JWDS-2244OSC-M

Oscillating Drum Sander
Zylinderschleifmaschine
Ponceuse à cylindre oscillant

Original:
GB
Operating Instructions

Translations:
D
Gebrauchsanleitung

F
Mode d´emploi

TOOL FRANCE SARL
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www.jettools.com

M-723544OSCKM 2019-06

CE-Conformity Declaration
CE-Konformitätserklärung
Déclaration de conformité CE

Product / Produkt / Produit:
Drum sander / Zylinderschleifmaschine / Ponceuse à cylindre

JWDS-2244OSC-M
723544OSCK-M

Brand / Marke / Marque:
JET

Manufacturer / Hersteller / Fabricant:
TOOL FRANCE SARL
9 Rue des Pyrénées, 91090 LISSES, France

We hereby declare that this product complies with the regulations
Wir erklären hiermit, dass dieses Produkt der folgenden Richtlinie entspricht
Par la présente, nous déclarons que ce produit correspond aux directives suivantes

2006/42/EC
Machinery Directive / Maschinenrichtlinie / Directive Machines

2014/30/EU
Electromagnetic compatibility / elektromagnetische Verträglichkeit / compatibilité électromagnétique

2011/65/EU
RoHS directive / RoHS-Richtlinie / Directive RoHS

designed in consideration of the standards
und entsprechend folgender zusätzlicher Normen entwickelt wurde
et été développé dans le respect des normes complémentaires suivantes

EN ISO 12100:2010
EN 60204-1:2006+A1:2009
EN 61000-6-2:2005
EN 61000-6-4:2007+A1:2011

Responsible for the Documentation / Dokumentations-Verantwortung / Responsabilité de Documentation:
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TOOL FRANCE SARL

2019-05-24 Christophe SAINT SULPICE, General Manager
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GB - ENGLISH
Operating Instructions

Dear Customer,

Many thanks for the confidence you have shown in us with the purchase of your new JET-machine. This manual has been prepared for the owner and operators of a **JET JWDS-2244OSC-M oscillating drum sander** to promote safety during installation, operation and maintenance procedures. Please read and understand the information contained in these operating instructions and the accompanying documents. To obtain maximum life and efficiency from your machine, and to use the machine safely, read this manual thoroughly and follow instructions carefully.

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1. **Declaration of conformity**

On our own responsibility we hereby declare that this product complies with the regulations listed on page 2. Designed in consideration with the standards.

2. **Warranty**

TOOL France SARL guarantees that the supplied product(s) is/are free from material defects and manufacturing faults.

This warranty does not cover any defects which are caused, either directly or indirectly, by incorrect use, carelessness, damage due to accidents, repairs or inadequate maintenance or cleaning as well as normal wear and tear.

Further details on warranty (e.g. warranty period) can be found in the General Terms and Conditions (GTC) that are an integral part of the contract.

These GTC may be viewed on the website of your dealer or sent to you upon request.

TOOL France SARL reserves the right to make changes to the product and accessories at any time.

3. **Safety**

3.1 **Authorized use**

This drum sander is designed for sanding wood and similar materials only. Sanding of other materials is not permitted and may be carried out in specific cases only after consulting with the manufacturer.

The machine is not suitable for wet sanding.

The proper use also includes compliance with the operating and maintenance instructions given in this manual.

The machine must be operated only by persons familiar with its operation and maintenance and who are familiar with its hazards.

The required minimum age must be observed.

The machine must only be used in a technically perfect condition.

When working on the machine, all safety mechanisms and covers must be mounted.

In addition to the safety requirements contained in these operating instructions and your country's applicable regulations, you should observe the generally recognized technical rules concerning the operation of woodworking machines.

Any other use exceeds authorization. In the event of unauthorized use of the machine, the manufacturer renounces all liability and the responsibility is transferred exclusively to the operator.

3.2 **General safety notes**

Woodworking machines can be dangerous if not used properly. Therefore the appropriate general technical rules as well as the following notes must be observed.

Read and understand the entire instruction manual before attempting assembly or operation.

Keep this operating instruction close by the machine, protected from dirt and humidity, and pass it over to the new owner if you part with the tool.

No changes to the machine may be made.

Daily inspect the function and existence of the safety appliances before you start the machine. Do not attempt operation in this case, protect the machine by unplugging the power cord.

Before operating the machine, remove tie, rings, watches, other jewellery, and roll up sleeves above the elbows. Remove all loose clothing and confine long hair.

Wear safety shoes; never wear leisure shoes or sandals.

Always wear the approved working outfit:
- eye protection
- expiratory protection
- dust protection

Do not wear loose clothes and gloves while operating this machine.

Install the machine so that there is sufficient space for safe operation and workpiece handling.

Keep work area well lighted.

The machine is designed to operate in closed rooms and must be bolted stable on firm and levelled table surface or on the supplied cabinet stand.

Make sure that the power cord does not impede work and cause people to trip. Keep the floor around the machine clean and free of scrap material, oil and grease.

