminated effectively, guarding must be provided whenever feasible. The PTO master shield, integral drive-line shield, and implement input connection shield should provide an interactive guarding system.

1. The implement should be used only with the tractor's PTO master shield in place.
2. Check that the PTO drive-line safety shields are in place and working correctly before operating the chipper.
3. Check that all routine maintenance of the drive-line has been completed prior to operation.

SAFETY INSTRUCTIONS

1.4 SAFETY INSTRUCTIONS

Do not attempt to operate the chipper until you have read and understood the owner's manual. If you need another manual, contact the factory or the dealer where you purchased the unit.

Always keep the guards and chip deflector installed properly while operation the chipper. Keep the decals in place and in good repair.

Never leave the chipper running unattended.

Do not attempt alterations, repairs or adjustments while the chipper head is turning. Always disconnect the PTO and stop the motor, then put the keys in your pocket.

Keep hands, feet and other extremities out of and away from the hopper.

Point the discharge chute away from doorways, sidewalks, or any areas where your view is obstructed. The chute should be pointed downwind when possible or the chipped particles may blow into your eyes and down your neck.

Keep everyone, especially children, way from the area of operation. Anyone who has not read this manual and received instructions from a qualified person should not be in the area.

1.5 WEAR PROTECTIVE GEAR.

EYES – wrap – around safety glasses or goggles

EARS – ear plugs

HANDS – Leather gloves

FEET – Steel toed boots

LEGS – Heavy Pants

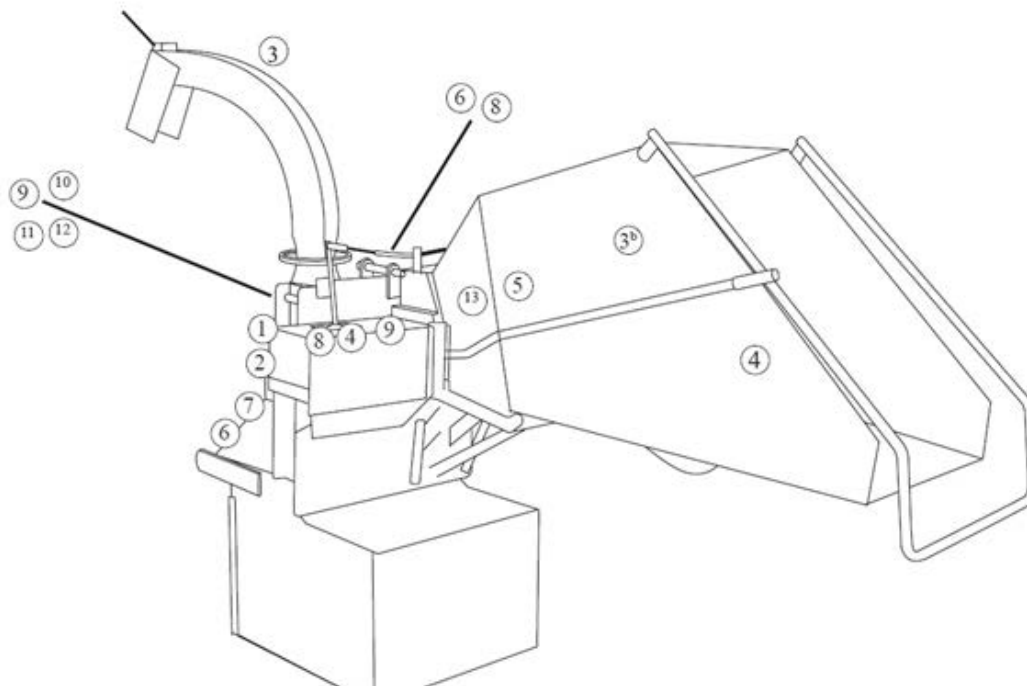
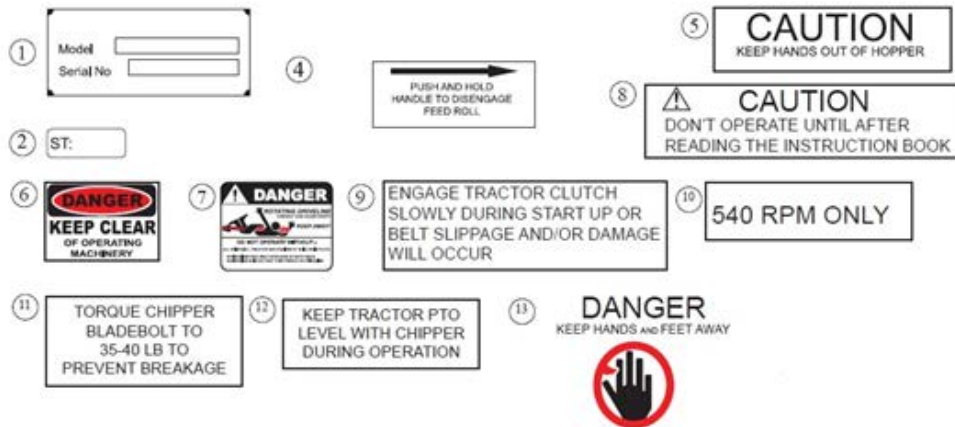
ARMS – Long sleeved shirt

