JET
EQUIPMENT & TOOLS

Operator's Manual
JPM-13 Planer/Molder

C UL Listed 80MJ

JET EQUIPMENT & TOOLS, INC.
A WMH Company

P.O. BOX 1349
Auburn, WA 98071-1349

253-351-6000
Fax 253-939-8001
No. M-708526 11/98

Important Information

2 YEAR
LIMITED WARRANTY

JET offers a two year limited warranty on this product

REPLACEMENT PARTS

Replacement parts for this tool are available directly from JET Equipment & Tools.
To place an order call **1-800-274-6844**. Please have the following information ready:

1. Visa, MasterCard or Discover Card number
2. Expiration date
3. Part number listed within this manual
4. Shipping address other than a Post Office box

REPLACEMENT PART WARRANTY

JET Equipment & Tools makes every effort to assure that parts meet high quality and durability standards and warrants to the original retail consumer/purchaser of our parts that each such part(s) be free from defects in materials and workmanship for a period of thirty (30) days from the date of purchase.

PROOF OF PURCHASE

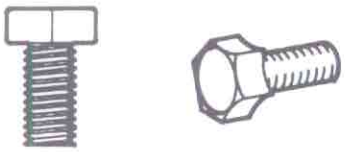
Please retain your dated sales receipt as proof of purchase to validate the warranty period.

LIMITED TOOL AND EQUIPMENT WARRANTY

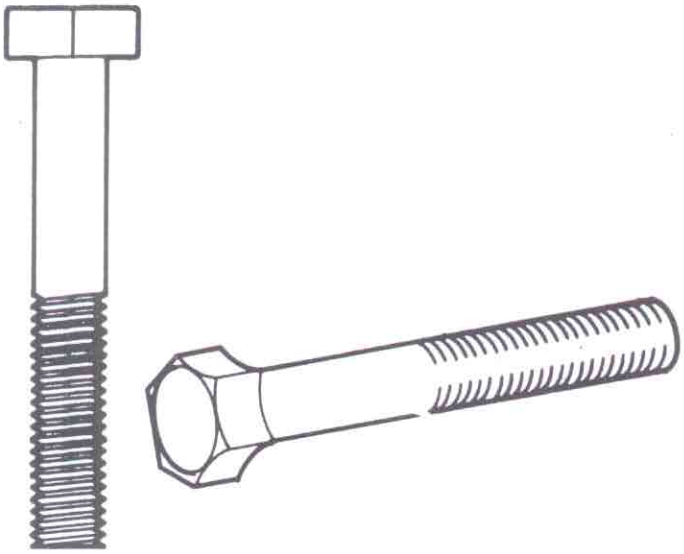
JET makes every effort to assure that its products meet high quality and durability standards and warrants to the original retail consumer/purchaser of our products that each product be free from defects in materials and workmanship as follows: 2 YEAR LIMITED WARRANTY ON THIS JET PRODUCT. Warranty does not apply to defects due directly or indirectly to misuse, abuse, negligence or accidents, repairs or alterations outside our facilities or to a lack of maintenance. JET LIMITS ALL IMPLIED WARRANTIES TO THE PERIOD SPECIFIED ABOVE FROM THE DATE THE PRODUCT WAS PURCHASED AT RETAIL. EXCEPT AS STATED HEREIN, ANY IMPLIED WARRANTIES OR MERCHANTABILITY AND FITNESS ARE EXCLUDED. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG THE IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. JET SHALL IN NO EVENT BE LIABLE FOR DEATH, INJURIES TO PERSONS OR PROPERTY OR FOR INCIDENTAL, CONTINGENT, SPECIAL OR CONSEQUENTIAL DAMAGES ARISING FROM THE USE OF OUR PRODUCTS. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU. To take advantage of this warranty, the product or part must be returned for examination, postage prepaid, to an authorized service station designated by our Auburn office. Proof of purchase date and an explanation of the complaint must accompany the merchandise. If our inspection discloses a defect, JET will either repair or replace the product or refund the purchase price, if we cannot readily and quickly provide a repair or replacement, if you are willing to accept such refund. JET will return repaired product or replacement at JET's expense, but if it is determined there is no defect, or that the defect resulted from causes not within the scope of JET's warranty, then the user must bear the cost of storing and returning the product. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

JET Equipment & Tools, P.O. Box 1349, Auburn, WA 98071-1349: (253) 351-6000.

8 - 5/16" Flat Washer
(8) - Motor to Motor Plate



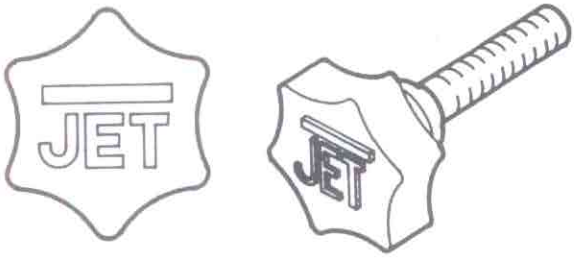
4 - 5/16" x 3/4" Hex Cap Bolt
(4) - Motor to Motor Plate



4 - 3/8" x 2-1/2" Hex Cap Bolt
(4) - Caster Assembly

6 - 3/16" x 1/2" Pan Head Screw
(2) - Switch Assembly to Stand
(4) - Belt Cover Assembly

6 - 5 x 12 x 0.8 Washer
(2) - Switch Assembly to Stand
(4) - Belt Cover Assembly



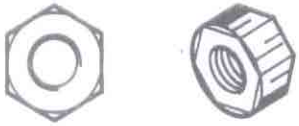
4 - 1/4" x 1" Knob
(4) - Caster Lock

1 - M6 Hex Socket Cap Screw
(1) - Handle Crank Assembly

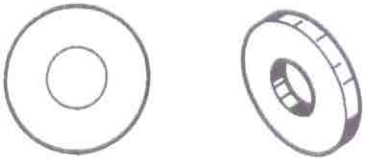
JPM-13 Hardware Package Details

48 - 5/16" Carriage Bolt
(44) - Stand Assembly
(4) - Motor Plate to Stand

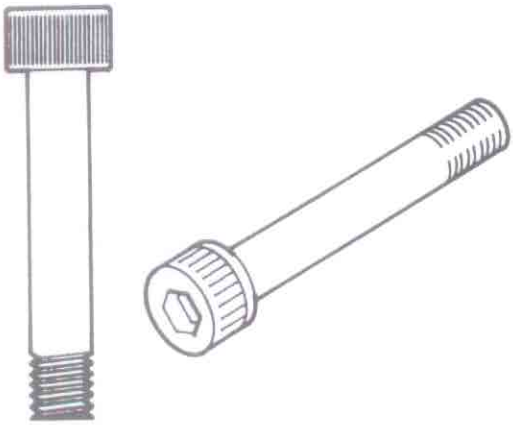
52 - 5/16" Lock Washer
(44) - Stand Assembly
(4) - Motor Plate to Stand
(4) - Motor to Motor Plate



52 - 5/16" Hex Nut
(44) - Stand Assembly
(4) - Motor Plate to Stand
(4) - Motor to Motor Plate



52 - 5/16" Flat Washer
(44) - Stand Assembly
(4) - Motor Plate to Stand
(4) - Body to Stand



4 - M8x45 Hex Socket Cap Screw
(4) - Body to Stand

4 - 3/8" Lock Nut
(4) - Caster Assembly

⚠ WARNING

For your own safety, read this instruction manual before operating the tool.

Wear Eye Protection

- **KEEP GUARDS IN PLACE** and in working order.

- **REMOVE ADJUSTING KEYS AND WRENCHES.** Form the habit of checking to see that keys and adjusting wrenches are removed from the tool before turning it on.

- **KEEP THE WORK AREA CLEAN.** Cluttered areas and benches invite accidents.

- **DO NOT USE IN A DANGEROUS ENVIRONMENT.** Don't use power tools in damp or wet locations, or expose them to rain. Keep work area well lighted.

- **KEEP CHILDREN AWAY.** All visitors should be kept safe distance from the work area.

- **MAKE THE WORKSHOP KID PROOF** with padlocks, master switches, or by removing starter keys.

- **DON'T FORCE THE TOOL**. It will do the job better and safer at the rate for which it was designed.

- **USE THE RIGHT TOOL.** Don't force a tool or attachment to do a job for which it was not designed.

- **USE THE PROPER EXTENSION CORD.** Make sure you extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersize cord will cause a drop in the line voltage resulting in loss of power and overheating. The table below shows the correct size to use depending on the cord length and name plate ampere rating. If in doubt, use the next heavier gauge. The smaller the gauge number, the heavier the cord.

Volts		**Total Length of Cord in Feet**		
120V	25	50	100	150
240V	50	100	200	300
		AWG		
	14	12	Not Recommended	

- **WEAR PROPER APPAREL.** Do not wear loose clothing, gloves, neckties, rings, bracelets, or other jewelry which may get caught in moving parts. Nonslip footwear is recommended. Wear protective hair covering to contain long hair.

- **ALWAYS USE SAFETY GLASSES.** Also use face or dust masks if the cutting operation is dusty. Everyday eyeglasses only have impact resistant lenses, they are NOT safety glasses.

- **SECURE WORK.** Use clamps or a vise to hold the work when its practical. It's safer than using your hand and it frees both hands to operate the tool.

- **DON'T OVERREACH.** Keep proper footing and balance at all times.

- **MAINTAIN TOOLS WITH CARE.** Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.

- **DISCONNECT TOOLS** before servicing; when changing accessories, such as blades, bits cutters, and the like.

- **REDUCE THE RISK OF UNINTENTIONAL STARTING.** Make sure the switch is in the off position before plugging in the machine.

- **USE RECOMMENDED ACCESSORIES.** Consult the owner's manual for recommended accessories. The use of improper accessories may cause a risk of injury.

- **NEVER STAND ON A TOOL.** Serious injury could occur if the tool is tipped or if the cutting tool is unintentionally contacted.

- **CHECK DAMAGED PARTS.** Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, 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.

- **DIRECTION OF FEED.** Feed work into a blade or cutter against the direction of rotation of the blade or cutter only.

- **NEVER LEAVE THE TOOL RUNNING UNATTENDED. TURN THE POWER OFF.** Don't leave the tool until it comes to a complete stop.

115 Volt Operation

As received from the factory, your planer/molder is ready to run at 115 volt operation. This planer/molder, when wired for 115 volt, is intended for use on a circuit that has an outlet and a plug that looks the one illustrated in Figure A. A temporary adapter, which looks like the adapter as illustrated in Figure B, may be used to connect this plug to a two-pole receptacle, as shown in Figure B if a properly grounded outlet is not available. The temporary adapter should only be used until a properly grounded outlet can be installed by a qualified electrician. **This adapter is not applicable in Canada.** The green colored rigid ear, lug, or tab, extending from the adapter, must be connected to a permanent ground such as a properly grounded outlet box, as shown in Figure B.

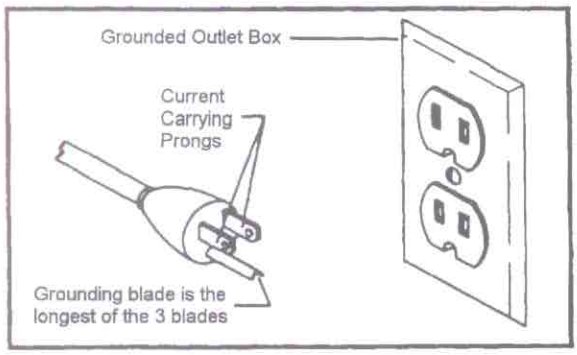


Fig. A

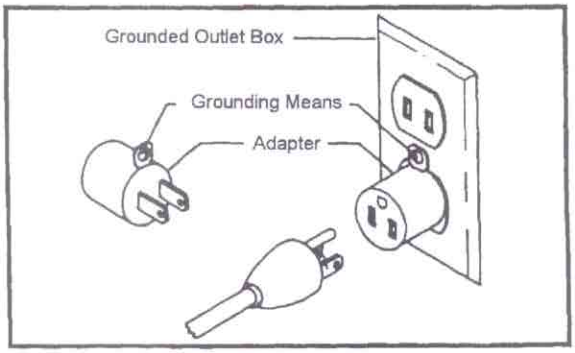


Fig. B

230 Volt Operation

If 230V, single phase operation is desired, the following instructions must be followed:

1. Disconnect the machine from the power source.

2. This planer/molder is supplied with four motor leads that are connected for 115V operation, as shown in Figure C. Reconnect these four motor leads for 230V operation, as shown in Figure D.

3. The 115V attachment plug, supplied with the planer/molder, must be replaced with a UL/CSA listed plug suitable for 230V operation. This plug is illustrated in Fig. E. Contact your local Authorized JET Service Center or qualified electrician for proper procedures to install the plug. The jointer must comply with all local and national codes after the 230 volt plug is installed.

4. The planer/molder with a 230 volt plug should only be connected to an outlet having the same configuration as illustrated by the grounded outlet box in Figure E. No adapter is available or should be used with the 230 volt plug.

Important: In all cases (115 or 230 volts), make certain the receptacle in question is properly grounded. If you are not sure, have a registered electrician check the receptacle.