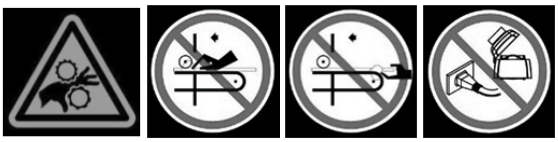
Stay alert! Give your work undivided attention.

Use common sense. Do not operate the machine when you are tired.

Keep an ergonomic body position. Maintain a balanced stance at all times.

Do not operate the machine under the influence of drugs, alcohol or any medication. Be aware that medication can change your behaviour.

Never reach into the machine while it is operating or running down.



Always close the drum cover before you start the machine.

Keep your hands distant to drum housing and conveyor belt when feeding the work piece.

Keep children and visitors a safe distance from the work area.

Never leave a running machine unattended. Before you leave the workplace switch off the machine.

Do not operate the electric tool near inflammable liquids or gases. Observe the fire fighting and fire alert options, for example the fire extinguisher operation and place.

Do not use the machine in a dump environment and do not expose it to rain.

Sanding dust is explosive and can also represent a risk to health. Always use a suitable dust extraction device.

Before machining, remove any nails and other foreign bodies from the workpiece.

Work only with well sharpened tools.

Machine only stock which rests securely on the table.

Always close the chuck cover before you start the machine.

Specifications regarding the maximum or minimum size of the workpiece must be observed.

Do not remove chips and workpiece parts until the machine is at a standstill.

Do not stand on the machine.

Connection and repair work on the electrical installation may be carried out by a qualified electrician only.

Have a damaged or worn power cord replaced immediately.

Make all machine adjustments or maintenance with the machine unplugged from the power source.

Protect the environment, dispose of the packing in an environmentally friendly manner.

Your appliance contains valuable materials which can be recovered or recycled. Please leave it at a specialized institution.

This symbol indicates separate collection for electrical and electronic equipment required under the WEEE Directive (Directive 2012/19/EC) and is effective only within the European Union.

3.3 **Remaining hazards**

When using the machine according to regulations some remaining hazards may still exist.

The moving sanding sleeve can cause injury.

Risk of kickback. The workpiece is caught by the moving sanding sleeve and thrown back to the operator.

Thrown workpiece parts can lead to injury.

Sanding dust and noise can be health hazards. Be sure to wear personal protection gear such as safety goggles and dust mask. Use a suitable dust exhaust system.

Defective sanding abrasives can cause injuries.

The use of incorrect mains supply or a damaged power cord can lead to injuries caused by electricity.

3.4 **Labels and positions**

A: Safety warning

B: Sanding drum & Conveyor belt running direction

C: Loosen table lock before adjusting table parallel

Fig. A

Fig. B

Fig. C

4.0 **Specifications**

Model number **JWDS-2244OSC-M**
Stock numbers:
- Sander with closed stand 723544OSCK-M
- Closed stand only ..... (provided standard) 723544CS
- Folding infeed/outfeed tables ..... 723551 (optional)
- Digital readout ..... 723552 (optional)

Motor and electricals:
Drum motor:
- Motor type ..... induction motor
- Output power ..... 1.3kW (1.75 HP)
- Voltage ..... ~230V, PE, 50Hz
- Listed FLA (full load amps) ..... 9.5 A
- Motor speed ..... 1400 /min
- Starting amps ..... 28 A
- Running amps (no load) ..... 4.3 A
- Start capacitor 300μF 125VAC
- Running capacitor ..... 20 μF 300VAC

Conveyor motor:
- Motor type ..... totally enclosed DC motor
- Horsepower ..... 40 W
- Motor speed ..... 54 /min

Oscillating motor:
- Motor type ..... totally enclosed DC motor
- Horsepower ..... 40 W
- Motor speed ..... 120 /min

- Power Switch ..... magnetic switch
- Power cord ..... H05RN-F, 3x1.0mm^2, 1830 mm
- Recommended circuit and fuse/breaker size [1] ..... 16 A

- Sound emission [2] ..... 68 dB idling; 70 dB in operation
  Acoustic pressure level LpA (EN ISO 11202)

Capacities:
- Maximum board width (single pass) ..... 560 mm
- Maximum board width (two passes) ..... 1120 mm
- Maximum board thickness ..... 102 mm
- Minimum board length ..... 60 mm
- Minimum board thickness [3] ..... 0.8 mm

Main materials:
- Closed stand ..... steel
- Drum ..... extruded aluminum
- Extension tables (optional) ..... steel
- Conveyor table ..... steel
- Drum height adjustment handle ..... aluminum and plastic

Sanding drum:
- Drum dimension ..... dia. 127 x 584 mm
- Drum speed ..... 1400 /min
- Oscillating frequency ..... infinitely variable, 0 -120 /min
- Oscillating stroke ..... 19 mm
- Sanding paper installed ..... 80 grit
- Drum elevation per one rotation of hand wheel ..... 1.6 mm

