

Operating Instructions and Parts Manual 16-inch Planer

Model JWP-160S



WALTER MEIER (Manufacturing) Inc.

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Warranty and Service

Walter Meier (Manufacturing) Inc., warrants every product it sells. If one of our tools needs service or repair, one of our Authorized Service Centers located throughout the United States can give you quick service. In most cases, any of these Walter Meier Authorized Service Centers can authorize warranty repair, assist you in obtaining parts, or perform routine maintenance and major repair on your JET_® tools. For the name of an Authorized Service Center in your area call 1-800-274-6848.

MORE INFORMATION

Walter Meier is consistently adding new products to the line. For complete, up-to-date product information, check with your local Walter Meier distributor, or visit waltermeier.com.

WARRANTY

JET products carry a limited warranty which varies in duration based upon the product (MW = Metalworking, WW = Woodworking).



WHAT IS COVERED?

This warranty covers any defects in workmanship or materials subject to the exceptions stated below. Cutting tools, abrasives and other consumables are excluded from warranty coverage.

WHO IS COVERED?

This warranty covers only the initial purchaser of the product.

WHAT IS THE PERIOD OF COVERAGE?

The general JET warranty lasts for the time period specified in the product literature of each product.

WHAT IS NOT COVERED?

Five Year Warranties do not cover woodworking (WW) products used for commercial, industrial or educational purposes. Woodworking products with Five Year Warranties that are used for commercial, industrial or education purposes revert to a One Year Warranty. This warranty does not cover defects due directly or indirectly to misuse, abuse, negligence or accidents, normal wear-and-tear, improper repair or alterations, or lack of maintenance.

HOW TO GET SERVICE

The product or part must be returned for examination, postage prepaid, to a location designated by us. For the name of the location nearest you, please call 1-800-274-6848.

You must provide proof of initial purchase date and an explanation of the complaint must accompany the merchandise. If our inspection discloses a defect, we will repair or replace the product, or refund the purchase price, at our option. We will return the repaired product or replacement at our expense unless it is determined by us that there is no defect, or that the defect resulted from causes not within the scope of our warranty in which case we will, at your direction, dispose of or return the product. In the event you choose to have the product returned, you will be responsible for the shipping and handling costs of the return.

HOW STATE LAW APPLIES

This warranty gives you specific legal rights; you may also have other rights which vary from state to state.

LIMITATIONS ON THIS WARRANTY

WALTER MEIER (MANUFACTURING) INC., LIMITS ALL IMPLIED WARRANTIES TO THE PERIOD OF THE LIMITED WARRANTY FOR EACH PRODUCT. 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.

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- 1. **Read the manual**. Always read the owner's manual carefully before attempting to use the machine. Know the limitations and hazards associated with the use of this planer.
- 2. **Installation.** If mounting machine to the floor, use high quality anchor bolts through the mounting holes on the base. If using a mobile base, be sure to lock the wheels.
- 3. **Eye protection.** Always wear approved safety goggles, glasses, or a face shield when operating this machine. NOTE: Common eyeglasses are only impact resistant; they are not safety glasses. Also use face or dust mask if the cutting operation is dusty.
- 4. **Dress code.** Do not wear loose clothing, neckties, jewelry, or gloves that can get caught in moving parts. Confine long hair. Keep sleeves above the elbow.
- 5. **Placement.** Place machine so that potential kickback area is not in line with aisles, doorways, wash stations or other work areas. Do not use machine in a damp or wet location, or expose to rain. Keep work area well lighted.
- 6. **Electrical grounding**. Your machine must be electrically grounded. If a cord and plug are used, make certain the grounding lug connects to a suitable ground. Follow the grounding procedure indicated by the National Electrical Code.
- 7. **Guards.** Be sure machine guards are in place and in good working order. Do not operate while gear cover is open. If a guard must be removed for adjustments or maintenance, it should be reinstalled immediately upon completion of the procedure and before operating the machine.
- 8. **Housekeeping.** Before turning on machine, remove all extra equipment such as keys, wrenches, scrap, stock, and cleaning rags from the machine. Keep the area around machine clean and free of scrap material and sawdust to minimize the danger of slipping.
- 9. Power off. Make sure the machine is either unplugged or electrically disconnected and locked out when performing maintenance or service work. Also, make sure switch is in OFF position before plugging in power cord. Never leave the machine running unattended. Do not leave machine until it comes to a complete stop.
- 10. **Cutterhead.** Keep knives sharp and free of all rust and pitch. Make sure gib screws are tightened securely.
- 11. **Work piece.** Check material for loose knots, nails and other defects that can damage knives and pose a safety hazard for the operator.
- 12. **Keep hands away** from feed rollers and cutterhead while operating.
- 13. **Use the proper extension cord.** Make sure your 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 line voltage resulting in loss of power and overheating. For runs up to 25 feet, use an 18 AWG or larger gauge cord.
- 14. Do not operate this machine while under the influence of drugs, alcohol or any medication.
- 15. **If you are not** thoroughly familiar with the operation of wood planers, obtain advice from your supervisor, instructor or other qualified person.
- 16. **Health hazards.** Some dust created by power sanding, sawing, grinding, drilling and other construction activities contains chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:
 - · Lead from lead-based paint.
 - Crystalline silica from bricks and cement and other masonry products.
 - Arsenic and chromium from chemically treated lumber.

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals, work in a well-ventilated area, and work with approved safety equipment, such as those dust masks that are specifically designed to filter out microscopic particles.

Familiarize yourself with the following safety notices used in this manual.

AWARNING This means that if precautions are not heeded, it may result in serious injury or possibly even death.

This means that if precautions are not heeded, it may result in minor or moderate injury and/or possible machine damage.

Safety Decals

Familiarize yourself with the location and content of these decals on your planer.

WARNING

- Read instruction manual before operating machine.
 Do not operate without all guards properly installed.
 Remove or fasten loose articles of clothing such as neckties, etc.
- Contain long hair.

 Remove jewelry such as finger rings, watches, bracelets, etc.

 Use approved safety glasses and/or face shield to protect eyes, and use other personal safety equipment as required. Do not wear gloves.

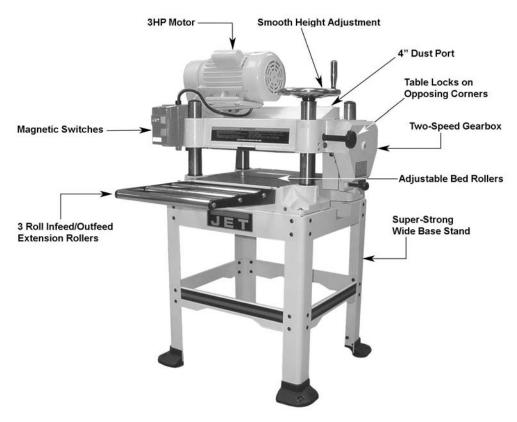
- Disconnect machine from power source before making any adjustments or cleaning chips away from machine.

 Keep the floor around machine clean and free from scraps, sawdust, oil and grease to minimize the danger of slipping.

 Do not operate this machine while under the influence of alcohol
- or drugs. Failure to comply with these warnings may result in serious personal injury.

DO NOT REMOVE OR OBSCURE THIS LABEL

Features of the JWP-16OS Planer



Specifications

Model Number	JWP-16OS
Stock Number	708531
Maximum Planing (W/in.)	16
Maximum Planing Thickness (T/in.)	6
Maximum Depth of Cut (in.)	3/16
Maximum Full Width Depth of Cut (in.)	1/8
Maximum Opening (in.)	6-3/8 x 16
Maximum Opening (in.)	8
Knives	
Planer Blade Size (L x W x T/in.)	16-1/8 x 1 x 1/8
Cutterhead Speed (RPM)	4,500
Cuts per Minute	13 500
Cutterhead Diameter (in.) Feed Rate (FPM) Dust Port Diameter (in.)	2-7/8
Feed Rate (FPM)	16 & 20
Dust Port Diameter (in.)	4
Overall Dimensions (L x W x H/in.)	48 x 32 x 51
Footprint (LxW/in)	27-3/4 x 25-1/8
Motor	3HP, 1Ph, 230V
Net Weight (approx. lbs.)	430

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Receiving

Carefully unpack the planer and any loose items from the wood crate and inspect for damage. Any damage should be reported immediately to your distributor and shipping agent. Before proceeding further, read your manual thoroughly to familiarize yourself with proper assembly, maintenance and safety procedures.