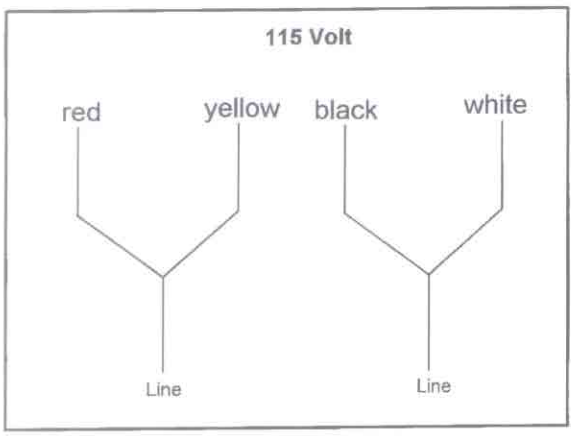


Fig. C

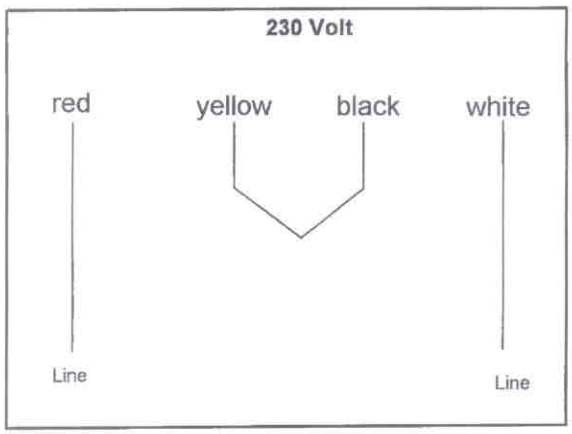


Fig. D

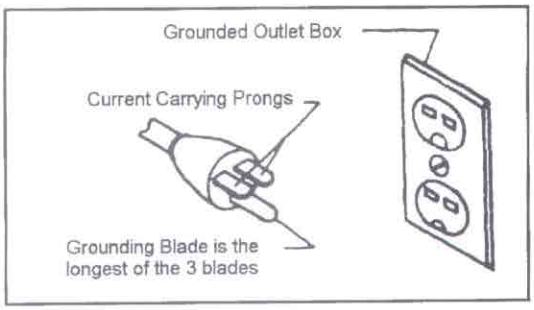


Fig. E

On-Off Switch Padlock

Model No. BP-1, Stock No. 709736

To safeguard your machine from unauthorized operation and to avoid accidental starting by young children, the use of a padlock is highly recommended. JET model BP-1 is available from your local authorized JET distributor or by calling JET Equipment & Tools at 800-274-6848.

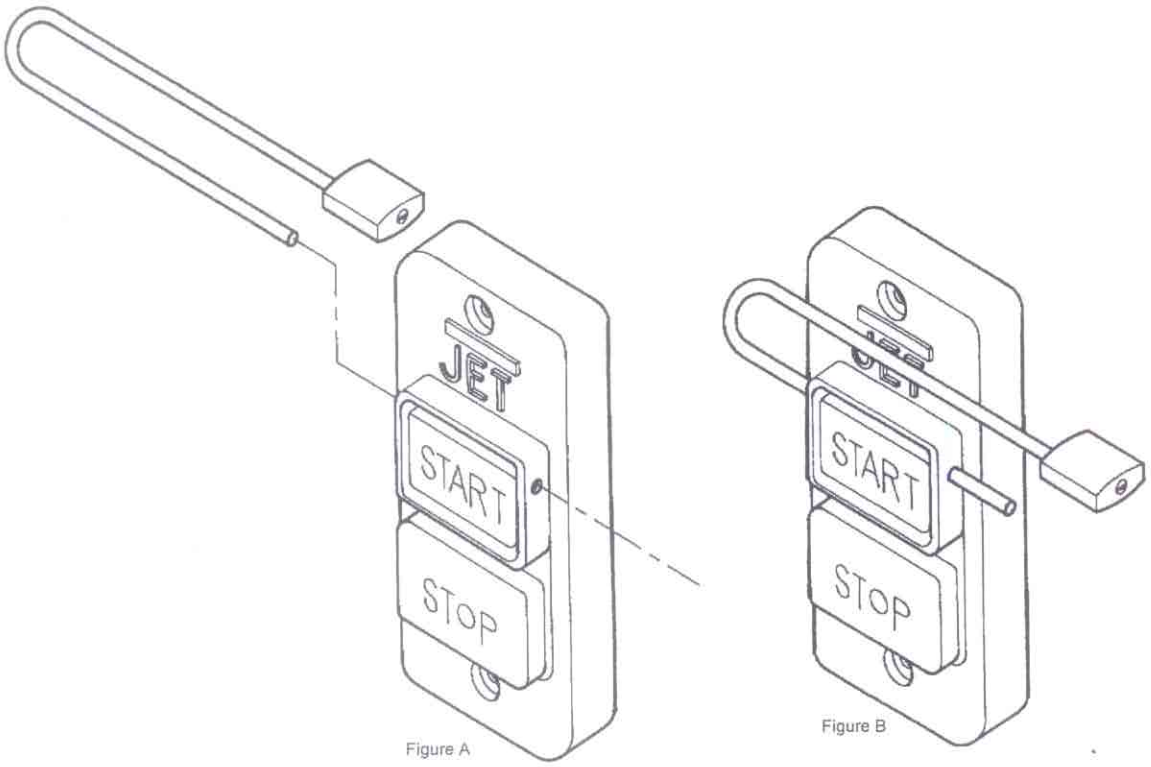


Figure A

Figure B

To lock out an on-off switch:

1. Open the padlock. See Fig. A.
2. Insert through holes in the start button. See Fig. B
3. Close the padlock.
4. Place the key in a safe place.

Specifications:

	JPM-13
Stock Number	708526
Maximum Cutting Width	13"
Maximum Thickness	6-1/8"
Full Width Depth of Cut	1/16"
Minimum Planing Length	14"
Number of Knives	3
Cutterhead Speed (RPM)	4500
Cuts per Minute	13,500
Cutterhead Diameter	2-9/16"
Blade Size	13-1/16"L x 1/16"W x 5/8"H
Feed Rate (Feet Per Minute)	
Planing	20
Molding	10
Optional Dust Chute Diameter	4"
Overall Dimensions	19-1/4"L x 20-9/16"H x 38-1/2"H
Motor	1-1/2HP, 115/230V, 3450 RPM
	prewired 115V
Net Weight (approx.)	202 lbs.
Shipping Weight (approx.)	206 lbs.

Optional Equipment

		Stock Number
Dust Chute w/ 4" Hose Adapter	JDC-13	708361
Replacement Knife Set	JPM13-K	708366
Extension Rollers	JER-13	708363
Tripod Roller Stand	JRS-12	708495
3" C-Clamp Set (4 pc.) for Molding Guide Rails	JCC-13	708367
Molding Guide Rail Set (4 pc.) with Hardware	JMG-13	708368
Edge Guide Rail Set only (4 pc.)	JMG-13E	708369

JET offers a wide variety of molding cutter sets to meet your needs. Contact your local authorized JET distributor or call 1-800-274-6844 for a brochure with full details.

Note:

* **The use of an optional dust chute and adequate dust collection system is highly recommended but not required for most planing operations.**
* **The use of an optional dust chute and adequate dust collection system is required for all molding operations.**

The specifications in this manual are given as general information and are not binding. JET Equipment and Tools reserves the right to effect, at any time and without prior notice, changes or alterations to parts, fittings, and accessory equipment deemed necessary for any reason whatsoever.

Terms and Definitions

- **Cutterhead** (A, Fig. 1)- metal cylinder that hold the planer knives or the molding cutters.
- **Table** - part of machine that lumber passes over.
- **Feed Rollers** - two rubber covered cylinders that push lumber through the machine.
- **Planer Knife** - one of three knives found in the cutterhead used for planing. (B, Fig. 1)
- **Molding Cutter** - one of three cutters in a set with a patterned edge used for cutting a decorative design into wood.
- **Gib** - metal bar with adjusting screws that hold planer knives or molding cutters in the cutterhead.
- **Depth of Cut** - depth of cut from workpiece on a single pass through the machine. (Fig. 2)
- **Snipe** - depression on either end of a planed board caused by feeding the board into the machine at an angle to the table or letting the board end drop down when exiting the planer.

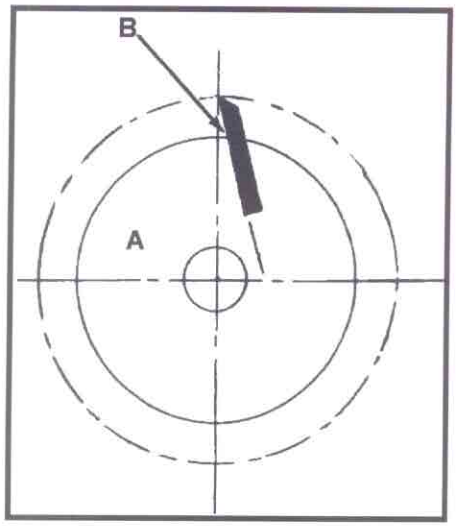


Fig. 1

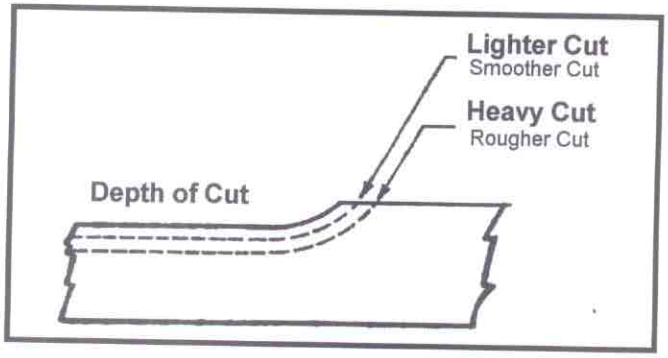


Fig. 2

Introduction

The JET JPM-13 woodworking planer/molder you have purchased is a high quality machine tool that will give you years of superior service. You will get maximum performance and enjoyment from your new planer/molder if you will take a few moments now to review the entire manual before beginning assembly and operation. Become familiar with the details of operation and be sure to review the controls page to start to become familiar with some of the unique words associated with a planer/molder.

The JET JPM-13 planer/molder, as well as all JET products, are backed by a nationwide network of authorized distributors and/or service centers. Please contact your nearest distributor should you require parts or service. Parts are also available directly from JET by calling 1-800-274-6844.

Now that you have purchased a planer/molder, it is a good time to consider a dust collection system. See your local JET distributor for the complete line of dust collectors and the full line of JET Dust Collector Hoses and Accessories. Customize your installation and obtain maximum performance with Jet's dust hoods, hoses, clamps, fittings, and blast gates.

Table of Contents

Contents of the Shipping Container

1 Molder/Planer
1 V-Belt Cover
4 Stand Leg
4 Stand Top
4 Cross Brace
1 Motor
1 Switch Assembly
1 Handle Assembly
4 Caster
1 Motor Bracket
2 V-Belts
1 Bag of Assembly Hardware
1 Accessory Package:

1 10/12mm wrench
1 11/13mm wrench
1 screwdriver
1 3mm hex wrench
1 4mm hex wrench
1 5mm hex wrench
1 6mm hex wrench
1 knife setting gauge
1 molding cutter gauge
1 feed roller adjustment wrench
1 brass bar

Tools Required for Assembly

17mm Wrench/Socket
14mm Wrench/Socket
12mm Wrench/Socket

Unpacking and Clean-Up

1. Finish removing the contents of the shipping carton and compare with the contents list.

2. Report damage, if any, to your local distributor.

3. Clean all rust protected surfaces with a mild solvent or kerosene. Do not use lacquer thinner, paint thinner, or gasoline. These will damage painted surfaces.

4. To prevent rust, apply a light coating of paste wax to the table surface.

Assembly

Note: Do not fully tighten stand hardware until instructed to do so. Hand tighten snug only at this time. The planer/molder must be mounted and fastened to the stand and the stand "squared up" before the hardware is tightened.

Note: If the machine is to be permanently mounted to the floor, do not install the wheels. Fabricate four "L" brackets from 1-1/2" angle steel. Drill and attach to holes in the bottom of the legs and to the floor using 3/8" x 1" bolts, nuts, and washers on all four legs.

1. Attach wheels (A, Fig. 3) to the stand legs (B, Fig. 3) with four 3/8" x 2-1/2" hex cap bolts (C, Fig. 3) and four 3/8" nyloc lock nuts (D, Fig. 3).

2. Thread four caster locks (P, Fig. 3) into leg brackets. Tighten caster locks.

3. Attach stand top front (E, Fig. 3) to stand legs with six 5/16" carriage bolts (F, Fig. 3), six 5/16" flat washers (G, Fig. 3), six 5/16" lock washers (H, Fig. 3), and six 5/16" hex nuts (J, Fig. 3).

4. Attach stand top rear (K, Fig.3) to remaining legs with carriage bolts, flat washers, lock washers, and hex nuts.

5. Attach two long cross braces (L, Fig. 3) to each stand leg assembly with carriage bolts, flat washers, lock washers, and hex nuts.

6. Attach two short cross braces (M, Fig. 4) to the leg assembly with carriage bolts, flat washers, lock washers, and hex nuts.

7. Attach stand braces together in the four corners with four carriage bolts, four washers, four lock washers, and four hex nuts.

8. Attach switch bracket plate (N, Fig.4) to stand assembly (right side when facing JET plaque) with carriage bolts, flat washers, lock washers, and nuts. **Note**: Plate lays on top of front and rear plates inside legs.

9. Attach side plate (O, Fig. 4) to left side of stand assembly with carriage bolts, flat washers, lock washers, and hex nuts. **Note**: Plate lays on top of front and rear plates inside legs.

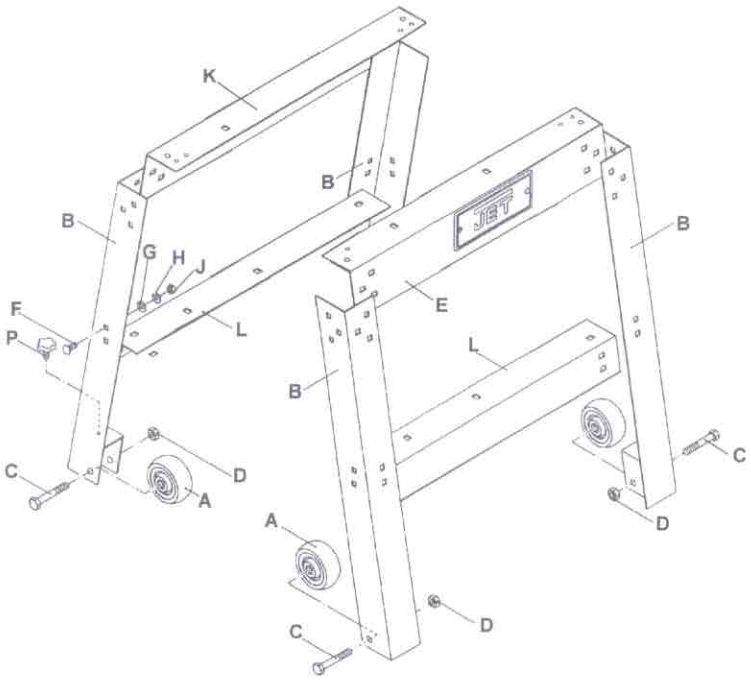


Fig. 3

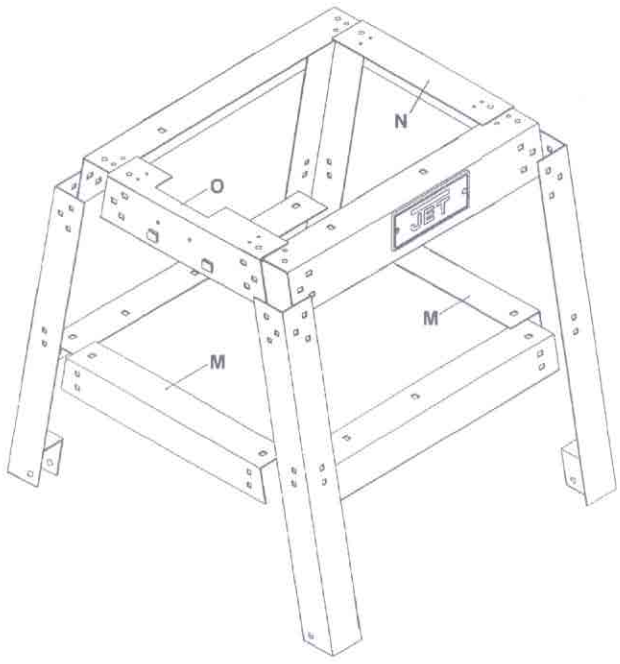


Fig. 4

10. Install motor plate (A, Fig. 5) to stand assembly with carriage bolts, flat washers, lock washers, and nuts. Tighten bolts firmly. **Note**: Bolts in top plate mount upside down; washers and nuts fasten to the carriage bolt on top of the plate. **Note**: Be sure to position the motor plate as shown in Fig. 5.