[1] *Subject to local/national electrical codes.*

[2] *The specified values are emission levels and are not necessarily to be seen as safe operating levels. As workplace conditions vary, this information is intended to allow the user to make a better estimation of the hazards and risks involved only.*

[3] *Use of a carrier or backer board (not provided) is recommended for cuts 1.5 mm or less. See sect. 9.3.*

Conveyor:

Conveyor speed..... infinitely variable, 0 -3 m/min
Conveyor table dimensions..... 660 x 552 mm
Conveyor height from floor..... 857 mm

Dust collection:

Dust port outside diameter..... 100 mm
Minimum extraction volume required..... 560 m^3/h

Dimensions:

Shipping carton, base machine..... 1320 x 700 x 718 mm
Shipping carton, closed stand..... 1030 x 508 x 770 mm
Assembled dimensions..... 1200 x 610 x 1320 mm

Weights:

Net weight..... 98 kg
Shipping weight..... 131 kg

The specifications in this manual were current at time of publication, but because of our policy of continuous improvement, JET reserves the right to change specifications at any time and without prior notice, without incurring obligations.

5.0 **Features and Terminology**

The illustration below shows the major components and features of the JWDS-2244OSC-M Sander. These are referenced throughout the manual and will help to familiarize you with the operation and functions of the machine.

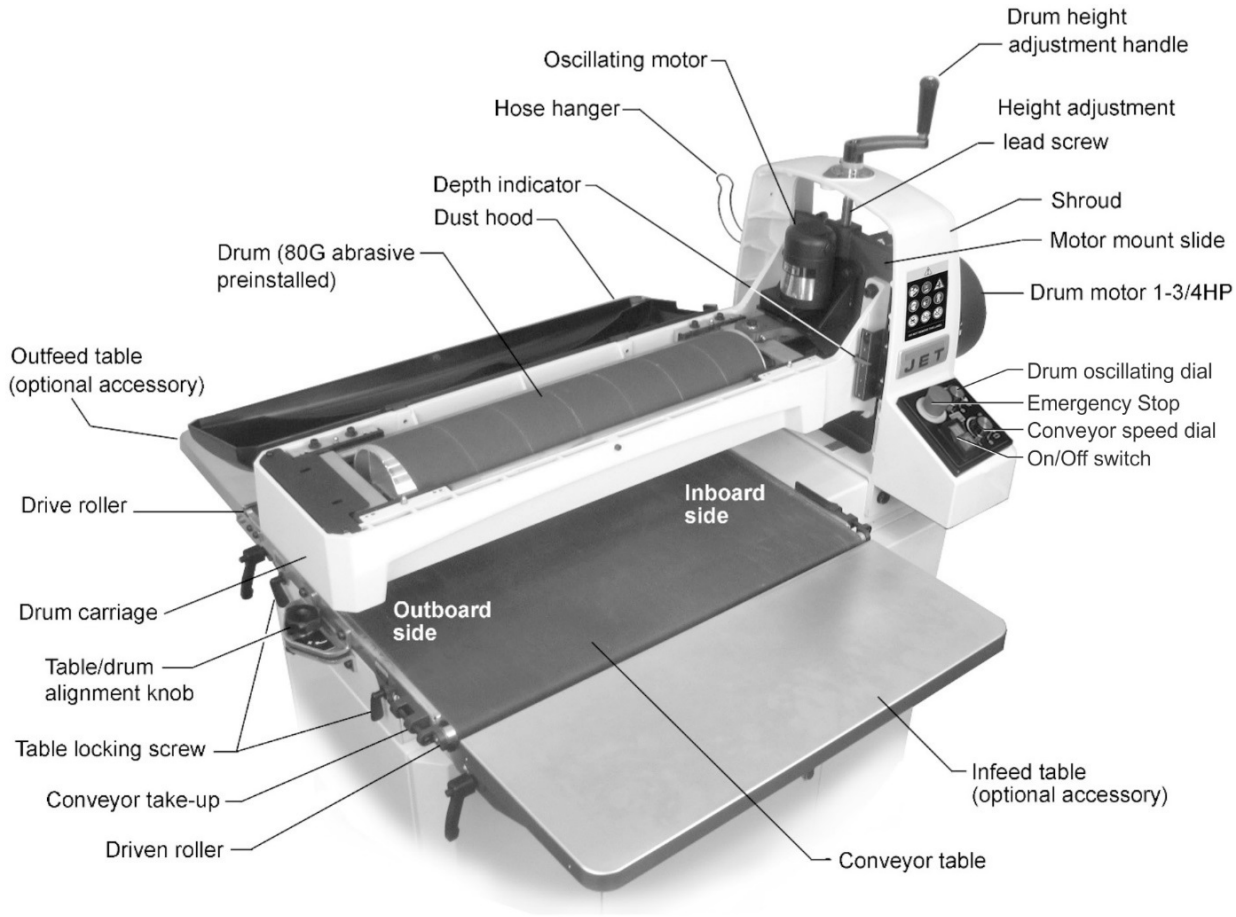


Figure 5-1: features and terminology

⚠WARNING Read and understand the entire contents of this manual before attempting set-up or operation! Failure to comply may cause serious injury.

