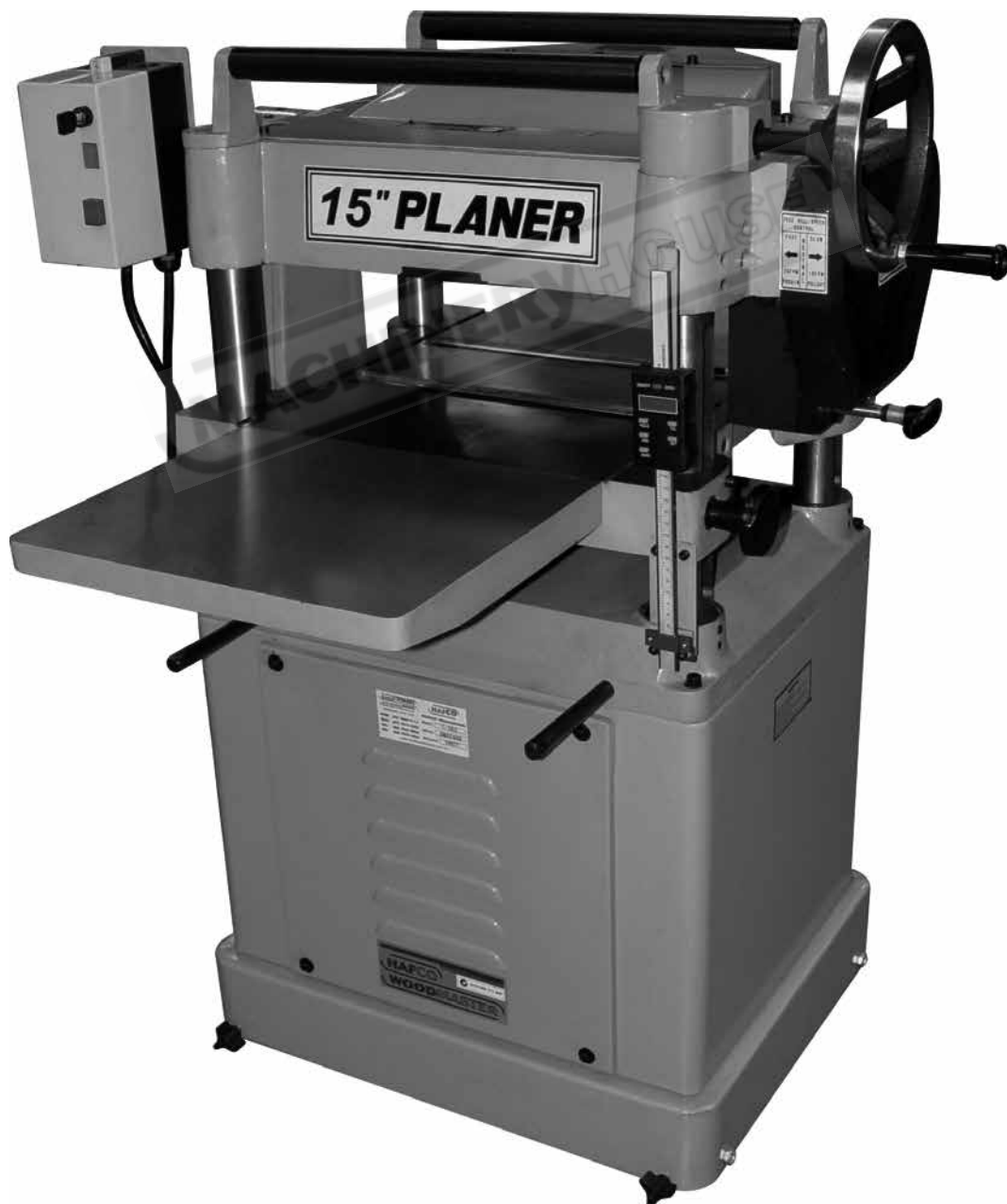


INSTRUCTION MANUAL

T-382 Thicknesser 381 mm



W835

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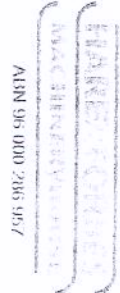
PLANT SAFETY PROGRAMME
NEW MACHINERY HAZARD IDENTIFICATION, ASSESSMENT & CONTROL

Stock Code: W835
 Description: Thicknesser Model: T382 Brand: HAFCO



Developed in Co-operation Between A W I S A and Australia Chamber of Manufactures
 This program is based upon the Australian Worksafe Standard for Plant(NOHSC-1010-1994)

Item No.	Hazard Identification	Hazard Assessment	Risk Control Strategies <small>(Recommended for Purchase / Buyer / User)</small>
A	ENTANGLEMENT	HIGH	Eliminate, avoid loose clothing / Long hair etc.
B	CRUSHING	LOW	Heavier timber must be supported Be sure that when rising and falling planer tables hands are well away from locating, clamping and pivoting area.
C	CUTTING, STABBING, PUNCTURING	MEDIUM	Isolate power to machine prior to any checks or maintenance. Do not open or clean inside until the machine has completely stopped. Keep hands clear of all blades and moving parts. Use a push stick where necessary. Care must be taken when handling knives. Make sure all guards are secured shut when machine is on. Make sure all guards are secured shut when machine is on.
D	SHEARING	MEDIUM	Do not stand behind timber when feeding into machine. A face mask must be worn at all times. Ensure to use correct feed rates for material.
F	STRIKING	MEDIUM	All electrical enclosures should only be opened with a tool that is not to be kept with the machine.
H	ELECTRICAL	MEDIUM	Machine should be installed & checked by a licensed Technician.
O	OTHER HAZARDS, NOISE, DUST.	LOW	Wear hearing protection as required Must be connected to dust extraction

Plant Safety Program to be read in conjunction with manufactures instructions



"THE JUNCTION" 2 WINDSOR ROAD, NORTHMEAD NSW 2152
 Phone (02) 9890 9111 Fax (02) 9890 3883

Authorised and signed by
 Safety officer: 
 Manager: 

Date: Mar-02

Safety instructions

Follow the warnings and safety precautions while the planer.

General safety Information **WARNING:** When using electric tools, machines, or equipment, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and personal injury.

1. An expert must perform repair of this tool only.
2. Know your power tool. Read the owner's manual carefully. Learn the tools applications and limitations, as well as the specific potential hazards peculiar to it.
3. Keep work area clean. Cluttered areas and benches in invite accidents.
4. Avoid dangerous environment. Don't use power tools in damp or wet locations, or expose them to rain. Keep work area well lighted.
5. Keep children and visitors away. All children and visitors should be kept a safe distance from work area.
6. Make workshop kidproof with padlocks, master switches, or by removing starter keys.
7. Wear proper apparel. No loose clothing, gloves, neckties, or jewelry to get caught in moving parts. Nonslip footwear is recommended. Wear protective hair covering to contain long hair.
8. Use safety glasses. Also use face or dust mask if cutting operation is dusty.
9. Don't overreach. Keep your proper footing and balance at all times.
10. Maintain tools in top condition. Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
11. Disconnect tools before servicing and when changing accessories such as blades, bits, cutters.
12. Never stand on tool. Serious injury could occur if the tool is tipped or if the cutting tool is accidentally contacted.
13. Drugs, alcohol, medication. Do not operate tool while under the influence of drugs, alcohol or any medication.
14. Use only approved replacement parts.
15. Never touch blade when in operation.

Safety operation **WARNING:** When using the planer, these safety precautions should also be followed to reduce the risk of personal injury.

The tool

1. Keep grards in place and in working order.
2. Ground all tools. If tool is equipped with three-prong plug, it should be plugged into a three-hole electrical receptacle. If an adapter is used to accommodate a two-prong receptacle, the adapter plug must be attached to a known ground. Never remove the third prong.
3. Remove adjusting keys and wrenches. Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.

4. Don't force tool. It will do the job better and be safer at the rate for which it was designed.
5. Use right tool. Don't force tool or attachment to do a job it was not designed for.
6. Wear proper apparel. No loose clothing, gloves, neckties, or jewelry to get caught in moving parts. Nonslip footwear is recommended. Wear protective hair covering to contain long hair.
7. Secure work. Use clamps or a vise to hold work, when practical. It's safer than using your hand and frees both hands to operate tool.
8. Use recommended accessories. Consult the owner's manual for recommended accessories. The use of improper accessories may cause hazards.
9. Avoid accidental starting. Make sure switch is in "OFF" position before plugging in cord.
10. Check damaged parts. Before further use of the tool, a guard or other part that is damaged should be carefully checked to ensure that it will not move, bind, or breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.
11. Direction of feed. Feed work into a blade or cutter against the direction of rotation of the blade or cutter only.
12. Never leave tool running unattended. Turn power off. Don't leave tool until it comes to a complete stop.
13. Do not force the work piece.
14. Keep work area clean.
15. Inspect power cord for damage before use.
16. Never start unit when blade is in contact with work piece.
17. Do not use flammable cleaning solvents near an electrical tool that is running or plugged in.

