

A#1 1-800-260-2647

OPERATING INSTRUCTIONS

Model # 629601 Serial 2067



Shown with optional stand.



Woodworking Tools Designed For Maximum Performance, Maximum Value

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PERFORMAX® 16-32 DRUM SANDER

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Adjustment & Alignment

GENERAL INFORMATION

The PERFORMAX 16-32 Drum Sander is an automatic feed, surface/thickness sander.

- A. As a surface sander, it provides a uniform finish with smoothness dependent upon the final abrasive grit size used.
- B. As a thickness sander, it will dimension wood and sand multiple pieces to a uniform thickness.

The PERFORMAX 16-32 Drum Sander's open-end design expands the 16" drum capacity to sand up to 32" in width with two passes.

READ THIS MANUAL BEFORE OPERATING THIS MACHINE. THE NECESSARY ADJUSTMENTS AND ALIGNMENTS EXPLAINED HEREIN MUST BE PERFORMED TO ACHIEVE PROPER MACHINE PERFORMANCE AND PREVENT MACHINE DAMAGE.

ASSEMBLY (See Fig. 1)

PERFORMAX 16-32 units are packaged in two separate cartons for ease of handling and shipping.

To assemble, raise the drum to its highest elevation by turning the height adjustment handle (1) in a clockwise direction. Install the power feed conveyor on the machine base rails (5) so that the conveyor mounting brackets (2) are located to the outside of the base rail cross brackets (3). With the bracket holes aligned, install four 5/16 hex head bolts (4) and 5/16 square nuts (provided). Connect motor cord plug (1) (see Fig. 2) into control box receptacle.