NOTE: Figures in this manual may show optional accessories. Depending upon your model, these may be purchased separately.

6.0 Setup and assembly

Open boxes and check for shipping damage. Report any damage immediately to your distributor and shipping agent. Do not discard any shipping material until the Drum Sander is assembled and running properly.

Compare the contents of your boxes with the following parts list to make sure all parts are intact. Any missing parts should be reported to your distributor. Read this instruction manual thoroughly for assembly, maintenance and safety instructions.

6.1 Shipping contents

Box #1: *(see Figure 6-1)*

1 Sander with conveyor table (A)
1 Height adjust handle (B)
1 Hose hanger (C)
2 Socket head screw M6x12 (C1)
2 Flat washer 6mm (C2)
1 Instruction manual
1 Spare parts list

Box #2: Infeed and outfeed tables
(Optional, *see Figure 6-2)*

2 Infeed/outfeed tables (D)
1 Rear (short) fixed bracket (E)
1 Front (long) fixed bracket (F)
2 Folding table brackets (G, H)
1 Hardware package, includes:
- 4 Locking handles (HP1)
- 4 Disc washers (HP2)
- 4 Bronze washers (HP3)
- 16 Socket head screws M8x16 (HP4)
- 16 Flat washers M8 (HP5)
- 4 Socket head screws M6x20 (HP6)
- 4 Flat washers M6 (HP7)
- 4 Eccentric cams (HP8)

6.2 Tools required for assembly

5mm and 6mm hex (Allen) wrenches.
Straight edge (such as straight steel bar or carefully jointed board).

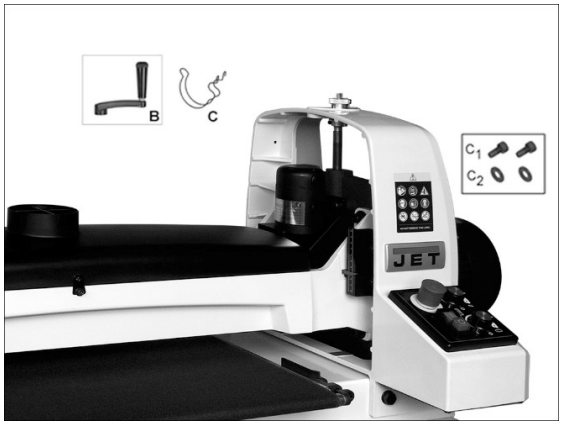


Figure 6-1: Sander contents

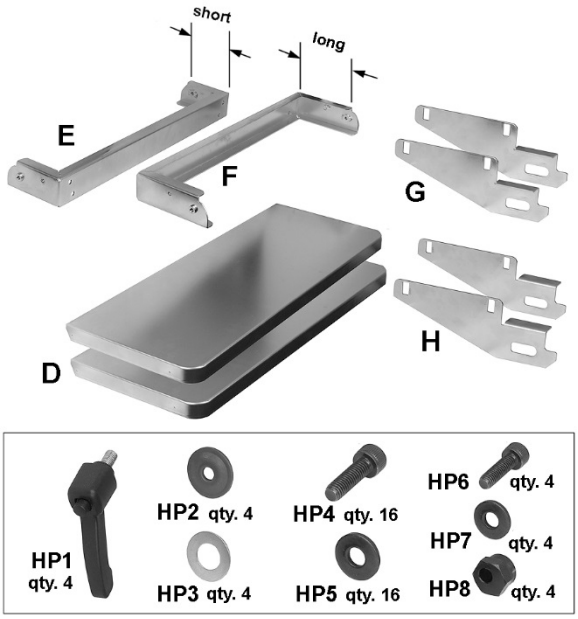


Figure 6-2: Infeed/Outfeed Tables (OPTIONAL)