ADDITIONAL SAFETY INSTRUCTIONS FOR PLANERS

There are also certain applications for which this tool was designed. We strongly recommend that this tool NOT be modified and/or used for any application other than for which it was designed.

1. Never perform planing operation with belt guard removed.
2. Never make planing cut deeper than 0.16 inch (4.1mm).
3. Remove shavings only with the power off.
4. Keep hands away from the top surface of the board near the feed rolls.

UNPACKING AND CLEANING

Remove the wooden crate from around the machine. Check every item provided. Remove the protective coating from the table, bed rolls, feed rolls, cutterhead and loose items packed with the machine, including lifting handles and other parts which need to be assembled. This coating may be removed with a soft cloth moistened with kerosene (do not use acetone, gasoline, or lacquer thinner for this purpose). CARE MUST BE TAKEN WHEN CLEANING THE CUTTERHEAD AS THE KNIVES ARE IN THE CUTTERHEAD AND THESE KNIVES ARE VERY SHARP. After cleaning table, cover table surface with a good quality paste wax.

ASSEMBLING LIFTING HANDLES

Your machine is supplied with four lifting handles that are to be assembled to the front and rear of the planer base.

To assemble the lifting handles to your planer, insert groove end of lifting handle in hole then tighten it with a wrench as shown in Fig. 1

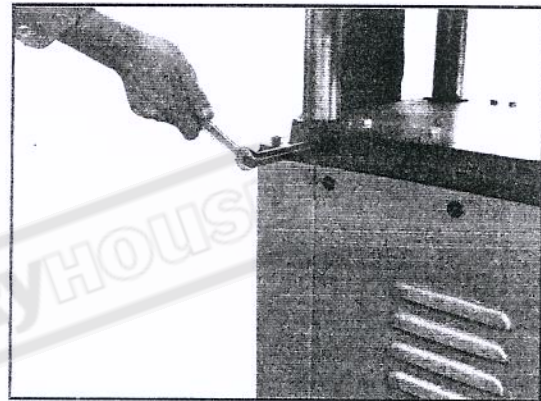


Fig. 1

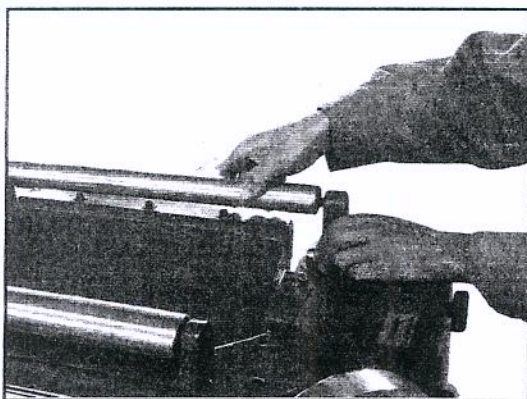


Fig. 2

ASSEMBLING UPPER ROLLER

First assemble a roller bracket to the crown plate, using two Hex. Soc. Screws. Then insert the small end of a hold axle into the hole of bracket, where the other end of hold axle is set in the hole of an upper roller. Assemble the second roller bracket in the same manner as shown in Fig.2.

ASSEMBLING RUBBER FEET.

The machine must be lifted by the lifting handles. Fig. 3 illustrates the machine being lifted by the lifting handles using a sling. Assemble four rubber feet, under the planer. Adjust the rubber feet to make the planer be level.

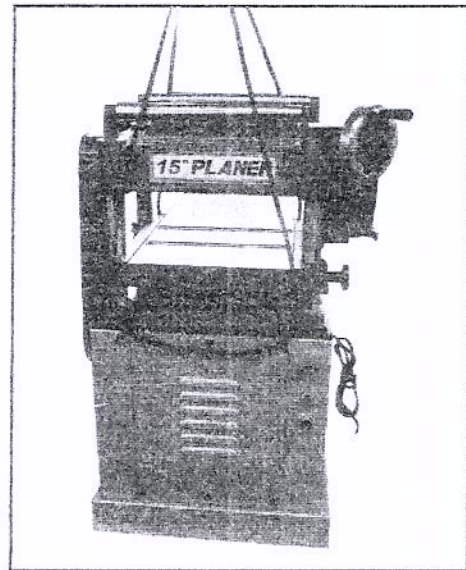


Fig. 3

MOUNT TABLE EXTENSIONS

Refer to fig. 4, fig. 5.

- Required hardware:
 - 8-1.25 × 25mm Socket Head Bolt (4)
 - 8mm Flat Washer (4)
 - 8mm Lock Washer (4)
- Mount table extension to planer table on the infeed side using four 8-1.25 × 25mm socket head bolts, flat Washers and lock washers. Do not tighten bolts completely.
- Place long straight edge across table and table Extension.
- Use mallet to tap extension table flush with table.
- Adjust set screws and socket head bolts(located at outside edge of table extension) so that the table extension is at the same height and angle as the table.
- Tighten bolts to secure extension.
- Repeat above steps for the out feed extension.

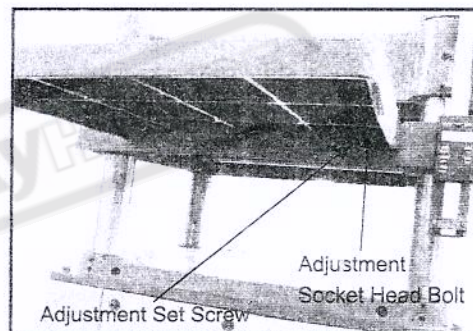


Fig.4

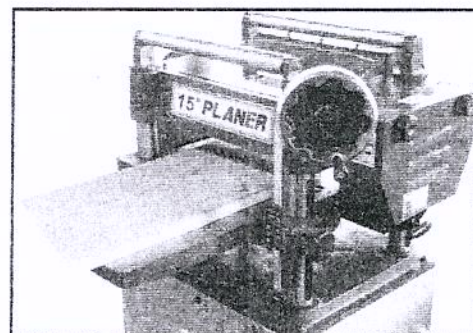


Fig. 5

ELECTRICAL CONNECTIONS

IMPORTANT: Make sure the electrical characteristics are the same between the motor nameplate and the power source and make sure the power circuit the planer will be used on is properly fused and that the wire size is correct.

IN ALL CASES, MAKE SURE THE RECEPTACLE IN QUESTION IS PROPERLY GROUNDED.

SINGLE PHASE MACHINE

The motor supplied with the Single Phase Planer is wired for 230 Volts, Single Phase Operation and is supplied with a power cord equipped with a plug that has two flat, current carrying prongs in tandem and one round or "U" shaped longer ground prong, as shown in Fig. 6. This is used only with the proper mating 3-conductor grounding type receptacle, as shown in Fig.6

When the three-prong plug on your planer is plugged into a grounded, 3-conductor receptacle, as shown in Fig. 6, the long ground prong on the plug contacts first so the machine is properly grounded before electricity reaches it.

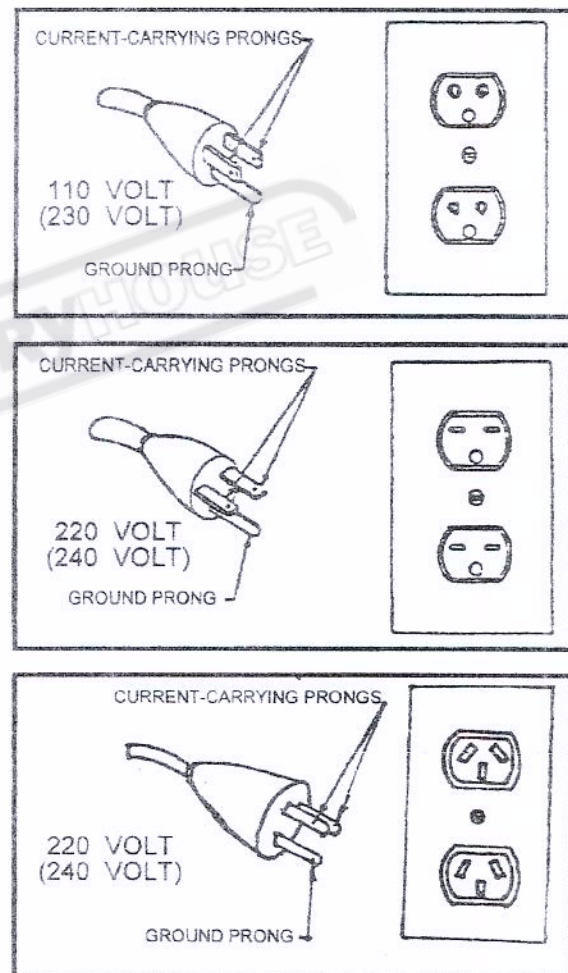


Fig. 6

OVERLOAD PROTECTION

Your planer is provided with overload protection which will shut off the motor if the planer is overloaded or if line voltage falls below safe levels. The motor is concealed in the box of base. If it shuts off due to overloading or low voltage, let the motor cool for approximately five minutes and then the machine can be started again by pushing the "on" button as shown in Fig. 7.