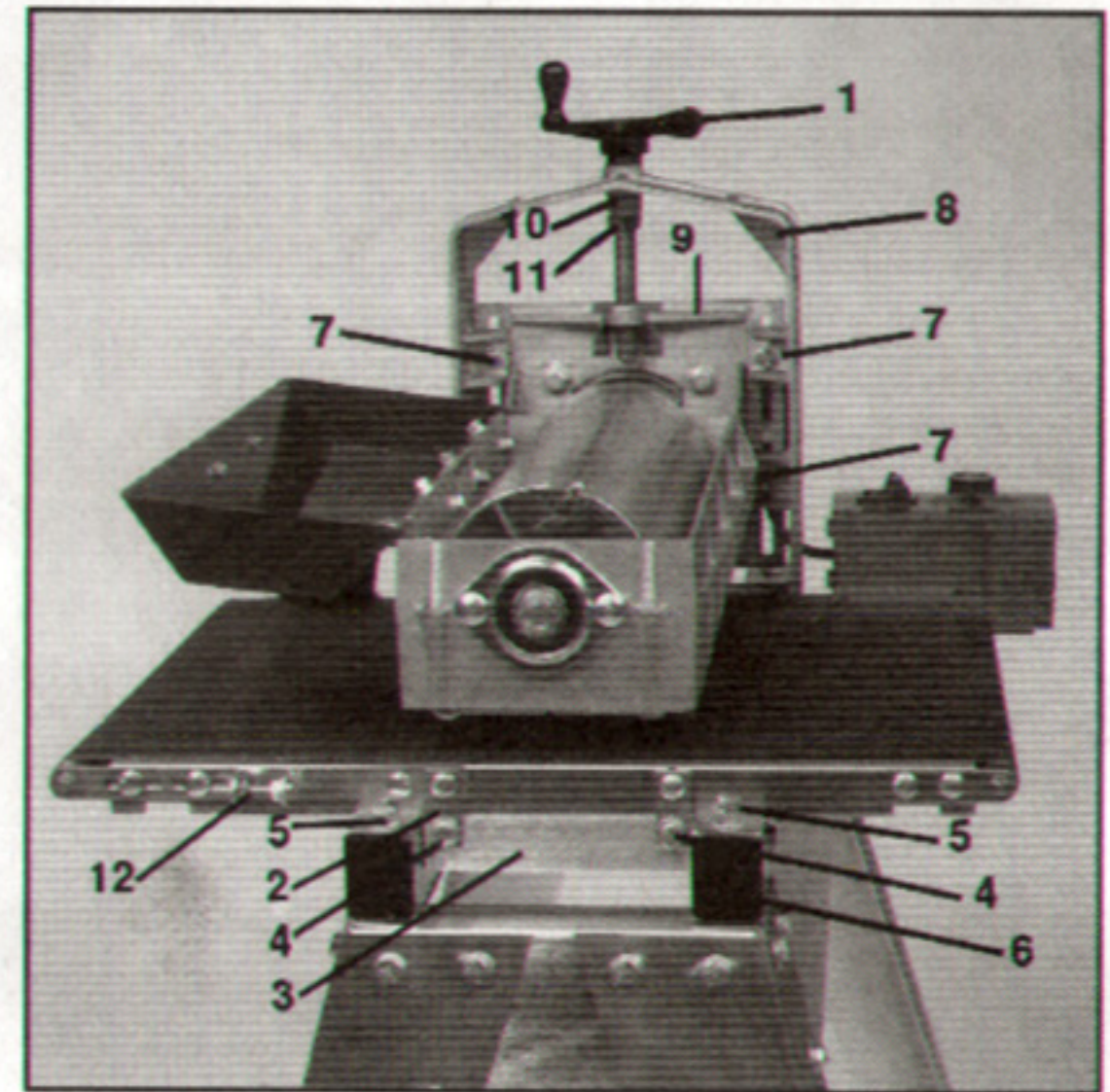


Figure 1

OPTIONAL SANDER STAND

All figures shown in this manual display the PERFORMAX 16-32 on its optional metal stand, Part No. 608G01. Instructions for mounting the sander to the stand are found in the stand manual.

The PERFORMAX 16-32 sander may be operated by simply resting it upon a table or bench. Mounting holes are provided in the machine base rails (5) (Fig. 1) and (4) (Fig. 2) for permanent, secure mounting to stand or bench.

DRUM HEIGHT CONTROL

The drum height and depth of cut is controlled by the height adjustment handle (1) (Fig. 1). Turning the handle in a clockwise direction raises the drum.

Turning the height adjustment handle one revolution raises the drum approximately 1/16", or 1/4 turn raises the drum 1/64".

DRUM HEIGHT CONTROL ADJUSTMENT

If the height control mechanism does not operate easily or smoothly, or there is excessive vertical movement or deflection of the drum carriage, perform the following adjustments:

1. Adjust all four Gib screws (5) (Fig. 2) by first tightening Gib screws then loosening 1/8 to 1/4 turn. If Gib screws are set too tight, height control will not operate easily. If Gib screws are too loose, excessive deflection of the outboard end of the drum carriage will result. Apply lubricant to front and rear portions of motor mount (9) (Fig. 1 & 2).

NOTE: The Gib screws turn hard and may require the use of vise-grips on the screwdriver shank to adjust. If necessary, in order to turn Gib screws, loosen four lock nuts (7) (Fig. 1) on the front side of housing (8) (Fig. 1). Adjust Gib screws and hold in position while re-tightening lock nut.

2. Push height adjustment handle (1) (Fig. 1) downward to set firmly on housing (8) (Fig. 1). Loosen set screw (10) (Fig. 1) of shaft collar (11) (Fig. 1). Slide shaft collar upward against housing so that all vertical free-play of height adjustment screw is eliminated. Lubricate around washers beneath handle and above collar.