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. Do not use solvents on plastic parts.

Parts Inventory

Parts requiring assembly:

- 1 Planer Unit
- 1 4" Dust Hood
- 2 In/Outfeed Extension Roller Assembly
- 1 Handwheel

Cast Foot Assembly:

- 4 Cast Feet
- 1 Hardware Bag, consisting of:
 - 8 Socket Head Flat Screws
 - 8 Flat Washers
 - 8 Hex Nuts

Stand Assembly:

- 4 Stand Legs
- 2 Stand Braces long
- 2 Stand Braces short
- 2 Stand Top front & rear
- 1 Stand Top left
- 1 Stand Top right
- 1 Hardware Bag, consisting of:
 - 32 Carriage Bolts
 - 32 Flat Washers
 - 32 Hex Nuts

Accessory Package:

- 1 Handle
- 2 Knife Gauges
- 1 Knife Setting Gauge Bar
- 4 E-Rings for Knife Setting Gauge
- 4 Hex Wrenches 3, 4, 5, 6mm
- 2 Open Wrenches 8/10mm, 12/14mm

Hardware Bag for Handwheel:

- 1 M10 Hex Nut
- 1 M10 Flat Washer
- 1 Direction Label

Hardware Bag for Infeed/Outfeed Extension Rollers

- 6 M8 x 20 Hex Head Screws
- 6 M8 x 12 Set Screws
- 6 M8 Flat Washers

Hardware Bag for Dust Hood:

6 M6 x 12 Hex Head Screws

Hardware Bag for Base to Stand:

- 4 M8 x 30 Hex Head Screws
- 4 M8 Hex Nuts
- 8 M8 Flat Washers

Assembly

Most of the JWP-16OS Planer has been assembled at the factory. However some parts must be assembled after delivery.

▲CAUTION

Use care when cleaning the cutterhead; the knives are very sharp.

Stand Assembly

Refer to Figure 1.

 Cast Foot Assembly – Using parts from the cast foot assembly hardware bag, mount casting (2) to leg (1) by inserting two socket head flat screws (3) through the casting (2) and leg (1). Place a flat washer (4) and hex nut (5) on the screw and tighten.

Repeat for remaining three legs.

2. Stand Top (front) – The front and rear top stands (braces) are identical except for the JET logo on the front piece.

Mount one end of the *stand top* (6) to a leg (1) and fasten using two each carriage bolts (7), flat washers (8) and hex nuts (9).

Note: Do not over tighten at this time. This will be the final step in the assembly.

- 3. Fasten a second leg to the other end of the stand top, repeating the step above.
- 4. Take one long stand brace (10) and with (4 ea) bolts, washers, and hex nuts fasten to the legs of the assembly just completed in the steps 2 and 3. Fasten to the mounting holes in the middle of each leg.
- 5. Set this assembly aside for now.
- 6. Stand Top (rear) Repeat steps 2–4 using parts still remaining.
- 7. Take the left stand top (11)

Note: The right stand top (13) has a cutout and will be used later.

Secure it to left side of the left legs (top mounting holes) of the front and rear assemblies previously constructed (the JET logo is the front) using 4 ea carriage bolts, flat washers and nuts.

- 8. Take one *short stand brace* (12) and secure to the left legs of the front and rear assembly with (4 ea) carriage bolts, washers and nuts.
- 9. Take the *right stand top* (13) this piece has the cutout and secure it to the front and rear legs (top mounting holes) on the right

- side of the assembly using 4 ea carriage bolts, washers and nuts.
- Secure the remaining short stand brace (14) to the front and rear legs (middle mounting holes) on the right side of the stand with (4 ea) carriage bolts, washers and nuts.
- Make sure that the stand is symmetrical and level. Adjust if necessary and securely tighten all bolts.
- 12. Before mounting the planer on the stand, locate the stand on a solid, level foundation to ensure best planing performance and anchor to the floor with good quality lag screws.

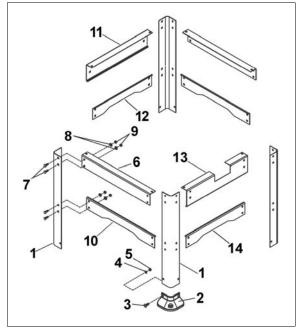


Figure 1

Planer Unit Placement

There are four lifting handles (Fig. 2) on the machine. The handles can be pulled out (A, Fig. 2) for use when the planer is to be lifted and moved and slides into the body casting (B, Fig. 2) when not needed.

If a sling or forklift is used to lift the machine, be sure to lift by the handles only. Make sure machine is kept in level position while lifting.

Set the machine on the stand that was assembled in the previous section, then secure the base to the stand using parts provided in the base to stand hardware bag, consisting of 4 ea M8 x 30 hex cap screws, 4 ea M8 hex nuts, and 8 ea M8 flat washers.

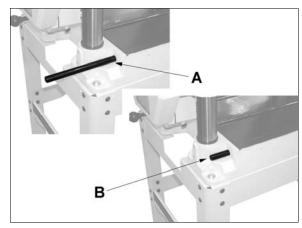


Figure 2

Starter Box

The switch assembly (starter box and bracket) is pre-assembled at the factory and simply needs to be mounted to the head casting on the left side of the machine with two socket head cap screws (A, Fig. 3) already in place the head casting.

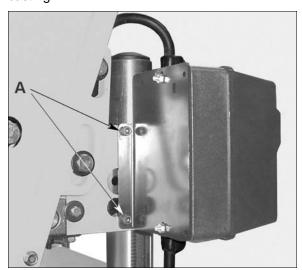


Figure 3

Handwheel

- Remove the tape holding the key in the shaft.
- 2. Place the handwheel (B, Fig. 4) onto the shaft; making sure it is oriented so the handwheel slips over the key.
- 3. Remove the adhesive backing from the direction label supplied with the hardware bag for the handwheel. Place the label onto the shaft and press it on the handwheel (D, Fig. 4).
- 4. Place flat washer and hex nut on shaft and tighten with wrench.

5. Mount the handle (C, Fig. 4) for the handwheel in the threaded hole in the handwheel, and tighten with a wrench placed over the flat (12mm) on the handle.

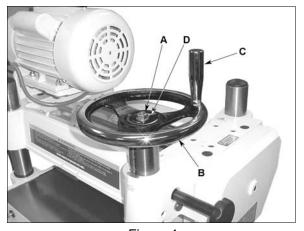


Figure 4

Extension Rollers

Mount two extension rollers to the table using the provided 6 ea M8 x 20 hex cap screws (12mm), 6 ea M8 flat washers, and 6 ea M8 x 12 set screws (A, Fig. 5). The rollers should be adjusted before operating the planer (this will be explained later in the *Adjustment* section).

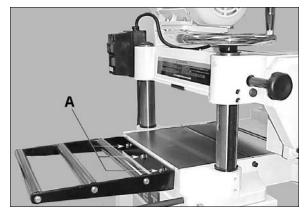


Figure 5

Dust Collection Hood

Referring to Figure 6:

The dust collection hood (A) comes standard with the model JWP-16OS planer, and helps maintain a clean and safe work area. It is assembled to the planer (B) with six hex head screws (C) as shown.

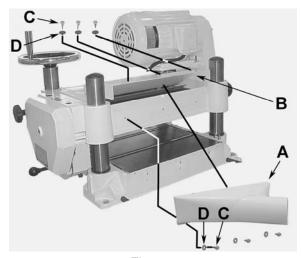


Figure 6

Electrical Connections

AWARNING

Electrical connections must be made by a qualified electrician in compliance with all relevant codes. The machine must be properly grounded to help prevent electrical shock and possible fatal injury.

A power plug is *not* provided with the JWP-16OS planer. You may either connect a plug or "hard-wire" the machine directly to your electrical panel provided there is a disconnect near the machine. Consult the wiring diagrams at the end of this manual.

This machine must be grounded. Grounding provides a path of least resistance to help divert current away from the operator in case of electrical malfunction.

Make sure the voltage of your power supply matches the specifications on the motor plate of the machine.

Extension Cords

The use of an extension cord is not recommended for this machine, but if one is necessary make sure the cord rating is suitable for the amperage listed on the machine's motor plate. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating.

The chart in Figure 7 shows the correct size cord to use based on cord length and motor plate amp rating. If in doubt, use the next heavier gauge. The smaller the gauge numbers the heavier the cord.