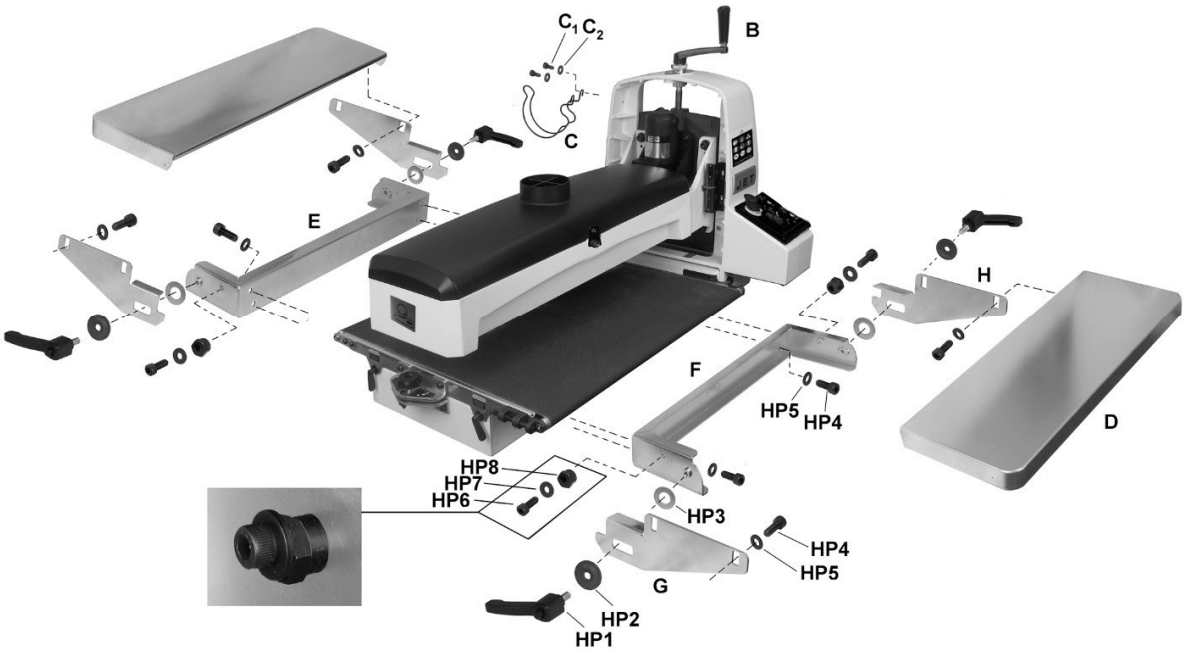


Figure 6-3: Assembly of Sander and OPTIONAL Infeed/Outfeed Tables

6.3 **Assembling stand**

A closed stand is provided standard with the JWDS-2244OSC-M Sander. Refer to the assembly instructions that accompany the stand.

6.4 **Mounting sander to stand**

The closed stand can be oriented with storage door towards the front or back of machine.

1. Lift drum head assembly out of the box, and temporarily rest it crosswise on top of stand.

   ⚠WARNING Use an assistant to help lift the sander.

2. Position sander atop stand so that the threaded holes of base align with holes in the stand.

3. Fasten base to stand (from beneath) with the 6 provided screws and washers. Tighten screws securely.

6.5 **Handle and hose hanger**

1. Install height adjustment handle (B, Fig 6-3) onto spindle and tighten set screw.

2. Raise drum and remove shipping block from between drum and conveyor.

3. Install hose hanger (C) with screws and washers (C_1/C_2).

6.6 **Infeed and outfeed tables** (optional accessory)

The sander must be bolted to the stand or a work table when using these table extensions. Maximum working load of each table is 16kg. Fasteners are provided with the extension tables.

1. Install infeed and outfeed brackets (F, E, Figure 6-3) to the threaded holes in sander base with socket head screws and flat washers (HP4/5). Make sure left and right brackets are oriented as shown. The brackets should be flush against the base. NOTE: Long brackets mount to front (infeed); short brackets to rear (outfeed).

2. Tighten screws (HP4)

3. Install eccentric cam (HP8) with screw and washer (HP6/7). *Finger tighten only at this time*.

4. Install table brackets (G,H), using handles and washers (HP1/2/3).

5. Place extension tables over brackets and secure with socket head screws and washers (HP4/5). *Finger tighten only.*

6. Position tables slightly below conveyor belt surface for proper support of stock. To check position, place a straight-edge on one side of conveyor table under drum and extending out over the extension table.

7. Lower drum to securely hold straight-edge in place. See Figure 6-4. Raise infeed/outfeed table until table surface is slightly below conveyor belt surface. Tighten screws on that side.

8. Reposition straight-edge to other side of table and repeat.

9. Loosen screw (HP6) and rotate eccentric cam (HP8) until it contacts lip of table bracket. Do this on both sides of infeed table. This ensures infeed table will remain level with conveyor table each time it is returned to operating position. Tighten screws (HP6).

If stock being sanded is bowed, warped or otherwise inconsistent, be sure tables are lower than top of conveyor table.

If stock slips on conveyor, the tables may be positioned too high. Lower tables to allow stock to remain in contact with conveyor.

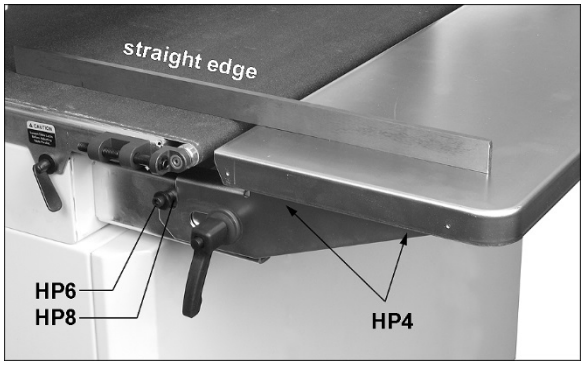


Figure 6-4: extension table alignment

6.7 **Dust collection**

Dust collection is mandatory for a safe work environment and extended abrasive life. The machine is equipped with a 100mm dust collection port. Secure a 100mm dust collection hose to the port with a hose clamp (Figure 6-5), and connect to a dust collector (minimum 560m^3/h).