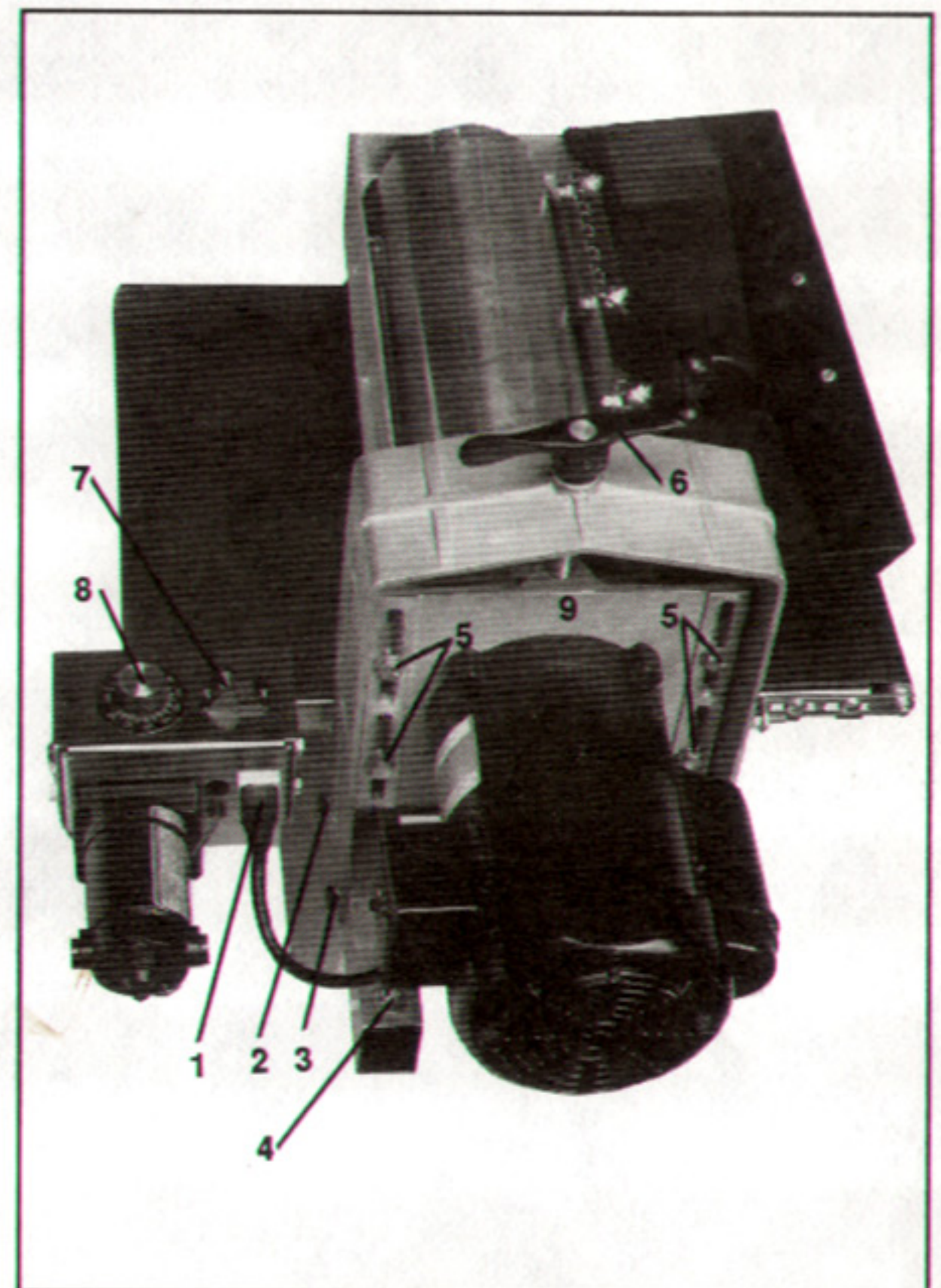


Figure 2

Adjustment & Alignment, con't.

SANDING DRUM ALIGNMENT

The sanding drum must be aligned parallel to the conveyor bed for proper machine operation. Sander precision is a direct result of the care exercised to precisely align the drum.

The most accurate drum alignment can be obtained by first removing the abrasive strip from the drum. (See SANDPAPER ATTACHMENT INSERT.)

1. If there is mis-alignment of the drum, measure by using a narrow piece of wood as a thickness gauge (1) (Fig. 3). Insert the wood between the sanding drum and the conveyor bed at the outer end of the drum. With the dust cover open, lower sanding drum while slowly moving drum by hand until the drum lightly contacts the wood piece.
2. Reach under the drum carriage and lightly raise infeed tension roller (1) (Fig. 4) so that the tension roller does not interfere with the thickness gauge measurement.

While holding tension roller up, slide the wood thickness gauge between the drum and conveyor bed for each end of the drum. It may be necessary to slightly raise or lower sanding drum to "feel" the thickness (distance between drum and conveyor bed) at each end of the drum.

3. If drum alignment is necessary, loosen bolts (2 & 3) (Fig. 2). This allows entire drum carriage and housing to pivot on bolt (2). Place the wood thickness gauge under the outer end of the drum and place your left hand on top of the outer end of the drum to hold it securely on the wood gauge. Turn height adjustment handle clockwise to raise inboard end of drum or counter-clockwise to lower inboard end of drum. A 1/4 turn of the handle will raise or lower the inboard end of the drum approximately 1/64". Re-tighten bolts (2 & 3) (Fig. 2). Re-check alignment by repeating Step 2 above. If necessary repeat Step 3.