	Length of Cord		
Rated Amps	25 ft	50ft	100ft
0–6	18	16	16
7–10	18	16	14
11–12	16	16	14
13–16	14	12	12
17–20	12	12	10
21–30	10	10	Not recommended

Figure 7

Adjustments

Overview

Many parts are factory adjusted. The operator should be familiar with the following procedures to gain a better understanding of the JWP-16OS Planer's construction and operation.

Control and Adjustments

Refer to Figure 8 for general control and adjustment locations for the JWP-16OS Planer and are also listed below.

- A Switch
- B Handwheel
- C Table Rollers
- D Feed Rate Change Knob
- E Two Table Lock Knobs on Opposing Corners

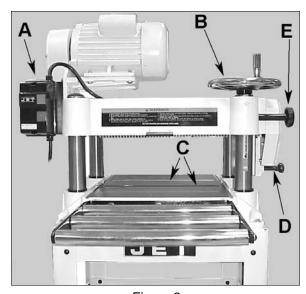


Figure 8

Pulleys and Belts

The belt and pulley assembly are on the left side of the planer. To inspect for pulley alignment and correct belt tension, remove the four hex head screws (10mm) holding the cover in place. Figure 9 shows the assembly with the cover removed.

Pulley Alignment

1. Place the edge of a metal ruler so it rests perpendicular against the flat sides of the motor and cutterhead pulleys (Fig. 11).

If the pulleys lie in straight plane (Fig. 11) they are aligned.

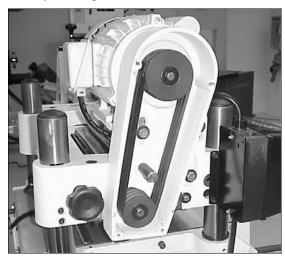


Figure 9

If the pulleys need to be aligned:

2. Loosen four bolts (12mm) on the motor mounting base plate (Fig. 10), which will allow the motor to move from side-to-side.

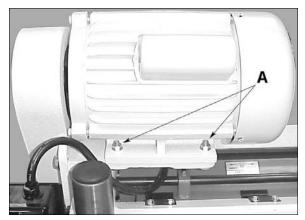


Figure 10

- 3. Adjust the motor until the pulleys are in the aligned position as shown in Figure 11.
- 4. Re-tighten all bolts.

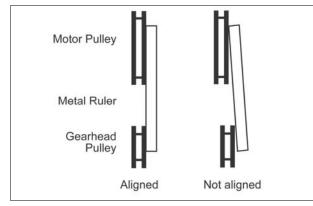


Figure 11

Belt Tension

Check the belt tension by squeezing the belts together in the middle (between the motor and cutterhead pulleys as shown in Fig. 12) with moderate pressure. Proper tension is indicated when there is approximately 1/4" deflection.

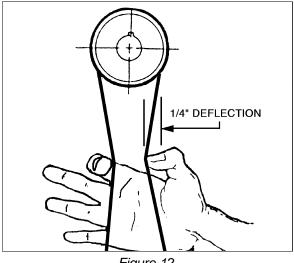


Figure 12

To adjust the belt tension:

- 1. Loosen the two 17mm bolts (A, Fig. 13) that hold the motor/pulley assembly to the planer.
- 2. Using a lever, raise the motor to increase the belt tension.

Note: Belts will rarely be too tight. Adjustment typically requires belt tightening.

- 3. Tighten the bolts and check the belt tension
- 4. Verify that the pulleys are still in alignment.

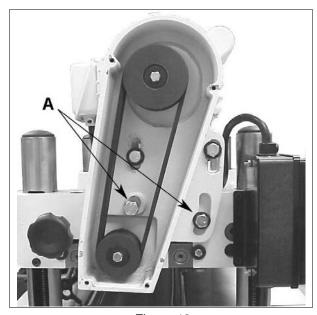


Figure 13

Table Rollers

Two table rollers (A, Fig. 14) ease stock movement as it is fed through the planer. The height of the rollers is dependent on the type of wood being planed. When planing rough stock, set the rollers slightly high to keep the lumber from dragging along the table. Smooth lumber should be planed with the rollers set just above the plane of the table.

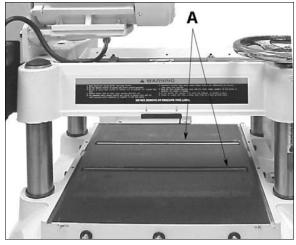


Figure 14

The two table rollers are preset at the factory at 0.004" above the table. The height adjustment range is from 0 to 0.06" (Fig. 15).

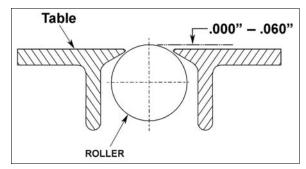


Figure 15

To adjust the rollers (refer to Figure 16):

- 1. Disconnect machine from power source.
- 2. Select a side (left or right) and lay a steel ruler or straightedge across both rollers (A).
- 3. On the side selected, loosen the screws (B) with an Allen wrench, and turn the eccentric shafts (C) (12mm hex head adjustment) to raise or lower the rollers to the desired level. Use a feeler gauge to measure the clearance between the table and the bottom of the straightedge.
- 4. When the proper height is achieved, tighten screws (B).

Adjust the rollers from the opposite side of the table in the same manner.

Important: Measure in several places. This measurement must be consistent across the entire table.

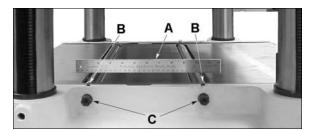


Figure 16

Extension Roller

Referring to Figure 17:

Place a straight edge (A) over the extension roller (B) and the table to make sure the extension roller and table are at the same height.

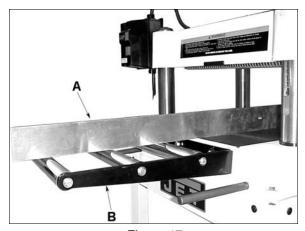


Figure 17

Referring to Figure 18 – if adjustment is required:

 Adjust the tightness of the mounting bolts

 (A) and the depth of the setscrews (B) on the extension roller frame.

Various combinations of loosening and/or tightening of the setscrews and bolts will be required to level the extension rollers with the table. Adjustment is complete when the straightedge is level with the table and all three rollers touch the bottom of the straightedge.

2. Adjust both front and rear extension rollers in the same manner.

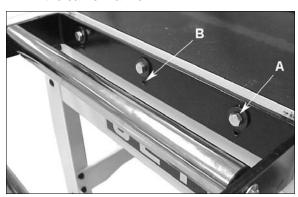


Figure 18

Depth of Cut Adjustment

Refer to Figure 19.

The cutting depth scale (A) is a combination inch/metric scale with a cutting range from 0 to 6" (150mm). The distance of upward or downward movement is controlled by the handwheel (B). One revolution of the handwheel is 0.158" (4mm). Before moving the head assembly up or down, loosen the lock knobs (C,). After obtaining the proper height for the head assembly, tighten the lock knobs.

Note: The JWP-16OS Planer has two lock knobs; one is located by the handwheel (C, Fig. 19). The other is located on the opposite (left rear) corner.

AWARNING

Always tighten the lock knobs before operating the planer.

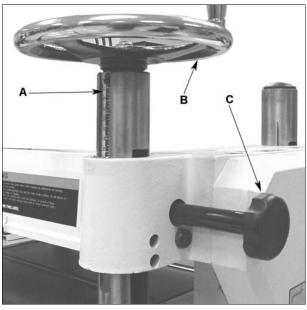


Figure 19

Knife Adjustment

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

- 1. Disconnect machine from power source.
- Remove four hex cap screws (A, Fig. 20) from the upper cover and three from the bottom of the dust port. Remove the cover/dust port (B, Fig 20) as a unit.

The cutterhead assembly can be seen from the opening on top.

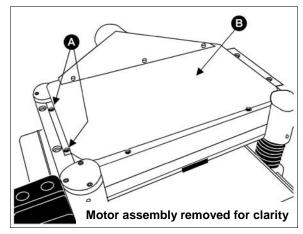


Figure 20

AWARNING

Planer knives are dangerously sharp. Use extreme caution when inspecting, removing, sharpening, or replacing knives into the cutterhead. Failure to comply may cause serious injury.