No loose clothing should be worn around the chipper. Children as well as adults could easily lose a finger or two, if someone or something turns the flywheel over when the blades are being checked or the cutter bar is being adjusted. The flywheel has enough residual energy to easily remove fingers.

SAFETY INSTRUCTIONS

1.6 SAFETY DECAL

The position of safety decals are shown in the illustrations below. Good safety requires that you familiarize yourself with the various safety signs, and increase your **SAFETY AWARENESS**.



OPERATION

2.1 MACHINE CHECKLIST

CAUTION: Turn the chipper head over by hand before applying power to make sure that the head is clear, all the bolts are clear, and the knives clear the case and cutter bar.

Make sure that:

1. The feed roll drive-shaft and pivots are properly lubricated
2. The feed roll clutch is properly lubricated and the clutch releases when the safety handle is pushed downward.
3. The PTO shaft doesn't come apart or bottom out during the normal lifting range.

Check the chip pile to see if the blades need to be serviced. Long slivers in the chip pile is an indications of dull blades.

2.2 INSTALLATION

Prior to startup, the PTO that is supplied with your chipper must be properly sized to insure proper operation. If this is not done, damage to the chipper, and tractor PTO drive-line will occur.


These calculations are based on the following assumptions:

1. The PTO shaft used is the one supplied with your chipper.
2. The two shaft ends are horizontal with one another.

The following steps should be taken to insure the proper fitting of the PTO drive-line (provided with your chipper) to your tractor PTO drive.

1. Attach the chipper to your tractor three-point connections.
2. Raise the chipper to a position where its drive-shaft is level with the tractor PTO drive-shaft. This horizontal position is recommended for operation of the chipper.
3. A maximum of 15 degrees of offset from the horizontal position between the two shaft ends is allowable for proper operation of the unit by the PTO drive-line manufacturer. However, drive-line calculations are based on a level, horizontal position. With the two drive shafts level with one another, measure the distance between the ends of the two shafts. (the chipper and the tractor PTO shaft ends). This distance between the shaft ends is the measured shaft end distance, or "MSED".
4. Most drive-lines must be adjusted to fit by cutting off equal amounts of the shaft tube and the guard tube of the PTO drive-line.

OPERATION

	Contact with the PTO shaft while in use can result in serious injury or death. Any portion of the PTO shaft not covered must be guarded by an interactive guarding system. Do not remove any of the plastic safety covers on the PTO Shaft, and insure that caution is used around this drive-line no one should be in the PTO Shaft area when it is operating.
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2.3 MACHINE OPERATION

The chipper is a flywheel and knife rotating close to the cutter bar, chipping material as it is fed into the head. The blades must be sharp to operate properly. Dirt, rocks, nails, or other foreign material will shorten blade life. Before operating the chipper review the machine checklist. After turning the chipper by hand and making sure there are no obstructions in the head, start the tractor and raise the chipper until the PTO shaft is within 15 degrees of straight. Start the chipper slowly with the PTO engaged, and release the PTO clutch slowly. Gradually increase speed until the tractor PTO speed is 540 RPM.

