# **OPERATOR'S MANUAL**

JWP-15H Wood Planer

FILE

JET EQUIPMENT AND TOOLS
A WMH - WAI TER MEIER HOLDING COMPANY

A WINH - WALTER MEIER HOLDING COMPAN

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#### **IMPORTANT**

JWP-15H

As with all power tools there is a certain amount of hazard involved with the operator and his use of the tool. Using the tool with the respect and caution demanded as far as safety precautions are concerned will considerably lessen the possibility of personal injury. However, if normal safety precautions are overlooked or completely ignored, personal injury to the operator can develop.

#### SAFETY RULES

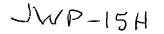
- 1. READ THE INSTRUCTION MANUAL BEFORE OPERATING YOUR MACHINE.
- 2. IF YOU ARE NOT THOROUGHLY FAMILIAR WITH THE OPERATION OF PLANERS, OBTAIN ADVICE FROM YOUR SUPERVISOR, INSTRUCTOR OR OTHER QUALIFIED PERSON.
- 3. REMOVE TIE, RINGS, WATCH AND OTHER JEWELRY, AND ROLL UP SLEEVES.
- 4. ALWAYS WEAR SAFETY GLASSES OR A FACE SHIELD.
- 5. MAKE SURE THE START SWITCH AND THE MACHINE IS PROPERLY GROUNDED.
- 6. MAKE ALL ADJUSTMENTS WITH THE POWER OFF.
- 7. KEEP CUTTERHEAD SHARP AND FREE OF ALL RUST AND PITCH.
- 8. CHECK MATERIAL FOR LOOSE KNOTS' NAILS AND OTHER DEFECTS.
- 9. REMOVE SHAVINGS ONLY WITH THE POWER OFF.
- 10. KEEP HANDS AWAY FROM THE TOP SURFACE OF THE BOARD NEAR THE FEED ROLLS.
- 11. DISCONNECT MACHINE FROM POWER SOURCE WHEN MAKING REPAIRS.
- 12. BEFORE LEAVING THE MACHINE, MAKE SURE THE WORK AREA IS CLEAN.

#### **UNPACKING**

Remove the wooden crate from around the machine.

#### **CLEANING**

Remove the protective coating from the table, bed rolls, feed rolls, cutterhead and loose items packed with the machine, including lifting handles and motor pulley. 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 KNIVES ARE VERY SHARP. After cleaning table, cover table surface with a good quality paste wax.





There are four lifting handles, separately furnished in the front and rear parts of the units base mount. All lifting handles are of hidden type. Pull the handles out for use pushing when not in use. Two of the lifting handles are as shown in Figure 1 (A).

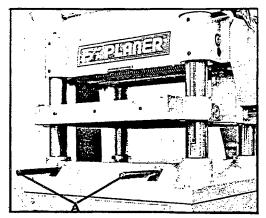


Fig. 1

Both the front and rear part of the machine unit are equipped with infeed rolls (A), of which the screws are long in shape. Before the screws are locked up tightly, adjust the height of infeed rolls.

The three (B) screws are balancing ones. Once (A) screws are set tightly, the infeed rolls tend to drop down.

In this case, (B) screws must be turned loose until the balancing is secured. If the infeed rolls appear to be tilting, lock up (B) screws until the balancing is secured.

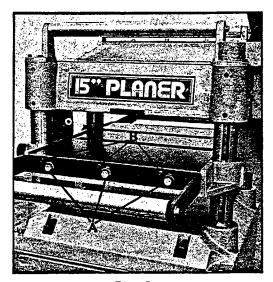
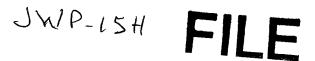


Fig. 2

Stand is staindard as shown in Figure 3.



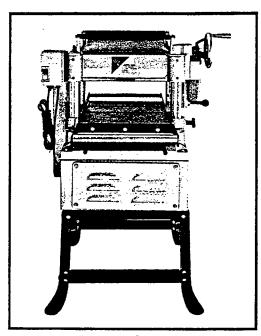


Fig. 3

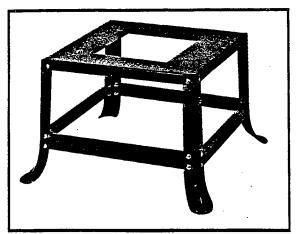


Fig. 4

#### **ASSEMBLING ACCESSORY NO. 2 STAND**

If you purchased the accessory No. 2 Stand for use with your planer, assemble the stand as follows:

- 1. Assemble the stand as shown in Fig. 4, using the 24 screws and nuts supplied. Only tighten the screws and nuts finger tight at this time.
- 2. Fig. 5 illustrates the proper relationship of the screws and nuts to the stand. Place the stand on a level surface and tighten the screws and nuts in the following order. First the eight lower tie bar screws and nuts (A), second the eight upper tie bar screws and nuts (B) and third the eight top shelf screws and nuts (C) Fig. 5.

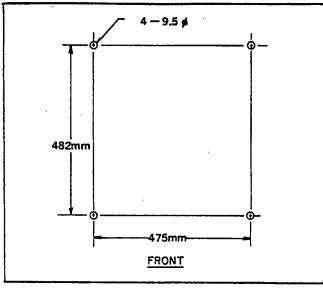


Fig. 6

### ASSEMBLING PLANER TO STAND OR BENCH

Stand or a bench of suitable height, it will be necessary to drill four holes in either stand or bench. Refer to Fig. 6, for the center to center distance and size of the four holes to be drilled. When lifting the planer to position it on the stand or bench, the machine must be lifted by the lifting handles. Fig. 7 illustrates the machine being lifted by the lifting handles using a sling.