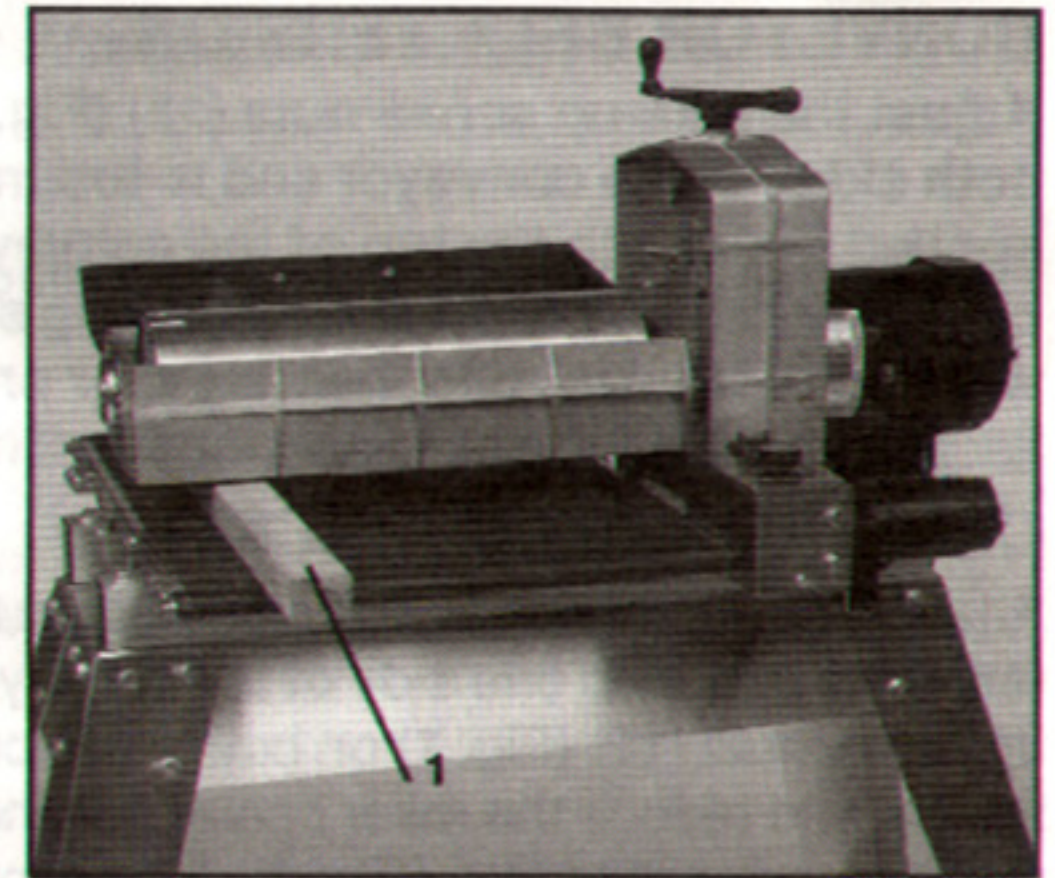


Figure 3

FINE TUNING DRUM ALIGNMENT (Sanding boards wider than the drum)

NOTE: Perform this alignment after you are familiar with manual and sander operation. This is an operational test.

For optimum sanding of boards wider than the drum, the drum alignment is critical and must be exactly level to slightly high on the outboard end. Test alignment with scrap wood roughly 6" wide and 20" to 32" long (see "Sandpaper Attachment Insert" and "Operating Instructions", page 5). Install abrasives and sand board by passing it through the sander sideways so that end of board extends beyond end of drum. Turn board and, without changing drum height, sand other end of board. If a ridge is visible due to the drum overlap, raise the outboard end of drum (i.e. perform Step 3 above and lower inboard end of drum 1/64"). Test again and repeat Step 3 until ridge is eliminated.

TENSION ROLLER ALIGNMENT

The PERFORMAX 16-32 Sander provides spring tensioned infeed and outfeed rollers located immediately fore and aft of the sanding drum. The tension rollers place a downward pressure on pieces when sanded to prevent slippage on the feed conveyor.

WARNING: Improperly adjusted tension rollers (i.e. set too high rendering them non-functional) could allow kick-back of pieces being sanded.

To adjust tension rollers:

1. Loosen all four bearing bolts (3) (Fig. 4). (**NOTE:** Fig. 4 only shows inboard end of drum. Adjustments must be made on both ends of drum.) This will allow both tension rollers to drop to their lowest position. Lower sanding drum to where it contacts the conveyor bed. Raise the sanding drum one turn of the height adjustment handle. Re-tighten bearing bolts (3) (Fig. 4). This procedure will position both tension rollers 1/16" below the bottom of the sanding drum.