The material will feed into the head more easily if you start the pieces with the large end first. The feed roll will fold branches as they are pulled in to the hopper. Occasionally, a branch fork may have to be cut to feed properly. If the material stops feeding, sometimes a little push on the ling end of the branch will help. Never put your arm down the chute while it is operating.

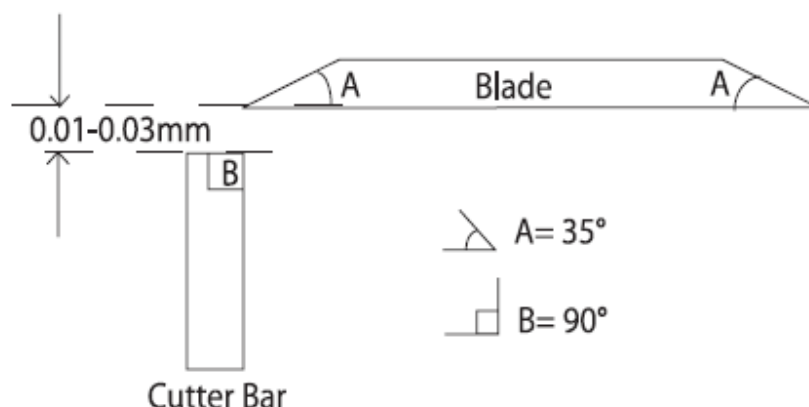
If the material stops the feed roll, release the feed roll clutch by pushing the safety handle down to disengage the clutch. Hold the clutch in the disengage mode, and pull the material out the hopper.

Remember to mulch only clean material, or blade life will be shortened.

- Do not move the unit while the flywheel is turning.
- Block the wheels and set the brake while running the head.
- Watch the discharge chute while operating the unit and if the chips stop flowing stop feeding material into the unit by moving the feed roll clutch handle down and pulling the material from the hopper.
- Most of the time this will be enough to clear the chips out of the unit. If the unit slows down noticeably, first shut off the PTO power, then the tractor.
- Unplug the head by turning it backwards by hand with the discharge chute and flywheel inspection plate off.
- Remove the chips from the top of the head. If this fails, remove the clean-out door, located on the lower part of the front side-plate of the chipper below the main shaft. Then work the chips out the case.
- Replace the clean-out door after all the chips are removed, being sure to use both the lock washer and flat washers.

OPERATION

- Turn the head by hand after assembly to be sure it turns freely. Be sure to replace the chip deflector.
- Do not operate the unit without the deflector in place.
- Before stopping the chipper, be sure that all of the material is out the head and out of the feed roll.
- All of the material in the chute must be gone or the unit could jam on a small piece of material This can usually be cleared by tuning the unit backwards by hand.
- To replace the blades, take the PTO shaft out of gear. Shut off the tractor and keep the keys in your pocket. The blades on most models are replaced or turned by removing the inspection plate on the side opposite the chute.
- Unhook the feed roll springs, block open the other, remove the bolts.
- Be careful not to drop any parts inside.
- Remove the blade, clean the blade pocket, and turn or sharpen the blade. Replace, set and tighten.
- Torque the bolts to 50 foot-pounds in all holes so the bolts are straight through the flywheel.
- A small screwdriver or ice pick works well to clean pockets for the Allen wrench.
- Replace the inspection plate and reattach springs.
- Turn over by hand before applying power. The cutter bar should be adjusted to a clearance of 010 to 030 from the blade by loosening the bolts in the bottom of the chute in the slotted holes and moving the cutter bar on the slots.
- Bolts are to be torque to 35 foot-pounds.
- The cutter bar can be reversed and/or re-sharpened.
- Dull blades cause many problems, such as:
 - Seeming lack of power, plugging of the discharge chute, rough cutting with more vibration than usual, feed roll shaft broken, main bearing working loose and the flywheel or blades hitting the case or cutter bar, feed roll kicking out of gear, and not feeding.