11. Install switch assembly (J, Fig. 5) into opening on right side of the stand with two 3/16"x1/2" pan head machine screws (K, Fig. 5) and two 5x12x0.8 flat washers (L, Fig. 5).

12. Lay stand assembly on its back so the JET label is facing up. Use cardboard or styrofoam to protect the stand finish.

13. Place motor onto the motor plate. Motor pulley must be on the side with the cut out in the stand top as in Figure 5.

14. Line up holes on the motor mount plate with holes on the motor plate. **Note**: Although there are six slots, only four are used for attaching the motor to the motor plate. It is recommended to leave the middle two slots unused and use the other four slots for attaching the motor to the motor plate.

15. Attach the motor to the motor plate with four 5/16"x1/2" hex cap bolts (F, Fig. 5), eight 5/16" flat washers (C, Fig. 5),four 5/16" lock washers (D, Fig.5) and four 5/16" hex nuts (E, Fig. 5). Do not tighten hardware at this time.

16. Carefully place stand and motor assembly back into the upright position.

17. With help from another person, carefully lift the planer/molder onto the stand top.

18. Line up the mounting holes in the planer/molder with the mounting holes in the stand top.

19. Fasten the planer/molder to the stand top with four M8x45 hex socket cap screws (G, Fig. 5) and four 5/16" flat washers (H, Fig. 5).

20. Make sure stand assembly sits square and level and tighten all stand hardware. Do not tighten motor mount bolts at this time.

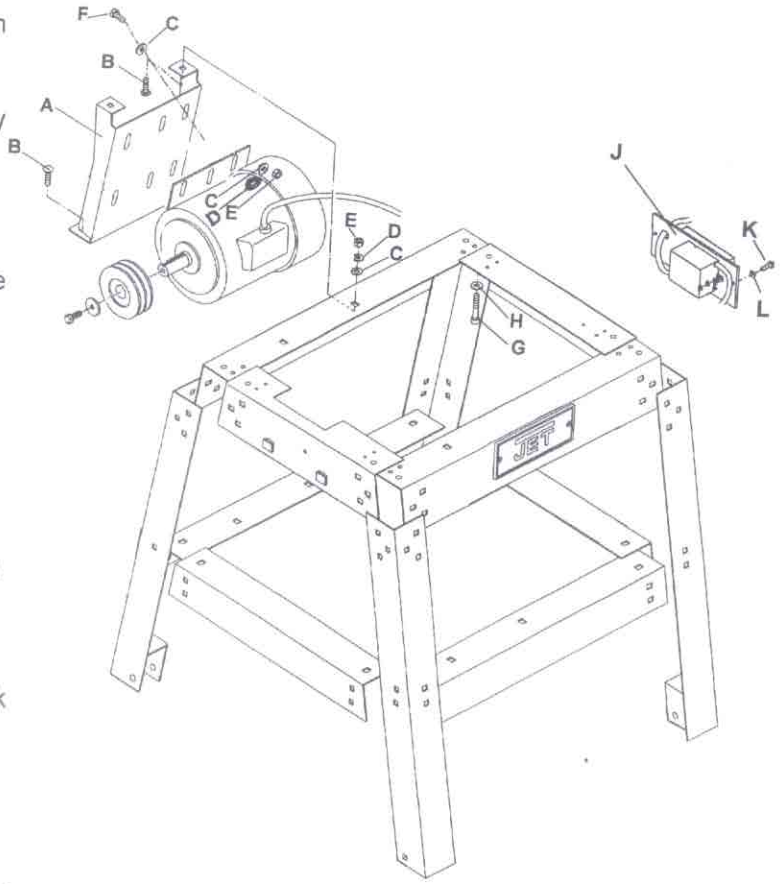


Fig. 5

21. Remove left panel (A, Fig. 6) by removing four hex socket cap screws (B, Fig. 6).
22. Place two v-belts on motor pulley and on cutterhead pulley.
23. Push down on motor to tension v-belts and tighten motor to motor plate. Be sure motor is straight.
24. Attach both left and right motor pulley guards with four pan head screws and flat washers.
25. Replace left cover and hold in place with four hex cap screws and four flat washers.
26. Attach handle post to handle with hex cap screw.
27. Connect plug from the switch to the plug from the motor.
28. Remove dust hood. Check gib screws on cutterhead for tightness. Install dust hood. **Note**: Recheck after five minutes of operation. Recheck again after every 2 hours of use.

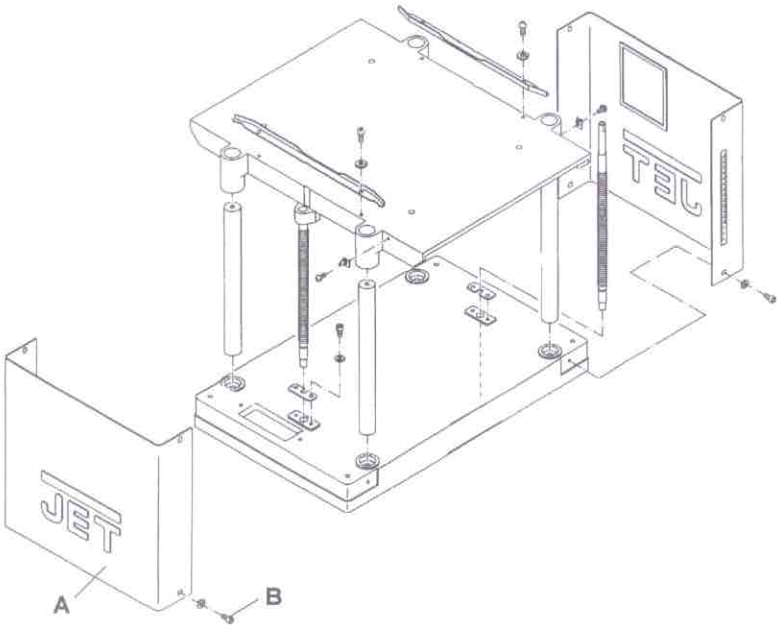


Fig. 6

⚠ WARNING

Never run machine with dust hood loose or removed!
Failure to comply may cause serious injury!

29. Install top cover.

You are now ready for operation.

Planing Setup and Adjustments

Depth of Cut

CAUTION

Maximum depth of cut is 1/8" up to 5-1/2" wide and 1/16" on stock over 5-1/2" wide. Trying to cut more in one pass will cause stress on the machine and could damage the cutterhead.

Thickness planing refers to the sizing of lumber to a desired thickness while creating a level surface parallel to the opposite side of the board.

The quality of thickness planing depends on the operator's judgment about the depth of cut. Depth of cut depends on the width, hardness, dampness, grain direction, and grain structure of the wood.

The maximum thickness of wood that can be removed in one pass is 1/8" on wood up to 5-1/2" wide and 1/16" on wood wider than 5-1/2".

When planing hard wood, take light cuts or plane wood in thin widths.

Make a test cut when working with a new type of board or different kind of operation. Check the accuracy of the test cut before working on the finished product.

Adjusting the Depth of Cut Scale

⚠ WARNING

Use caution when placing hands near the cutterhead! Knives are extremely sharp! Failure to comply may cause serious injury!

1. Take a test cut.
2. Measure the cut piece.
3. Adjust the pointer accordingly.

Dealing with Warped Wood

Warp is caused by different grain directions in a piece of wood drying at different rates during the drying process..

Wood Warped Across the Width - Cupped wood is planed flat on one side first, then planed flat on the other. Ripping the board down the middle will avoid huge amounts of waste in planing to thickness.

Wood Warped Lengthwise - Feed rollers will flatten a lengthwise warped board as if it were flat, but the board will spring back to its original shape once out of the planer. A lengthwise warped board must be jointed flat on one side on a jointer before being thickness planed.

Twisted Wood - Twisted lumber or lumber twisted lengthwise is hardest to thickness plane. The wood may be so twisted that it cannot be thickness planed. One possible solution may be to saw the board into smaller sections and see if the sections can be thickness planed.

Wood Grain

For an improved surface finish with minimal tearout, always plane the work piece with the grain.

The work piece should be fed into the planer/molder so that blades are traveling with the grain as they finish the cut. The grain should be angled up toward the rear of the work piece as it is fed into the planer/molder.

Feed Rate Adjustment

The planer/molder has two speeds that feed the work piece at 10 feet per minute (FPM) for improved surface finish when molding and 20 FPM for faster planing.

To change the feed rate gears:

1. **Disconnect the machine from the power source. (Unplug)**
2. Remove acorn nut holding the gear cover.
3. Remove two hex socket cap screws and two washers.
4. Remove gears and position according to operation. See gear chart. (Fig. 7)
5. Replace screws and washers to hold gears in place.
6. Replace cover and acorn nut.

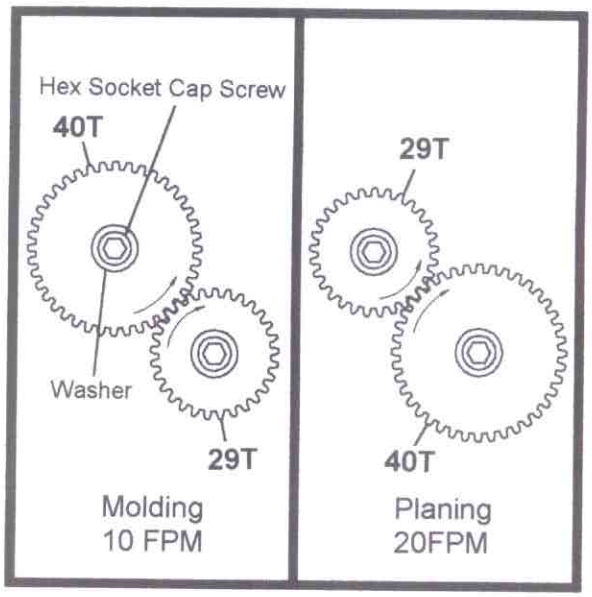


Fig. 7

Adjusting V-Belt Tension

1. **Disconnect the machine from the power source. (Unplug)**
2. Remove four hex socket cap screws securing left side panel.
3. Remove side panel.
4. Loosen bolts holding motor to motor plate.
5. Push down on motor to tension belt. Belt is tensioned properly when moderate finger pressure on the belt midway between the two pulleys causes approximately 1/4" deflection.
6. Tighten motor mount bolts.
7. Attach side panel with four hex socket cap screws and four washers.

Knife Adjustment

CAUTION

Any adjustment or replacement of knives must be done to all three knives at the same time! Failure to comply may result in an out of balance cutterhead which will lead to a bearing failure!

⚠ WARNING

Use caution when placing hands near the cutterhead! Knives are extremely sharp! Failure to comply may cause serious injury!

1. **Disconnect the machine from the power source. (Unplug)**
2. Remove screws securing the dust hood.
3. Remove dust hood.
4. With a marking pen, label each knife on the cutterhead one, two, and three for easy identification.
5. Loosen all lock bar screws on blade number one.
6. With the brass bar and a mallet, carefully tap on each end on the outside of the set screws for all three lock bars on knife number one. This loosens the taper fit of the lock bar.
7. Raise or lower knife by turning jack screw. Knife is at correct height when knife tip just touches center tip of knife gauge. (Fig. 8)
8. Place knife gauge at other end of knife number one.
9. Raise or lower knife to the correct height.
10. Tighten knife bar locking screws. **Note**: Tighten each large lock bar independently. Take half turns alternating on each end until lock bar is tight against the knife. Tighten small lock bar after two large lock bars are tight. The small lock bar requires two spacers to firmly hold the knife. Tighten in the same manner as the large lock bars.
11. Continue to check knife height with gauge until set screws are firmly tightened.
12. Repeat steps five through eleven for blades two and three.

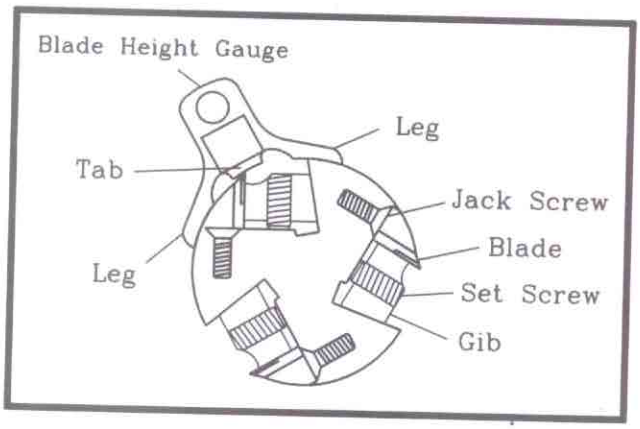


Fig. 8

Knife Replacement

⚠ WARNING

Use caution when placing hands near the cutterhead! Knives are extremely sharp! Failure to comply may cause serious injury!