3. To check and adjust the knives, use the provided *knife gauge* (Fig. 22) and check all three knives. Press the knife gauge against the cutterhead as shown in Figure 23.

Referring to Figure 21:

Knives (A) should just contact the bottom of the center protrusion (B) of the knife gauge (F).

NOTE: If you are using a dial indicator (not provided) to adjust the knives, the knives should protrude 0.059" (1.5mm) from the cutterhead.

Important: Insure that the feet of the knife gauge sit flush against a clean surface of the cutterhead. Make sure that no dust, pitch, or lubrication buildup is present, which can cause errors in the knife blade settings.

- 4. If an adjustment to one or more of the knives is necessary, slightly loosen the knife gib (C) by turning the six gib screws (D) into the gib. Turn the screws just enough to relieve stress in the cutterhead without disturbing the setting of the knives. Do this for all three knives at the same time.
- 5. With the gauge (F) in place over a knife (A) continue to loosen the gib screws (D) until the springs (E) begin raising the knife.

When knife comes into contact with the center protrusion (B) of the gauge, adjust the *jack screws* higher or lower to touch the bottom of the knife, then snug up the gib by lightly backing out the six gib screws (D) against the slot.

Note: At this time, only tighten the knife in the slot just enough to hold knife in position.

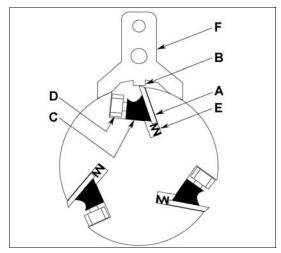


Figure 21

- 6. If additional knives must be reset, repeat steps 4 and 5 for each knife.
- 7. After all three knives are set with screws just snug, back out and tighten the six gib screws (D, Fig. 21 & Fig. 23) of the first knife against the slot starting with the end screws, then the center screws, until the knife is securely held in the cutterhead. Tighten remaining two knives in the same manner.

Important: Double check all gib screws for tightness.

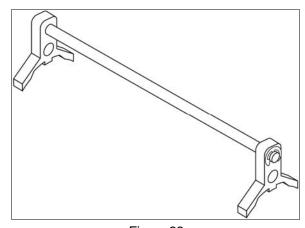


Figure 22

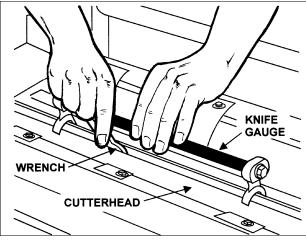


Figure 23

Removing and Replacing Knives

AWARNING

Planer knives are dangerously sharp. Use extreme caution when inspecting, removing, sharpening, or replacing knives into the cutterhead. Failure to comply may cause serious injury.

To remove a knife:

- 1. Disconnect machine from power source.
- Remove four screws (A, Fig. 20) from the upper cover and three from the bottom of the dust port. Remove the cover/dust port (Fig. 20) as a unit.

The cutterhead assembly can be seen from the opening on top.

Refer to Figure 21:

3. Loosen the *gib* (C) by turning the six *gib* screws (D) into the gib. Remove gib (C), knife (A) and springs (E).

Note: The inner two springs may pop out when the knife and gib are removed.

- Remove the remaining two knives in the same manner.
- Thoroughly clean the knife slots, gibs, springs and gib screws. Check the gib screws; if the threads appear worn or stripped or if the heads are becoming rounded, replace them.
- Inspect the cutting edge of the knives for nicks or wire edge. It is recommended that knives be replaced when they become dull or damaged. If they are to be reused, refer to Sharpening Knives in the Maintenance Section.

- Reinsert springs, knives and gib into slot of the cutterhead. Back out gib screws just enough to hold the knife in the cutterhead.
- 8. Place knife gauge (Fig. 23) over knife.

Still referring to Figure 21:

9. While holding down on the knife gauge, loosen all six gib screws (D) by turning them into the gib (C) until cutting edge of knife comes into contact with the protrusion of the gauge (B). Adjust the jack screws higher or lower to touch the bottom of the knife. Snug up the gib by slightly backing out the six locking screws against the slot.

Note: At this time only, tighten the knife into the slot just enough to hold the knife in position.

- 10. Replace and reset the other two knives by repeating steps 3 9.
- 11. After all three knives are set with the screws just snug, back out and tighten the six screws (D) 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.

Important: After replacing and checking knives, CHECK AGAIN carefully. Make certain the direction of knives is correct and all eighteen (3 knives x 6 screws) locking screws are tightened securely.

Table Adjustment

To perform the table adjustments described in the next two sections, you will need a *straight edge*, *feeler gauge*, and a home made *gauge block* made of hardwood. Make the gauge block by following the dimensions shown in Fig. 24. Precision adjustments require accuracy when milling the gauge block.

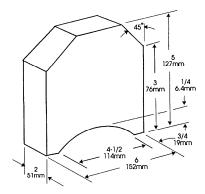


Figure 24

Checking Work Table Parallel to Cutterhead

The worktable is set parallel to the cutterhead at the factory and no further adjustment should be needed. 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 worktable is set parallel to the cutterhead by proceeding as follows:

- Disconnect machine from power source.
- Turn the handwheel clockwise; raising the cutterhead assembly high enough to place the gauge block (A, Fig. 25) on the work table under one end of the head casting (B, Fig. 25).
- Turn the handwheel to lower the head assembly until the head casting body barely touches the gauge block. The blades should not touch the block.
- 4. Slide the block toward the opposite side of the head casting. Use a feeler gauge to measure the width of the gap, if any, between the top of the block and the bottom of the cutterhead. Make a note of the gap, if any.
- If the block wedges tightly between the table and the head casting when shifting from one side to the other, repeat steps 2 through 4, but start from the opposite end of the head casting.

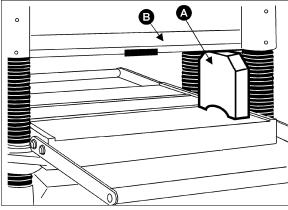


Figure 25

If the gap difference from one side to the other is equal to or less than 0.004", no further adjustment is necessary

If the gap difference from one side to the other side is grater than 0.004", but less than 0.016", go to the *Adjusting Work Table Parallel to Cutterhead (Fine Adjustment)* section.

It the gap difference from one side to the other is grater than 0.016", the cutterhead assembly raising chain under the planer base needs to be

adjusted – see the Adjusting Work Table Parallel to Cutterhead (Major Adjustment) section.

Adjusting Work Table Parallel to Cutterhead (Fine Adjustment)

If the gap difference determined in the previous section is greater than 0.004" and less than 0.016", perform the adjustment procedure as follows:

- 1. Determine which side of the table must be raised to correct the gap.
- Locate the two socket head cap screws in the table casting for each of the columns (A, Fig. 26). Loosen both sets of screws for each column on the side you wish to adjust.
- Push down or pull up the cutterhead assembly in the desired direction. Hold the assembly in position and retighten the cap screws.
- Recheck the table to cutterhead parallelism again as described in the previous section, then repeat steps 1 – 3 until the deviation is less than 0.004".

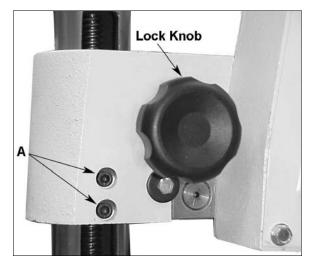


Figure 26

Adjusting Work Table Parallel to Cutterhead (Major Adjustment)

Refer to Figure 27.

- 1. Disconnect the machine from power source.
- On the underside of the base, remove bolt

 (A) and loosen bolt (B) which will allow you
 to move the idler sprocket assembly (C) far
 enough to release tension on the chain.
- Remove chain from the particular sprocket on the corner of the base that must be adjusted.

4. Turn the sprocket by hand to bring that corner into adjustment with the other three corners.

Note: Turning sprocket clockwise will increase the distance between the working table and head casting; counter-clockwise will decrease the distance. This adjustment is very sensitive – one revolution of the lead screw equals 0.158" (4mm) of travel. It should not be necessary to turn the sprocket more than one or two teeth.

 When adjustments are correct, replace chain around the corner sprocket, slide sprocket (C) back to re-tension chain, tighten bolt (B) and replace and tighten bolt (A).

Note: It may be necessary to perform the *Fine Adjustment* procedure after the major to achieve the best result.

