Original instruction

GENERAL SAFETY INSTRUCTIONS

WARNING! Read all instructions. Failure to follow all instructions listed below may result in electric shock, fire and /or serious injury. The term "power tool" in all of the warnings listed below refers to your mains operated power tool.

SAVE THESE INSTRUCTIONS.

1) WORK AREA

- a) Keep work area clean and well lit. Cluttered and dark areas invite accidents.
- b) Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust. Power tools create sparks which may ignite the dust or fumes.
- c) Keep children and bystanders away while operating a power tool. Distractions can cause you to lose control.

2) ELECTRICAL SAFETY

- a) Power tool plugs must match the outlet. Never modify the plugs in any way. Do not use any adapter plugs with earthed grounded power tools. Unmodified plugs and matching outlets will reduce risk of electric shock.
- b) Avoid body contact with earthed or grounded surfaces such as pipes, radiators, ranges and refrigerators. There is an increased risk of electric shock if your body is earthed or grounded.
- c) Do not expose power tools to rain or wet conditions. Water entering a power tool will increase the risk of electric shock.
- Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool.
- d) Keep cord away from heat, oil, sharp edges or moving parts. Damaged or entangled cords increase the risk of electric shock.
- e) When operating a power tool outdoors, use an extension cord suitable for outdoor use. Use of a cord suitable for outdoor use reduces the risk of electric shock.
- f) If operating a power tool in a damp location is unavoidable, use a residual current device (RCD) protected supply. Use of an RCD reduces the risk of electric shock.

3) PERSONAL SAFETY

- a) Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication. A moment of inattention while operating power tools may result in serious personal injury.
- b) Use personal protective equipment. Always wear eye protection. protective equipment such as dust mask, no-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.
- c) Prevent unintentional starting. Ensure the switch is in the off-position before connecting to power source and/or battery pack, picking up or carrying the tool. Carrying power tools with your finger on the switch or energising power tools that have the switch on invites accidents.
- d) Remove any adjusting key or wrench before turning the power tool on. A wrench or a key left attached to a rotating part of the power tool may result in personal injury.
- e) Do not overreach. Keep proper footing and balance at all times. This enables better control of the power tool in unexpected situations.
- f) Dress properly. Do not wear loose clothing or jeweler. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jeweler or long hair can be caught in moving parts.
- g) If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used. Use of these devices can reduce dust related hazards.





4) POWER TOOL USE AND CARE

- a) Do not force the power tool. Use the correct power tool for your application. The correct power tool will do the job better and safer at the rate for which it was designed.
- b) **Do not use the power tool if the switch does not turn it on and off.** Any power tool that cannot be controlled with the switch is dangerous and must be repaired.
- c) Disconnect the plug from the power source and/or the battery pack from the power tool before making any adjustments, changing accessories, or storing power tools. Such preventive safety measures reduce the risk of starting the power tool accidentally.
- d) Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool. Power tools are dangerous in the hands of untrained users.
- e) Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use. Many accidents are caused by poorly maintained power tools.
- f) Keep cutting tools sharp and clean. Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
- g) Use the power tool, accessories and tool bits etc. in accordance with these instructions, taking into account the working conditions and the work to be performed. Use of the power tool for operations different from those intended could result in a hazardous situation.

5)Service

Have your power tool serviced by a qualified repair person using only identical replacement parts. This will ensure that the safety of the power tool is maintained.

Dear Customer,

Thank you for buying a KEN power tool. Should you have any questions, vagueness or second thoughts about our products, we recommend you to contact our experts in Sales and Service Departments, who will advise you and help you find the right answers to the set questions. Please contact our local distributors or dealers directly.

Attention!

Through poor conditions of the electrical MAINS, shortly voltage drops can appear when starting the EQUIPMENT. This can influence other equipment (eg. Blinking of a lamp). If the MAINS-IMPEDANCE Zmax<0.272 OHM, such disturbances are not expected. (In case of need, you may contact your local supply authority for further information).

SYMBOL

- V :Volts Hz :Hertz W :Watts
- A :Safety alert
- ∼ :Altenating Current(€:CE conformity.
- :Double insulation :Wear eye protection
- :Wear ear protection
- 🛞 :Wear a dust mask
- n_{\circ} : No load Speed

min⁻¹:Revolutions or reciprocations per minute

- Defore stariting the machine.
- :Waste electrical products should not
- be disposed of with household waste. Please recycle where facilities exist. Check wity your Lccal Authority or retailer for recycling advice.
 - -2-

SPECIFIC SAFETY RULES

Below listed are specific safety rules for mitre saw. Please make sure that such rules are strictly obeyed, or any failure to follow may result in damage of tools or people.