1. **Disconnect the machine from the power source. (Unplug)**
2. Remove screws securing the dust hood.
3. Remove dust hood.
4. With a marking pen, label each knife on the cutterhead one, two, and three for easy identification.
5. Loosen all lock bar set screws on knife number one.
6. With the brass bar and a mallet, carefully tap on each end on the outside of the set screws for all three lock bars on knife number one. This loosens the taper fit of the lock bar.
7. Carefully remove knife.
8. Remove lock bars.
9. Repeat steps 5-8 for knives two and three.
10. Clean cutterhead of any wood chips, pitch, saw dust, and any other debris.
11. Replace lock bars on knife number one as in Fig. 9 paying attention to which direction they face.
12. Carefully install new or sharpened knife into cutterhead between lock bar and cutterhead. Note direction of knife as pictured in Fig. 9.
13. Adjust knife. Refer to section in this manual titled "Knife Adjustment", steps seven through eleven.
14. Repeat steps 11-13 for blades number two and three.

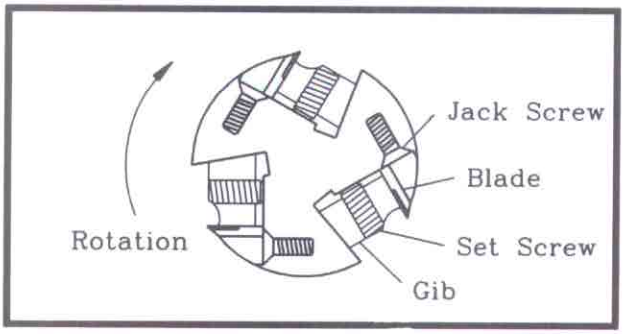


Fig. 9

Adjusting the Infeed Roller and Outfeed Rollers for Planing

As a general rule of thumb, the infeed and outfeed rollers are set 1/8" to 3/16" below the cutterhead (not the knives) at the factory. To check the feed rollers:

1. **Disconnect the machine from the power source. (Unplug)**
2. Make two blocks out of scrap 2x4 lumber using the dimensions noted.
3. Mark each block as shown in Figs. 10 and 11.
4. Lower the work table to allow cutterhead block to slide freely between the table and the cutterhead. **Note**: Cutterhead may have to be turned by hand to rotate a blade out of the way.
5. Adjust the table height so the block can be inserted between the table and the cutterhead with minimum resistance.
6. Remove the block. Do not raise or lower the table at this point. It will affect the final result.
7. Insert the block labeled " Feed Rollers Planing" into the planer opening.
8. Raise or lower the feed roller until it rests on top of the block end to end. To adjust the feed roller (Fig 12):
    - Loosen the jam nut on both sides of the infeed roller with the wrench provided.
    - Turn the threaded bushing counter clockwise to raise the roller and clockwise to lower the roller.
    - Raise or lower the roller until it contacts the top of the block on both ends of the roller.
    - Block should slide in and out with a minimum of force.
    - Tighten jam nuts and re-check.
9. Repeat this process with the outfeed roller. Retain the wooden blocks for future use.

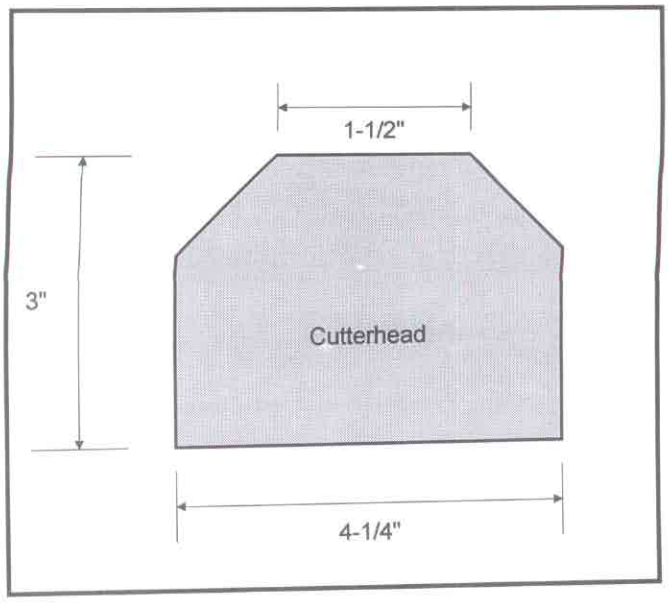


Fig. 10

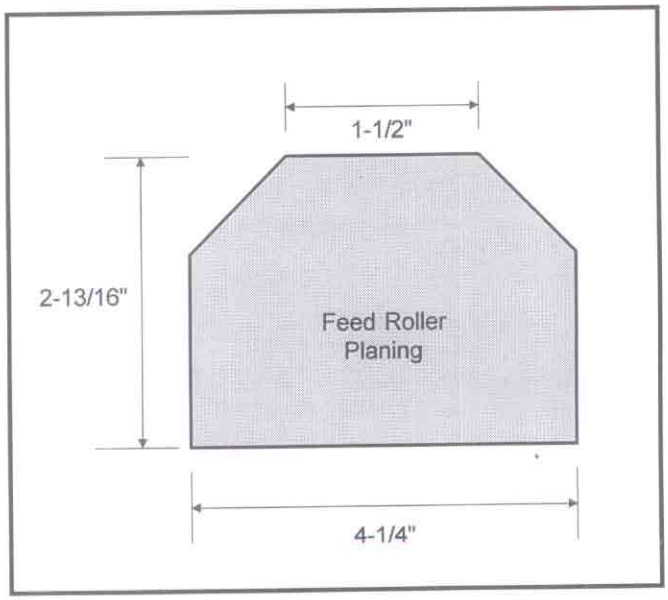


Fig. 11

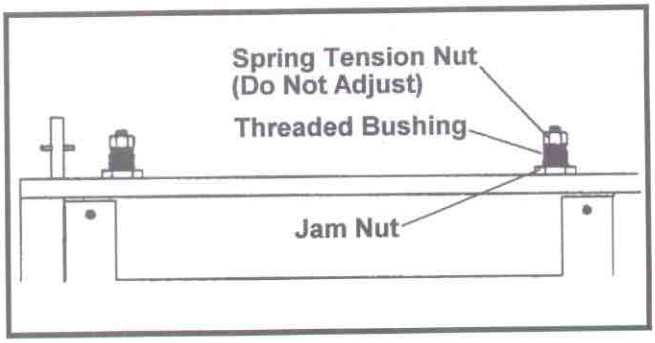


Fig. 12

Adjusting Chip Deflectors for Planing

Adjust the outfeed chip deflector (as shown in Fig. 13) to within 1/4" to 1/8" of planing knives to prevent chips from being pressed into the planed surface of the work piece by the outfeed roller. **Note**: Adjusting the chip deflector too close to the cutterhead while planing will cause a higher than normal noise level especially when using a dust collector. The use of a dust collection system with the capacity to handle a large volume of material is highly recommended.

The infeed chip deflector (curved piece attached to the top cover with three screws and wing nuts) must be adjusted as close to the cutterhead as the adjustment allows without contacting the cutterhead and knives.

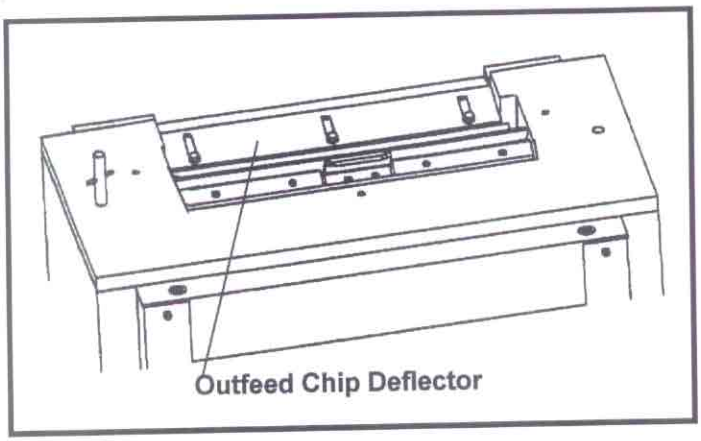


Fig. 13

Planing Procedure

⚠ WARNING

Never stand directly in front or behind the machine while planing or molding! Always stand to one side or the other!
Failure to comply may cause serious injury from kickback!

CAUTION

Never plane more than 1/8"on stock narrower than 5-1/2" and 1/16" on stock 5-1/2" and wider in one pass! This will cause stress on the machine, lead to premature wear, and may damage knives and/or the cutterhead!

⚠ WARNING

Never attempt to plane a workpiece shorter than 14" or thinner than 1/2"!
Failure to comply may cause serious injury!

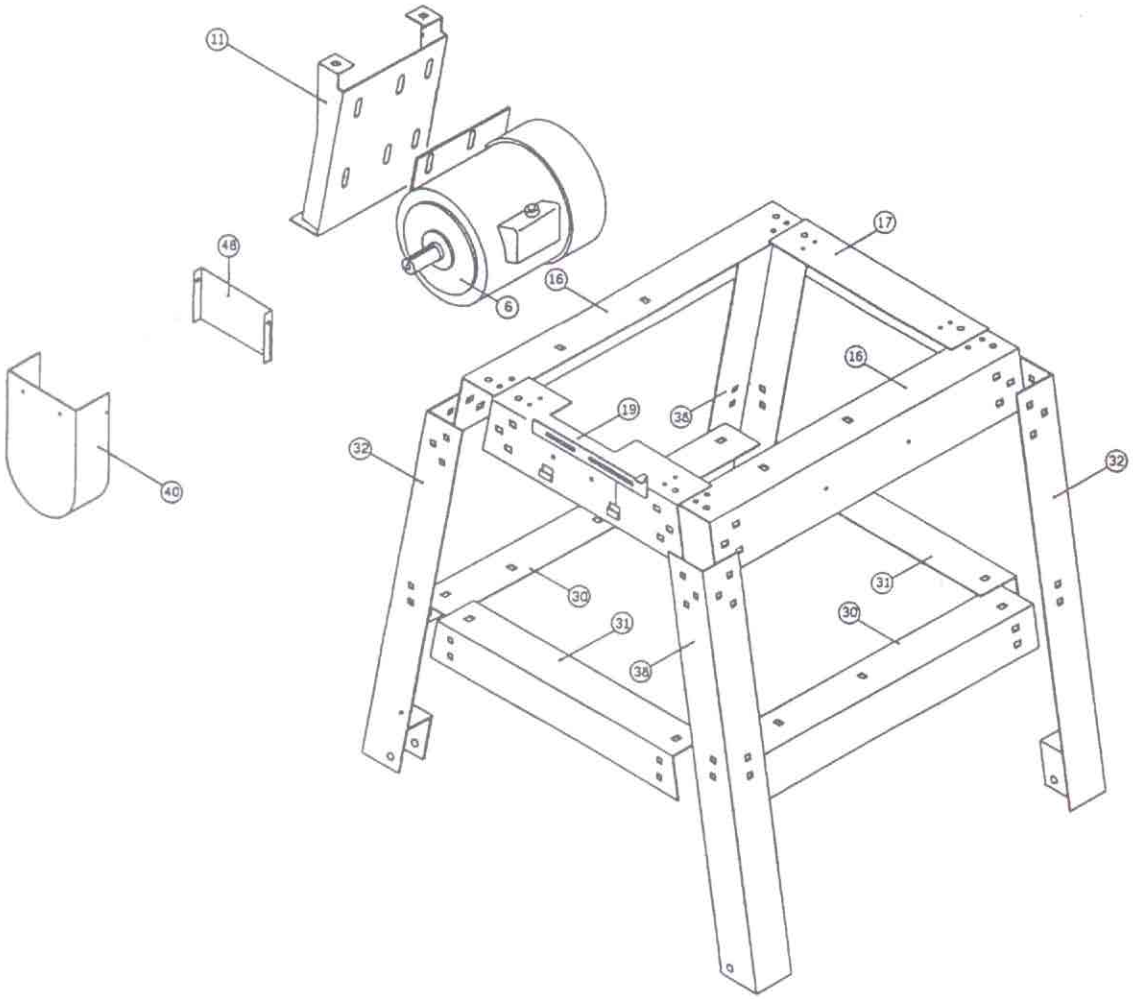
CAUTION

The use of a dust collection system is highly recommended. If a dust collection system in not used, remove the hose adapter from the dust hood or wood chips will collect in the dust hood and back up into the machine.

JPM-13 Planer/Molder

Stand And Motor Assembly

White Replacement Parts



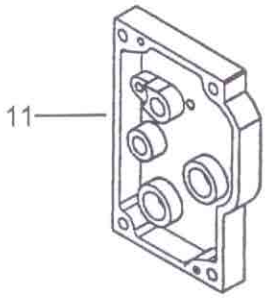
Please use these part numbers when ordering a white replacement part.