OPERATION

- To properly sharpen the blades, sharpen an angle A keeping the angle about 35 degrees, the same as a new set.
- Edge B cannot be rounded, or the blades will not pull the material into the head.
- The best way to tell if the blades need sharpening is to watch the chips coming out of the chip discharge.
- If they are long and stringy, the blades need to be serviced. Sometimes the blades feel sharp to the fingers, but may be worn or rounded edge B. they need to be sharpened.

2.4 PREVENTATIVE MAINTENANCE

The main drive belts on the chipper need to be tight. To tighten these belts, first loosen the four bottom nuts that hold the jack-shaft bearing. Loosen them about three turns, then move the nuts on the top of the bearings down and equal amount. Keep the jack-shaft parallel with the main shaft. Torque the bottom nuts 80 foot pounds.

The belts of the main drive on the PTO chipper should be checked every eight hours of operation. Look for cracks, looseness, or other signs of deterioration. For best performance, replace with a matched set of five belts.

The feed roll drive belt can be adjusted by first loosening the four bolts that hold the worm gear box to the base, then moving the gear box away from the chute and re-torque the bolts to 40 foot pounds. All decals and safety instructions should be kept clean and legible. It is the operator's responsibility to replace the decals as needed.

SERVICE AND MAINTENANCE

3.1 SERVICE

3.1.1 FLUIDS AND LUBRICANTS

1. Grease:
Use multi –purpose lithium based grease.
2. Gear Box Oil:
Use SAE 90 Gear oil.
3. Storing Lubricants:
Your machine can operate at top efficiency only if clean lubricants are used. Use clean containers to handle all lubricants. Store them in an area protected from dust, moisture and other contaminants.

3.1.2 GREASING

1. Use a hand-held grease gun for all greasing.
2. Wipe grease nipple with a clean cloth before greasing, to avoid injecting dirt and grit.
3. Replace and repair broken nipples immediately.
4. If nipples will not take grease, remove and clean thoroughly. Also clean lubricant passageway. Replace nipple if necessary.

3.2 MAINTENANCE

The recommended period is based on normal operating conditions. Severe or unusual conditions may require more frequent maintenance.

3.2.1 8 HOURS OR DAILY MAINTENANCE

1. Check all nuts and bolts in connection parts, replace if required.
2. Check for loose belts, broken pulleys, loose springs and dry slides, tighten or replace if required.
3. Check the oil in gearbox. Fill up to line if required.
4. Check feed roll drive-line and feed roll clutch, grease if required.
5. Pump grease into each grease nipple three to five times.
6. Clean the implement; take away all debris and residue.

SERVICE AND MAINTENANCE

3.2.2 SEASON MAINTENANCE

1. Check the machine as above for daily maintenance.
2. Check the oil in gearbox; replace if contaminated.
3. Check the bearings of blade spindles for wear and tear. If worn, disassemble, clean and replace them if it is necessary, grease as required.

3.2.3 ANNUAL MAINTENANCE

1. Thoroughly clean the wood chipper of debris and residue.
2. Drain the gearbox and clean it thoroughly. Fill with new gear oil up to the dedicated oil level.
3. Check and clean blade axles. Check oil seals and replace if necessary.
4. Check all blades, replace them if they are worn out or damaged.
5. Remove the drive shaft from the machine. Pull the PTO shaft apart. Check and replace any components that are damaged or worn. Install the PTO shaft on the machine. The PTO shaft should telescope easily and the guard turn freely on the shaft, grease if necessary.