Figure 6-5 (hose and clamp not included)

6.8 **Installing abrasives**

Proper attachment of the abrasive strip to the drum is critical to achieving top performance from your drum sander.

An 80-grit, 76mm wide abrasive strip is pre-installed on the drum.

(TIP: If you are using an after-market abrasive, use a new JET-supplied abrasive as a template to quickly cut a new strip.

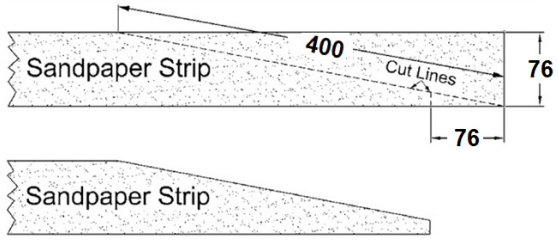


Figure 6-6: abrasive trimming

To install abrasive strip:

1. Press fastener lever (Figure 6-7) on outboard (left) end of drum, and insert tapered end of abrasive through slit in fastener, as shown. Insert approximately 75mm of abrasive strip into fastener. Align tapered edge of abrasive strip with left edge of drum.

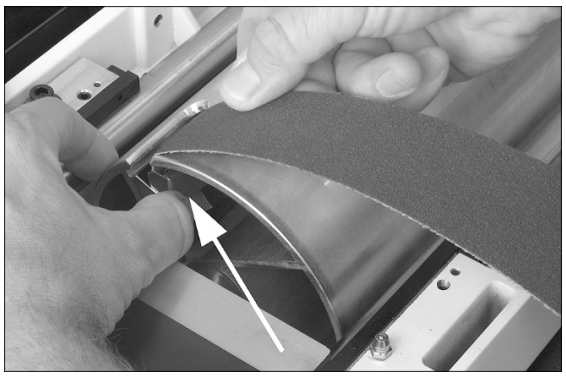


Figure 6-7

2. Release fastener lever to secure end of strip.

3. Begin wrapping abrasive around drum. The tapered edge of strip end should follow as close as possible to edge of drum.

4. Continue to wrap abrasive in spiral fashion by rotating drum with one hand and guiding strip with the other. See Figure 6-8.

   Successive windings of strip must *not have any overlap.* They should be flush with previous windings or with a slight gap between.

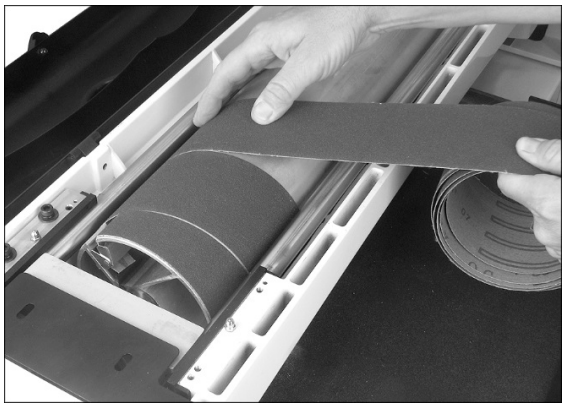


Figure 6-8

5. Press inboard take-up lever (Figure 6-9) and insert trailing end of strip as far as it will go. If necessary, trim tapered end of abrasive strip.
6. Release inboard take-up lever to secure strip.

All abrasive strips will stretch over time as they are used, and may stretch enough to allow the take-up lever to reach its lowest position so that it cannot maintain tension on the strip. If this occurs, follow the above procedures to reset the take-up lever.

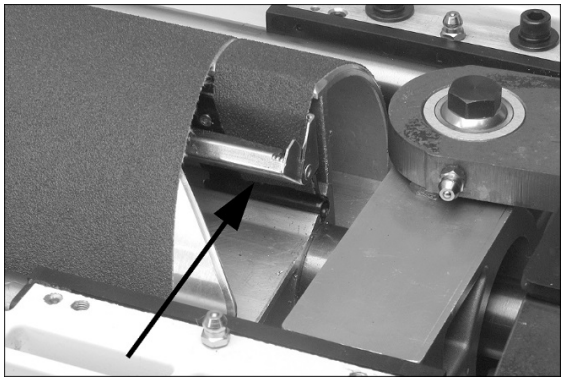


Figure 6-9

7.0 Electrical connections

⚠WARNING All electrical connections must be done by a qualified electrician in compliance with all local codes and ordinances. Failure to comply may result in serious injury.

The Sander is rated at 230V power. The sander comes with a plug designed for use on a circuit with a *grounded outlet.*

It is recommended that the sander be connected to a dedicated 16 amp circuit with circuit breaker or fuse. If connected to a circuit protected by fuses, use time delay fuse marked "T". **Local codes take precedence over recommendations.**

8.0 Adjustments

⚠WARNING Disconnect sander from power source before making adjustments.