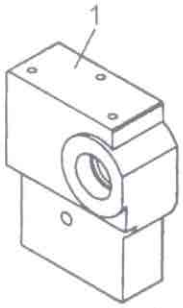
Index No.	Part No.	Description	Size	Qty.
6	MHA-S02AW	Motor	1-1/2	1
11	MHA-S03W	Motor Plate		1
16	MHA-S04W	Support Plate		2
17	MHA-S05W	Support Plate (switch)		1
19	MHA-S06W	Support Plate		1
30	MHA-S08W	Support Plate (long)		2
31	MHA-S09W	Support Plate (short)		2
32	MHA-S10W	Leg (right front, left rear)		2
38	MHA-S12W	Leg (left front, right rear)		2
40	MHA-S13W	Pulley Cover (left)		1
48	MHB-S01W	Pulley Cover (right)		1
	708361W	Dust Hose Adapter (optional Accessory-not shown)		1

JPM-13 Planer/Molder

Gearbox Assembly

White Replacement Parts





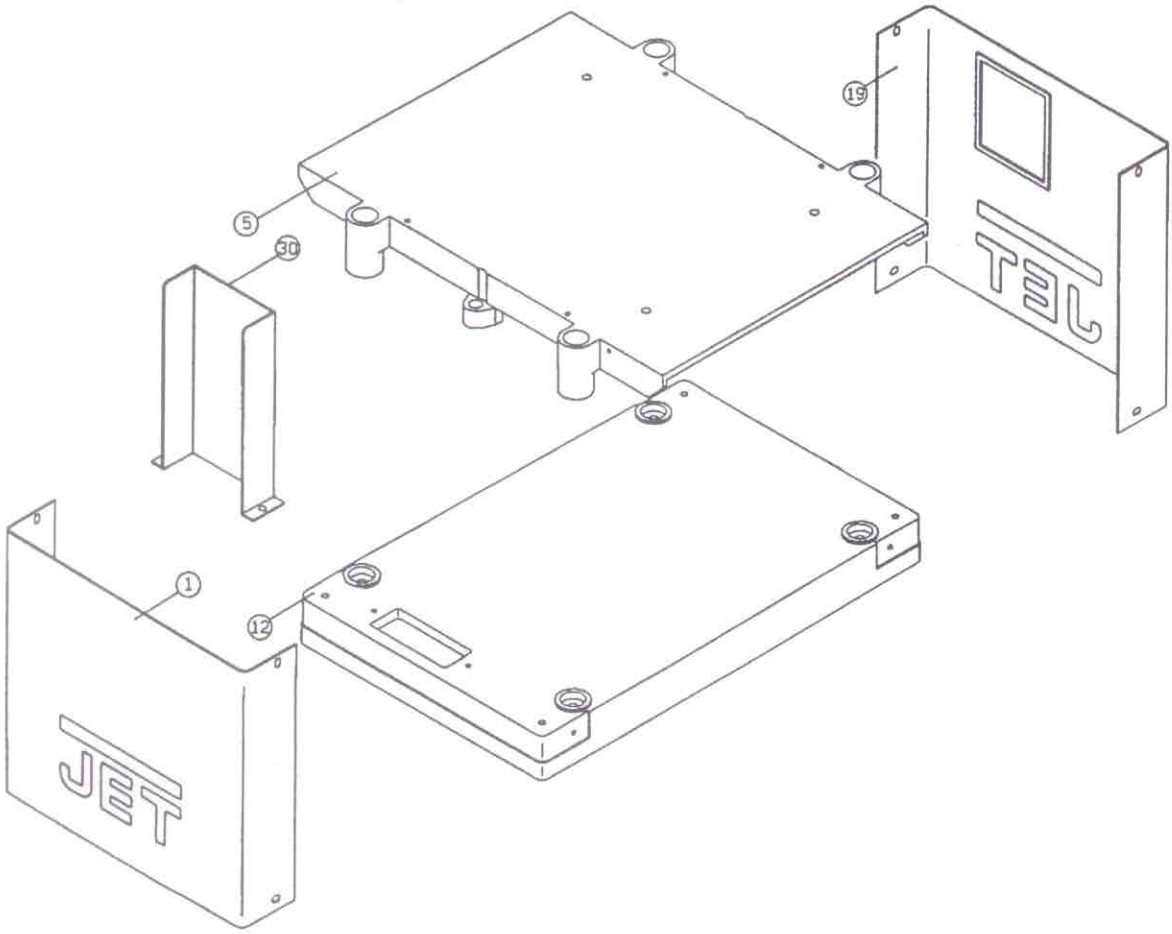
Please use these part numbers when ordering a white replacement part.

Index No.	Part No.	Description	Size	Qty.
.....	MHA-GUW.....	Gearbox, #'s 1-12, 14, 16-32, 35-36 (serial #811xxxx and higher)		1
1	MHA-G01UW.....	Gearbox Body (serial #811xxxx and higher)		1
11	MHA-G06UW.....	Gearbox Cover (serial #811xxxx and higher).....		1

JPM-13 Planer/Molder

Table And Base Assembly

White Replacement Parts



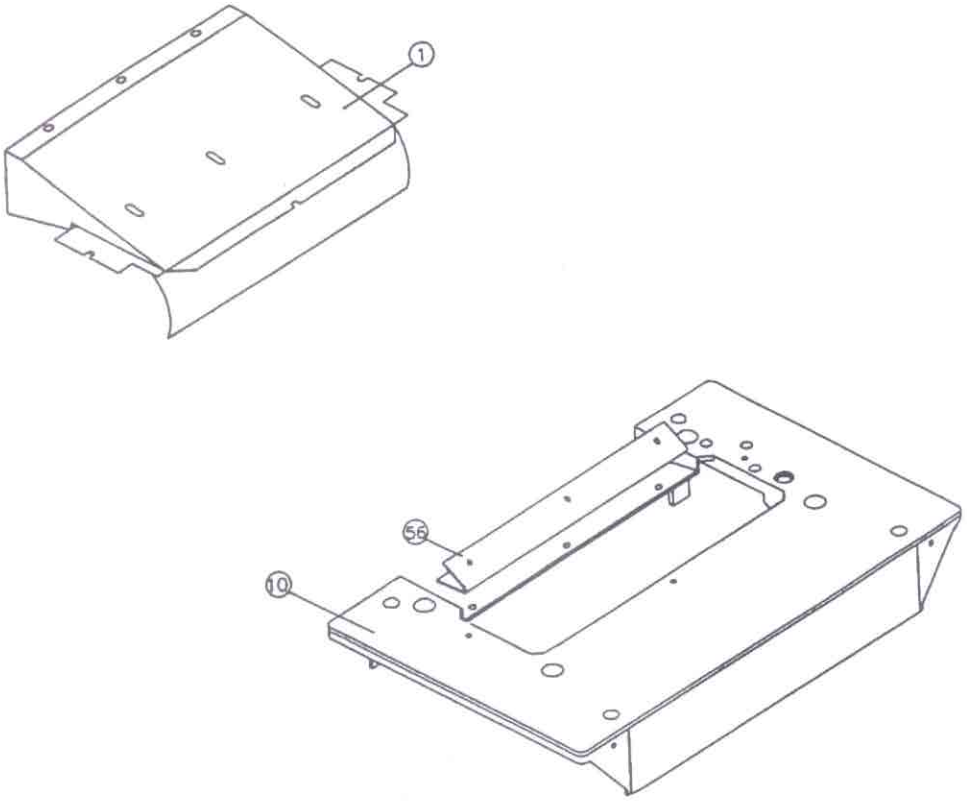
Please use these part numbers when ordering a white replacement part.

Index No.	Part No.	Description	Size	Qty.
1	MHA-B01W	Cover (left)		1
5	MHA-B02AW	Middle Table (serial #6087216 and higher)		1
12	MHA-B05W	Base		1
19	MHA-B07UW	Cover (right-serial #811xxxx and higher)		1
30	MHA-B10W	Pulley Cover		1

JPM-13 Planer/Molder

Cutterhead And Roller Assembly

White Replacement Parts



Please use these part numbers when ordering a white replacement part.

Index No.	Part No.	Description	Size	Qty.
.....	MHA-CW	Dust Hood Assembly CP	.....	1
1	MHA-C01AW	Dust Hood	.....	1
10	MHA-C03W	Head Body	.....	1
56	MHA-C22W	Plate	.....	1

The JPM-13 is supplied with planing blades mounted in the cutterhead. Planing can be done at 10 FPM for an improved surface finish or 20 FPM for faster planing. Work pieces longer than 24" should be supported with infeed and outfeed rollers. JET strongly recommends the use of optional extension rollers JER-13 (stock #708363). Contact your authorized JET distributor.

1. Adjust the table height to produce the depth of cut desired.
2. Start the machine.
3. Stand to one side and grasp the work piece in the center.
4. Gently slide the work piece into the infeed side of the planer/molder until the infeed roller begins to advance the work piece.
5. Let go of the work piece and allow the feed rollers to advance the work piece.
6. Catch the work piece as it comes out the outfeed side of the molder/planer.

Molding Setup and Adjustments

- Set up the feed gear box to 10 FPM. (See illustration and instruction on page 14).

Installing Molding Cutters

⚠ WARNING
Cutterhead knives are sharp! Use extreme caution when working in close proximity!
Never attempt to mold without a dust chute and dust collection system!
Failure to comply may cause serious injury!

1. **Disconnect the machine from the power source. (Unplug)**
2. Remove screws (A, Fig. 13A) securing the dust hood.
3. Remove dust hood (B, Fig. 13A).
4. Loosen three wing nuts (C, Fig. 13A) and slide the curved infeed chip deflector (D, Fig. 13A) out of the way.
5. Tighten screws to hold chip deflector in place. It is not used in the molding operation.
6. Remove plastic outfeed chip deflector completely.
7. With a marking pen, label each knife slot on the cutterhead one, two, and three for easy identification.

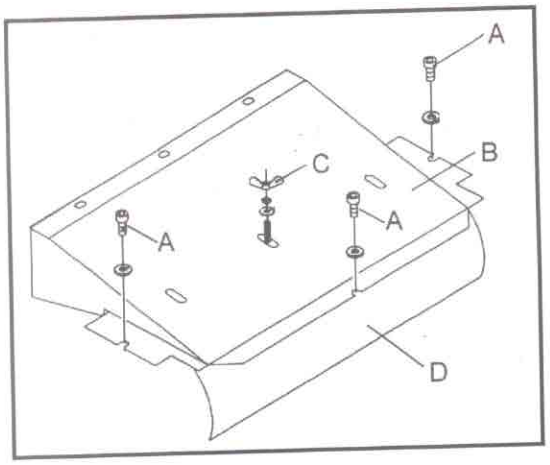


Fig. 13A

For 2" and under cutters except models 709309 and 709310:

- Loosen set screws on 2" lock bar at cutter number one.
- With the brass bar and a mallet carefully tap on lock bar outside of set screws to loosen taper fit of the lock bar.
- Remove spacers.
- Remove lock bar. **Note**: With 2" wide and under molding cutters, the planing knives remain in place. (Fig. 14)
- Install lock bar but do not tighten at this time. **Note**: Depending on cutter width, 1" and under cutters will require a spacer next to the cutter.
- Install cutter in place of spacers. Cutters must face the proper direction and be seated fully in the cutterhead.

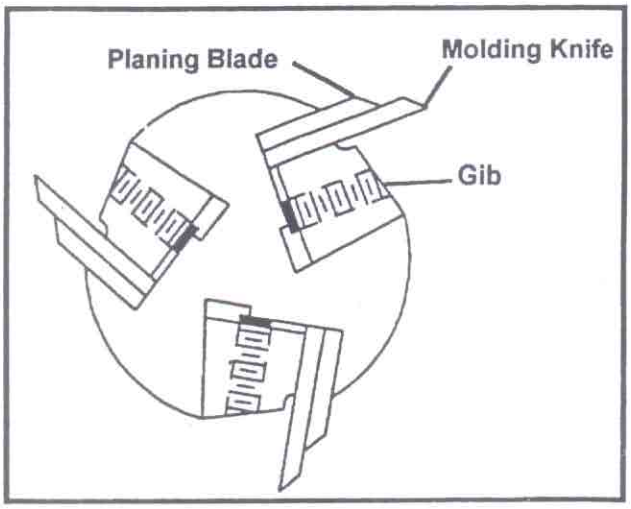


Fig. 14

For cutters over 2" and models 709309 and 709310:

- Loosen set screws on all lock bars at cutter number one.
- With the brass bar and a mallet, carefully tap on lock bar outside of set screws to loosen lock bar taper fit.
- Carefully remove spacers, planing knives and lock bars.
- Install special lock bar that is included with the knife set. Make sure set screws are loose to allow locking adjustment. Do not tighten at this time.
- Install cutter. Make sure it is facing the proper direction and is fully seated in the cutterhead.

8. Install molding cutter gauge with hex socket cap screw and tighten to hold in place. The guide may be attached to either side. See Fig. 15.
9. Adjust the guide end to meet the cutter edge.
10. Tighten the hex socket cap screw holding the guide bar and be careful not to move it during the alignment process.
11. Tighten lock bar set screws to hold cutter in place. Tighten set screws half turn each side to uniformly raise the lock bar until tight.
12. Rotate cutterhead to the second cutter insert.

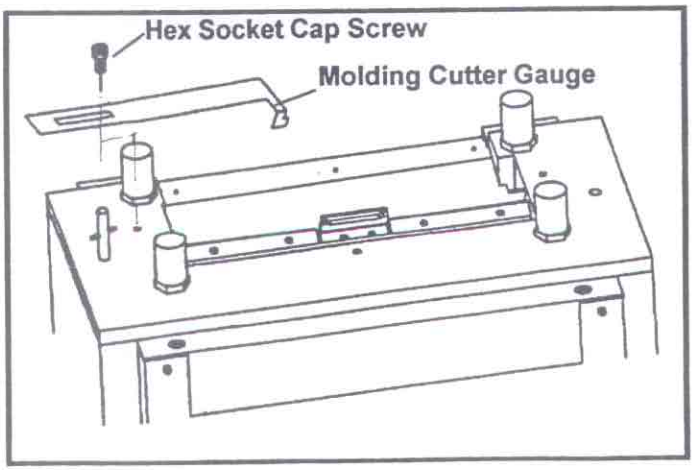


Fig. 15

13. Repeat steps for cutter inserts two and three making sure the cutters are properly positioned according to the alignment guide..
14. Remove guide.
15. Check that all set screws in the cutterhead are tight.
16. Replace dust hood.
17. Run machine for five minutes. Re-tighten gib screws in cutterhead. Recheck after every 2 hours of use.

⚠ WARNING

Never run the machine with the dust hood loose or removed!
All cutter lock bar screws must be firmly seated before turning on the machine! Failure to comply may cause blade and/or cutter ejection resulting in damage to the machine, cutter, and may pose a hazard to the operator!

Setting Feed Rollers for Molding

The infeed and outfeed rollers will have to be lowered for most molding operations. The amount of adjustment required will vary depending on the size and style of the cutter.

When using cutters larger than 2" wide, the feed rollers will have to be set 5/16" below the cutter head. To set the feed rollers for molding:

1. Following the method for setting the feed rollers when planning (previously explained in this manual), make another wooden block 5/16" lower than the cutterhead block. See Fig. 15A.
2. Adjust the infeed and outfeed rollers in the same manner as setting the rollers for planing using this new block.
3. Label this block "feed roller molding".
4. Save the block for future use.

CAUTION

Never lower the infeed and outfeed rollers beyond 5/16" lower than the cutterhead. This will cause severe stress on the gear box and roller system.