ELIMINATING "SNIPE MARKS"

Snipe marks result from too much tension roller pressure and are identified as a visible line running across the width of the board and located approximately 2-1/4" from the end of the board. If the snipe mark occurs on the leading end of the board, adjust outfeed tension roller. If a snipe mark occurs on the trailing end of the board, adjust the infeed tension roller.

Tension roller pressure can be adjusted two ways:

- A. Loosen tension roller spring retaining screws (4) (Fig. 4).
- B. Raise height of tension rollers.

Repeat Step 1 (see Tension Roller Alignment) except raise the sanding drum only 1/4 turn of the height adjustment handle (1) (Fig. 1). If both tension rollers are causing snipe then tighten all four bearing bolts (3) (Fig. 4) at this position. If only outfeed tension roller causes snipe, only tighten rear (outfeed) bearing bolts on each end of drum at this position, then raise sanding drum another 3/4 turn of the handle. Press infeed tension roller down to rest on conveyor bed and tighten front (infeed) bearing bolts at this position. This process sets the tension roller assembly at an angle providing less tension roller pressure on the outfeed roller.

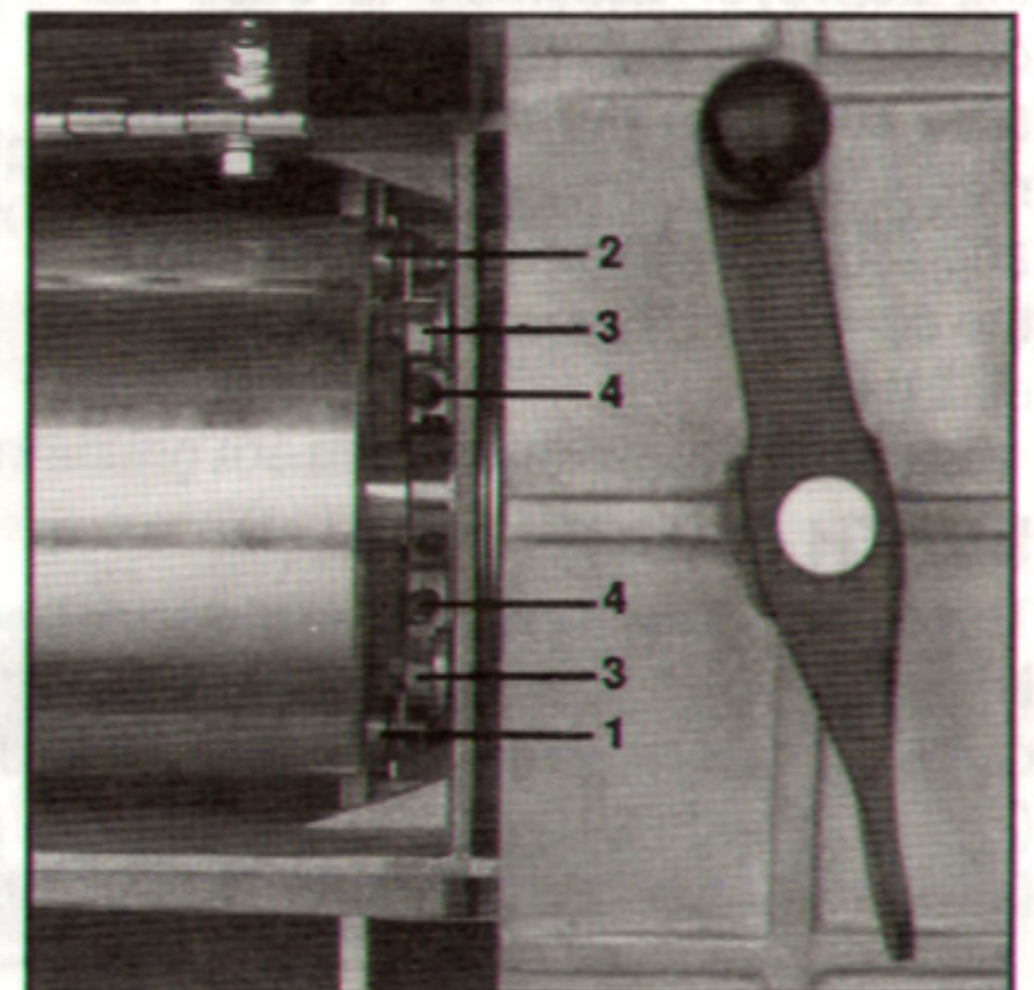


Figure 4

Adjustment & Alignment, con't.