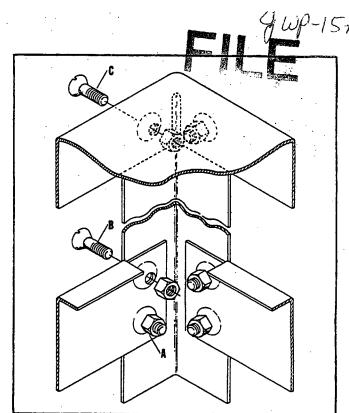


Fig. 5

#### **WEIGHT**

Net weight: 203 kg Gross weight: 230kg

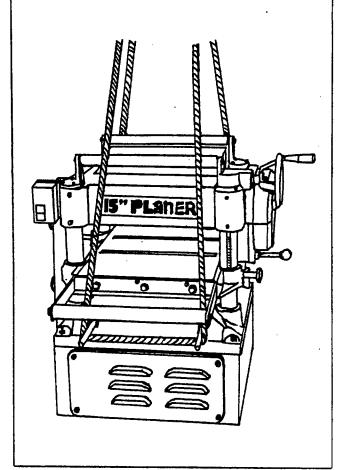


Fig. 7



### ADJUSTING HEIGHT

Turning handle (A) or (B) Fig. 8 to the right or left will raise or lower table.

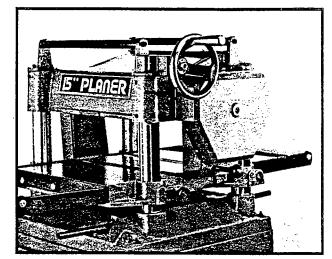


Fig. 8

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ASSEMBLING MOTOR PULLEY, MOTOR AND BELTS TO SINGLE PHASE MACHINE.

- 1. Assemble motor pulley (H) to motor shaft, as shown in Fig. 9. Make sure key is inserted into keyway of motor shaft and motor pulley, and tighten two screws in motor pully, and tighten two screws in motor pully, using allen wrench (J).
- 2. Place motor (K) on motor plate (F), as shown in Fig. 10. Fasten motor(K) to motor plate (F) using the four sets of motor mounting bolts, washers and nuts (L). Do not completely tighten motor mounting nuts and bolts at this point.
- 3. Using a straight edge, align motor pully (H) to cutter-head pulley (M), As shown in Fig. 11. by sliding motor on motor plate, then tighten motor mounting bolts tightly.
- 4. To unload two nuts to assemble motor belt. As shown in Fig. 12.

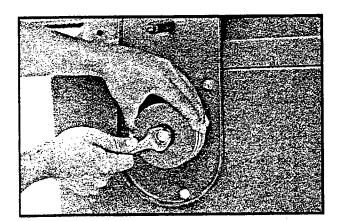


Fig. 9

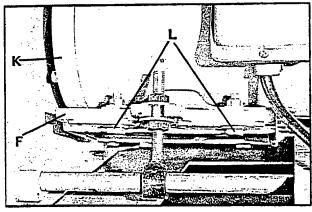


Fig. 10

MAGNETIC CONTACTOR CIRCUIT

If you used single phase motor

Power source: A.C. Motor source: A.C. Grounding: D



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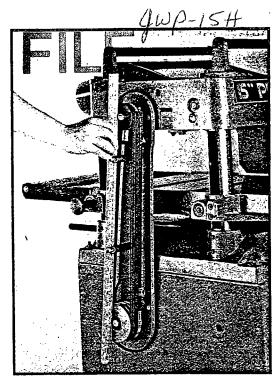


Fig. 11 ·

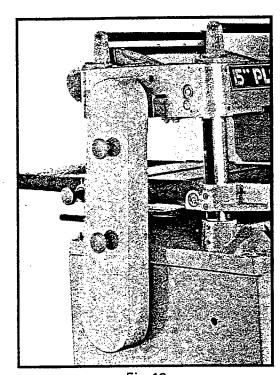


Fig. 12

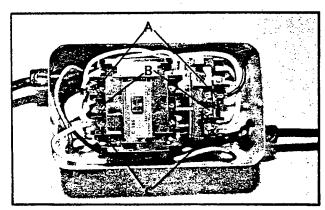


Fig. 13

#### DEPTH OF CUT ADJUSTMENT

The depth of cut on your planer is controlled by raising or lowering the head assembly (A) Fig. 14, which contains the cuterhead and feed rolls. The head assembly (A) raises and lowers on four precision ground steel columns. To adjust for depth of cut simply loosen the two head assembly lock knobs (C) and turn the elevating handle (D) Fig. 14. After the desired depth of cut is obtained, lock the two head assembly lock knobs (C) Fig. 14. A combination inch/metric scale (B) Fig. 14, is conveniently located on the right front column for easy reading.

The maximum depth of cut on full width planing with the 3 horsepower, Three Phase motor is 3/16" (4.763mm).

The maximum depth of cut on full width planing with a 2 Horsepower, Single Phase motor is 1/8" (3.175mm). A limiter (A) Fig. 15, is provided on single phase machines to limit the depth of cut on full width planing from 3/16" to 1/8"

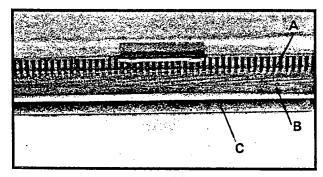


Fig. 16

#### **ANTI-KICKBACK FINGERS**

Anti-kickback fingers (A) Fig. 16, 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.