OPERATION

The following is an explanation of setting up and operational procedure. Please study this information carefully before turning on the power to avoid damage to the machine or injury to yourself.

STARTING MOTOR

The ON-OFF switch is located on the right-hand side of base. To start the motor, connect the machine to a power source and then push the "on" button. The motor will drive the cutter shaft to rotate freely. Make sure the cutter cover is properly assembled before starting the motor.

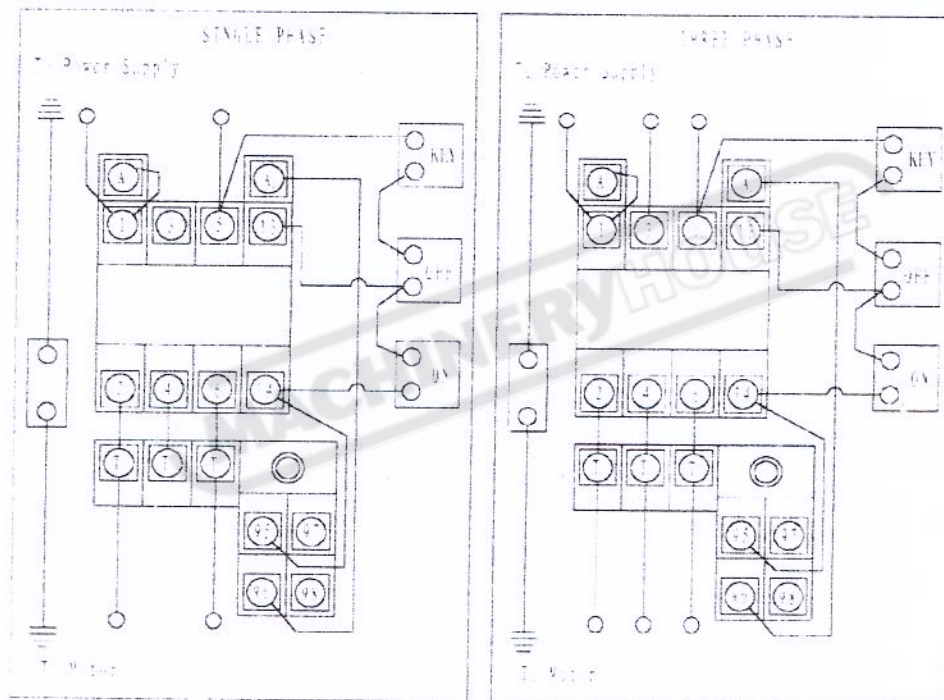


Fig. 7

- 1) The electrical control and wiring must be connected by a qualified electrician.
- 2) Must protect against short circuit before connecting power.
- 3) Whenever the motor stop due to overload, Wait 5 minutes the protective device will be re-seated automatically, then re-start the motor.

DEPTH OF CUT ADJUSTMENT

The depth of cut on your planer is controlled by raising or lowering table. The table raises and lowers on four precision ground columns. To adjust for depth of cut, simply turn the adjusting wheels which are located on both sides of base, as shown in Fig. 8. A combination inch/metric scale is conveniently located on the right front column for easy reading. The max cutting depth is 0.16" (4.1mm), please select reasonable cutting depth according to table of cutting capacity.

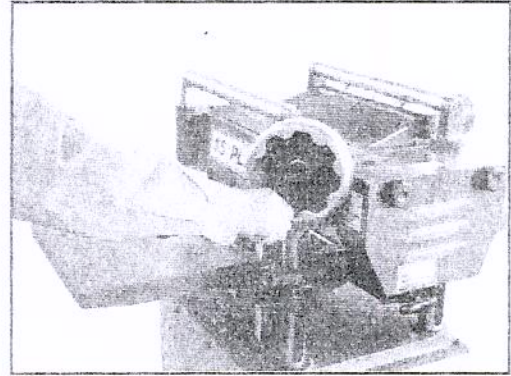


Fig. 8

ANTI-KICKBACK FINGERS

Anti-kickback fingers (A) Fig. 9. Are provided on your planer to prevent kickback. These fingers operate by gravity and it is necessary to inspect them occasionally to make sure they are free of gum and pitch so that they move independently and operate correctly.

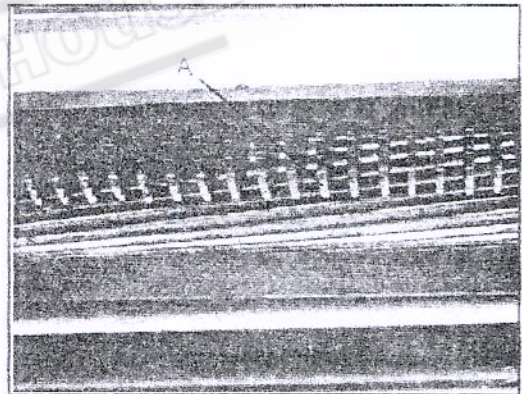


Fig. 9

FEED ROLL SPEED CONTROL

Your machine is equipped with a spiral, serrated in feed roll (B) and a out-feed roll (C) Fig. 9.

When the feed rolls are engaged, they turn and feed the stock. The feed rolls slow automatically when the machine is under heavy load for best planing under all conditions. The feed rolls are driven by a chain and sprocket drive (D) Fig. 10, which takes power directly from the cutter head through the oil bath gear box (E).

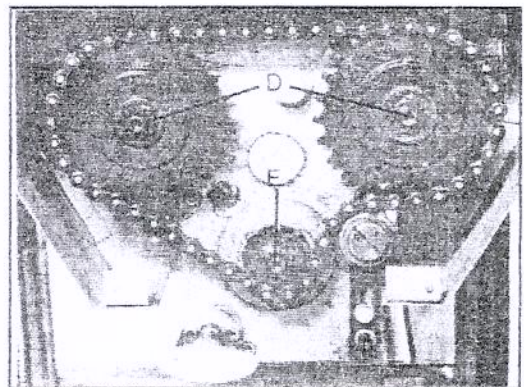


Fig. 10

When the feed rolls are disengaged, the clutch-lever (A) Fig.11 can be either pulled out or pushed in to engage the feed rolls. By pushing in lever, the feed rolls turn and feed the stock at 25FPM for fast planing. By pulling out lever the feed rolls turn and feed the stock at 16FPM for slow planing.

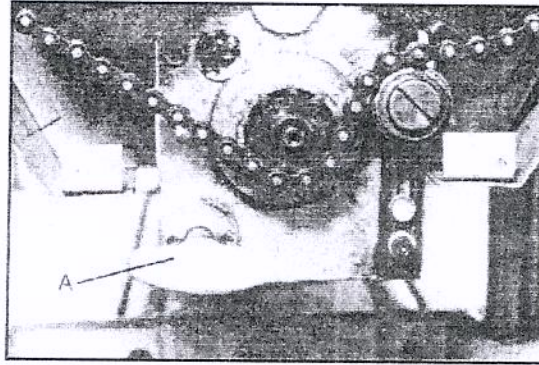


Fig. 11

FIXING TABLE

The table must be fixed before operation desired. Lock the table using the nob located on the side of the table as shown in Fig. 12.

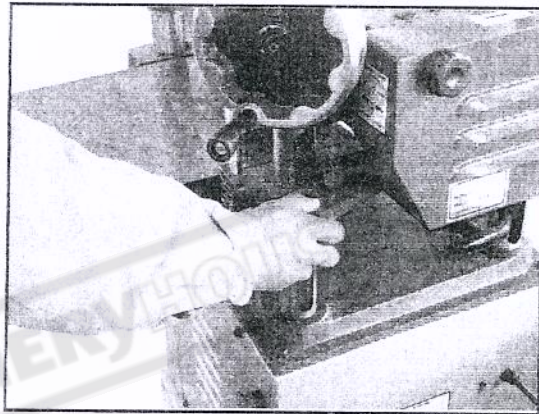


Fig. 12

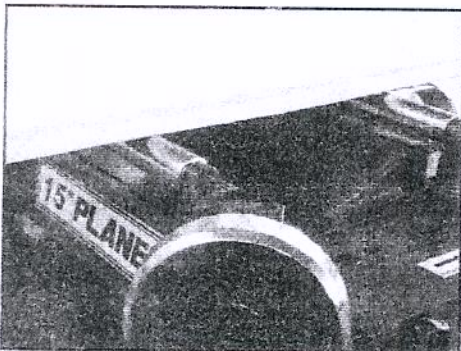


Fig. 13

HAULING STOCK

The upper rollers can be used to haul the work pieces back to the front side as shown in Fig.13.