1. Always wear safety goggles.

2. Operation of mitre saw is forbidden without any protection on-site.

3. Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust.

4. Check if the blades have deformation or damage before using. If deformation or damage is identified, an immediate action of substitution for the no-damaged or no-defect blades to agree with the operating requirement is a must, just in case.

5. Use the specialized flange equipped with the tool.

Do not damage the spindle, clamping board (especially its surface for installation) and bolt. Check if the blades are damaged.

7. Make sure the rotating table is fixed by the locking device so that it cannot be moved when operating.

8. Do not use the saw until the table s clear of all tools, wood scraps etc.

9. Nails are prohibited for operation. Before operation, check carefully if there are nails on the operated part of the material; if yes, remove the nail.

10. Make sure dive flap is not locked before connecting the powers.

11. Attention should be paid that the blade shouldn't touch the working table even at the lowest stance.

12. Grab tightly the handle when operating.

13. Do not lie the hand on the cutting lines or touch the saw blade.

14. Do not get close to blade when operating.

15. Keep blade away from the operated object before operation.

16. Run the machine to check if swings happen due to carelessly installation and imbalance of the blade.

17. Let the blade reach full speed before contacting the work piece.

18. Disconnect the power when abnormal situation happens.

19. Do not keep the switch in a lock-on position when operating.

20. Do not abuse the power cord. Never use the cord to carry the tools or pull the plug from an outlet. Keep cord away from heat, oil, sharp edges or moving parts.

21. Be careful when using the machine for groove cutting that if the machine stops with blade

stuck in the groove, withdraw the blade and restart the machine to re-cut in the original groove.

22. Do not use the machine until the safety guard is in position.

23. Keep cutting tools sharp and clean.

24. Use the blade that accommodates the work piece.

25. Only use the blades that manufacturer suggests.



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No.	Code	Name	Remark	No.	Code	Name	Remark
84	231020	Screw	M4×16	107	242006	Clamp disc	6
85	242002	Washer	4	108	114029	Washer	
86	230009	Bolt		109	167005A	Shaft	
88	234016	Bolt	M8×30	110	310056	Button	
89	261024	Nut	M8	111	310113	Screw	
90	241001	Washer	4	112	140021	Rod	
91	110063	Label		113	160007A	Adjusting plate	
92	166010A	Disc		115	110060	Connecting plate	
93	114028	Washer		116	263002	Nut	M6
95	310115	Screw		117	626001	Dust bag	
96	166002A	Base table		118	310063	Carriage	
99	713034	Handle		119	143008	Collar	
100	117004	Spring		120	620018	Bracket	
101	115012	Washer		121	621006	Triangular ruler	
102	263003	Nut	M8	122	623032	Socket key	
103	326012	Protect plate		123	243003	Washer	
104	233006	Screw	M6×25	124	231153	Screw	M5×16
105	160004A	Lead plate					
106	2370040	Screw	M5×16				

OPERATION

♦CARRYING

When carrying the tool, put down the handle completely and press the self-locking button to fix it. Fasten the rotating disc with the handle so that the tools can be carried easily by grab. (Picture one)

Warning: Make sure the machine is unplugged from the power socket before carrying.



Picture 1

Assembling on the table.

Fix the table on a steady horizontal level by fastening the four bolts into the slot holes on the base plate. (Picture two)



◆Assembling or disassembling the saw blade Attention: Do make sure to have disconnected the power source before assembling or disassembling the saw blade.

Before assembling or disassembling the blade, rotate the slot on the protect plate in counter clockwise direction for three circulars with the spanner and then rise the safe guard and protect plate. (Picture three)



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When dissembling the blade, loosen the handle at the lowest position. Press the locking device of the spindle to fix the blade. Then use the socket key to rotate clockwise to loosen the hex bolts. Take off the hex bolt, clamping board and blade(Picture four)



Arrow

Blade

Picture 5

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When assembling the blade, put blade, clamping boar, hex bolt on orderly. Press the locking device; fix the hex bolts by rotating the socket key counter clockwise and adjust the hex bolt clockwise to fasten the protection board.

*****Attention:

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1. When assembling the blade, make sure the arrow direction indication on the blade is in accordance with that on the fixed guard. (Picture five)

2. Use the socket key provided to assemble or disassemble the blade; otherwise, it may cause damages if the hex bolt is not fixed properly by other socket keys.