CONVEYOR BELT TENSION

Adjust the take-up screw nuts (12) (Fig. 1) on both sides of the conveyor to obtain approximately equal tension on both sides of the conveyor and to insure a taut conveyor belt. If the conveyor belt can be stopped by hand pressure applied directly to the top of the conveyor bed, the belt is too loose. Insufficient belt tension will cause slippage of conveyor belt on the drive roller during sanding operation. Excessive belt tension can result in bent rollers, premature wearing of bronze roller bearings, or premature wearing of conveyor belt.

CONVEYOR BELT TRACKING

After proper belt tension is obtained, turn the conveyor unit on, and run at fastest speed setting. Watch for a conveyor belt tendency to drift to one side of the conveyor. To adjust the belt tracking without changing belt tension, slightly adjust take-up screw nuts (12) (Fig. 1) on both sides of the conveyor to increase the roller center distance on the side the belt is drifting toward and reduce the roller center distance on the opposite side. Adjustment should be on the order of 1/4 of a turn of the take-up screw nuts (12) (Fig. 1), then allow time for the belt to react to the adjustment.

Belt tracking adjustment may occasionally be necessary during conveyor operation. Belt tension adjustment may occasionally be necessary to compensate for belt stretching.

CONVEYOR BELT REPLACEMENT

To replace conveyor belt, raise drum to highest position. Unplug machine from wall outlet and unplug motor cord from control box receptacle (1) (Fig. 2). Adjust conveyor take-up screws (12) (Fig. 1) to relieve belt tension. Remove four bolts (4) (Fig. 1) attaching conveyor assembly to base rail cross brackets (3) (Fig. 1). Lift up and slide conveyor out to the side of the machine. Set conveyor on motor side and slide conveyor belt off the end of the conveyor. Reverse process for installation.