ADJUSTMENTS

Although your planer was care fully adjusted at the factory, it should be checked before being put into operation. Any inaccuracies due to rough handing in transit can easily be corrected by following these directions.

In order to check the adjustments your will need a straight edge, feeler gage and a homemade gage block made of hard-wood. This gage block can be made by following the dimensions shown in Fig. 14.

WHEN CHECKING ADJUSTMENTS, ALWAYS MAKE SURE THE PLANER IS DISCONNECTED FROM THE POWER SOURCE.

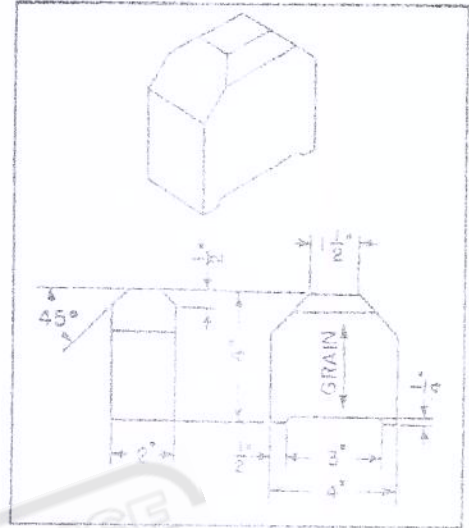


Fig. 14

ADJUSTING BELT TENSION

To adjust the belt tension on your machine, proceed as follows:

1. Disconnect machine from the power source.
2. Remove pulley cover and base plate from the Machine.
see Fig.15,16
3. Raise or lower the motor base by turning four nuts as shown in Fig.16, until correct belt tension is obtained.
4. Correct tension, is obtained when there is approximately 1/4" deflection in the center span of the belts using finger pressure.
5. Replace pulley cover and base plate.

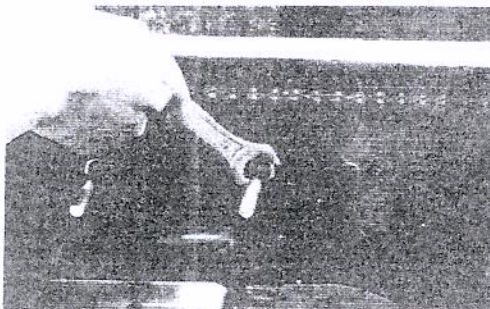


Fig. 16

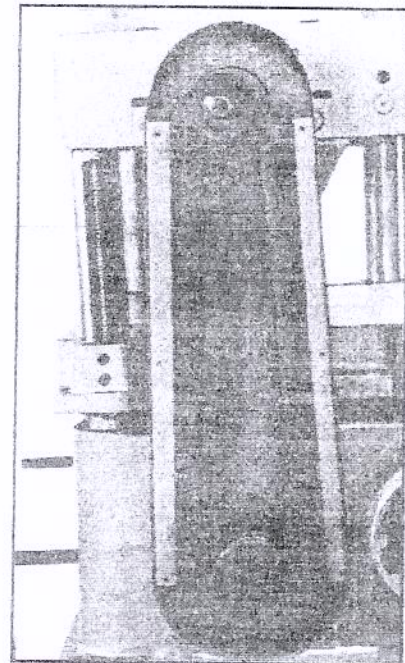


Fig. 15

ADJUSTING AND REPLACING KNIVES

When checking adjusting or replacing the cutter-head knives proceed as follows:

1. Disconnect the machine from the power source.
2. Remove dust exit and upper cover from the machine.

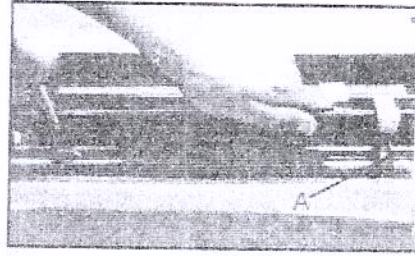


Fig. 17

3. To check and adjust knives, proceed as follow:

A. To CHECK AND ADJUST KNIVES use knife gage(A)Fig.17 and 18, and check all three knives for proper setting as shown. When the gage (A) is placed properly on the cutter-head as shown, the knife should just contact the bottom of the center protrusion (B) Fig.17 and 18, of the gage.

B. If an adjustment to one or more of the knives is necessary, slightly loosen the knife locking bar (C) Fig.18,of all three knives by turning the fifteen knife locking screws (D) into the knife locking bars just enough to relieve stress in the cutterhead and not disturb the setting of the knives.

C. Then, using the knife gage, adjust the knife that must be reset by loosening all five locking screws (D) Fig.18, by turning them into the knife locking bar. Then turning the jack screw (E) located under the knife will raise the knife until it comes into contact with the center portion(B) of the gage (A)Fig.18. Then snug up the knife locking bar by lightly backing out the five screws (D) against the slot.

IMPORTANT: AT THIS TIME, ONLY TIGHTEN THE KNIFE INTO THE SLOT JUST ENOUGH TO HOLD KNIFE INTO POSITION.

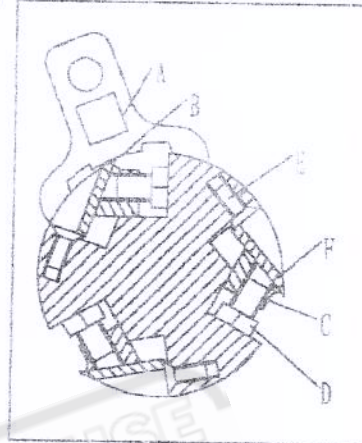


Fig. 18

D. If additional knives must be reset, repeat STEP C.

E. After all three knives are set with screws just snug, back out and tighten the five screws(D) Fig.17 and 18, against the slot starting with the end screws first then the center screws until the knife is securely held in the cutterhead. Tighten remaining two knives in the same manner.

If the knives are removed for sharpening, care must be exercised in replacing and resetting them, as follows:

A. To remove knives, loosen the knife locking bar(C)Fig.18 by turning the five knife locking screws(D)into the knife locking bar (C) and remove the knife locking bar(C),knife (F)and jack screw (E) located under the knives.

B. Remove the remaining two knives in the same manner.

C. Thoroughly clean the knife slots, knife bars, jack screw and screws. Check the screws. If the threads appear worn or stripped or if the heads are becoming rounded replace them.

D. Inspect the cutting edge of the knives for nicks or wire edge. Hone the knives slightly using a stone or if the knives are to be sharpened, maintain a cutting angle of 35° degrees as shown in Fig.18.

E. Insert Jack screws (E), knives (F) and knife locking bars(C). Into all three slots in the cutterhead, as shown in Fig.18. Back out locking screws(D)just enough to hold all three knives in the cutterhead.

F. Place the knife gage(A)over one of the knives, as shown in Fig 19.

G. while holding down, on the knife gage(A) Fig.18, loosen all five locking screws(D) by turning them into bar(C) until cutting edge trusion(B) of gage (A). Then snug up the knife locking bar(C)by slightly backing out the five screws(D)against the slot. **IMPORTANT: AT THIS TIME, ONLY TIGHTEN THE KNIFE INTO THE SLOT JUST ENOUGH TO HOLD THE KNIFE IN POSITION.**

H. Replace and reset the other two knives in the same manner.

J. After all three knives are set with the screws just snug, back out and tighten the five screws(D)Fig.18,against the slot's starting with the end screws first and then the center screws until the knife is securely held in the cutterhead. Tighten the remaining two knives in the same manner.

ADJUSTING FEED ROLL SPRING TENSION

The in feed roll and out feed roll, are those parts of your planer that feed the stock while it is being planed. The feed rolls are under spring tension and this tension must be sufficient to feed the stock uniformly through the planer without slipping but should not be too tight that it causes damage to the board.

To adjust the spring tension of the out feed roll , turn screw(C) Fig.19, and also the screw on the opposite end of the roll.

To adjust spring tension of the out feed roll, turn screw(D)Fig.19, and also the screw on the opposite end of the planer.