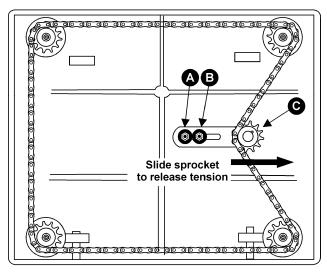


Figure 27

Transmitting Rollers

Figure 28 show the positions of the rollers that are listed below and described in the following sections.

- A Anti Kickback Fingers
- B Infeed Roller
- C Chipbreaker
- D Cutterhead
- F Outfeed Roller

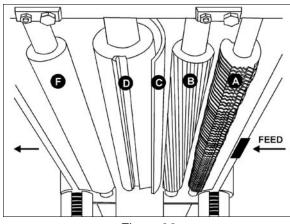


Figure 28

Infeed & Outfeed Roller Spring Tension Adjustment

The infeed roller (B, Fig. 28) and outfeed roller (F, Fig. 28) feed the stock while it is being planed. The infeed and outfeed rollers are under spring tension and this tension must be sufficient to feed the stock uniformly through the planer without slipping but should not be so tight that it causes damage to the board and/or the rubber coating on the outfeed roller. The tension should be equal at both ends of each roller.

To adjust the spring tension of the infeed and outfeed rollers, turn screws (A, Fig. 29) with a hex wrench. A clockwise turn increases tension on the pressure spring (Fig. 30); a counterclockwise turn decreases tension. Adjust the screws at the other end of the rollers with the same number of turns.

Note: The most effective pressure settings are dependent on the type of lumber being planed. Experimentation will determine the best settings.

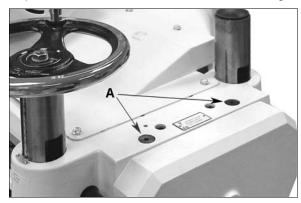


Figure 29

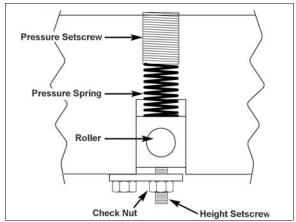


Figure 30

Anti-Kickback

The JWP-16OS Planer provides an anti-kickback safety feature. The anti-kickback fingers hang from a rod suspended across the front of the cutterhead casting (A, Fig. 28) and help prevent kickback of stock. It is necessary to inspect them regularly to make sure they hang freely. Check that they are free of gum and pitch to insure independent movement and correct operation.

CUTTING - ROLLER ASSEMBLY (SIDE VIEW)

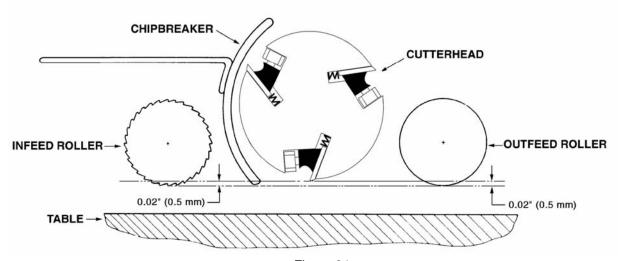


Figure 31

Checking and Adjusting the Feed Roller Height

The infeed and outfeed rollers propel the lumber through the planer. The rollers also press the lumber flat against the planer table.

The infeed and outfeed rollers are adjusted at the factory and are set at 0.020" below the knifeedge at bottom dead center (Fig. 31).

Note: Before proceeding with this adjustment, make sure the knives are adjusted properly as outlined in the *Knife Adjustment* section.

Remove the drive chain cover to access the roller adjustments on the drive chain side of the planer.

To check or verify the roller height:

1. Disconnect the machine from the power source.

2. Turn the handwheel clockwise, raising the cutterhead assembly high enough to place the gauge block (J, Fig. 32) on the table directly underneath the cutterhead (D, Fig. 32) Using a 0.02" (0.5mm) feeler gauge (K, Fig. 32) placed on top of the gauge block, lower the head assembly until the knife just touches the feeler gauge when the knife is at its lowest point. Do not move the working table any further until the infeed and outfeed rollers are adjusted.

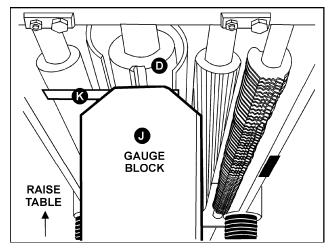
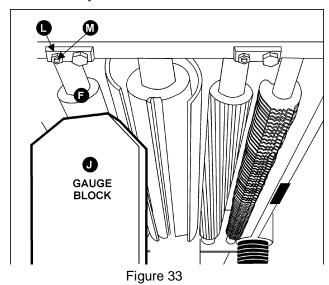


Figure 32

- 3. Move the gauge block (J, Fig. 33) under one end of the outfeed roller (F, Fig. 33). The bottom of the outfeed roller should just touch the top of the gauge block. If an adjustment to the outfeed roller is necessary, loosen the jam nut (L, Fig 33) and turn screw (M, Fig. 33) until the outfeed roller just touches the gauge block. Then tighten jam nut (L, Fig. 33).
- 4. Slide the gauge block to the other end of the outfeed roller and repeat the adjustment described in Step 3.
- 5. Recheck the settings and repeat steps 1-4 if necessary.



Gearbox

Referring to Figure 34:

The JWP-16OS Planer is equipped with a spiral, serrated infeed roller (F) and a solid outfeed roller. When the feed rollers are engaged, they turn to feed the stock. The feed rollers are driven by chains (A) and sprockets (B) in the gearbox.

The gearbox is located on the right side of the planer directly behind the *table lock knob* (A, Fig. 35). The gearbox transfers power from the belt-driven cutterhead to the power feed rollers. A two-speed transmission, controlled by a push/pull lever (D), moves the stock through the planer at either 16 or 20 feet-per minute. The push/pull lever is set *while the machine is running*.

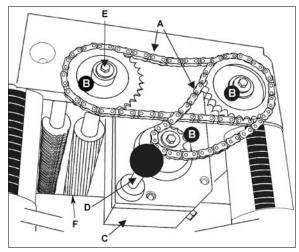


Figure 34

Operation

The JWP-16OS Planer is a powerful woodworking machine, designed and constructed for professional-quality applications.

AWARNING

Because of its powerful motor and razorsharp knives, the JWP-16OS Planer is inherently dangerous and should be operated with considerable caution and respect. Failure to do so could result in damage to the machine or severe injury to the operator or others in the work area.

Overview

There are a number of safety issues that relate directly to the operation of the planer. Keep in mind that these are not all-inclusive. Work situations, wood types, and other variables that differ from shop to shop must be considered in order to operate this planer safely. Always consider safety and common sense first when operating this or other machinery.

- Always inspect lumber for defects (warping, cupping, twisting, etc.). Do not use lumber of questionable quality.
- 2. Check lumber for nails, staples, imbedded gravel, etc. before planing.

- Use the full width of the planer. Alternate between the left, the right and the middle when feeding lumber into the planer. Your knives will remain sharp much longer.
- 4. Remove glues, epoxies and other foreign matter before planing lumber.
- 5. Never attempt to plane laminates, particleboards, plastics or other man-made materials.
- 6. Plane wood with the grain. Never plane across the grain.
- 7. Do not use boards with loose knots, splits, cross grain or other defects. They can damage the machine and cause injury.
- 8. Keep your work area clear.
- Wood with excessive water content or wood exposed to rain, ice, or snow will plane poorly and cause excess wear to the knives and motor. Excessive moisture will also hasten rust and corrosion.
- Learn as much as possible about planing procedures. Alternative publications present more wood specific planing requirements.

Table Locks

Before attempting to adjust table height, loosen the two *table lock knobs*, one on the right front of the head casting assembly (A, Fig. 35) and the other on the left rear.



Figure 35

After the head assembly height is adjusted, tighten the two black knobs down again.

Power Feed

Referring to Figure 36:

The power feed features two feed rates, 16 FPM and 20 FPM. When running the machine, the

operator can control the feed speed by moving the feed control knob. Moving the knob toward the machine produces the 20 FPM feed speed (A), away from the machine produces 16 FPM (C) and a center position places the gear box in neutral (B).

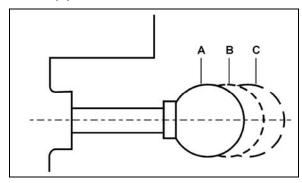


Figure 36

▲CAUTION

Set the feed rate while the planer is running but before feeding lumber into it. DO NOT change speeds after the cutting operation has begun.