8.1 Drum Height Control

Drum height and depth of cut are controlled by height adjustment handle (see Figure 5-1). Rotating handle clockwise lowers drum, counter-clockwise raises it. One revolution of handle will move drum approximately 1.6mm (or 1/4 turn = approx. 0.4mm), as shown on the label below handle.

8.2 Depth scale

The depth scale indicates distance between bottom of sanding drum and top of conveyor belt. Adjustment is performed by "zeroing" the scale.

1. Unplug sander from power source.
2. With an abrasive strip on drum, lower drum to where it touches top of conveyor belt.
3. At this drum position, the depth scale pointer should align with zero mark on scale. If it does not, loosen two screws and raise or lower scale until zero aligns with the pointer.
4. Retighten screws.

Note: Depending on desired accuracy, you may need to repeat this process when installing different abrasive grits.

8.3 Infeed/Outfeed Table Adjustment (OPTIONAL)

The optional tables can be swung down to allow easier access for abrasive wrapping or other adjustments.

Loosen handles on each side, slide table away from machine and then down. See Figure 8-2.

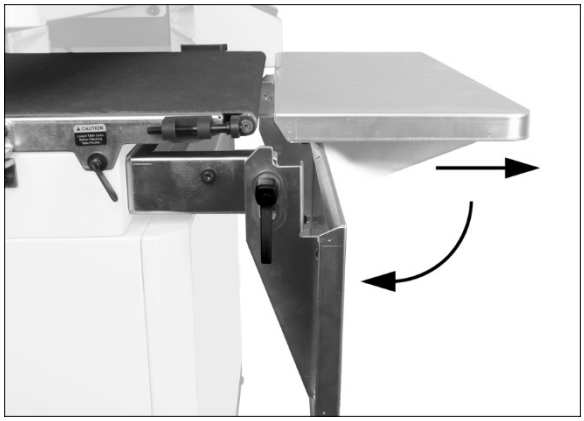


Figure 8-2

8.4 Conveyor belt tension/tracking

Conveyor belt tension adjustment may be necessary during the break-in period to compensate for belt stretching.

8.4.1 Belt tension adjustment

1. Unplug sander from power source.
2. Adjust take-up screw (Figure 8-3) with 5mm hex wrench. Do this on both sides of conveyor to obtain approximately equal tension on both sides of sanding belt when taut.

   NOTE: Insufficient belt tension will cause slippage of conveyor belt on drive roller during sanding operation. The conveyor belt is too loose if it can be stopped by hand pressure applied directly to top of moving conveyor belt. Excessive belt tension can result in bent rollers, bent brackets, and/or premature wearing of bushings or conveyor belt.

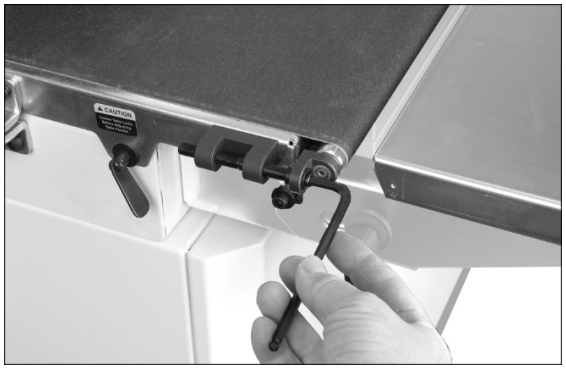


Figure 8-3: belt tension adjustment

8.4.2 Tracking adjustment

A belt tracks correctly when it moves centrally on the conveyor rollers without drifting to either side. Tracking adjustments are made while conveyor belt is running.

1. Unplug sander from power source.
2. Make sure proper belt tension has been achieved (see *sect. 8.4.1*).
3. Turn on conveyor and set to maximum speed. Watch for tendency of conveyor belt to drift to one side of conveyor. If it drifts, tighten or loosen take-up screw.

   Note: Adjust take-up screw only 1/4 turn at a time. Allow time for belt to react to adjustments before proceeding further.

   Try to avoid over adjustments, as this may affect belt tension. If tension is affected, if may become necessary to use both take-up screws to accomplish tensioning and tracking.

8.4.3 Trackers

The sander comes equipped with "Trackers", ceramic guides that reduce the amount of adjustments needed to keep conveyor belt tracked (centered) on conveyor table. These guides have a magnetic backing to keep them in place. If a Tracker wears through, it can be reversed by turning it over. See *sect. 11.0 Tracker Kit* for more information about re-setting trackers.

8.5 Inspecting drum alignment

The sanding drum must be parallel to conveyor table for proper machine operation. The sanding drum comes pre-aligned from the manufacturer. If a problem with drum alignment should occur, follow the instructions below.

First, inspect the alignment with a gauge of some kind. The following procedure uses a steel straight-edge as a gauge.