#### FEED ROLL SPEED CONTROL

Your machine is equipped with a spiral, serrated infeed roll (B) and a solid steel outfeed roll (C) Fig. 16.

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 sproket drive (D) Fig. 17, which takes power directly from the cutterhead through the oil bath gear box (E).

To engage the feed rolls, pull out lever (F) Fig. 18. To disengage the feed rolls push in on lever (F).

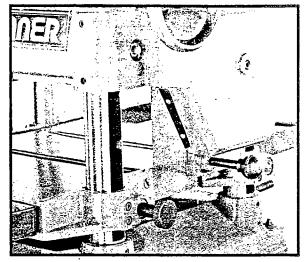


Fig. 14

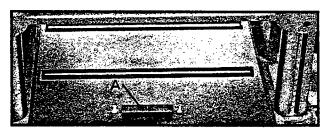


Fig. 15

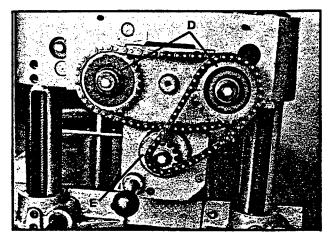


Fig. 17

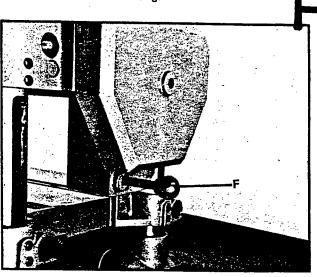


Fig. 18

#### **ADJUSTMENTS**

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

In order to check the adjustments you 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. 19.

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

#### ADJUSTING BELT TENSION

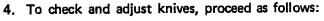
To adjust the belt tension on your machine, proceed as follows:

- 1. Disconnect machine from the power source.
- 2. Remove belt and pulley cover from the machine.
- 3. Board (A) Fig. 20, underneath the motor plate as shown.
- 4. Loosen two bolts (B) Fig. 20, and pry up on the motor plate until correct belt tension is obtained. Correct tension is obtained when there is approximately 1/4" deflection in the center span of the belts using light finger pressure. Then tighten two bolts (B) Fig. 20, and replace side cover.

### CHECKING, ADJUSTING AND REPLACING KNIVES

When checking, adjusting or replacing the cutterhead knives, proceed as follows:

- 1. Disconnect the machine from the power source.
- 2. Remove four screws, which are shown at (A) Fig. 21, and remove top cover (B).



- A. To CHECK AND ADJUST KNIVES use knife gage (A) Fig. 22 and 23, and check all three knives for proper setting as shown. When the gage (A) is placed properly on the cutterhead as shown, the knife should just contact the bottom of the center protrusion (B) Fig. 22 and 23, of the gage.
- B. If an adjustment to one or more of the knives is necessary, slightly loosen the knife locking bars (C) Fig. 23, 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 distrub the setting of the knives.

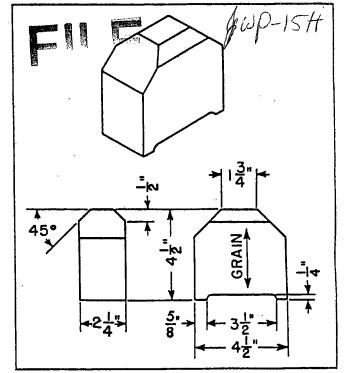


Fig. 19

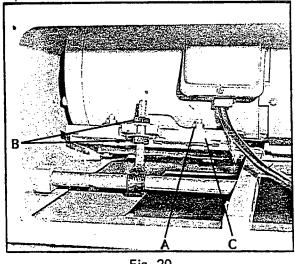


Fig. 20

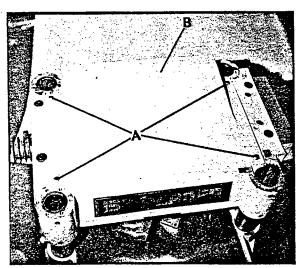


Fig. 21



- C. using the knife gage, adjust the knife that must be reset by loosening all five locking screws (D) Fig 23, by turning them into the knife locking bar. As the knife locking bar becomes loose, lifter springs (E) located under the knife will raise the knife until it comes into contact with the center portion (B) of the gage (A) Fig. 23. 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.
- 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. 22 and 23, 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.
- 5. 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. 23, by turning the five knife locking screws (D) into the knife locking bar (C) and remove the knife locking bar (C), knife (F) and springs (E) located under the knives.
  - B. Remove the remaining two knives in the same manner.
  - C. Throughly clean the knife slots, knife bars, springs 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. 23.
  - E. Insert springs (E), knives (F) and knife locking bars (C), into all three slots in the cutterhead, as shown in Fig. 23. 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. 23.
  - G. While holding down on the knife gage (A) Fig. 23, loosen all five locking screws (D) by turning them into bar (C) until cutting edge of knife (F) comes into contact with the protrusion (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. 23, against the slot 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.