ACAUTION

If the cut is too large, the planer will slow down considerably, possibly even stalling the motor. Turn off the power immediately, raise the head assembly and remove the workpiece. Re-adjust the head assembly to allow a lesser cut and repeat the operation.

Handwheel

Crank the handwheel to raise or lower the table according to the desired workpiece thickness.

Each complete revolution of the handwheel moves the head assembly by 0.158" (4mm). Make sure the height scale is properly adjusted.

With the depth-limiting clip installed, you cannot cut full width more than 1/8" in a single pass (3/16" if lumber can fit on either side of the depth limiting clip). While cutting this much material is possible, it is not recommended.

Depth Limiter

The Model JWP-16OS Planer is equipped with a depth limiter – located on the bottom of the cutterhead casting just below the warning label (A, Fig. 37). The depth limiter controls maximum depth of cut to 1/8".



Figure 37

ACAUTION

To avoid mechanical damage to the planer, do not remove the depth limiter.

Initial Startup

After the assembly and adjustments are complete the planer is ready to be tested.

Turn on the power supply at the main panel. Press the *Start* button. Keep your finger on the *Stop* button in case of a problem. The planer should run smoothly with little or no vibration or rubbing noises. Investigate and correct the source of any problems before further operation.

AWARNING

DO NOT attempt to investigate or adjust the planer while it is running. Wait until the planer is turned off, unplugged and all working parts have come to a complete standstill.

AWARNING

Always wear ANSI-approved safety glasses or goggles when operating equipment.

Maintenance

General

Inspect your planer each time before using. Check for the following conditions and repair or replace when necessary.

- Loose mounting bolts.
- 2. Worn switch.
- 3. Worn or damaged cords and plugs.
- 4. Damaged V-belts.
- 5. Any other condition that could hamper the safe operation of this machine.

Buildup of sawdust and other debris can cause your machine to plane inaccurately. Periodic cleaning is not only recommended but also mandatory for accurate planing.

Close-fitting parts, such as the cutterhead slot and gibs, should be cleaned with a cloth or brush and non-flammable solvent, and free from clinging foreign matter.

Remove resin and other accumulations from feed rollers and table with a soft rag and non-flammable solvent.

Periodically check all the chains for proper tension and adjust accordingly if required.

Tip: If a foreign object nicks the knives, instead of throwing them away or trying to grind out the deep nick, simply stagger the knives in the head, moving one knife no more than 1/8" to the right and another knife no more than 1/8" to the left. The nick should no longer be noticeable.

The table should be kept clean and free of rust. Some users prefer a paste wax on exposed steel and cast iron surfaces. The wax provides a layer of protection as well as reducing friction between lumber and the table making cuts faster and smoother. Avoid any wax that contains silicone or other synthetic ingredients. These materials can find their way into lumber and can make staining and finishing difficult.

Another option is talcum powder applied with a blackboard eraser rubbed in vigorously once a week; this will fill casting pores and form a moisture barrier. This method provides a tabletop that is slick and allows rust rings to be easily wiped from the surface. Another important fact is that talcum powder will not stain wood or mar finishes as wax pickup does.

Sharpening Knives

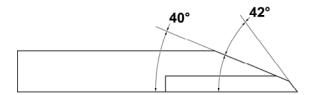
It is recommended that knives be replaced they become dull or damaged.

If knives are to be reused, it is recommended that they be sharpened by a professional knife sharpener. Improperly sharpened knives can cause a number of defects to lumber and put unnecessary load on the motor and drive systems.

If you must sharpen the knives yourself, please take note of the following information:

Primary Grinding Angle – 40 degrees

Secondary Grinding Angle – 42 degrees



The grinding angle has been determined by the factory to be the best compromise for planing a wide variety of wood types. In most cases, that angle will produce excellent results. If you choose to change the angle of your bevel, be sure to consult with a trained sharpener or with a reference book before you commit to changing the angle of bevel.

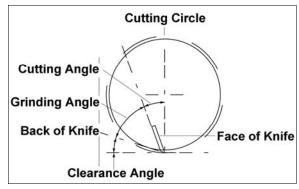


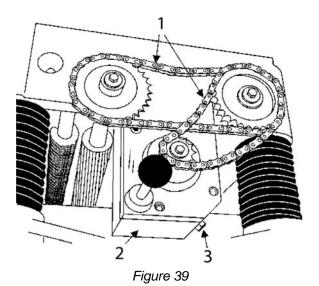
Figure 38

Lubrication

The bearings on the cutterhead are factory lubricated and sealed for life – no lubrication required.

Gearbox – The oil in the gearbox must be drained and replaced after the first 20 hours of operation. (See the *Lubrication Table*).

Inspect levels periodically and change yearly. Replace gear oil more frequently under heavy use. Fill until the oil reaches the top of the filler plug port for correct oil level.



To replace the gearbox lubricant:

- 1. Remove the drain plug (3. Fig. 39), and filler cap (A, Fig. 40). Drain dirty oil thoroughly.
- 2. Tighten the drain plug (3, Fig. 39).
- 3. Fill with clean lubricant through hole (A, Fig. 40).

Tighten filler cap (A, Fig. 40).

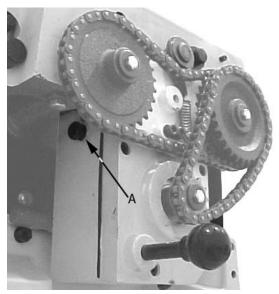


Figure 40

No	Fig	Position	Interval	Suitable Types of Lubricant
1	39	Drive Chain	Inspect and lubricate monthly	Grease
2	39	Gear Box	When operated more than 2,500 hours	HD-100, Mobil Gear 627, Shell Omala 100, ESSO Spartan EP-100
3	41	Lead Screw	Inspect and lubricate Monthly	Grease
4	41	Column	Inspect and lubricate weekly	SAE-30
5	42	Table Chain	Inspect monthly – lubricate when needed	Grease or good quality bicycle chain lubricant
6	43	Feed Rollers	Inspect and lubricate daily before startup	SAE-30

Lubrication Table

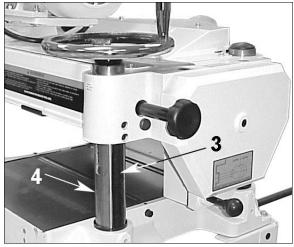


Figure 41

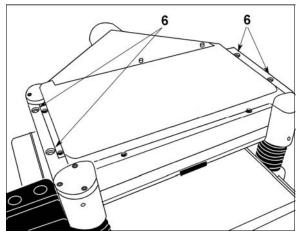
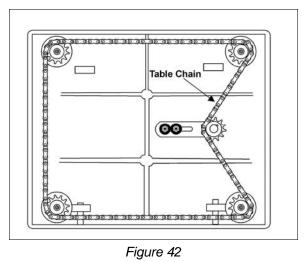