Arrow

***Attention**: Replace 25mm diameter washer for 25.4mm washer (originally installed on the spindle) for using the blade with the diameter of 25mm (63/64 inch)

No.	Code	Name	Remark	No.	Code	Name	Remark
42	310060	Button		62	445049	Switch	
43	337009	Washer		63	445019	Switch	
44	334002	Pin		64	151057	Spring	
45	117001	Control plate		65	443007	Capacitor	
46	151019	Control spring		66	318001	Cord clamp	
47	211049	Bearing	6202-2RS	67	433008	Brush cap	
48	114069	Washer		68	431017A	Brush	
49	442021	Rotor		69	432006	Brush holder	
50	319010	Retainer		70	231048	Screw	M6×60
51	211032	Bearing	6000-2Z	73	313017	Motor housing	
52	331016	Baring cord		74	411029	Power cord	
53	321019	Retainer		75	332002	Cord sleeve	
54	221031	Screw	ST5×65	76	222002	Screw	ST4×16
55	441022	Stator		77	151048	Spring	
56	435005	Spring		78	110059	Spring disc	
57	314046	Handle cover		79	140022	Fulcrum	
58	310058	Switch spanner		80	167007A	Shaft	
59	310057	Adjusting plate		81	117010	Rod	
60	310062	Wheel		82	333018	O ring	φ8×1.5
61	310059	Button		83	314047	Spanner	

PARTS LIST of the Mod.7210 MITER SAW

No.	Code	Name	Remark	No.	Code	Name	Remark
1	231027	Screw	M5×16	20	161013	Cover	
2	114030	Washer		21	136032	Big gear	
3	326009	Guard		22	252008	Retainer	17
4	154004	Spring		23	211248	Bearing	
5	230010	Bolt	M8×12	24	221009	Screw	ST4×16
6	237014	Screw		25	235004	Bolt	M6×10
7	110056	Protect plate		26	140015	Rod	
8	110058	Rotating disc		27	140025	Rod	
9	230011	Bolt	M8×20	28	143009	Bearing cord	
10	139006	Clamp		29	237008	Screw	M6×14
11	143007	Bearing sleeve		30	325006	Slot	
12	614002	Blade		31	144010	Pin	
13	231028	Screw	M5×20	32	110062	Bend plate	
14	116001	Clamp		33	231017	Screw	M4×10
15	241002	Washer	5	34	154005	Spring	
16	242004	Washer	5	35	140013	Rod	
17	1300031	Spindle		36	110061	Bend plate	
18	276002	Key		37	338008	Rubber	
19	211053	Bearing	6203-2RS	38	168009A	Fixed guard	

◆Safety Guard

After pressing the handle, the safety guard will rise automatically. The safety guard will return to the original place when the handle is raised. Don't break or disassemble the safety guard. For safety's sake, please always keep the safety guard in a good condition. All the incorrect usage should be corrected immediately and never use the tools with bad safety guard. Please disconnect the power source and clear up the guard if it gets dirty or the dust covered the blade or object. Never use clear mixtures if the safety guard if made of plastics. (Picture six)

Safety guard

Picture 6

Dust bag

Use the dust bag to collect the scrap to keep the work clear from dust and scraps. The dust bag can be fixed on the scrap spout. Take off the dust bag and pull out the dust valve when it is half full. Pour out the scraps and tap to get rid of those stick on the bag so as not to affect collecting dust and scraps further. (Picture seven and eight)





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Switch operation

To prevent the users from triggering the switch by accident, the protected switch is adopted. Press the lock-off switch and trigger the switch to start the machine. Loosen the trigger to disconnect the power. (Picture nine)

***Attention**: Before connecting the power, check if the switch can be operated normally; if the trigger can be retrieved after pressing and loosening.

To prevent accidents by triggering the switch carelessly, the protected guard locking device is adopted. To start the machine, the shank of the locking device should be pushed to the left so that the handle could be pressed down for operation. The safety guard will rise when pressed down and when the pressure on the handle is reduced, the blade will rise and the safety guard will retrieve. (Picture ten)

XAttention:

•Before connecting to the power, make sure the trigger switch is smooth to start and can retrieve after releasing.

•Disassemble and store the lock-off switch in a safe place when the machine is not to be used, just in case of others' operation without authorization.

•Do not force the trigger without assembling the lock-off switch, to prevent damages.