ADJUSTING HEIGHT OF OUTFEED ROLL

The outfeed roll is adjusted at the factory to be set 0.5mm below the cutting circle To check and adjust the outfeed roll, proceed as follows:

- 1.Disconnect machine from the power source.
- 2.Make sure the knives are adjusted properly as explained under CHECKING, ADJUSTING AND REPLACING KNIVES.
- 3.Place the gage block(A)Fig.20,on the table directly underneath the cutterhead, as shown. Using a 1mm feeler gage(B)Fig.20, placed on top of the gage block, raise or lower the head until the knife(C) just touches the feeler gage when the knife is at its lowest point. Do not move the head any further until the outfeed roll is adjusted.



Fig. 19

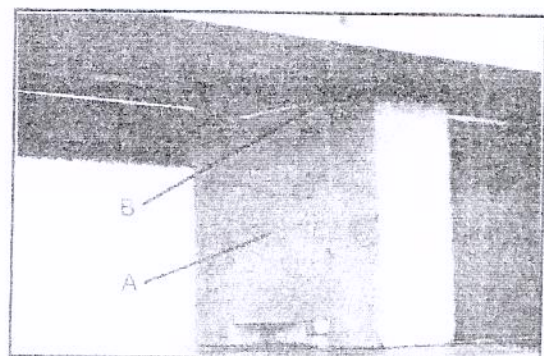


Fig. 20

4. Move the gage block(A)Fig.21,under one end of the outfeed roll(B)as shown. The bottom of the outfeed roll(B)should just touch the top of the gage block(A). If an adjustment to the outfeed roll is necessary, loosen locknut(E)and turn screw (F) until the feed roll just touches the gage block. Then tighten locknut(E) Fig.21.

5. Check and adjust opposite end of outfeed roll in the same manner.

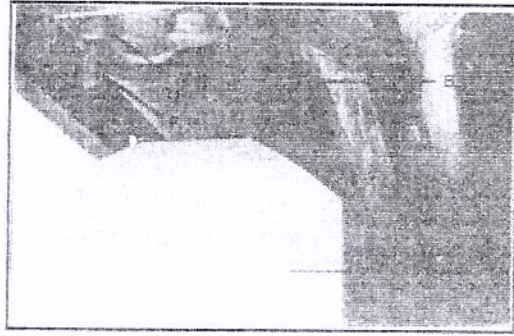


Fig. 21

ADJUSTING CUTTERHEAD PARALLEL TO TABLE

The cutterhead is set parallel to the table at the factory and on further adjustment should be necessary. If your machine is planing a taper, first check to see if the knives are set properly in the cutterhead. Then check to see if the table is set parallel to the cutterhead as follows:

1. Disconnect machine from the power source.

2. Place gage block(A)Fig.22 on table directly under front edge of head casting (B)as shown. Lower head casting until front edge of head casting just touches gage block.

3. Move gage block(A)Fig.23,to opposite end of table, as shown. Distance from table to edge of head casting should be the same.

4. Repeat STEPS 2 and 3 on outfeed end of table.

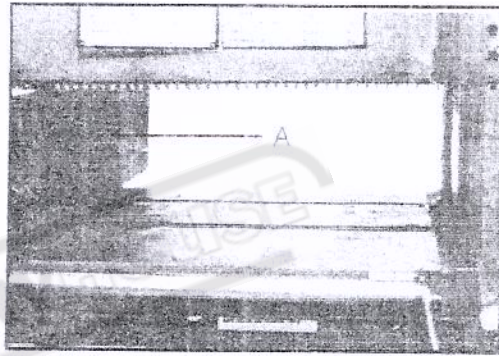


Fig. 22

5. If head casting is not parallel to table, tilt planer on its side as shown in Fig.24. Loosen bolt(D) Fig.24, will allow you to move the idler sprocket assembly(E)far enough to release tension on chain as shown in Fig.25. Remove chain from sprocket on end of head casting that must be adjusted. In this case chain has been removed from sprocket.

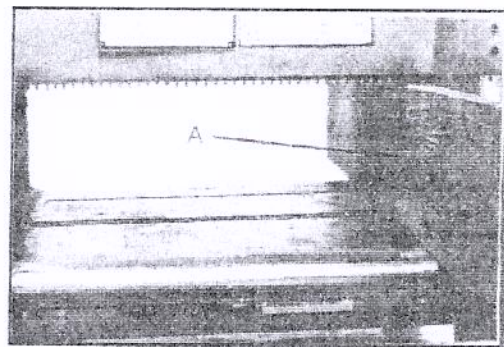


Fig. 23

6. Turn sprocket(F) Fig. 25, by hand to bring that corner into adjustment with other three corners. IMPORTANT: THIS ADJUSTMENT IS VERY SENSITIVE AND IT SHOULD NOT BE NECESSARY TO TURN THE SPROCKET MORE THAN ONE OR TWO TEETH. Turning sprocket(F) clockwise will decrease the distance between the table and headcasting. Counter-clockwise will increase the distance.

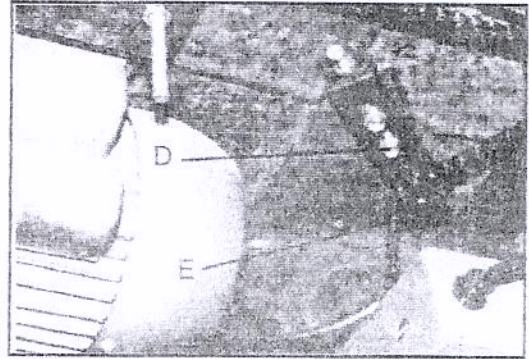


Fig. 24

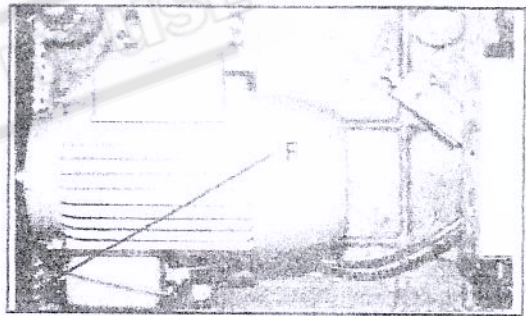


Fig. 25

CHIPBREAKER

The chipbreaker is located on top of the planer and extends down around the front of the cutterhead. The chipbreaker raises as stock is fed through and "breaks or curls" the chips the same as a plane iron cap on a hand plane. The bottom of the chipbreaker must be parallel to the knives and set. When assembling, the bottom of the chipbreaker has been adjusted to be at proper position below the cutterhead. When using, the operator do not need adjust again.

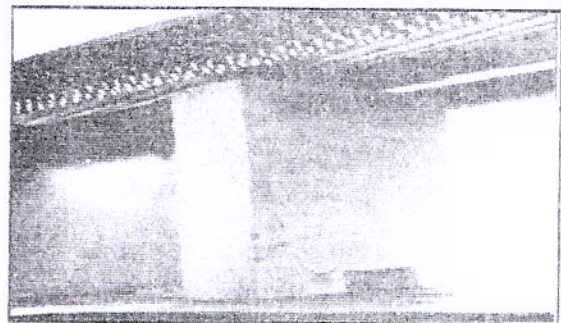


Fig. 26

ADJUSTING TABLE ROLLS

Your planer is supplied with two table rolls(A) Fig.27,which aid in feeding the stock by reducing friction and turn as the stock is fed through the planer. It is not possible to give exact dimensions on the proper height setting of the table rolls because each type of wood behaves differently. As a general rule, however, when planing rough stock the table rolls should be set HIGH and when planing smooth stock the table rolls should be set LOW.

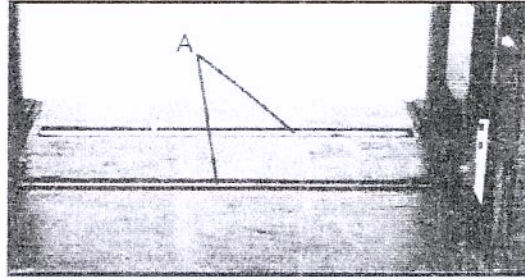


Fig. 27

The table rolls on your planer are set for average planing and are parallel to the table surface. There are two adjusting gage provided for adjusting table rolls.

If you desire to adjust the table rolls higher or lower, proceed as follows:

1. Disconnect machine from the power source.
2. Lay an adjusting gage(B) Fig.28 across table rolls and adjust height of table rolls by loosening set screws(D) and turn screws(E) to raise or lower table rolls.
3. The adjusting gage assures you easy adjustment of table rolls with three different kinds of height(0.15mm,0.30mm,0.45mm). When planing rough stocks, the table rolls should be higher, where for planing smooth stocks, the table rolls should be lower.