Figure 43



Optional Accessories

708814Kn	ives (set of 3)
	al Mobil Base

Troubleshooting

Performance Troubleshooting

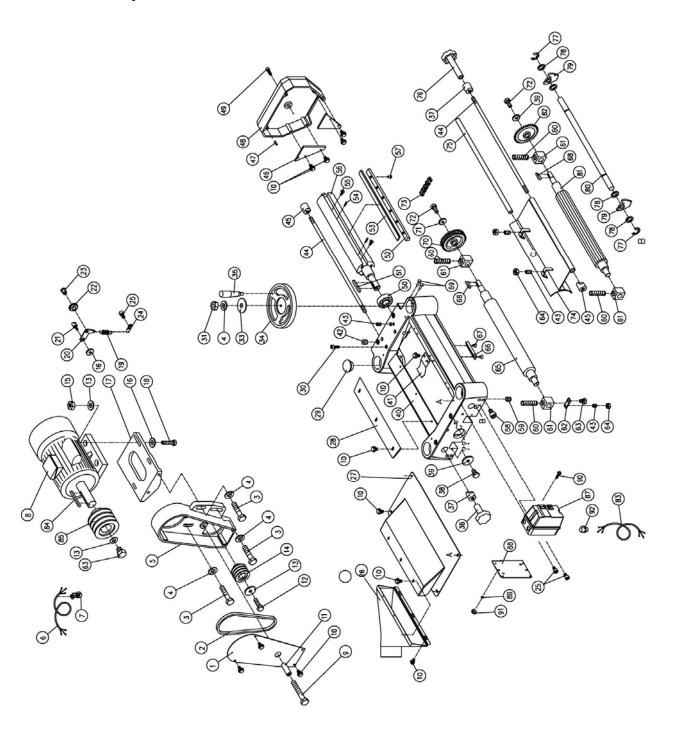
Problem	Possible Cause	Solution
Snipe	Table rollers not set properly.	Adjust rollers to proper height
Note: Snipe can	Inadequate support of long boards.	Support long boards with extension rollers.
be minimized but not eliminated	Uneven feed roller pressure front to back.	Adjust feed roller tension
	Dull knives.	Sharpen knives.
	Lumber not butted properly.	Butt end to end each piece of stock as they pass through.
Fuzzy Grain	Planing wood with a high moisture content.	Remove high moisture content from wood by drying.
	Dull knives.	Sharpen or replace.
Torn Grain	Too heavy a cut.	Adjust proper depth of cut
	Knives cutting against grain.	Cut along the grain.
	Dull knives.	Sharpen knives.
Rough/Raised	Dull knives.	Sharpen knives.
Grain	Too heavy a cut.	Adjust proper depth.
	Moisture content too high.	Remove high moisture content from wood by drying.
Rounded, glossy surface	Dull knives.	Sharpen or replace knives.
Surface	Feed speed too slow.	Increase speed.
	Cutting depth too shallow.	Increase depth.
Poor feeding of lumber.	Inadequate feed roller pressure.	Adjust feed roller tension. If proper tension cannot be achieve, replace feed rollers
	Planer bed rough or dirty.	Clean pitch and residue, and wax planer table.
	Transmission v-belt slipping.	Tighten transmission v-belt.
	Surface of feed rollers clogged.	Clear pitch and residue out of teeth.
Uneven depth of	Knife projection.	Adjust knife projection.
cut side to side.	Cutterhead not level with bed.	Level bed.
Board thickness does not match depth of cut scale.	Depth of cut scale incorrect.	Adjust depth of cut scale.

Mechanical Troubleshooting

Problem	Possible Cause	Solution
Chain jumping.	Inadequate tension.	Adjust chain tension.
	Sprockets misaligned.	Align sprockets
	Sprockets worn.	Replace sprockets.
Machine will	No incoming power.	Verify unit is connected to power
not start/ restart or repeatedly trips circuit breaker or blows fuses.	Overload automatic reset has not reset	When planer overloads on the circuit breaker built into the motor starter, it takes time for the machine to cool down before restart. Allow unit to adequately cool before attempting restart. If problem persists, check amp setting on the motor starter inside the electrical box.
	Planer frequently trips.	One cause of overloading trips, which are not electrical in nature, is too heavy a cut. The solution is to take a lighter cut. If too deep a cut is not the problem, then check the amp setting on the overload relay. Match the full load amps on the motor as noted on the motor plate. If the amp setting is correct then there is probably a loose electrical lead. Check amp setting on motor starter.
	Building circuit breaker trips or fuse blows.	Verify that planer is on a circuit of correct size. If circuit size is correct, there is probably a loose electrical lead. Check amp setting on motor starter.
	Loose electrical connections.	Go through all the electrical on the planer including motor connections, verifying the tightness of each. Look for any signs of electrical arcing which is a sure indicator of loose connections or circuit overload.
	Motor starter failure.	Examine motor starter for burned or failed components. If damage is found, replace motor starter. If motor starter looks okay but is still suspect, you have two options: have a qualified electrician test the motor starter for function, or purchase a new starter and establish if that was the problem on changeout
	Motor starter failure.	If you have access to a voltmeter, you can separate a starter failure from a motor failure by first, verifying incoming voltage at 220+/-20 and second, checking the voltage between starter and motor at 220+/-20. If incoming voltage is incorrect, you have a power supply problem. If voltage between starter and motor is incorrect, you have a starter problem. If voltage between starter and motor is correct, you have a motor problem.
	Motor failure.	If electric motor is suspect, you have two options: Have a qualified electrician test the motor for function or remove the motor and take it to a quality electric motor repair shop and have it tested.
	Miswiring of the unit.	Double check to confirm all electrical connections are correct and properly tight. The electrical connections other than the motor are pre-assembled and tested at the factory. Therefore, the motor connections should be double checked as the highest probability for error. If problems persist, double-check the factory wiring.

Parts List for the JWP-16OS Planer

Head Assembly



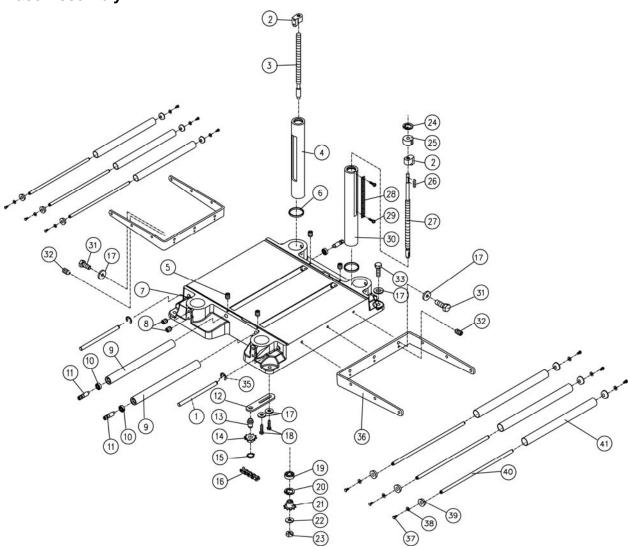
Head Assembly Parts List

Index No.	Part No.	Description	Size	Quantity
1	.JWP16OS-101	Pulley Guard		1
2	.JWP16OS-102	V-belt	M27	3
3	. TS-1491041	Hex Cap Screw	M10×30L	3
		Flat Washer		
		Pulley Cover		
6	.JWP16OS-106	Motor Cable		1
		Strain Relief		
8	.JWP16OS-108	Motor		1
		Hex Cap Screw		
10	.JWP16OS-110	Hex Flange Screw	M6×12L	27
11	.JWP16OS-111	Spacer		1
12	. TS-1490041	Hex Cap Screw	M8×25L	1
		Flat Washer		
14	. JWP15H-014	Machine Pulley		1
15	. TS-1540061	Hex Nut	M8	12
17	.JWP16OS-117	Motor Mount		1
18	. TS-1490081	Hex Cap Screw	M8×45L	4
		Spring		
		Bracket		
		Shaft		
22	. PA-C57	Idle Pulley		1
23	. PA-C56	Shaft		1
24	. PA-C60	Hanger		1
25	. TS-1503031	Socket Head Cap Screw	M6×12L	3
		Collector Hood		
		Upper Cover		
		.Deflector Plate		
		Cap		
		Socket Head Cap Screw		
		Hex Nut		
		Label, Direction		
		Handwheel		
		Handle		
		Knob		
		Lock Bushing		
		Hex Cap Screw		
		Flat Washer		
		Head Casting		
		Plate Spring		
		Socket Set Screw		
		Socket Set Screw		
		Shaft		
		Lock Bushing.		
		Plate		
		Spring Pin		
		Cover		
		Socket Head Cap Screw		
		Ball Bearing		
		Key		
		Knife Bar		
		Knives (Set of 3)		
54	.JVVF 1003-134	SpringSocket Head Flat Screw	MEV10I	0
ათთი	. JVVP 16US-156	Cutterhead		1

Head Assembly Parts List

Index No. Part No.	Description	Size	Quantity
57JWP15H-007	Screw		18
	Socket Head Cap Screw		
	Socket Set Screw		
60JWP15H-020	Spring		4
61JWP208-019	Bushing		4
62JWP15H-022	Plate		4
63TS-1490031	Hex Cap Screw	M8×20L	5
	Hex Nut		
	Outfeed Roller		
	Limiter Plate		
	Machine Screw, Flat Head Phillips		
	Key		
	Rivet		
	Sprocket		
	Hex Cap Screw		
	Chain		
	Chip Bracket		
	Shaft		
	Knob		
	Retaining Ring		
	Collar		
	Anti-Kick Finger		
	Shaft		
	Infeed Roller		
	Sprocket		
	Power Cord		
	Key		
	Motor Pulley		
	Switch		
	Switch Plate		
	Tooth Washer		
	Screw		
	Hex Nut		
92JWP16OS-192	Strain Relief		2