Auxiliary baffle

Auxiliary baffle is adopted. Equip it in the position as showed in the picture. (Picture eleven)







Picture 11

Maximum cutting capacity for 260mm(10-1/4 inch): (height x width)

Mitre joint angle Chamfer angle	0 Degree	45 Degree (Left、Right)	
	93mm×95mm	93mm×67mm	
0 Degree	(3-5/8inch×3-3/4inch)	(3-5/8inch×2-5/8inch)	
0 Degree	69mm×135mm	69mm×95mm	
	(2-3/4inch×5-5/16inch)	(2-3/4inch×3-3/4inch)	
	53mm×95mm	49mm×67mm	
	(2-1/16inch×3-3/4inch)	(1-15/16inch×2-5/8inch)	
Left 45 Degree	35mm×135mm	35mm×94mm	
	(1-3/8inch×5-5/16inch)	(1-3/8inch×3-11/16inch)	

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SERVICING AND REPAIRS

If servicing is required, contact one of our listed service centers. It is not allowed and dangerous to perform any individual work on the tool.

♦ Have the tool repaired by authorized persons.tdamage.

• Any repairs of the tool in unauthorized service centers are performed at own responsibility.

• The owner of the tool is responsible for all works on the tool that were not performed in authorized service center, and therefore he losses the claim for guarantee.

TECHNICAL DATA

J1X-SH02-255 7210		
Φ255mm(10inch) -Φ260mm(10-1/4inch)		
Φ25.4mm(1 inch) –Φ25mm(1 inch)		
220-240V~ 50Hz		
1650W		
5000/min		
11kg		
Lp: 94,0 dB(A); Lw: 107,0 dB(A) K= 3 dB(A)		
ah=4,8 m/s ² ; K=1,5 m/s ²		
Triangular ruler 1PC Spanner 1PC Dust bag 1PC Shaft 1PC Saw Blade for aluminum 1PC Supporter 1PC Auxiliary baffle 1PC Grip module 1PC Carbon Brush 2 PCS Operation instruction 1PC		

Fix the auxiliary baffle on the left side as illustrated in the position, when cutting on the left bevel. (Picture twelve)



Picture 12

♦ Maintaining highest cutting capacity

Disconnect the machines before adjusting. The machine has been adjusted before released for shipment and the highest cutting capacity is 260mm (10-7/32 inches). If the blade diameter decreased due to abrasion, rotate the adjusting knob to adjust the depth of cutting. The blade will lower down if the knob is rotated counter clockwise. Otherwise, the blade will rise up. Adjust as per this standard: after pressing down the handle to the utmost, the distance between the façade of the guide board and the cutting point of the blade is 135mm (5-5/16 inches). Disconnect the power, keep pressing down the handle to the utmost and rotate the blade to see make sure the blade doesn't touch any part on the base plate. (Picture thirteen)

Setting the mitre joint Cutting Angle (horizontally)

Loosen the handle by rotating it counter clockwise, press the control spring and rotate the dial simultaneously. Fix the handle by rotating clockwise at the required angle indication. (Picture fourteen)

Attention: raise the handle to the utmost when the base table is being rotated.





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• Fixing the chamfer Cutting Angle (Z axis) Only when the auxiliary baffle is fixed in the position as illustrated in picture twelve, can the cutting angle be set at 45 degree. To adjust the cutting angle, the locking lever shall be loosened. The blade will tilt to the left side. Fix the locking lever at the required cutting angle. (Picture fifteen)

***Attention**: raise the handle to the utmost when the blade is being tilted.

Warning: It is important that when operating

the machine, work piece must be properly

clamped by grip modules. Lock the locking lever

and rotation knob to avoid possible damages to

the machine, work piece and people due to the loosening of the angles set. Furthermore, when

the work is done, do not life the blade until the

blade stops rotation. (Picture fourteen and



Picture 15



Knob

Pole support

Screw Guide board

Grip module

_9.

sixteen)

Fixing project

The grip module could be installed on the guide board. Put and fasten the bearing rod into the holes in the guide board. Adjust and fasten the clamping arm as per the thickness and shape of the work piece. Press the work piece to have it cling to the guide board and rotation table. Position and fix the work piece as in desired cutting part. (Picture seventeen)

II) 45 degree

Only after 0 degree adjustment, can 45 degree be adjusted. Loosen the locking lever and tilt the blade to the left side and point the needle to 45 degree. If there is no 45 degree, please rotate the bolt (B) until it is set to 45 degree and then fasten the bolt (B). (Picture twenty-four)