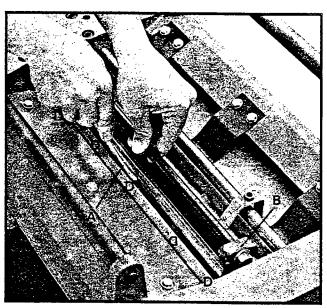


Fig. 22

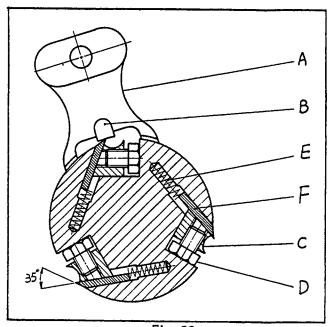
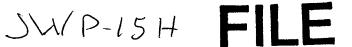


Fig. 23



#### ADJUSTING FEED ROLL SPRING TENSION

The infeed roll (A) and outfeed roll (B) Fig. 24, are those parts of your planer that feed the stock while it is being planed. The feed rolls (A) and (B) 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. The tension should be equal at both ends of each roll.

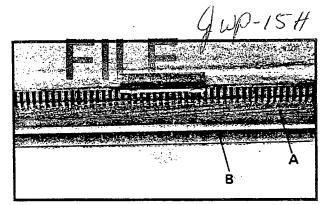
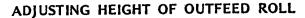


Fig. 24

To adjust the spring tension of the infeed roll, turn screw (C) Fig. 25, and also the screw on the opposite end of the roll.

To adjust spring tension of the outfeed roll, turn screw (D) Fig. 25, and also the screw on the opposite end of the roll.



The outfeed roll is adjusted at the factory to be set 1mm 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. 26, on the table directly underneath the cutterhead, as shown. Using a 1mm feeler gage (B) Fig. 26, placed on top of the gage block, raise or lower the head until the knife (C) just touches the feller gage when the knife is at its lowest point. Do not move the head any further until the outfeed roll is adjusted.
- 4. Move the gage block (A) Fig. 27, 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. 27.
- 5. Check and adjust opposite end of outfeed roll in the same manner.

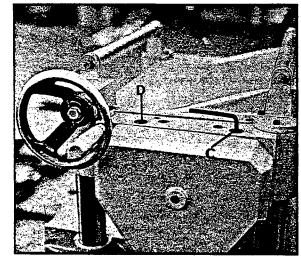


Fig. 25

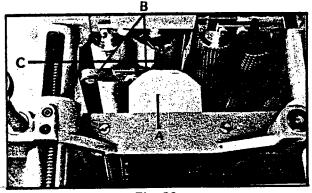


Fig. 26

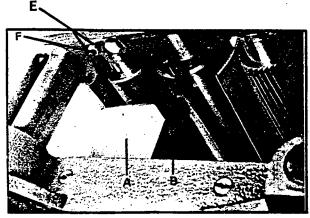


Fig. 27

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#### ADJUSTING 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 1mm below the cutting circle. To check and adjust the chipbreaker, proceed as follows:

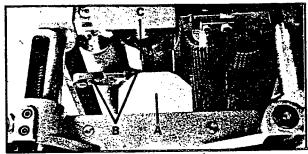
- 1. Disconnect machine from the power source.
- 2. Make certain the knives are adjusted properly as previously explained under CHECKING, ADJUST-ING AND REPLACING KNIVES.
- 3. Place the gage block (A) Fig. 28, on the table directly underneath the cutterhead, as shown. Using a 0.40" feeler gage (B) Fig. 28, 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 chipbreaker is checked and adjusted if necessary.
- 4. Move the gage block (A) underneath the chipbreaker (D) as shown in Fig. 29. The bottom of the chipbreaker should just touch the top of the gage block. Check opposite end of chipbreaker in the same manner.
- 5. If an adjustment to the chipbreaker is necessary, loosen nuts (F) Fig. 30, and turn screws (E) until bottom of chipbreaker just touches gage block. Then tighten nuts (F).

#### ADJUSTING TABLE ROLLS

Your planer is supplied with two table rolls (A) Fig. 31, 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.

The table rolls on your planer are set for average planing and are parallel to the table surface. If you desire to adjust the table rolls higher or lower, proceed as follows:

- 1. Disconnect machine from the power source.
- 2. Lay a straight edge (B) Fig. 32, across both rolls and turn screws (E) to raise or lower table rolls (A). Table rolls must also be adjusted on the opposite end of table in the same manner. The table rolls must always be set parallel to the table.



D

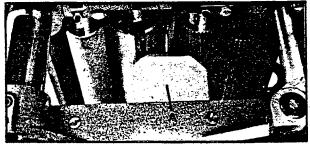


Fig. 29

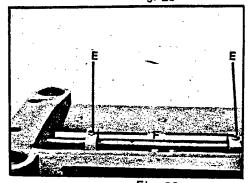


Fig. 30

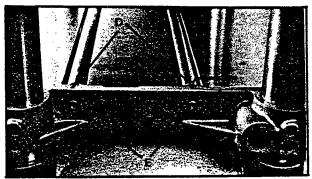


Fig. 31

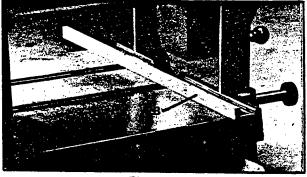
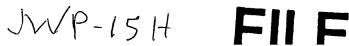


Fig. 32

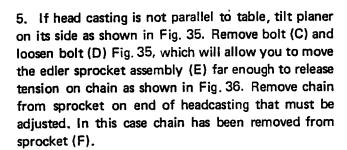


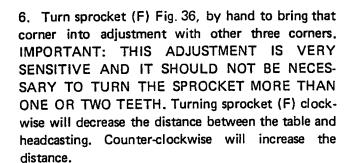


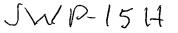
## ADJUSTING CUTTINGHEAD PARALLEL TO TABLE

The cuttinghead is set parallel to the table at the factory and no 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 cuttinghead as follows:

- 1. Disconnect machine from the power source.
- 2. Place gage block (A) Fig. 33, on table directly under front edge of head casting (B) as shown. Lower head casting until front edge of head casting (B) just touches gage block.
- 3. Move gage block (A) Fig. 34, 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.