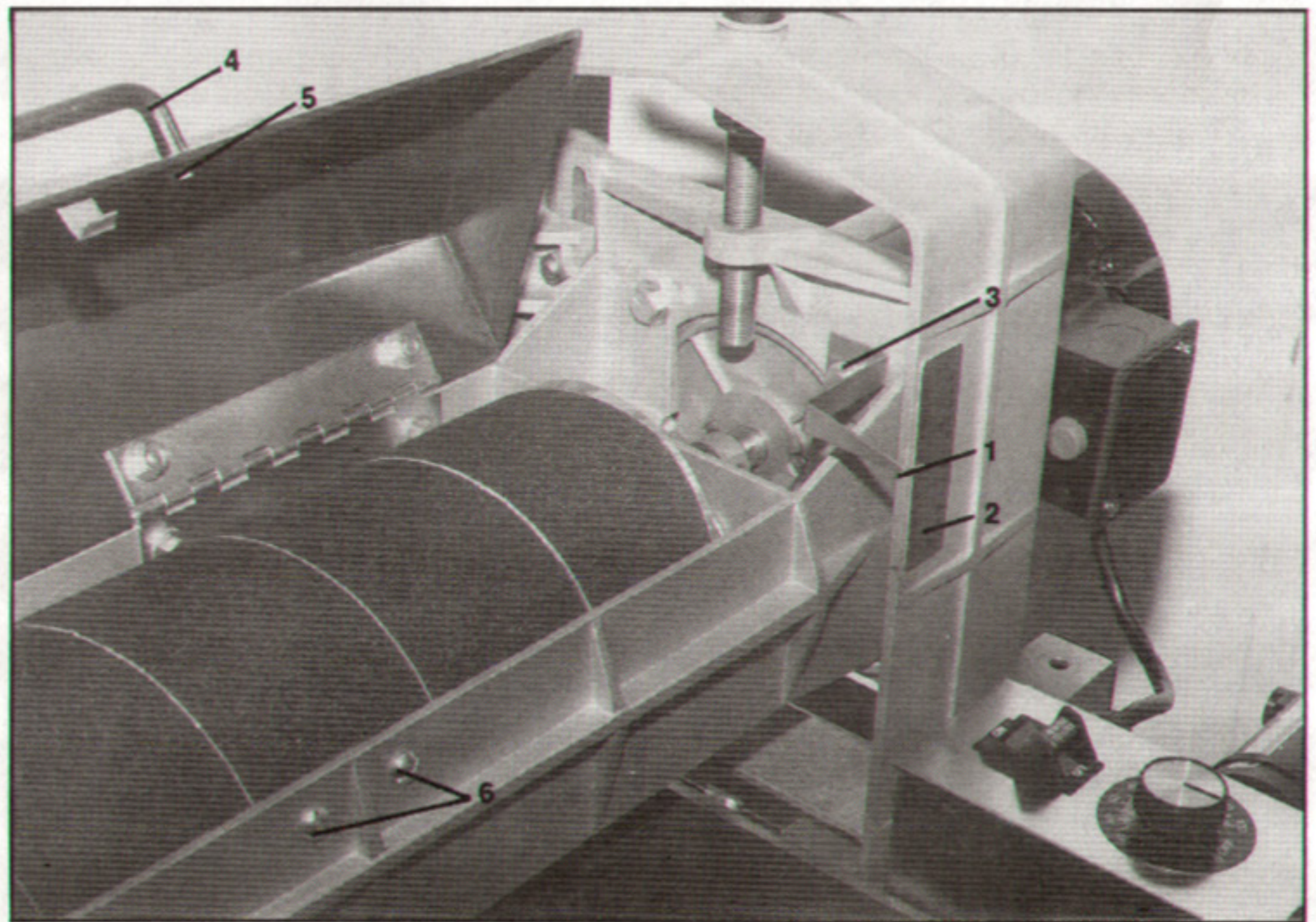


Figure 5

DEPTH GAUGE

The depth gauge provides the distance between the bottom of the sanding drum and the top of the conveyor bed. Adjustment is performed by "zeroing" the gauge. With an abrasive strip on the drum, lower sanding drum to where it touches top of conveyor bed. At this drum position, the depth gauge indicator needle (1) (Fig. 5) should point at the zero mark of scale (2) (Fig. 5). If it does not, loosen bolt (3) (Fig. 5) and raise or lower indicator needle to point to zero on the scale. Re-tighten bolt (3) (Fig. 5).

DUST COVER LATCH

The dust cover latch is provided to prevent the dust cover from accidentally opening. To release latch, press inward on the dust cover handle (4) (Fig. 5). This will cause the dust cover center to flex and release latch. To adjust latch operation, note that the dust cover latch can be adjusted in or out by loosening handle attaching screws (5) (Fig. 5). Opposing catch bracket on front of drum carriage can be adjusted up or down by loosening screws (6) (Fig. 5).

Sandpaper Attachment

Install abrasives on the sanding drum as described on the "Sandpaper Attachment" insert.

SELECTING THE ABRASIVE GRIT

It is important to select the proper grit of abrasives for the type of sanding being performed in order to get the best performance and operation of the sander.

As with any sander, you should begin sanding with a coarser grit, depending on the roughness or desired depth of stock removal, and progressively work toward finer grits.

Performax Products offers eight different abrasive grits for the sander. The following chart offers suggestions on selecting the proper grit size.

| GRIT | RECOMMENDED USES |
|----------|---|
| 36 Grit | Abrasive planing, surfacing rough sawn boards, maximum stock removal, glue removal. |
| 60 Grit | Surface and dimensioning boards. |
| 80 Grit | Surfacing, light dimensioning, trueing warped boards. |
| 100 Grit | Surfacing. |
| 120 Grit | Light surfacing, removing planer ripples. |
| 150 Grit | Finish sanding, minimal stock removal. |
| 180 Grit | Finish sanding, not for stock removal. |
| 220 Grit | Finish sanding, not for stock removal. |

NOTE: If using other than Performax abrasives, the following abrasive specifications are recommended:
3" wide continuous rolls, (X) weight polyester backed, aluminum oxide, resin bond, open coat.

DUST COLLECTION

Dust collection is necessary for a safe work environment and extended abrasive life. The PERFORMAX 16-32 sander is equipped with a 2-1/2" dust collection port at the top of the dust cover and is designed to use with a standard shop type canister vacuum. A high volume dust collector will also work well but requires converting the hose size down to the 2-1/2" port opening.

SANDPAPER CLEANING

A sandpaper cleaning stick may be used to remove deposits and extend sandpaper life. To use, operate the sanding drum with the dust cover opened. Hold the cleaning stick against the rotating drum and move it along the drum surface.

CAUTION

Always wear eye protection while performing sandpaper cleaning and avoid contacting the uncovered drum with hands or clothing.

Optional Accessories

PERFORMAX PRODUCTS, INC. OFFERS THE FOLLOWING ACCESSORIES FOR THE PERFORMAX 16-32 SANDER

METAL STAND: Part No. 608G01. Sturdy steel stand for PERFORMAX 16-32 Sander. See front cover. Includes leveling glides and hardware for sander attachment.

CASTERS: (Four required.) Sturdy swivel casters, with convenient locking wheel and swivel, provide portability. Machine may be operated on casters.