	8hrs/Daily			40hrs/Weekly			Annually		
Lubricate PTO Shaft	X			X				X	
Lubricate Feed roll Clutch	X			X				X	
Lubricate Feed roll pivot	X			X				X	
Lubricate Feed roll drive-shaft	X			X				X	
Lubricate Slip joint	X			X				X	
Check Gear Box Oil Level				X				X	
Clean Machine								X	
Lubricate and Clean PTO Shaft Cover								X	

SERVICE AND MAINTENANCE

3.3 STORAGE

After the season's use, the machine should be thoroughly inspected and prepared for storage. Repair or replace any worn or damaged components to prevent any unnecessary down times at the start of next season. To insure a long, trouble free life, follow the procedure outlined below:

1. Thoroughly wash the machine using a pressure washer to remove all dirt, mud, debris and residue.
2. Inspect the blades and rotor for damage or entangled material. Repair or replace damaged parts. Remove all entangled material.
3. Lubricate all grease nipples. Make sure that all grease cavities have been filled with grease to remove any water residue from the inside.
4. Touch up all paint nicks and scratches to prevent rusting.
5. Move to storage area.
6. Select an area that is dry, level and free of debris.
7. Unhook from tractor.
8. If the machine cannot be placed inside, cover with a waterproof tarpaulin and tie securely in place.

Store the machine in an area away human activity. Do not allow to play on or around the stored machine.

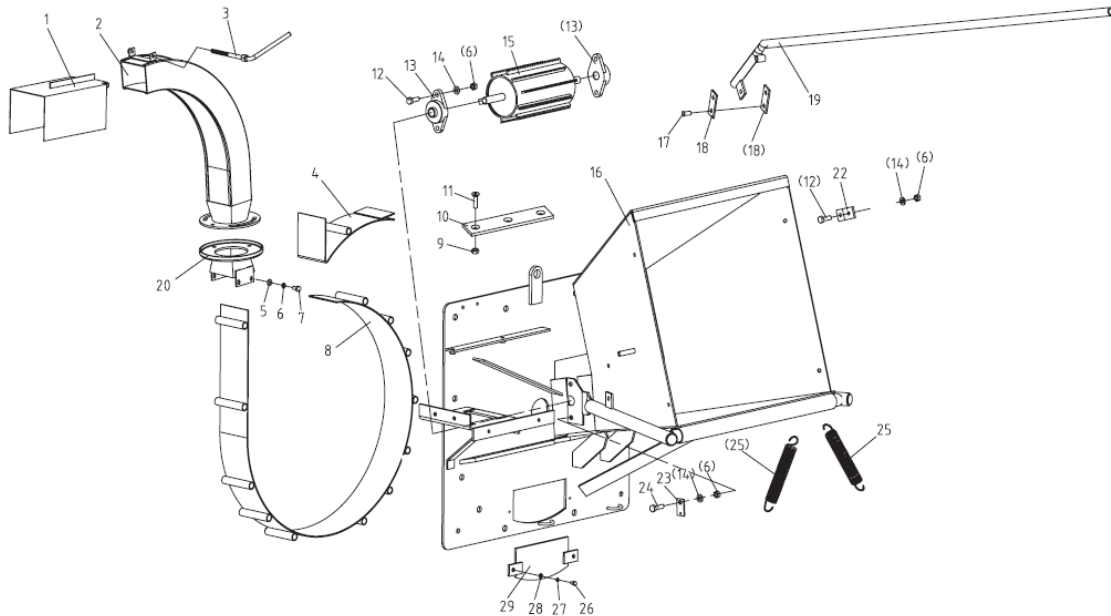
3.4 TROUBLE SHOOTING

PROBLEMS	POSSIBLE CAUSES	SOLUTIONS
Head slows, but tractor does not	Main drive belts are slipping	Tighten
	Blades blunt	Sharpen/Reverse
Feed roll clutch kicking in and out of gear excessively	Blades blunt	Sharpen/ Reverse
	Material jammed in chute	Release feed roll clutch and remove material by pulling out of chute, trim forks, and feed into chute
Not chipping clean or chip deflector plugging	Blades blunt	Sharpen/ Reverse
	Cutter bar rounded	Sharpen/ Reverse
	Cutter bar not adjusted properly	Adjust to tolerance level
	Chipper head turning too slowly	Check to PTO speed at 540 RPM
Unit won't feed	Feed roll sides dirty or dry	Clean & lubricate
	Feed in material too wide	Remove ad trim
	Feed roll gear box belt loose	Tighten
	Feed roll tension springs stretched	Replace