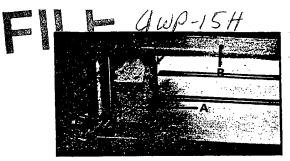


Fig. 33

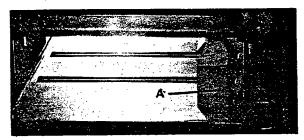


Fig. 34

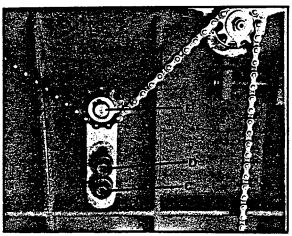


Fig. 35

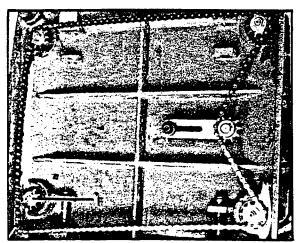


Fig. 36

#### LUBRICATION

The gear box oil should be changed once a year. The gear box drain plug is shown at (A) Fig. 37. The oil fill and level screw is shown at (B). The four table and raising screws should be lubricated as required using a common grease.

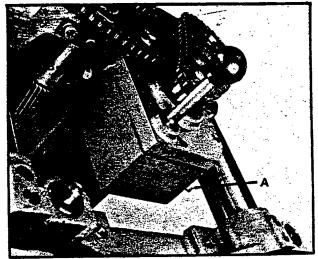


Fig. 37

#### ACCESSORY SHAVING HOOD

Shaving Hood (A) Fig. 38, is available as an accessory. Assembled to the rear of the planer using two machine screws and connected to a dust collection system, it provides an efficient means of maintaining a clean and safe work area.

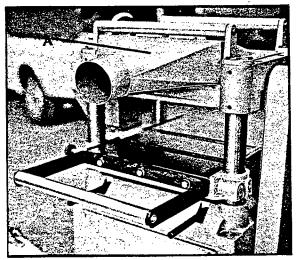
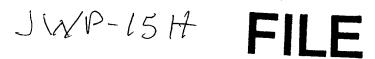


Fig. 38

#### SPECIAL ACCESSORIES

No. 1 Shaving Hood, with (125mm) outlet. Mounts to rear of planer for easy connection to dust collection system.

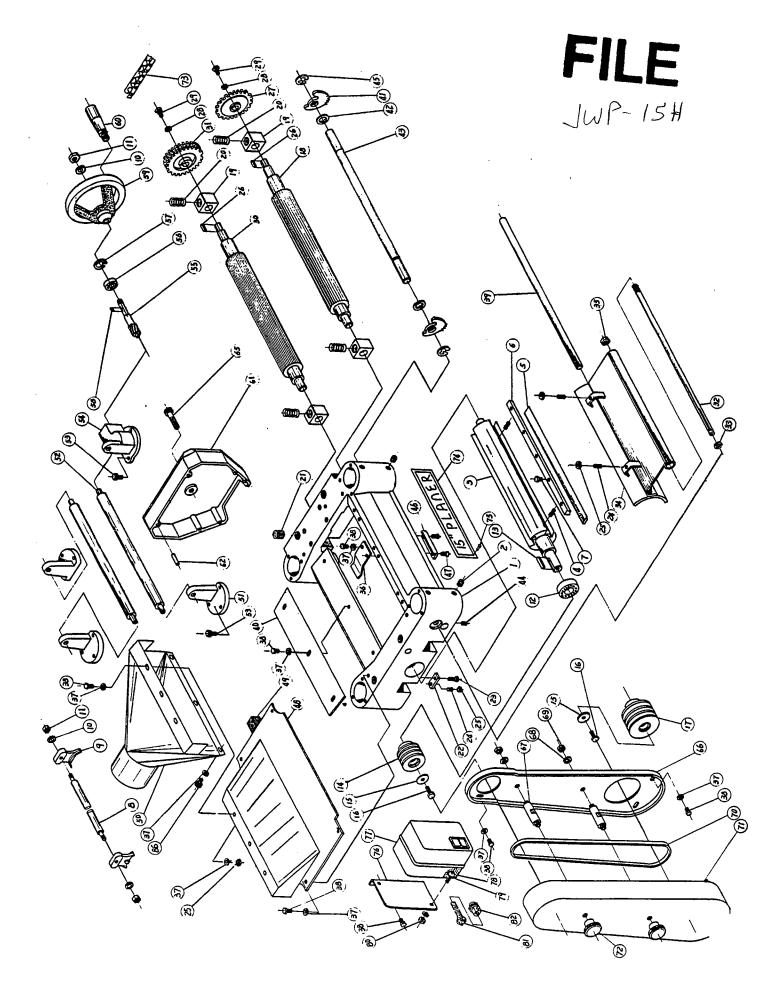
No. 2 Steel Stand. Recommended for floor model set-up. Requires drilling four holes.