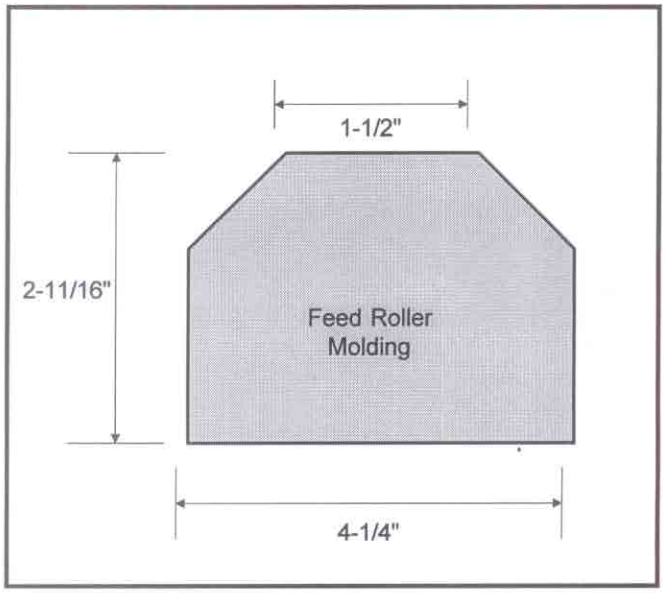


Fig. 15A

When using molding knives wider than 2", the first pass or cut will remove approximately two thirds of the stock. Test cuts on scrap material will determine the number of passes required to complete the cut. **Never attempt to complete a cut with less than two passes on smaller knives (under 2") and three passes on lager knives (over 2").** Generally, the more passes, the better the finish.

Due to the variety of cutters available, it is impossible to cover every possible set-up. It is very important to use test cuts on scrap material before attempting cuts on project material.

This machine is designed and intended for use with three matched knives in sets. Many companies offer knife sets that included only one knife and two counter-weights. These cause severe vibration and can damage the machine.

JET does not recommend knives other than those with the JET brand name. The use of other than knives sold and distributed by JET Equipment and Tools may cause damage to the machine and may jeopardize your personal safety.

Making and Installing a Bedboard

CAUTION

You must use a board over the planer/molder table when molding. This prevents the knives from hitting the table and allows the knives to cut into the guide boards to clean up the sides of the molding.

1. **Disconnect the machine from the power source. (Unplug)**
2. Cut a piece of 3/4" particle board 12-7/8" wide and 31-1/4" long. **Note**: Board is 12" longer than the table to allow overhang (6" front and rear). This increases the work surfaces for longer pieces of wood stock.
3. Mark and drill four 1/4" holes on the bedboard that match the pre-drilled holes in the planer/molder table.
4. Countersink the four drilled holes on the top side to allow installation of countersunk screws.
5. Secure the bedboard to the table with four 3/16" x 1-1/2" flat head machine screws, four 3/16" x 3/4" washers and four 3/16" hex nuts.

Making Guide Rails

Guide rails are used during the molding process to align the workpiece with the molding cutters. Using properly adjusted guide rails assures the workpiece passes the molding cutters in the same position using multiple passes.

Guide rails should be the same length as the table (31-1/4") and 2" wide and be made from smooth, straight hardwood, such as oak, maple, alder, etc. so they will not damage the cutters when they contact them. Some molding profiles require the knives to cut into the guide rails to clean up the outer edge to complete the cut. (Fig. 16)

Guides should be cut 1/4" lower than the maximum thickness of the final workpiece profile. Regardless of how thick your guide rails are, they must be notched to clear the infeed/outfeed rollers and anti-kickback fingers. See Figure 17 for pattern.

JET offers deluxe guide rail sets with hardware. Contact your distributor for full details.'

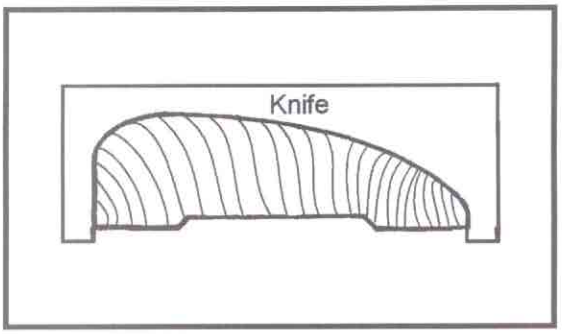


Fig. 16

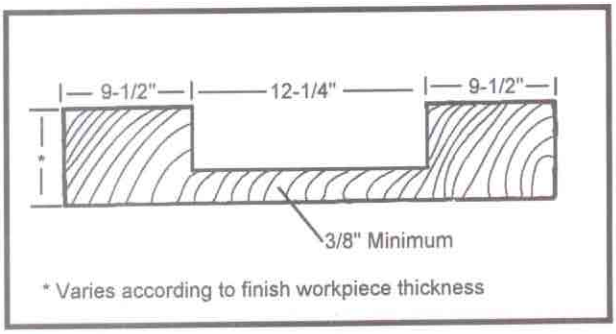


Fig. 17

Guide Rail Placement and Attachment

1. **Disconnect the machine from the power source. (Unplug)**

   To assist in proper placement of the guide rails it is suggested to remove the dust hood to clearly see the cutter knife and rail placement. it is also helpful to draw parallel lines on the bedboard to assure proper alignment of the guide rails from the infeed side to the outfeed side.
2. Molding cutter must be installed properly in the cutterhead. See "Installing Molding Cutters".
3. Lower table.
4. Carefully turn cutterhead so that one cutter is at the lowest point of the cutting arc.
5. Slide in first guide rail and position inside edge of guide rail to outside edge of the finished work piece. **Note**: On many patterns this will be the outside edge of the knife.
6. Clamp the guide rail to the bedboard using "C" clamps on both ends. (This can also be done by nailing with small gauge finish nails. Keep in mind the guide rails must be positioned properly before nailing. Be careful with nail length; do not nail through the bedboard and into the table). (Fig. 18)

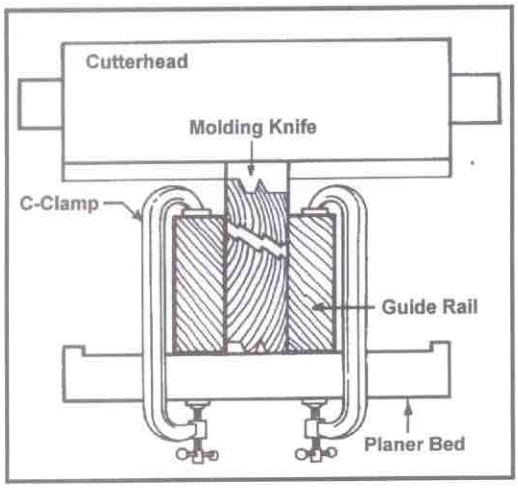


Fig. 18

7. Position second guide rail on the table. Placement of this rail depends on the width of the board and if the board requires outer edge clean-up. Review molding procedure section for pre-sizing stock guidelines. When using knives that require outer edge clean-up, the workpiece will contact the guide rails only while wood is feeding into the cutterhead. After the workpiece passes the cutterhead, the outfeed roller will hold the workpiece in position.

8. Clamp or nail second guide rail.

9. Replace dust hood and fasten in place.

10. Connect to the dust collection system.

11. Make sure all adjusting tools and wood stock are removed from the machine.

Save money, time, and frustration by experimenting first with scrap work pieces before attempting to mold with expensive stock.

Molding Procedure

CAUTION

Never mold without using a dust collector! Molding without a dust collector may cause the machine to clog and damage to the machine!

Molding with professional results takes planning prior to starting. Always take a light cut for the smoother finish. Pre-sizing wood before molding is a necessity. Always pre-size the workpiece to 1/16" of the final thickness before running the workpiece through the molder.

With profiles that require outer edge clean-up, the workpiece should be 1/8" larger than the final width allowing 1/16" on either side of the cutter. (Fig. 19)

With profiles that only cut the edge of the workpiece, the workpiece should be the same size as the final width. (Fig. 20)

Other considerations before molding to consider are wood hardness, moisture content, degree of warp, and direction of grain.

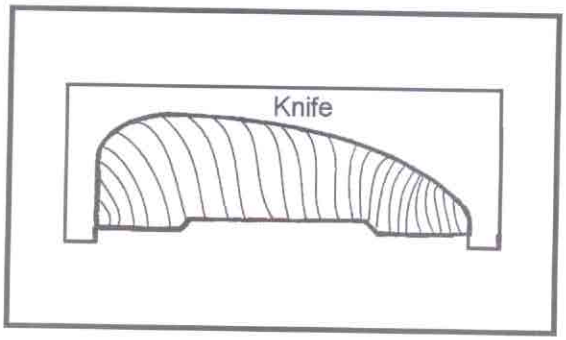


Fig. 19

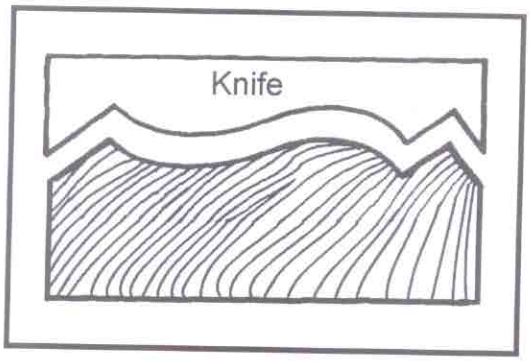


Fig. 20

⚠ WARNING

Never attempt to mold a work piece shorter than 14" or thinner than 1/2"!
Failure to comply may cause damage to the machine and/or serious injury to the operator!

Setting Table Height for the First Pass

1. Do not connect the machine to the power source until instructed to do so.
2. Lower the table to allow insertion of the workpiece.
3. While looking into the front opening of the machine, raise the table until the workpiece just contacts the infeed roller.
4. Record the height of the table as indicated on the scale to either side of the table.
5. Lower the table and remove the workpiece.
6. Raise the table back up to the recorded measurement.
7. Raise the table one full turn above the recorded measurement to allow adequate feed roller pressure. This measurement is now the starting point for this particular job.
8. Connect the machine to the power source, start the dust collector, and start the machine.
9. Insert the work piece until the infeed roller begins to advance the workpiece.
10. Let go of the work piece and move to one side of the machine.
11. Retrieve the work piece from the outfeed side of the machine. **Note**: It is our experience that on the first pass using some cutters, the material may feed in a jerky motion. If this occurs, raise the table during the cut until the workpiece begins to advance smoothly. This point now becomes your first pass measurement.
12. Run all stock to be molded through the machine at this time. **Note: If you are molding several boards with the same profile and have to make several passes to complete the profile, you must run all boards through at each setting. This assures all stock will match the desired**

shape. This is especially important when splicing molded boards together such as crown molding or baseboards.

Back Relief Molding

Back relief molding is used to create a better fit over irregular surfaces. With less wood contact, the molding matches irregular surfaces more easily. The back relief cut is formed on the work piece first; then the workpiece is molded to it's finished shape. (Fig. 21)

Tongue and Groove Molding

Tongue and groove molding is a accomplished in the same manner as other types of molding. Keep in mind the edge guide must be taller to adequately support the workpiece. The edge guides must be set 3/4" below the lowest point the cutter will travel. Cutting the groove first allows adequate support when cutting the tongue. (Fig. 22)

Lubrication

Disconnect the machine from the power source. (Unplug)

- Coat the elevating screws with a light automotive bearing grease once a month.
- Lightly coat the chain drive and gears with light automotive grease once a month.
- Lubricate four columns with 10W machine tool oil once a month.

Maintenance

Disconnect the machine from the power source. (Unplug)

- Keep the anti-kickback pawls clean and operating smoothly to prevent injury due to kickback.
- Lubricate the table with furniture wax or automotive paste wax for smoother feeding of the workpiece. Do not use a lubricant that will affect the work piece's ability to accept stains or protective finishes.
- Replace feed rollers, blades, and cutter knives if they become damaged. Sharpen blades and cutters when they become dull.

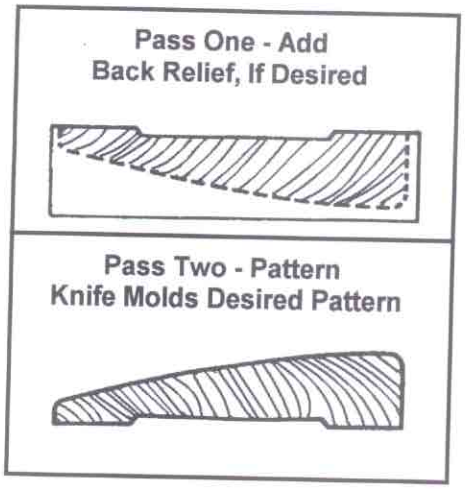


Fig. 21

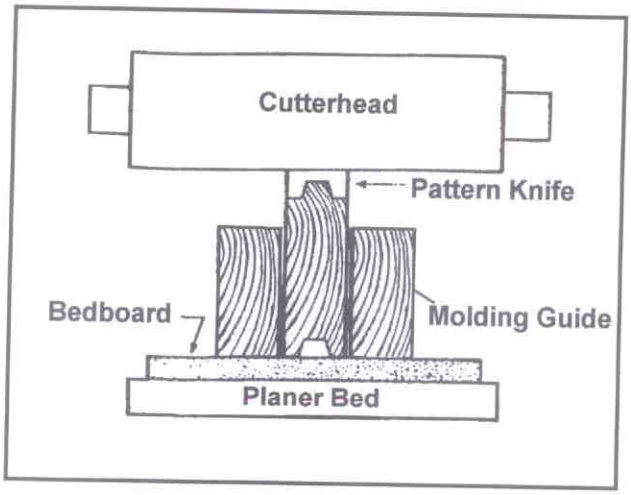


Fig. 22

Troubleshooting

Problem	Possible Causes and Solutions:
Snipe	* Dull knives Sharpen knives * Inadequate support of long boards Support long boards with extension rollers * Uneven feed roll pressure front to back Adjust feed roll pressure
Fuzzy Grain	* Planing wood with high moisture content Remove moisture by drying or use dry wood * Dull knives Sharpen knives
Torn Grain	* Too heavy a cut Review proper depth of cut * Knives cutting against grain Review planing procedures * Dull knives Sharpen knives
Rough/Raised Grain	* Dull knives Sharpen knives * Too heavy a cut Review planing procedures * Moisture content too high Remove moisture by drying or use dry wood
Round Glossy Surface	* Dull knives Sharpen knives
Wavering Molding Pattern	* Improper guide set up Review proper guide set up for molding
Tearing Out at End of Molding	* Improper guide set up Review proper guide set up for molding * Inadequate outfeed pressure Adjust feed roll tension
Poor Feeding of Lumber	* Inadequate feed roll tension Adjust feed roll tension * Motor belt slipping Tighten or replace motor belts * Planer bed rough or dirty Clean pitch and residue; wax planer bed * Surface of feed rollers too smooth Lightly roughen feed roller surface with sandpaper