PARTS LIST. Wood Chipper Assembly

Ser No.	Part No.	Name & Specifications	Quantity
16	GB 5783-86	Bolt M10x20	2
17	GB 97.1-85	Plain washer 10	4
18	GB 889-86	Locking nut M10	2
19	24 PMF.01.351	Springs	1
20	GB 93-87	Locking washer 8	6
21	24 PMF.03.016	Gearbox cover	1
22	24 PMF.03.018A	Inner drive shaft	1
23	24 PMF.03.109-1	Spring for drive shaft	1
24	24 PMF.03.017A	Outer drive shaft	1
25	24 PMF.03.108	Clutch outer claw	1
26	24 PMF.03.107	Clutch inner claw	1
27	GB 170-86	Nut M8	4
28	GB 5783-86	Bolt M8x50	2
29	Q-IAKY 01-91	Worm reduction gear WPR40:30:1 II	1
30	24 PMF.03.111	Belt pulley	1
31	24 PMF.03.105	Belt pulley	1
32	GB T1171-96	Belt A991	1
33	GB 889-86	Locking nut M14x1.5	13
34	GB 97.1-85	Plain washer 14	26
35	GB 5782-86	Bolt M14x135	13

PARTS LIST. Hopper Assembly

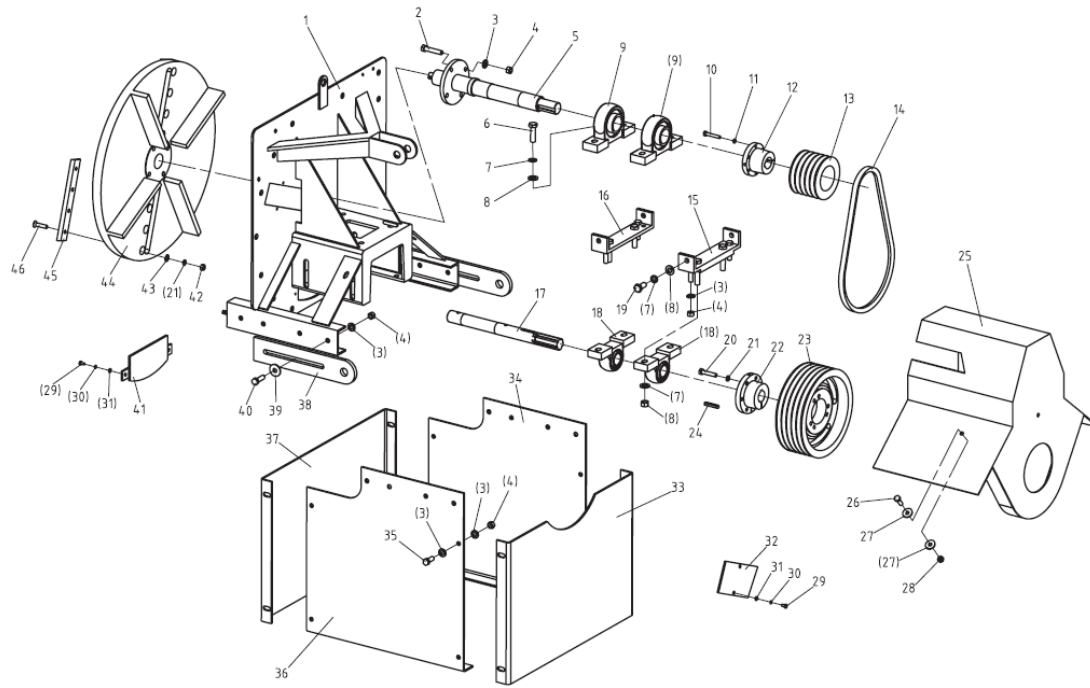


Ser No.	Part No.	Name & specifications	Quantity
1	24 PMF. 01.014	Protective cover weldment	1
2	24 PMF.01.012 A	Turning pipe	1
3	24 PMF.01.013	Tightening handle	1
4	24 PMF.01.015	Flywheel Inspection Plate	1
5	GB 97.1-85	Plain washer 8	4
6	GB 93-87	Spring washer 8	4
7	GB 5783-86	Bolt M8x16	4
8	24 PMF.01.016	Protective cover weldment	1
9	GB 889-86	Locking nut M10	17
10	24 PMF.01.101	Chipper blade	1
11	ISO-10642	Screw M10x35	3
12	GB 5783-86	Bolt M 10x30	4
13	GB 810-87	Bearing L204	2
14	GB 97.1-85	Plain washer 10	14