Operating Instructions

MACHINE CONTROLS (See Fig. 2)

Height Adjustment Handle: (6) (Fig. 2) Raises or lowers sanding drum to select depth of cut.

Motor Starter Switch: (7) (Fig. 2) Starts and stops drive motor and sanding drum.

Feed Rate Control Knob: (8) (Fig. 2) Starts feed conveyor and selects feed rate from 0 to 100% (0-10 ft./min.)

CAUTION: Read safety section of manual before operating sander.

SANDING

1. Install abrasive.
2. Set depth of cut.
3. Start sanding drum.
4. Start and select feed rate.
5. Start dust collector.

Rest and hold the board to be sanded on the conveyor table allowing the conveyor to carry the board into and engage the drum. While the board is being sanded, reposition yourself to the outfeed side of the machine to receive and control the board as it exits the sanding drum.

PROPER DEPTH OF CUT

Initially, set the drum height equal to the thickness of the board to be sanded. This is most easily done as follows: raise sanding drum above the board thickness. **Do not start sanding drum.** Start conveyor and feed board beneath drum. As the board is moving, lower the sanding drum until the board just engages and turns sanding drum. Continue to run the board through the machine.

From this position, lower the sanding drum to the proper depth of cut by turning the height adjustment handle in a counter-clockwise direction. The depth of cut can be measured on the depth gauge or by fractions of a revolution of the height adjustment handle. **NOTE:** One revolution of the handle lowers the drum 1/16", 1/4 of a turn equals 1/64", etc.

Several variables affect the correct depth of cut:

1. Abrasive grit size.
2. Width of board.
3. Hardness of board.
4. Feed rate.

Through practice you will learn the proper depth of cut considering the variables above. Use scrap wood for practice sanding and develop skill and familiarity with sander performance before doing finish work. (See Performance Troubleshooting section in this manual.)

The Performax™ Power Feed unit offers greater versatility in sander performance with variable feed rate control. The faster feed rate allows faster sanding, while a slower feed rate allows a greater depth of cut and smoother sanding (i.e. more revolutions of sanding drum per inch of sanding). An excessively slow feed rate could cause scorching of the wood.

Performance Troubleshooting

| PROBLEM | CAUSE | SOLUTION |
|---|--|---|
| Abrasive strip comes off drum. | Slack in abrasive strip on drum. Abrasive improperly installed. | Read "Sandpaper Attachment" insert. |
| Sander burns wood. | Spiraled abrasive strips overlapped. Abrasive loaded. Depth of cut excessive for fine grit. Feed rate too slow. | Work abrasive slack out of drum Reduce depth of cut. Use coarser grit. Increase feed rate. |
| Conveyor rollers run intermittent. | Shaft coupling loose. | Align shaft flats of gear motor and drive roller and tighten shaft coupling set screws. |
| Conveyor belt slips on drive roller. | Improper conveyor belt tension. | Adjust belt tension. Reduce depth of cut. Reduce feed rate. |
| Board slips on conveyor belt. | Tension rollers too high. Excessive feed rate. Dirty or worn conveyor belt. | Lower tension rollers. Reduce feed rate. Replace conveyor belt. |
| Sander drive motor stalls or Power feed gear motor stalls. | Excessive depth of cut. | Reduce depth of cut. Reduce feed rate. |
| Rippled sanded surface. Non-uniformly spaced ripples. | Uneven feed rate. | Conveyor belt slipping on drive roller (see above). Board slips on conveyor belt (see above). Power feed gear motor stalls (see above). |
| Uniformly spaced ripples. | Conveyor bed flexing. Sander vibration. | Reduce depth of cut. Reduce feed rate. Check for: Loose bolts or bearing set screws; Mis-aligned drum bearings; Loose shaft coupling set screws; Sanding drum out of balance; or Defective sanding drum. |
| Snipe marks | Improper tension roller adjustment. | See page 2 of manual. |
| Table height adjustment works improperly. | Improper adjustment of height control. | See page 1 of manual. |

Safety Information

CAUTION

READ BEFORE OPERATING SANDER

**For Safe Sanding Operation,
Follow These Guidelines:**

- ALWAYS BE SAFETY CONSCIOUS
- ALWAYS WEAR EYE PROTECTION WHILE OPERATING SANDER
- NEVER OPERATE SANDER WITHOUT DUST COVER INSTALLED
- KEEP HANDS AND CLOTHING AWAY FROM OPERATING DRUM
- BE FAMILIAR WITH PROPER OPERATION OF THE MACHINE