Uneven Depth of Cut Side to Side	* Knife projection not uniform Adjust knives
Table Difficult to Adjust	* Lack of lubrication on corner posts and screws Lubricate corner posts and screws
Board Thickness Doesn't Match Depth Scale	* Depth scale incorrect Adjust depth scale
Machine Won't Start	* Not plugged in Check power source * Circuit breaker/fuse tripped Check power source * Motor failure Have motor checked * Loose wire Have motor checked by qualified electrician

Table and Base Assembly

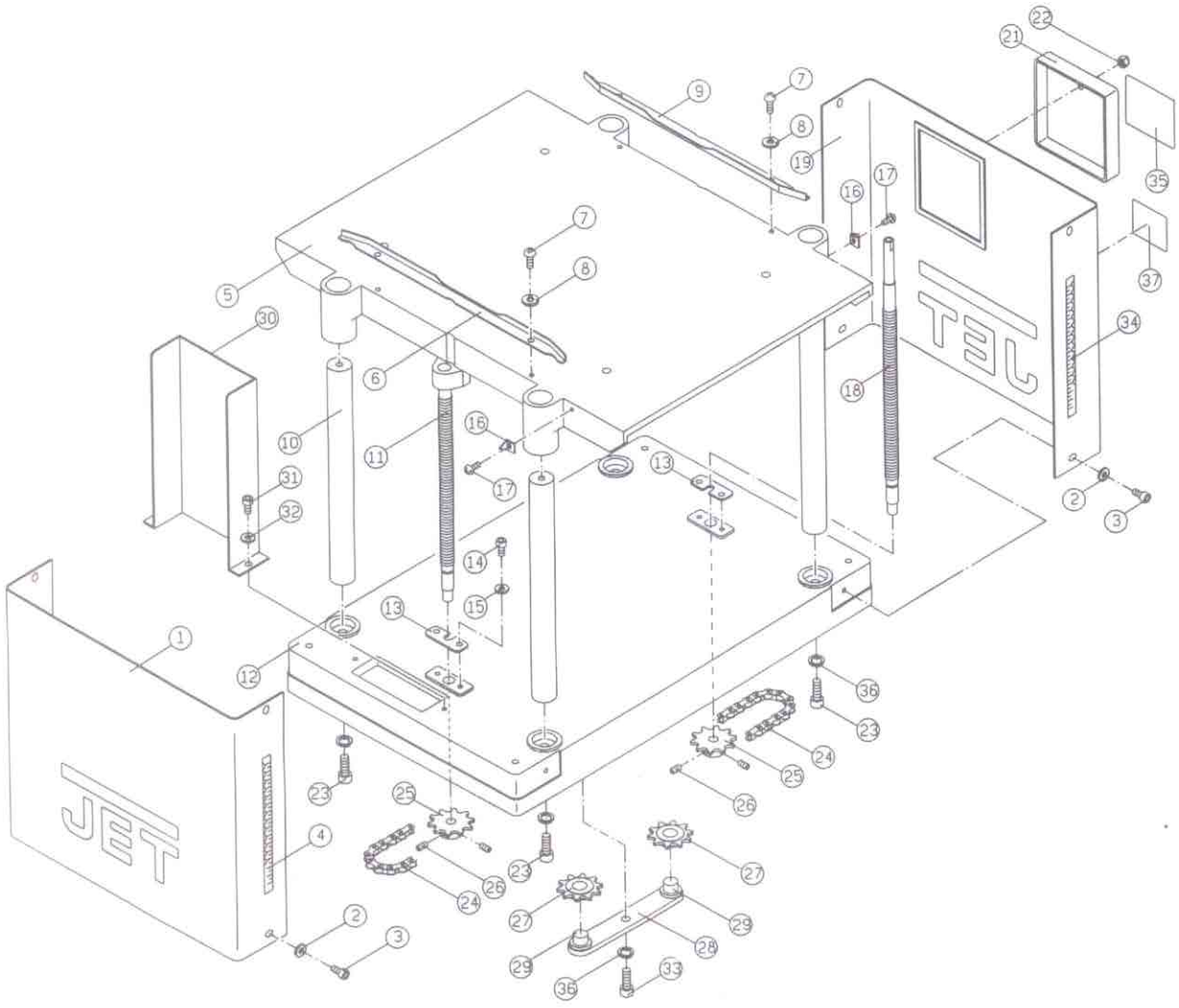
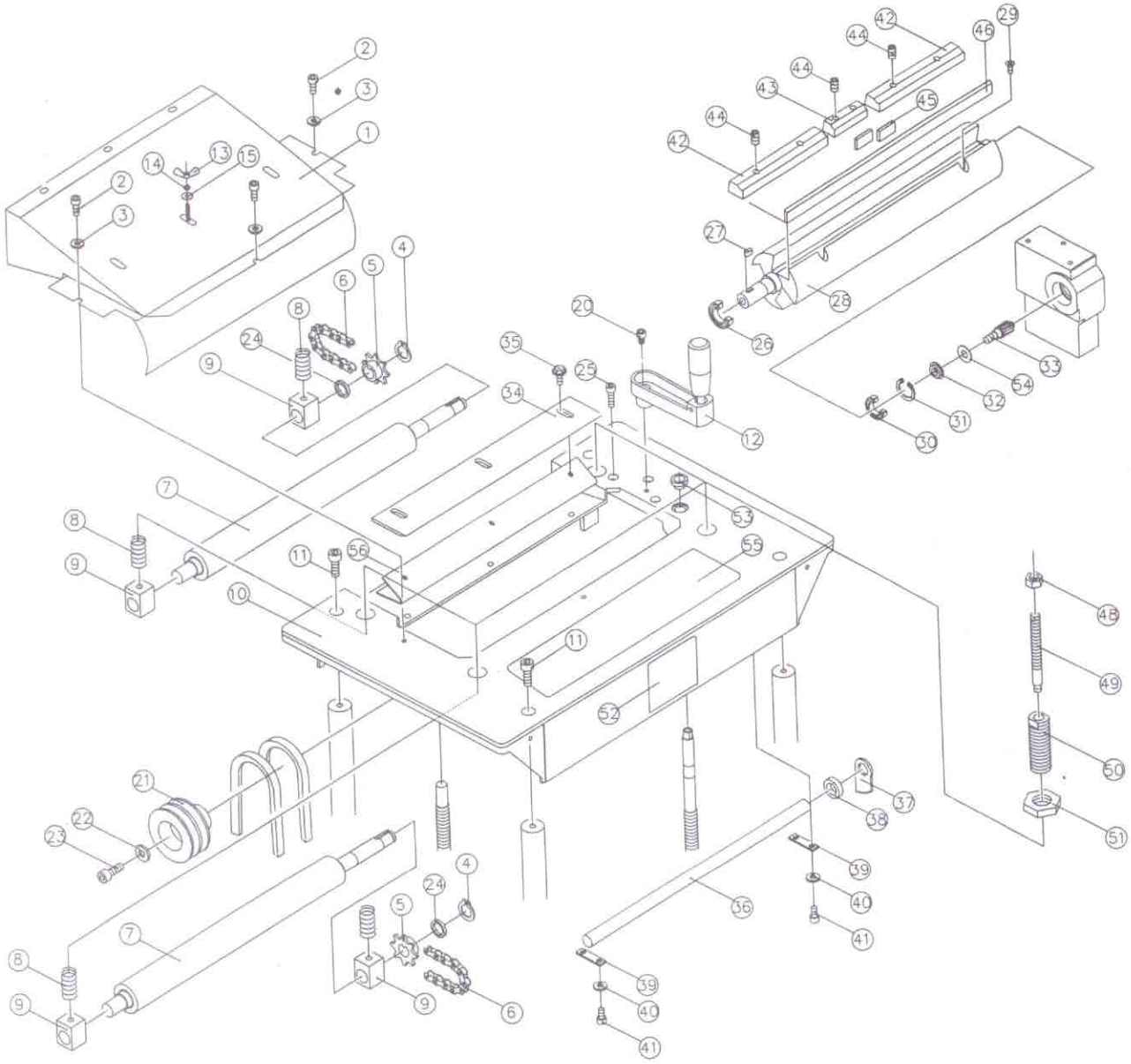


Table and Base Assembly

Index No.	Part No.	Description	Size	Qty.
1	MHA-B01	Cover (left)		1
2	TS-0680021	Flat Washer	1/4	8
3	TS-150301	Hex Socket Cap Screw	M6x8	8
4	MGA-B05	Scale (inch)		1
5	MHA-B02	Middle Table (serial #6082715 and lower)		1
	MHA-B02A	Middle Table (serial #6082716 and higher)		1
6	MGA-B29	Guide (left)		1
7	TS-153403	Pan Head Machine Screw	M6x10	4
8	TS-155104	Lock Washer	M6	4
9	MGA-B15	Guide (right)		1
10	MHA-B03	Column		4
11	MHA-B04	Leadscrew (left–serial #6082715 and lower)		1
	MHA-B04A	Leadscrew (left–serial #6082716 and higher)		1
12	MHA-B05	Base		1
13	MGA-B09	Anchor Plate		2
14	TS-150303	Hex Socket Cap Screw	M6x12	4
15	TS-155104	Lock Washer	M6	4
16	MHA-B20	Pointer		2
17	TS-153202	Pan Head Machine Screw	M4x8	2
18	MHA-B06	Leadscrew (right–serial #6082715 and lower)		1
	MHA-B06A	Leadscrew (right–serial #6082716 and higher)		1
19	MHA-B07	Cover (right–serial #810xxxx and lower)		1
	MHA-B07U	Cover (right–serial #811xxxx and higher)		1
20	MHA-B08	Stud		1
21	MHA-B09	Gear Box Cover (serial #810xxxx and lower)		1
	MHA-B09U	Gear Box Cover (serial #811xxxx and higher)		1
22	5BB-B07	Hex Nut		1
23	TS-1504051	Hex Socket Cap Screw	M8x25	4
24	5GF-B07	Chain		1
25	PGE-B14	Sprocket		2
26	TS-152301	Set Screw	M6x6	4
27	PGE-B12	Sprocket		2
28	PGE-B10	Sprocket Idler		1
29	PGE-B11	Bracket Bushing		2
30	MHA-B10	Pulley Cover		1
31	TS-150302	Hex Socket Cap Screw	M6x10	2
32	TS-0680021	Flat Washer	1/4	2
33	TS-150404	Hex Socket Cap Screw	M8x20	1
34	MGA-B04	Scale (metric)		1
35	MHA-B11	Speed Label (serial #810xxxx and lower)		1
	MHA-B11U	Speed Label (serial #811xxxx and higher)		1
36	TS-155106	Lock Washer	M8	5
37	MHA-C18	Identification Label		1