PARTS LIST. Hopper Assembly

Ser No.	Part No.	Name & Specifications	Quantity
15	24 PMF.01.019	Roller weldment	1
16	24 PMF.01.011	Supporting plate weldment	1
17	24 PMF.01.132	Pin shaft	2
18	24 PMF.01.131	Connecting plate	2
19	24 PMF.01.024 A	Long handle (Australia model)	1
20	24 PMF.01.031	Turning seat	1
22	24 PMF.01.117	Connecting plate	4
23	24 PMF.01.102	Spring lug	2
24	GB 5783-86	Bolt M10x35	2
25	24 PMF.01.103	Tension spring	2
26	GB 5783-86	Bolt M6x12	2
27	GB 93-87	Spring washer 6	2
28	GB 97.1-85	Plain washer 6	2
29	24 PMF.01.017	Cover board	1

PARTS LIST. Drive Assembly



Ser No.	Part No.	Name & Specifications	Quantity
1	24 PMF.02.012	Support	1
2	GB 5783-86	Bolt M12x60	4
3	GB 97.1-85	Plain washer 12	24
4	GB 889-86	Locking nut M12	16
5	24 PMF.02.011	Flywheel Spindle	1
6	GB 5786-86	Bolt M14x1.5x50	4
7	GB 93-87	Locking washer 14	12
8	GB 97.1-85	Plain washer 14	12
9	24 PMF.02.138	Bearing Z209	2
10	GB 5783-86	Bolt M8x50	6
11	GB 93-87	Locking washer 8	6
12	24 PMF.02.105	Small belt pulley hub	1
13	24 PMF.02.104	Small belt pulley	1
14	GB1171-74	Belt	5

PARTS LIST. Drive System Assembly

Ser No.	Part No.	Name & Specifications	Quantity
15	24 PMF.02.016	Bearing seat shim	1
16	24 PMF.02.017	Bearing seat shim	1
17	24 PMF.02.101A	Drive shaft	1
18	24 PMF.02.139	Bearing Z207	2
19	GB 5786-86	Bolt M14x1.5x30	4
20	GB 5783-86	Bolt M10x50	6
21	GB 93-87	Locking washer 10	14
22	24 PMF.02.102	Big belt pulley hub	1
23	24 PMF.02.103	Big belt pulley	1
24	GB 1096-79	Key C 10x50	1
25	24 PMF.02.013	Protective cover for belt pulley	1
26	GB 5783-86	Bolt M10x30	2
27	GB 96-85	Washer 10	4
28	GB 889-86	Locking nut M10	2
29	GB 5783-86	Bolt M6x12	2
30	GB 93-87	Spring washer 6	4
31	GB 97.1-85	Plain washer 6	4
32	24 PMF.02.118	Cover board	1
33	24 PMF.02.112	Front supporting board	1
34	24 PMF.02.110	Left supporting board	1
35	GB 5783-86	Bolt M12x40	8
36	24 PMF.02.109	Right supporting board	1
37	24 PMF.02.111	Rear supporting board	1
38	24 PMF.02.113	Lifting board	2
39	GB 96-85	Washer 12	4
40	GB 5783-86	Bolt M12x40	4
41	24 PMF.01.017	Cover board	1
42	GB 6170-86	Nut M10	8
43	GB 97.1-85	Plain washer 10	8
44	24 PMF.02.106	Flywheel	1
45	24 PMF.02.107	Chipper blade	2
46	GB 2673-86	Screw M10x35	8