JWP15H-001

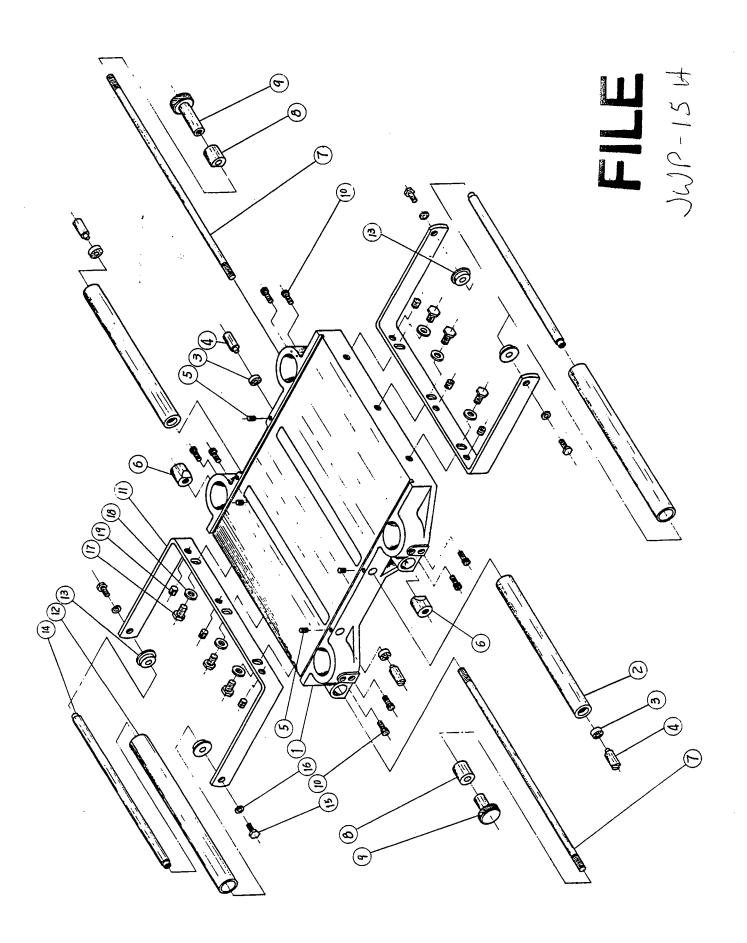
·				
Index No.	Parts No.	Parts Name	Q'ty	Remark
1	1001	Head Casting	1	
2		Set Screw	8	M10x1.5P-12
3	1002	Cutter Head	1	
4	20-1005	Spring	6	
5	1004	Knives	3	
6	1003	Knife Locking Bar	3	
7	20-1004	Hex, Hd. Scr	15	
8	1006	Club of Knife Gage	1	
9	1005	Knife Gage	2	<u> </u>
10		Washer	3	3/8''x20x2
11		Nut	4	M10x1.25P
12		Bearing	1	6205 ZZ
13		Key	1	8×8×36
14	20-1009	Machine Pulley	1	
15	20-1011	Washer	2	
16		Hex. Hd. Scr	2	M8x1.25P-25
17	1007	Motor Pulley	1	
18	1008	Infeed Roller	1	
19	20-1013	Bush	4	
20	20-1014	Spring	4	
21	20-1015	Screw	4	M22×1.5P-20
22	20-1016	Plate	4	
23		Hex. Hd. Scr	4	M8x1.25P-20
24		Set Screw	6	M6x1.0P-16
25		Nut	9	M6×1.0P
26		Key	2	5×5×23
27	20-1017	Sprocket	1	
28	20-1018	Washer	4	
29		Hex. Hd. Scr	2	M6x1.0P-16
30	1009	Outfeed Roller	1	
31	20-1020	Sprocket	,1	
32	1010	Locking Bolt	1	
33	· · · · · ·	Retaining Ring	1	STW-12
34	1011	Chip Bracket	1	
35		Nut	1	M12x1.75P
36	20-1023	Plate Spring	3	· · · · ·
37		Washer	30	1/4"x13x1.2
38		Hex. Hd. Scr	22	M6x1.0P-12
39	1012	Shaft	1	
40	1013	Chip Deflector Plate	1	
41	20-1030	Anti-Kiek Finger	59	

				= (11.10-1
Index No.	Parts No.	Parts Name		≅ Remark
42	20-1031	Colle	61	773
43	1014	Shaft	1	
44		Set Screw	1	M6x1.0P-12
45		Retaining Ring	2	ETW-15
46	20-1033	Cut Limiter Plate	1	
47		Flat Hd. Mach Scr	2	M6x1.0P-12
48	1015	Upper Cover	1	
49	1016	Gas Ket	1	
50	1017	Collector Tube	1	
51	1018	Roller Stand	3	
52	1019	Roller	2	
53		Cap Screw	12	.M6x1.0P-20
54	1020	Werm Gear Box	1	
55	1021	Worm	1	
56		Bearing	1	6200 Z
57		Retaining Ring	1	RTW-30
58		Key	1	4x4x10
59	1022	Hand Wheel	1	
60	20-1042	Handle	1	
61	1023	Cover	1	
62		Spring Pin	2	∳6×20
64		Machine Screw	4	M6x1.0P-8
65		Cap Screw	1	M8x1.25P-50
66	1025	Pulley Grard	1	
67	20-1049	Bolt	2	
68		Washer	2	5/16"x16x1.8
69		Nut	2	5/16"x18NC
70	18-M41	V-Belt	3	M-42
71	1026	Pulley Cover	1	
72	20-1053	Nut	2	
73		Chain	1	06B (62.5
				Knuckle)
74	1027	Name Plate		15" PLANER
75		Rivet	4	
76	1028	Switch Board	1	
77		Switch	1	
78		Machine Screw	2	M 5×0.8P-10
79		Tooth Washer	4	EOW-5
80		Nut	2	M 5x0.8P
81		Power Supply Wire	1	
82		Relief Bushing	2	
83				
84				
85				
86		CAP Screw	3	M 6x1.0P-12
82 83 84 85		Relief Bushing	2	M 6x1.