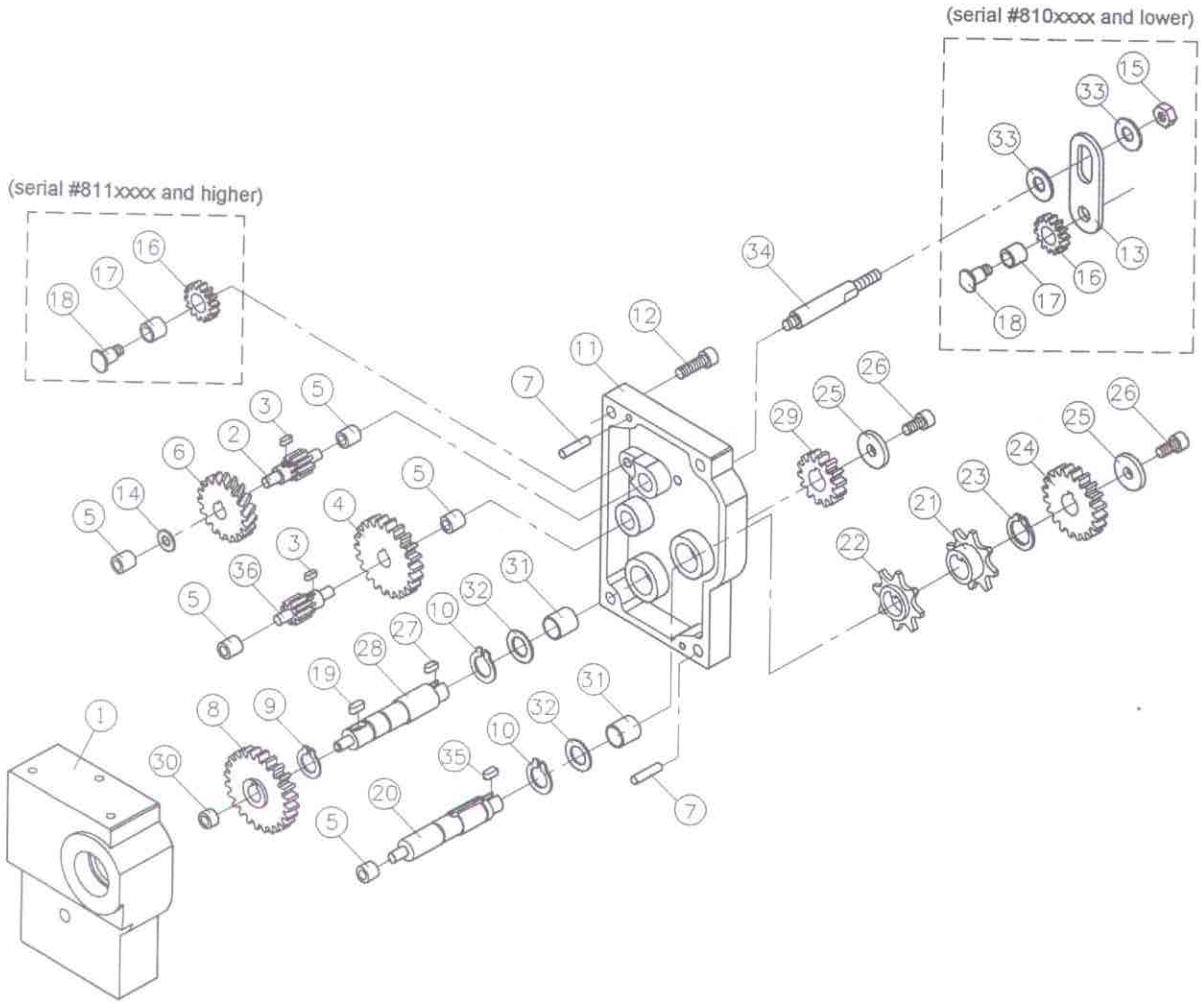
Cutterhead And Roller Assembly



Cutterhead And Roller Assembly

	MHA-C	Dust Hood Assembly CP.		1
1	MHA-C01A	Dust Hood		1
2	TS-150301	Hex Socket Cap Screw	M6x8	3
3	TS-0680021	Flat Washer	1/4	3
4	5FA-A10	C-Ring	STW15	2
5	PGA-C17	Sprocket		2
6	5GF-B08	Chain		2
7	MHA-C02	Feed Roller		2
8	PGA-C09	Spring		4
9	MGA-C09	Bushing		4
10	MHA-C03	Head Body		1
11	TS-150404	Hex Socket Cap Screw	M8x20	4
12	PGE-B19A	Handle Assembly		1
13	TS-1543021	Wing Nut		3
14	PGE-B19B	Lock Washer		1
15	PGE-B19C	Washer		1
20	TS-150302	Hex Socket Cap Screw *	M6x10	1
21	MHA-C05	Spindle Pulley		1
22	TS-0680021	Flat Washer	1/4	1
23	TS-1503051	Hex Socket Cap Screw	M6x20	1
24	MHA-C06	Spacer		2
25	TS-150304	Hex Socket Cap Screw	M6x16	3
26	BB-6203ZZ	Ball Bearing		1
27	5FK-C06	Key	5x5x15	1
28	MHA-C07	Cutterhead		1
29	TS-151302	Flat Head Screw	M5x12	6
30	BB-6202ZZ	Ball Bearing		1
31	5BA-A28	C-Ring	RTW35	1
32	MHA-C08	Bushing		1
33	MHA-C09	Gear		1
34	MHA-C10	Chip Deflector		1
35	5AK-E128	Screw	M6x12	36
36	MHA-C11	Anti-Kickback Shaft		1
37	MGA-C30	Anti-Kickback Finger		36
38	MGA-C34	Anti-Kickback Collar		37
39	MGA-C31	Bracket		2
40	TS-155103	Lock Washer	M5	4
41	TS-150201	Hex Socket Cap Screw	M5x8	4
42	MHA-C12	Lock Bar (long)		6
43	MGA-C22	Lock Bar (short)		3
44	TS-152403	Set Screw	M8x12	18
45	MGA-C23	Lock Bar Spacer		6
46	MHA-C13	Knife		3
48	TS-1540071	Hex Nut	M10x1.5	4
49	MGA-C07	Adjustment Screw		4
50	MGA-C05	Adjustment Screw		4
51	MGA-C06	Nut		4
52	MHA-C19	Warning Label (long)		1
53	PGE-B13	Bushing		1
54	MHA-C20	Washer		1
55	PJE-C03	Warning Label (small)		1
56	MHA-C22	Plate		1

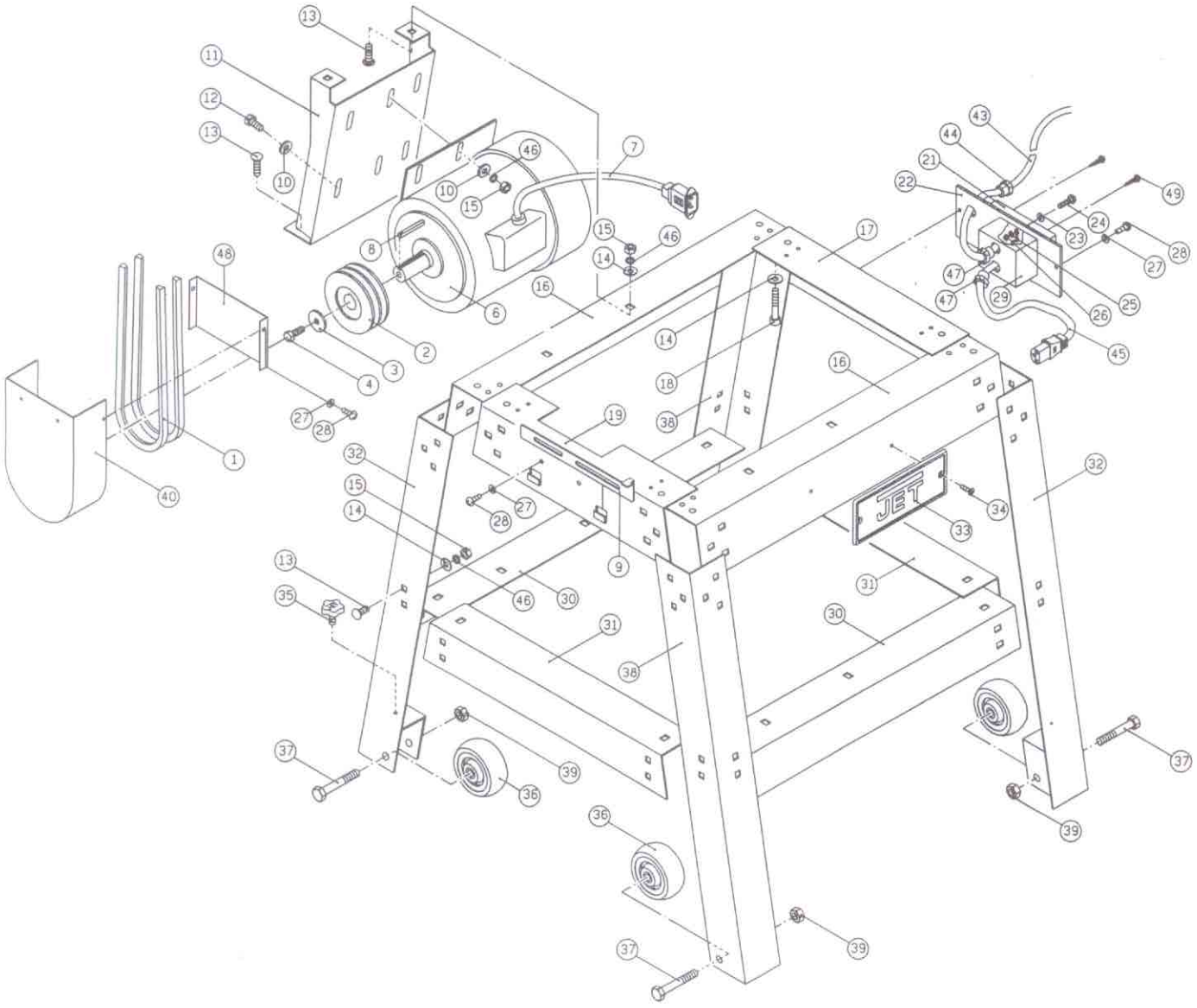
Gearbox Assembly



Gearbox Assembly

.....	MHA-G	Gearbox, #'s 1-33,35 (serial #810xxxx and lower)		1
.....	MHA-GU	Gearbox, #'s 1-12,14,16-32,35-36 (serial #811xxxx and higher)		1
1	MHA-G01	Gearbox Body (serial #810xxxx and lower)		1
.....	MHA-G01U	Gearbox Body (serial #811xxxx and higher)		1
2	MHA-G02	Gear Shaft (serial #810xxxx and lower)	10T	2
.....	MHA-G02	Gear Shaft (serial #811xxxx and higher)	10T	1
3	5FK-A03	Key	3x3x8	2
4	MHA-G03	Gear (serial #810xxxx and lower)	46T	1
.....	MHA-G03U	Gear (serial #811xxxx and higher)	44T	1
5	PGA-M15	Bushing		5
6	MHA-G04	Gear (serial #810xxxx and lower)	38T	1
.....	MHA-G04U	Gear (serial #811xxxx and higher)	43T	1
7	MGA-C28	Pin	4x16	2
8	MHA-G05	Gear (serial #810xxxx and lower)	51T	1
.....	MHA-G05U	Gear (serial #811xxxx and higher)	47T	1
9	5FA-A07	C-Ring	STW12	1
10.....	5FA-A07	C-Ring	STW12	2
11.....	MHA-G06	Gearbox Cover (serial #607xxxx and lower)		1
.....	MHA-G06N	Gearbox Cover (serial #608xxxx to 810xxxx)		1
.....	MHA-G06U	Gearbox Cover (serial #811xxxx and higher)		1
12.....	TS-150305	Hex Socket Cap Screw	M6x20	4
13.....	MHA-G07	Bracket (serial #607xxxx and lower)	R.H.	1
.....	MHA-G07N	Bracket (serial #608xxxx to 810xxxx)	L.H.	1
14.....	TS-0680021	Flat Washer (serial #810xxxx and lower)	1/4	2
.....	TS-0680021	Flat Washer (serial #811xxxx and higher)	1/4	1
15.....	TS-154004	Hex Nut (serial #810xxxx and lower)	M6x1.0	1
16.....	MHA-G08	Gear (serial #607xxxx and lower)	24T	1
.....	MHA-G08N	Gear (serial #608xxxx to 810xxxx)	28T	1
.....	MHA-G08U	Gear (serial #811xxxx and higher)	22T	1
17.....	PGA-M12	Bushing		1
18.....	MHA-G09	Stud Bolt (serial #607xxxx and lower)		1
.....	MHA-G09N	Stud Bolt (serial #608xxxx and higher)		1
19.....	MHA-G18	Key	5x5x9	1
20.....	MHA-G10	Shaft (serial #607xxxx and lower)		1
.....	MHA-G10N	Shaft (serial #608xxxx and higher)		1
21.....	PGA-C17	Sprocket		1
22.....	MGA-C32	Sprocket		1
23.....	5FA-A10	C-Ring	STW15	1
24.....	MHA-G11	Gear (serial #810xxxx and lower)	43T	1
.....	MHA-G11U	Gear (serial #811xxxx and higher)	40T	1
25.....	5EB-A08	Washer		2
26.....	TS-150303	Hex Socket Cap Screw	M6x12	2
27.....	5FK-B02	Key	4x4x7	1
28.....	MHA-G12	Shaft (serial #607xxxx and lower)		1
.....	MHA-G12N	Shaft (serial #608xxxx to 810xxxx)		1
.....	MHA-G12U	Shaft (serial #811xxxx and higher)		1
29.....	MHA-G13	Gear (serial #810xxxx and lower)	31T	1
.....	MHA-G13U	Gear (serial #811xxxx and higher)	29T	1
30.....	MHA-G14	Bushing (serial #810xxxx and lower)	I.D. 6	1
.....	MHA-G14U	Bushing (serial #811xxxx and higher)	I.D. 10	1
31.....	MHA-G15	Bushing (serial #607xxxx and lower)		2
.....	MHA-G15N	Bushing (serial #608xxxx and higher)		2
32.....	MHA-G16	Washer		2
33.....	MHA-G17	Washer (serial #810xxxx and lower)		2
34.....	MHA-B08	Stud		1
35.....	5FK-B05	Key	4x4x12	1
36.....	MHA-G19	Gear Shaft (serial #811xxxx and higher)	10T	1

Stand and Motor Assembly



Stand and Motor Assembly

1	VB-M45	V-Belt		2
2	MHA-S01	Motor Pulley		1
3	PJA-C03	Washer		1
4	TS-0051011	Hex Cap Bolt		1
5	MHA-S02	Motor Assembly		1
6	MHA-S02A	Motor	1/-1/2 HP	1
7	MHA-S02B	Motor Cord		1
8	5FK-C13A	Key	5x5x30	1
	MHA-S02	Motor Ass (inc. 6,7,8)		1
9	MGA-B14F	Molding Cutter Guide		1
10	TS-0680031	Flat Washer *	5/16	8
11	MHA-S03	Motor Plate		1
12	TS-0051031	Hex Cap Bolt *	5/16x3/4	4
13	5CK-F07B	Carriage Bolt *	5/16x5/8	48
14	TS-0680031	Flat Washer *	5/16	52
15	TS-0561021	Hex Nut *	5/16	52
16	MHA-S04	Support Plate		2
17	MHA-S05	Support Plate (switch)		1
18	TS-150409	Hex Socket Cap Screw *	M8x45	4
19	MHA-S06	Support Plate		1
21	MHA-S07A	On/Off Switch		1
22	MHA-S15	Plate		1
23	TS-155002	Washer	M4	2
24	TS-153208	Pan Head Machine Screw	M4x30	2
25	5EB-E05	Star Washer		2
26	TS-154002	Hex Nut	M4	2
27	5EB-A04	Washer *		6
28	5CD-CO6B	Screw *	3/16x1/2	6
29	JEA-S14	Switch Box		1
	MHA-S07	Switch Assembly		1
30	MHA-S08	Support Plate (long)		2
31	MHA-S09	Support Plate (short)		2
32	MHA-S10	Leg (right front, left rear)		2
33	JEB-S06	JET Plaque		1
34	5CE-C02B	Pan Head Screw	3/16x1/4	2
35	MHA-S20	Wheel Lock Knob *		4
36	PJE-S05	Wheel		4
37	TS-0060111	Hex Cap Bolt *	3/8x2-1/2	4
38	MHA-S12	Leg (left front, right rear)		2
39	TS-0561031	Hex Nut *	3/8x16	4
40	MHA-S13	Pulley Cover (left)		1
43	MHA-S16	Power Cord		1
44	5MA-J12	Stain Relief Bushing		1
45	MHA-S14	Switch Cord		1
46	TS-0720081	Lock Washer *	5/16	52
47	5MA-I04	Strain Relief Bushing		2
48	MHB-S01	Pulley Cover (right)		1
49	5AL-C10A	Pan Head Machine Screw		2
	708361	Dust Hose Adapter (optional accessory - not shown)		1
	MHA-S17	Hardware Bag (not shown)		1
	MHA-X06	Brass Bar (not shown)		1
	MGA-B14D	Knife Setting Gauge (not shown)		1
	MHA-X07	T-Handle Hex Wrench (not shown)	4mm	1

* included in Hardware Bag

Electrical Schematic