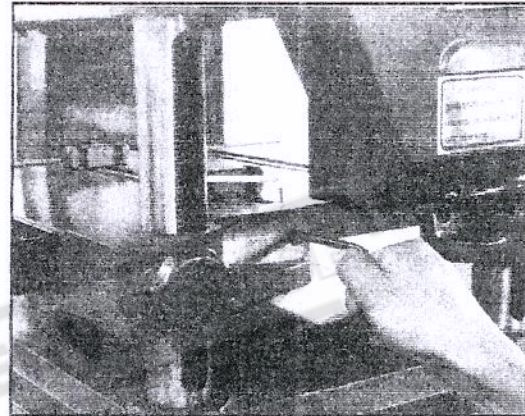


Fig. 28

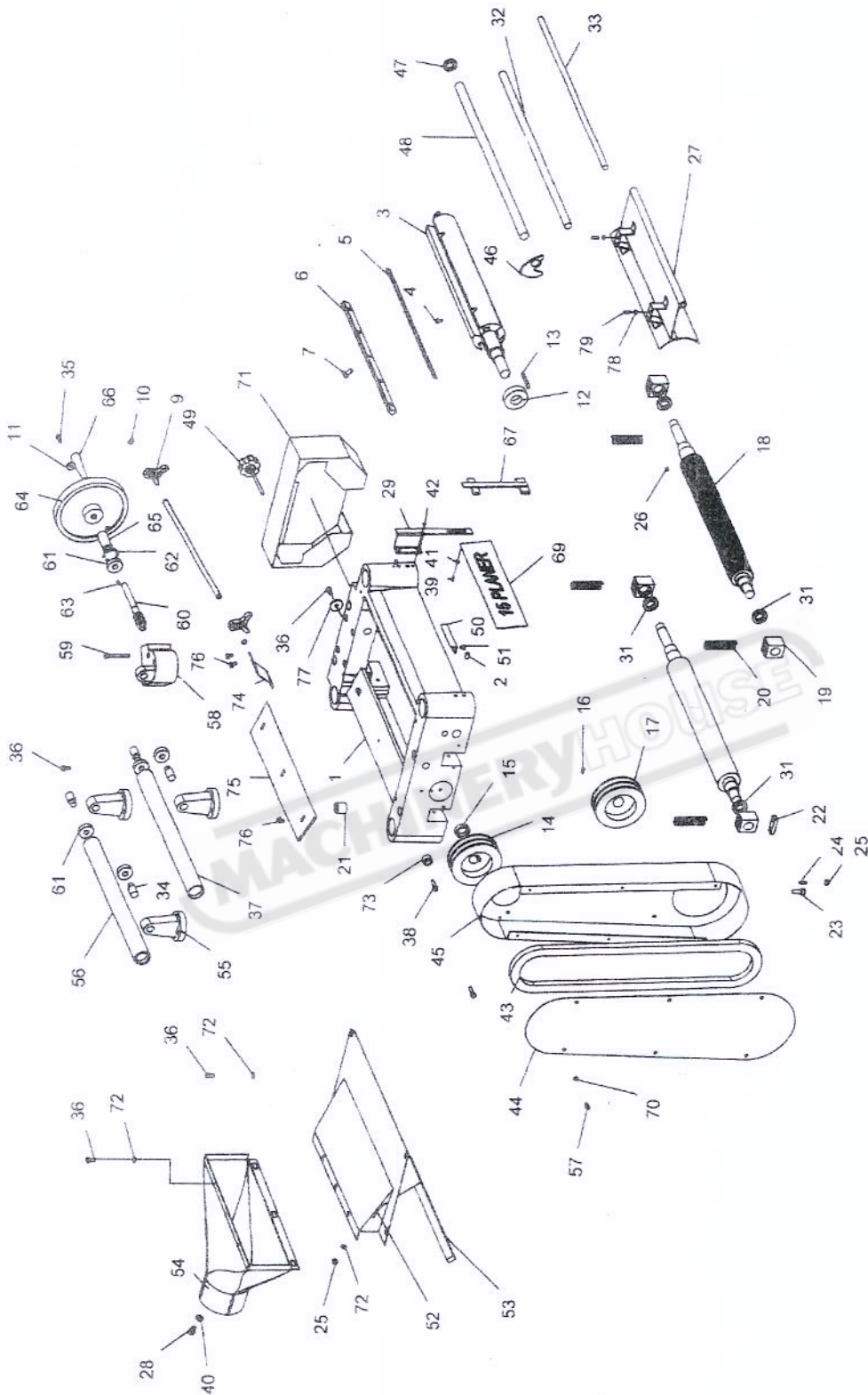
4. Table rolls must also be adjusted on the opposite end of table in the same manner.

MAINTENANCE AND LUBRICATION

1. Always brush off dirt, chips and foreign matter adhering to roller surfaces. See that water or oil does not enter the motor.
2. The feed rolls must be disengaged after operation finished. Be sure to oil the column moving parts and adjusting wheels.
3. The gear box oil should be changed every 6 months using extreme pressure gear oil. The chain and sprockets should be lubricated as required using a common grease.