Base Assembly



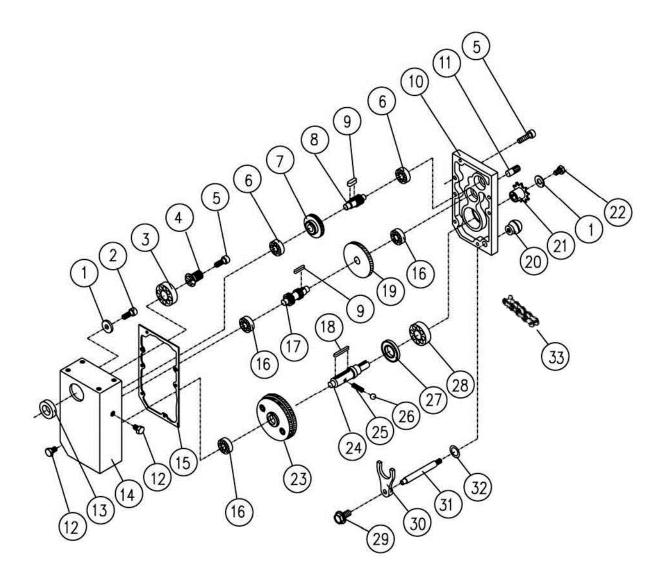
Base Assembly Parts List

Index No. Part No.	Description	Size	Quantity
1JWP16OS-201	Lifting Handle		4
2JWP15H-207	Nut Fixture		4
3JWP16OS-203	Leadscrew		3
4JWP16OS-204	Column		3
5TS-1523041	Socket Set Screw	M6×12L	4
6JWP15H-203	Column		4
7JWP16OS-207	Base		1
8TS-1525021	Socket Set Screw	M10×12L	8
9JWP16OS-209	Roller		2
10BB-608Z	Ball Bearing		4
11JWP15H-104	Eccentric Shaft		4
12JWP15H-221	Bracket		1
13JWP15H-222	Shaft		1
14JWP15H-223	Sprocket		
15JWP15H-224	Retaining Ring	STW-15	1
16JWP16OS-216	Chain	41×148P	1
17TS-1550061	Flat Washer	M8	18

Base Assembly Parts List

Index No. Part No.	Description	Size	Quantity
18TS-1490041	Hex Cap Screw	M8×25L	2
19BB-6202ZZ	Ball Bearing	6202ZZ	4
20JWP15H-214	Retaining Ring	RTW-35	4
21JWP15H-216	Sprocket		4
22TS-0680041	Flat Washer	3/8	4
23TS-1540072	Nut	M10-1.25P	4
24JWP15H-209	Retaining Ring	RTW-38	1
	Bushing		
26JWP16OS-226	Key	4×4×20	1
27JWP16OS-227	Leadscrew		
28JWP16OS-228			
29TS-1531012	Machine Screw, Pan Head Phillips		
30JWP16OS-230	Column		1
31TS-1490031	Hex Cap Screw	M8×20L	6
32TS-1524031	Socket Set Screw	M8×12L	6
33TS-1490051	Hex Cap Screw	M8×30L	4
35JWP16OS-235	E-ring	ETW-10	4
	Roller Frame		
37TS-1482021	Hex Cap Screw	M6×12L	12
	Flat Washer		
	Roller Liner		
	Roller Shaft		
41JWP15H-112	Roller		6

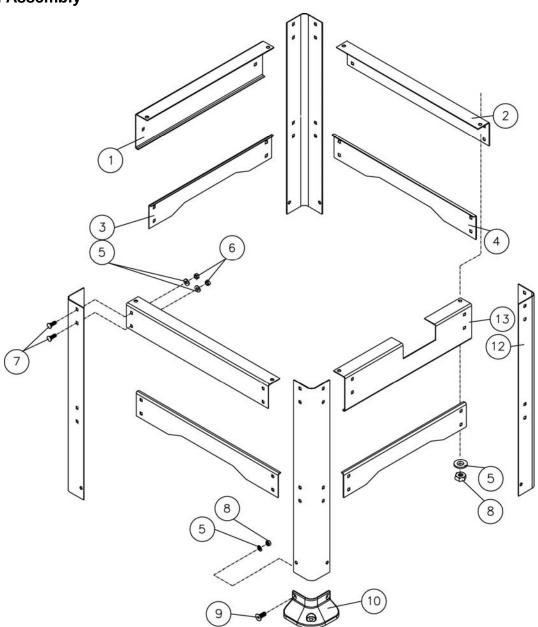
Gear Box Assembly



Gear Box Assembly Parts List

Index No. Part No.	Description	Size	Quantity
1TS-1550041	Flat Washer	M6	2
	Socket Head Cap Screw		
3BB-6204ZZ	Ball Bearing	6204ZZ	1
4JWP15H-304	Gear		1
5TS-1503061	Cap Screw	M6x25L	6
	Ball Bearing		
7JWP15H-309	Gear	47T	1
8JWP15H-310	Gear	18T	1
9JWP15H-313	Key	5x5x10	2
10JWP15H-337	Cover		1
11JWP15H-335	Pin		2
12JWP15H-339	Oil Plug		2
	Oil Seal		
14JWP15H-301	Gear Box		1
15JWP15H-336	Gasket		1
16BB-6201Z	Ball Bearing	6201Z	3
17JWP15H-314	Shaft		1
18JWP15H-320	Key	6x6x40	1
19JWP15H-312	Gear	71T	1
20JWP15H-334	Knob		1
21JWP15H-325	Sprocket	12T	1
	Hex Cap Screw		
23JWP15H-318	Gear Assembly	96/92T	1
24JWP15H-323	Shaft		1
25JWP15H-322	Spring		1
26JWP15H-321	Ball		1
27 OS-25476	Oil Seal		1
28 BB-6204Z	Ball Bearing	6204Z	1
	Hex Flange Screw		
30JWP15H-329	Clutch		1
31JWP15H-330	Handle		1
32JWP15H-333	Oil Seal		1
33JWP15H-327	Chain		1

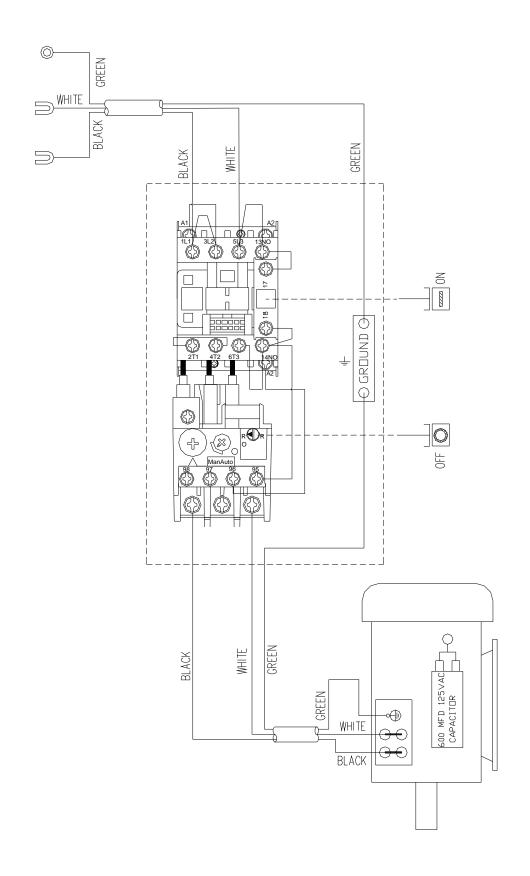
Stand Assembly



Stand Assembly Parts List

Index No. Part No.	Description	Size	Quantity
1JWP16OS-401	Upper Side Brace (L)		1
2JWP16OS-402	Upper Front Brace		2
3JWP16OS-403	Down Side Brace (R)		2
	Down Front Brace		
5TS-1550061	Flat Washer	M8	48
6TS-0561021	Hex Nut	5/16"-18	32
7JWP16OS-407	Carriage Bolt	5/16"-18×14L	32
8TS-1540061	Hex Nut	M8	12
9TS-1515021	Socket Head Flat Screw	M8x20L	8
10JWP16OS-410	Foot		4
12JWP16OS-412	Leg		4
13JWP16OS-413	Upper Side Brace (R)		1

Electrical Schematic for JWP-160S Planer





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