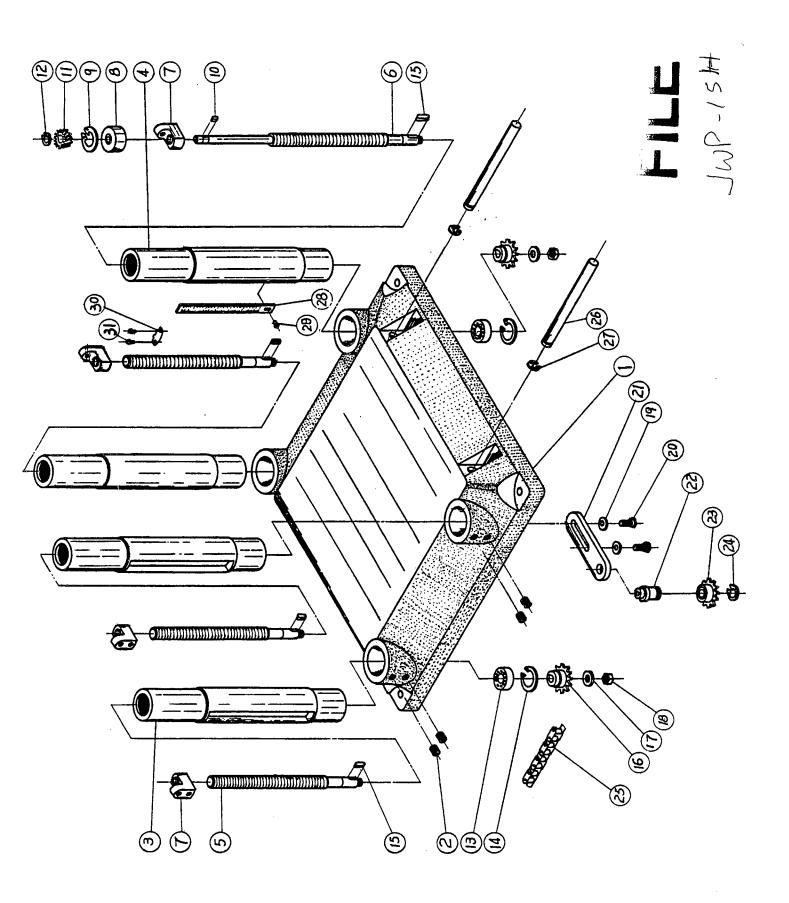


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	end Fig.			
Index No.	Parts No.	Parts Name	Q'ty	Remark
1	2001	Middle Table	1	
2	2002	Roller	2	
3		Bearing	4	609 Z
4	2003	Eccentric Shaft	4	¥:*
5		Set Screw	4	M6x1.0P-12
6	20-2004	Lock Bar	2	
7	2004	Lock Bolt	2	·
8	20-2005	Lock Smith	2	
9	20-2005	Knob	2	
10	<del></del>	Cap Screw	. 8	M6x1.0P-20
11	2006	Roller Frame	2	
12	2007	Roller	2	4
13	2008	Roller Liner	4	
14	2009	Shaft	2	
15		Hex. Hd. Scr	4	M6×1.0P-10
16		Washer	4	∮1/4"x16x1.2
17		Hex. Hd. Scr	6	M8×1.25P-20
18	20-3018	Washer	6	∮8.2x22x3
19		Set Screw	6	M8x1.25P-12