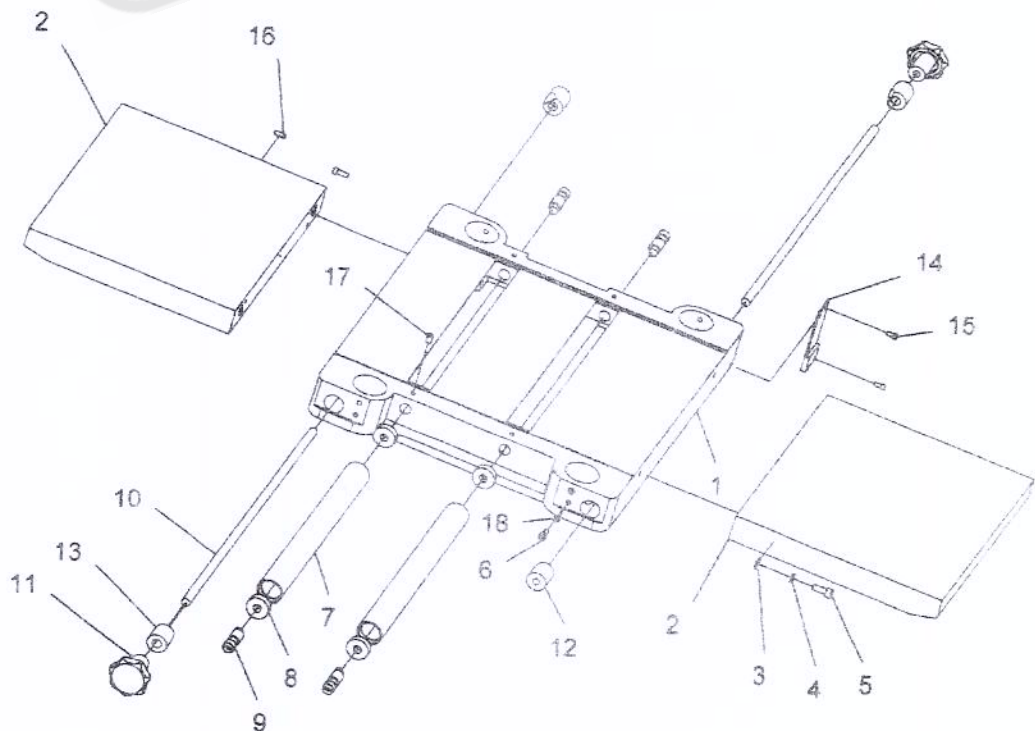
CUTTER HEAD

ITEM	DESCRIPTION	QTY	ITEM	DESCRIPTION	QTY
1	MACHINE HEAD	1	40	FLAT WASHER 8	3
2	SET SCREW M10*16	8	41	FLAT WASHER 3	4
3	CUTTER SHAFT	1	42	CAP SCREW M5*10	2
4	CAP SCREW M5*10	6	43	V-BELT 1092	2
5	BLADE	3	44	PULLEY COVER	1
6	KNIFE SETTING BAR	3	45	BELT GUARD	1
7	BOLT M8*10	15	46	ANTI-KICKBACK FINGER	48
8	KNIFE GAUGE	1	47	SPACER	50
9	KNIFE GAUGE BAR	2	48	SHAFT	1
10	RETAINING RING 10	2	49	LOCK HANDLE	2
11	SPACER	1	50	DEPTH LIMIT	1
12	BEARING 6205	1	51	FIT HD SCREW M6*10	2
13	KEY 6*50	1	52	UPPER COVER	1
14	CUTTER SHAFT PULLEY	1	53	GASKET	2
15	PULLEY RETAINER	1	54	COLLECTOR	1
16	SET SCREW M6*10	2	55	ROLLER STAND	3
17	MOTOR PULLEY	1	56	ROLLER	1
18	INFEED ROLLER	1	57	HEX SCREW M5*12	7
19	BUSHING BLOCK	4	58	WORM GEAR BOX	1
20	SPRING	4	59	CAP SCREW M6*50	3
21	SPECIAL SET SCREW	4	60	WORM	1
22	PLATE	4	61	BEARING 6201	5
23	HEX BOLT M8*20	4	62	SNAP RING 32	1
24	SET SCREW M6*16	4	63	KEY 4*16	1
25	HEX NUT M6	7	64	HAND WHEEL	1
26	KEY 5*16	2	65	COLLAR	1
27	CHIP BREAKER	1	66	HANDLE	1
28	HEX BLOT M8*12	3	67	DIGITAL SCALE	1
29	BRACKET 1		69	NAMEPLATE	1
30	OUTFEED ROLLER	1	70	FLAT WASHER 5	7
31	BEARING 61804	4	71	COVER	1
32	UPPER SHAFT	1	72	FLAT WASHER 6	15
33	MIDDLE SHAFT	1	73	BLOCK	3
34	RETURNINGSHAFT	4	74	SPRING BLOCK	3
35	HEX BOLT M5*16	1	75	CHIP GUARD PLATE	1
36	HEX BOLT M6*12	17	76	SCREW M6*10	9
37	ROLLER	1	77	BIG FLATE WASHER	2
38	HEX BOLT M6*25	1	78	NUT M5	2
39	PANHEAD SCREW M3*6	2	79	SET SCREW M5*16	2



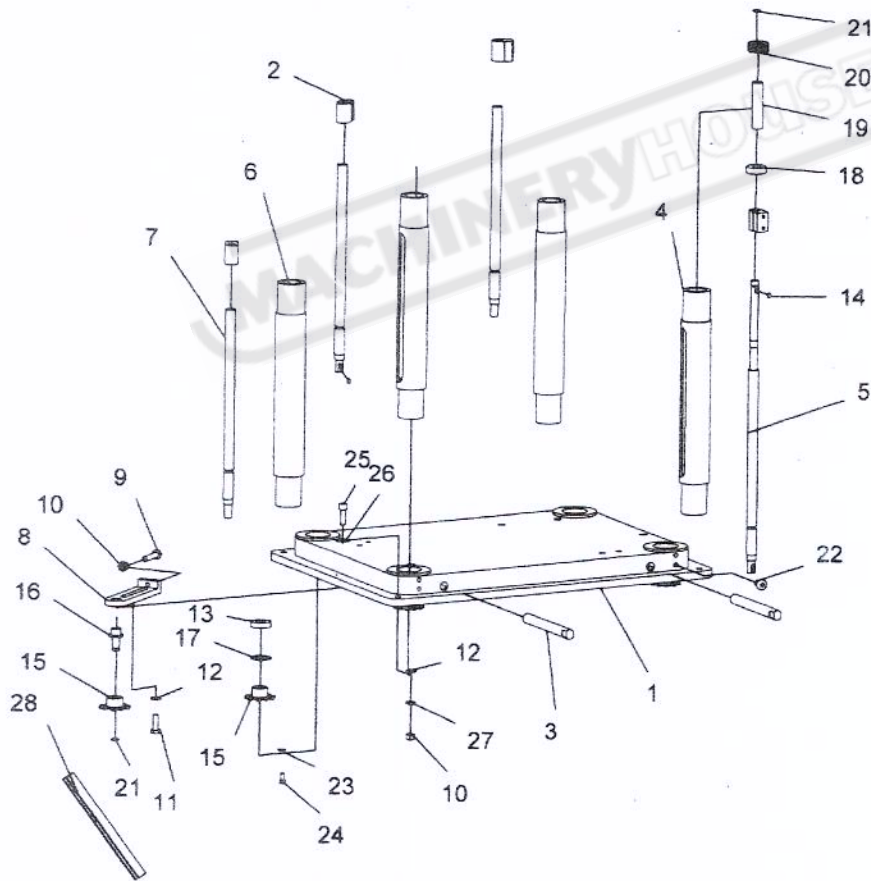
TABLE

ITEM	DESCRIPTION	QTY
1	MIDDLE TABLE	1
2	AUXILIARY TABLE	2
3	FLAT WASHER 8	4
4	LOCK WASHER 8	4
5	CAP SCREW M8*25	4
6	SET SCREW M6*16	4
7	ROLLOR	2
8	BEARING 6201	4
9	ECCENTRIC SHAFT	4
10	LOCK ROD	2
11	KNOB	2
12	THREADED GIB	2
13	GIB	2
14	BRACKET	1
15	CAP SCREW M5*10	4
16	CAP SCREW M6*20	12
17	SET SCREW M8*25	4
18	LOCK WASHER $\phi 6$	8



COLUMN

ITEM	DESCRIPTION	QTY	ITEM	DESCRIPTION	QTY
1	BASE	1	16	GEAR SHAFT	1
2	LEAD SCREW NUT	4	17	SNAP RING ϕ 32	4
3	CRANE POST	4	18	BEARING 6201	1
4	SCALE COLUMN	1	19	BUSHING	1
5	LEAD SCREW	1	20	GEAR	1
6	COLUMN	3	21	SNAP RING ϕ 12	2
7	LEAD SCREW	3	22	SET SCREW M8*16	8
8	BRACKET	1	23	FLAT WASHER 5	4
9	BOLT M8*55	1	24	CAP SCREW M5*12	4
10	NUT M8	5	25	CAP SCREW M8*25	4
11	CAP SCREW M8*25	2	26	FIAT WASHER ϕ 8	4
12	FLAT WASHER 8	6	27	LOCK WASHER ϕ 8	4
13	BEARING 6002	4	28	CHAIN	1
14	KEY 4*12	5	29	RIVET	2
15	GEAR	5	30	SCALE	1