Picture 24

Replacing the Electric Brush

Carbon brush shall be replaced when there happens to have big sparks or motor stoppage. When replacing, unscrew the brush cover and replace the new carbon brush for abrasive ones. Make sure if they can slide freely in the groove. Screw the brush cover. Replace the pair of brushes at the same time and use specified KEN brushes (Picture twenty-five)



Picture 25

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Picture 17

Table

1. Mitre joint Angle

Loosen the handle and set the angle of 0 degree, then fasten the handle and loosen the bolt. Move the guide board to form a right angle between the blade and guide board, with the help of triangular ruler etc. Fasten the bolts on the guide board as illustrated. (Picture twenty-one)



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Loosen the locking lever and the hex bolt; rotate the bolt (A) clockwise for 2 or 3 circles to tilt the blade to the right side.

Press down the handle to the utmost and rotate the bolt (A) in counter clockwise to form a right angle between the blade and top of the table. Fasten the bolt (A). (Picture twenty-two)

Make sure the needle on the arm points at 0 degree. If not pointing at 0 degree, loosen the bolt to adjust. (Picture twenty-three)





***Attention**: During the operation, the work piece must fix to cling to the guide board and rotation table.

If some parts touch the grip modules, the clamping arm shall be re-adjusted. Press hard on the work piece to have it cling to the guide board and rotation table. Position and fix the work piece as in desired cutting part (Picture eighteen)

***Attention**: when cutting long work piece, supporter with the same height of the top of rotation table shall be used.

Working instruction

XAttention:

Release the trigger and loosen the handle before usage.

•Make sure the blade will not touch the object before switch is turn on.

●Do not press the handle excessively when cutting. Excessive force may result in motor overload or low cutting efficiency.

●Press the handle lightly. The blade will shake and leave marks on the object if you press too fiercely and it will influence the cutting precision. (Picture nineteen)





A part of the work piece, whose thickness is equal to that of the blade will be cut during operation. Therefore, the cutting line shall be aimed to the left or right of the saw blade. Gently press down the blades for cutting until after the blade reaches full speed. When blade touches the work piece, gradually press down the handle for cutting. After the cutting is finished, disconnect the power and wait until the blade stops to have it retrieved to the top position. Otherwise, the scraps might splash and cause damage.

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1. Mitre joint cutting (horizontally)

Refer to the above mentioned.(Picture fourteen)

2 Chamfer Angle Cutting (Z axis)

• Cut with a degree of 0 to 45 from the left side.

• Fix the auxiliary baffle on the left side as showed in the picture twelve.

Release the locking lever to the required cutting angle and fix the object. Turn on the switch and press down the handle after the blade reaches full speed to the surface of the object. Keep pressing for cutting purposes. After the cutting is finished, disconnect the power and wait until the blade stops to have it retrieved to the top position.

*****Attention:

 \bullet If the scraps fall on the blade, disconnect the power and wait until the blade stops to have it retrieved to the top position.

Press the handle parallel to the blade. Otherwise, cutting precision will be influenced.

When operating chamfer angle cutting, auxiliary baffle must be placed in a position as showed in the picture twelve.

3.Combined Cutting

Combined cutting angles as illustrated in the following chart:

Mitre joint Angle	Chamfer Angle
45°	Left and Right 45°

Refer to the instruction "Mitre joint Cutting" and "Chamfer Angle Cutting", for combined cutting purposes.

4. Cutting Aluminum dense Objects

When fixing aluminum dense objects, cushions as illustrated shall be used to avoid deformation. When cutting, lubricating oil shall be used to avoid scraps being accumulate on the blade. (Picture twenty)

Attention: Do not try to cut thick or round objects.



5. Wood Table

The usage of the wood table can help avoid the crash of the object and it can be assembled onto the guide board with the help of holes on it.

*****Attention:

Use the flat wood table.

The measurement can refer to flowing picture.



MAINTENANCE

Warning: Make sure the power is disconnect and the power cord unplugged before maintenance check.

•Keep the machine clean. Frequently clean the dust or oil etc. on the body and handle.

•Check regularly if the bolts are well screwed.

Check regularly if the insulating barrier of the power cord is non-damaged.

●After work is done, clean the dust and scraps stick on the machine with cloth and similar material. According to the instruction ahead as of "Safety guard", keep the safety guard clean. Use lubricating oil to keep the carriage part from rust.

♦Adjusting the Cutting Angle

Although the machine has been well tested and adjusted before the shipment, the precision can still be influenced if it is operated incorrectly. Please adjust accordingly to the following steps if the machine is found not to have well adjusted.

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