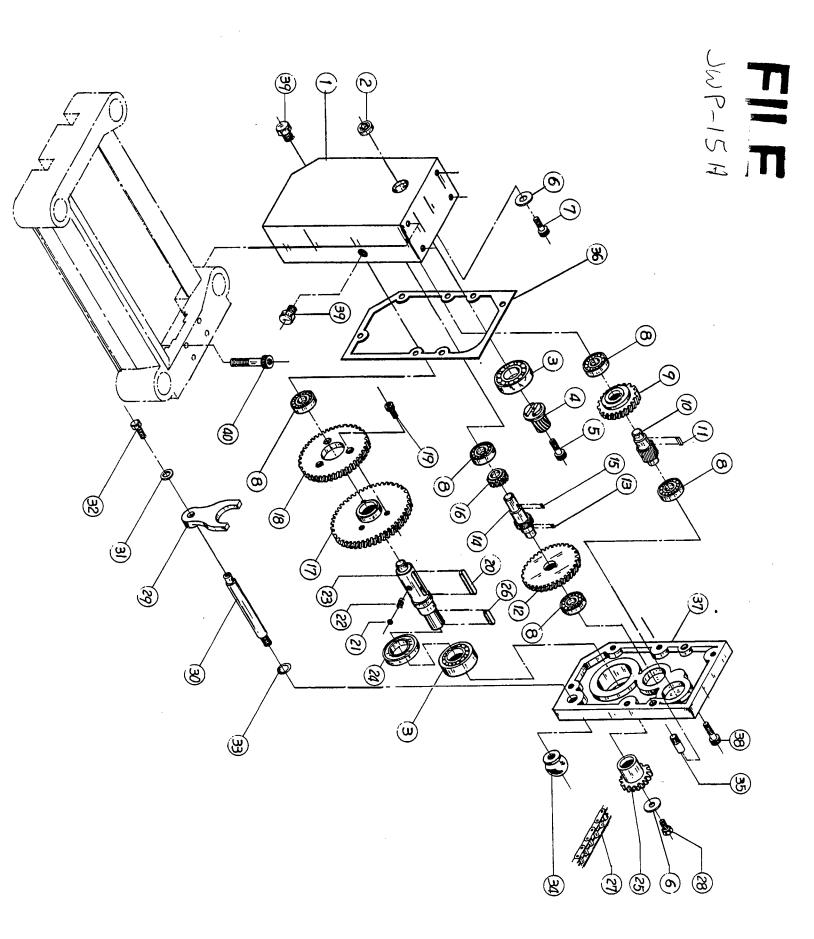


Index No.	Parts No.	Parts Name	Qy	Remark /
1	3001	Base	T.	<b>1</b>
2		Set Screw	4	M10x1.5P-12
3	3003	Column	3	
4	3002	Column	1	
5	3004	Lead Screw	3	
6	3005	Lead Screw	1	
7	3006	Nut	4	
8	3007	Bush	1	
9		Reatining Ring	1	RTW-38
10		Key	1	4x4x10
11	3009	Gear	1	
12	· · · · · · · · · · · · · · · · · · ·	Reating Ring	1	ETW-8
13		Bearing	4	6202 ZZ
14		Reatining Ring	4	RTW-35
15		Key	4	5×5×16
16	3010	Sprocket	4	
17	<del></del>	Washer	4	3/8"x20x2
18		Nut	4	M10x1.25P
19	20-3018	Washer	2	
20		Hex Hd. Scr	2	M8x1.25P-25
21	20-3012	Sprocket Idler	1	
22	20-3011	Shaft	1	
23	3011	Sprocket	1	
24		Reatining Ring	1	STW-15
25		Chain	1	#41 (131 KNCKLE)
26	3012	Lifting Handles	4	
27		E-Ring	4	ETW-12
28	3013	SCALE	1	
29		Chees Hd. Mach Scr.	1	M3x0.5P-6
30	3014	Cut Limit Pointer	1	
31		Rivet	2	· · · · · · · · · · · · · · · · · · ·



ndex No.	Part No.	Parts Name	• 627/2	Remark
	20-5001	Gear Box		
2	20 3001	Oil Seal	1	TC 28x40x8
3		Bearing	2	6204ZZ
4	20-5002	Gear	1	16 <sup>t</sup>
5		Cap Screw	1	M6x1.0P-20
6	20-1018	Washer	2	
7	20 1010	Cap Screw	1	M6x1.0P-16
8		Bearing	5	6201
9	20-5003	Gear	1	47 <sup>t</sup>
10	20 - 5004	Shaft	1	18 <sup>t</sup>
	20 3004	Key	1	5x5x12
11	20-5005	Gear	1	71 <sup>t</sup>
12	20-3003	Key	1	5x5x10
13	20-5006	Shaft	1	18 <sup>t</sup>
14	20*3000	Key	1	4x4x8
15	20-5007	Gear	1	22 <sup>t</sup>
16	20-5007	Gear	<u> </u>	96 <sup>t</sup>
17	<del> </del>	Gear	<u>.</u>	92 <sup>t</sup>
18	20-5009		3	M6×1.0P-10
		Cap Screw	1 .	6x6x40
20		Key Ball	<u>-</u>	<b>∮</b> 6
21	20 5011		<u>'</u>	,,,
	20-5011	Spring Shaft	<u>_</u>	
23	20.3010	Oil Seal	<u> </u>	SC 25x47x6
24	20-5018			12 <sup>t</sup>
25	20-3018	Sprocket USE Ju	1	5x5x23
26		Chain	1	06B
27		Hex. Hd. Scr	1	M6x1.0P-16
28	20, 5012	Clutch	1	110001.01
29	20-5012	Handle	1	-
30	20-5013	Washer	1	1/4"x13x1.2
31		Wasner Hex, Hd, Scr	1	M6x1.0P-12
32	<u> </u>		1	P-12
33		Oil Ring	1	1-12
34	20-5014	Knob		
35	20-5015	Pin	2	
36	20-5016	Packing Piece	1	<del> </del>
37	20 - 5017	Cover	1	
38		Cap Screw:	5	M6x1.0P-25
39		Oil Plug	2	PT1/4-19

#25 is a NUT for sprocket use Jupish -325



				4WP-
Index No	Parts No	Parts Name		Remark
1	4001	Stand	<b>1</b>	Section 1
2	4003	Back Panel	2	
3		Flat Hd Mach Scr	8	M6x1,0P-20
4	4004	Front Bar	1	
5	4005	Back Bar	1	
6	4006	Motor Mount	1	
7	·	Set Screw	4	M6x1.0P-6
8	4007	Coller	1	
9	4008	Adjust Bolt	1	
10		Nut	2	M10x1.25P
11		Washer	2	3/8"x20x2
12		Motor	1	2HP
13		Hex, Hd, Scr	4	M8x1,25P-35
14		Washer	12	5/16"×23×2
15		Washer	4	5/16"×16×1.8
16		Nut	8	M8x1,25P
17		Hex, Hd, Scr	4	M8×1,25P-50
18		Wire	1	
19		Relief Bushing	1	