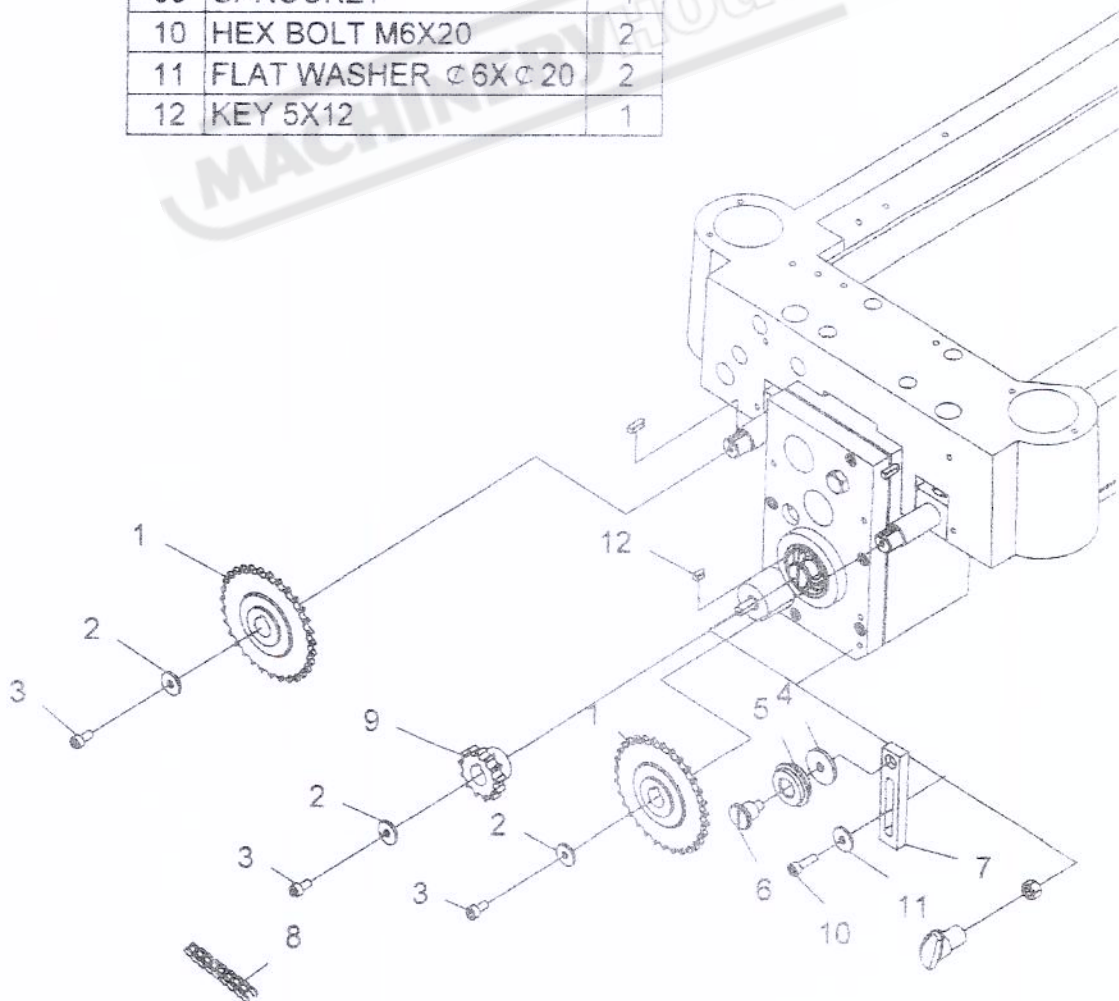


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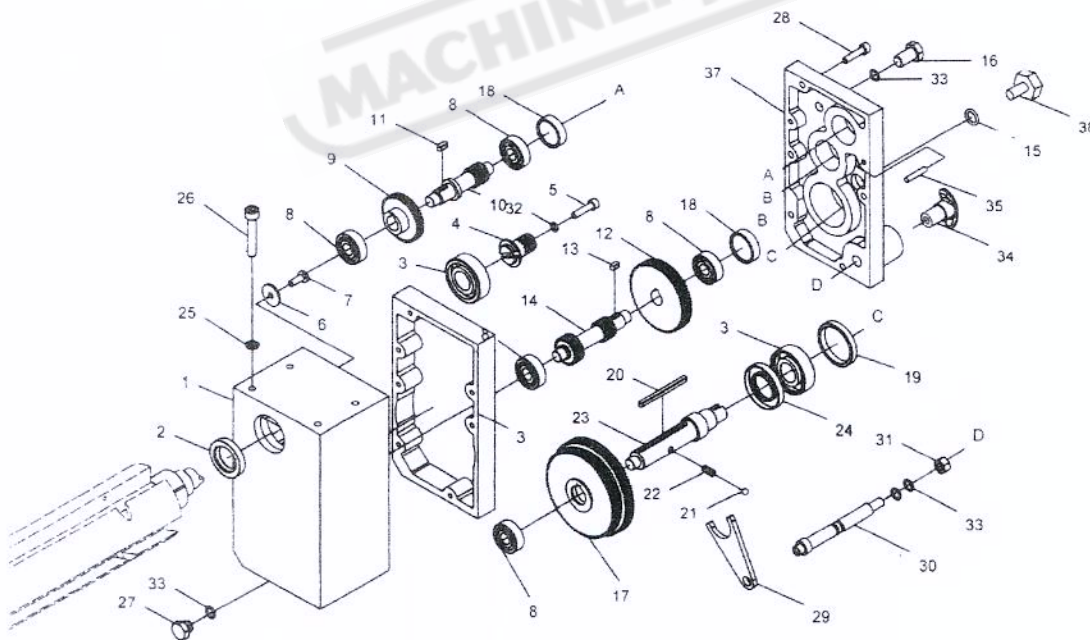
GEARING

REF	DESCRIPTION	QTY
01	SPROCKET	2
02	WASHER	3
03	CAP SCREW M6X12	3
04	FLAT WASHER $\varnothing 8 \times \varnothing 30$	1
05	CHAIN TENSIONER	1
06	SHAFT	1
07	BRACKET	1
08	CHAIN	1
09	SPROCKET	1
10	HEX BOLT M6X20	2
11	FLAT WASHER $\varnothing 6 \times \varnothing 20$	2
12	KEY 5X12	1



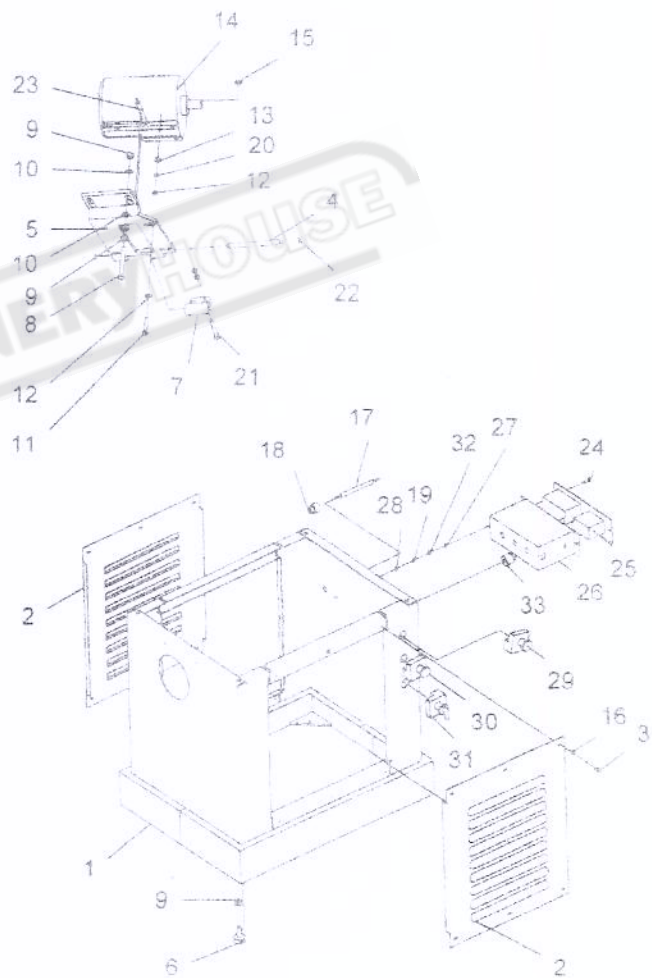
BOX

REF	DESCRIPTION	QTY	REF	DESCRIPTION	QTY
01	GEAR BOX	1	20	KEY 5X64	1
02	OIL SEAL 25X40X7	1	21	STEEL BALL ϕ 6	1
03	BALL BEARING 6204	2	22	TENSION SPRING	1
04	GEAR	1	23	SHAFT	1
05	CAP SCREW M6X25(LEFT)	1	24	OIL SEAL 25X47X7	1
06	FLAT WASHER ϕ 6X ϕ 22	1	25	LOCK WASHER ϕ 8	4
07	PHILLIPS HEAD BOLT M6X12	.1	26	HEX HEAD BOLT M8X45	4
08	BEARING 6201	5	27	SCREW M12X1.25X20	1
09	GEAR	1	28	HEX HEAD BOLT M6X25	5
10	GEAR AND SHAFT	1	29	SHIFTER	1
11	KEY 5X12	1	30	SHIFTING SHAFT HADNLE	1
12	GEAR	1	31	NUT M8	1
13	KEY 5X10	1	32	LOCK WASHER ϕ 6	1
14	GEAR 2-SPEED	1	33	OIL SEAL 9X1.8	4
15	OIL SEAL 11.8X2.65	1	34	KNOB	1
16	HEX HEAD BOLT M12X10	1	35	ROLL PIN 5X25	2
17	DOUBLE GEAR	1	36	GASKET	1
18	OIL PLUG	2	37	GEAR CASE	1
19	OUTER SPACER	1	38	OIL WINDOW	1



BASE

ITEM	DESCRIPTION	QTY
1	STAND	1
2	COVER	2
3	CAP SCREW M6*12	12
4	BAR	1
5	MOTOR MOUNT	1
6	RUBBER FOOT	4
7	FIXED BOLSTER	1
8	BOLT M10*150	2
9	HEX NUT M10	10
10	FLAT WASHER 10	4
11	HEX BOLT M8*40	4
12	WASHER 8	10
13	HEX NUT M8	6
14	MOTOR	1
15	KEY 8*45	1
16	FLAT WASHER 6	12
17	POWER CORD	1
18	STRAIN RELIEF	1
19	LOCK WASHER 5	2
20	LOCK WASHER 8	4
21	HEX BOLT M8*55	2
22	C-RING 12	2
23	POWER CORD	1
24	HEX BOLT M5*20	2
25	CONTACTOR	1
26	CONTACTOR BOX	1
27	IN LOCK WASHER	2
28	NUT M5	2
29	EMERGENCY BUTTON	1
30	STARTING BUTTON	1
31	SWITCH	1
32	FLAT WASHER 5	2
33	STRAIN RELIEF	3



CASTER ASSEMBLY AND PARTS LIST

ITEM	DESCRIPTION	NUM
1	STAND	1
2	HEX SCREW M10*50	2
3	WHEEL	2
4	FLAT WASHER c 10	2
5	SPECTICAL NUT M10	2
6	RUBBER FOOT	2
7	NUT M10	2
8	LOCK WASHER c 10	2
9	SCREW M8*50	3
10	CASTER ASSEMBLY	1
11	BIG WASHER c 8	3
12	LOCK WASHER c 8	3
13	NUT M8	3