1. Unplug sander from power source.
2. Open dust cover and remove abrasive strip from drum.
3. Insert gauge between drum and conveyor table at outboard side of drum (A, Figure 8-4).

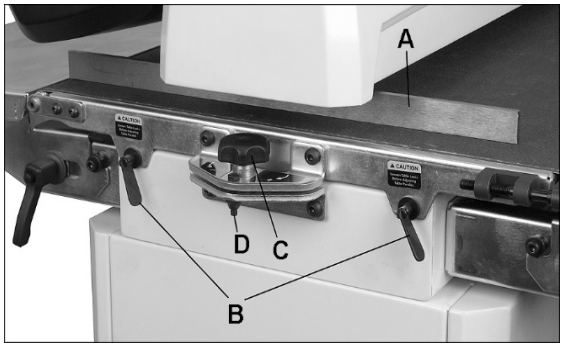


Figure 8-4: drum alignment

4. With dust cover open, lower sanding drum while slowly rotating drum by hand, until drum lightly contacts gauge. NOTE: Make sure drum contacts gauge, not just the tension rollers.
5. Remove gauge and place under drum at inboard side.
6. If drum does not contact gauge equally on both ends of drum, alignment is needed.

To align conveyor table with drum:

7. Loosen both table locking screws (B)

   ⚠CAUTION Loosen both table locks before adjusting drum alignment.

8. Turn knob (C) to raise or lower outboard end of table. Follow directional marks on label (**+** raises, **-** lowers).

9. Retighten table lock screws (B).

8.5.1 **Fine-tuning drum alignment**

Note: This is an operational test for sanding boards wider than the drum. Perform this procedure only after you have become familiar with sander operation.

When sanding boards wider than the drum, table alignment is critical and table must be adjusted exactly level to slightly lower on the outboard end. This will prevent any ridges from developing in the stock. Always check this on a piece of scrap wood, as follows, before sanding the work piece.

1. Run a piece of scrap wood approximately 150mm wide by 700mm to 1000mm long through the sander sideways so that end of board extends past outboard side of drum.
2. Without changing drum height, rotate board 180° and sand the same side.
3. If a ridge is visible where the drum overlaps, loosen both table locks (B, Figure 8-4) and lower table at outboard end slightly by turning knob (C).
4. Repeat this process until the ridge is eliminated and entire board is sanded.

Note: When sanding narrow stock (560mm or less), return conveyor table to parallel position. Turn knob opposite direction until lock nut (D, Figure 8-4) is contacted. The lock nut provides a positive stop for table parallelism.

8.6 **Tension roller adjustment**

The infeed and outfeed rollers are tensioned to provide downward pressure on the workpiece to prevent slippage on the feed conveyor. Tension rollers have been set by the manufacturer, but should be inspected and may require adjustment as the sander receives use.

⚠WARNING **Improperly adjusted tension rollers (i.e. those set too high, rendering them non-functional) could allow kickback of pieces being sanded.**

You can increase or decrease tension of roller on outboard side by inserting screwdriver through holes in plate (Figure 8-5) and turning screws on the tension roller brackets. The plate can be removed for easier access. The screws at inboard side of drum can be adjusted in similar manner.

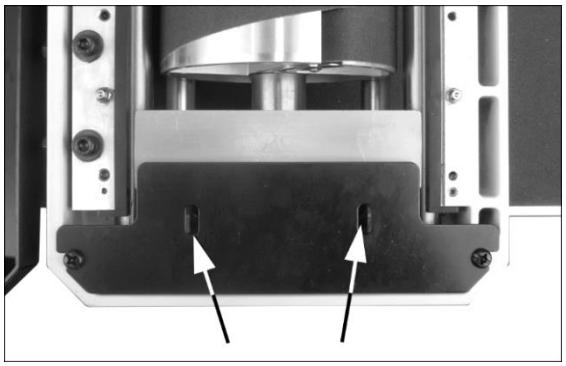


Figure 8-5: tension adjustment screws

Too much tension roller pressure can result in a "snipe" mark, which is a visible line running across the width of the board and located approximately 60mm from end of board.

If snipe occurs on the leading end of board, adjust outfeed tension roller. If the snipe occurs on trailing end of board, adjust infeed tension roller.

9.0 **Operations**

Before using your drum sander, review the previous sections on initial set-up and adjustment. Before operating, make sure an abrasive strip is mounted and a proper dust collection system is connected.

9.1 **Drum & conveyor motor operation**

1. Connect power supply to machine.
2. Disengage emergency stop by clockwise turning the red button or pulling it up (A, Figure 9-1).

Note: Error Indicator (D, Figure 9-1) may flash continuously to remind that the conveyor speed dial is NOT set at OFF position before starting the operation. The control system is designed to prevent the conveyor belt from being activating accidentally. If conveyor belt motor doesn't work, turn the dial (C, Figure 9-1) to OFF and re-dial.

3. Turn on the On/Off switch (B) to start drum motor.
4. Rotate conveyor speed dial (C) clockwise to start and increase speed of conveyor.

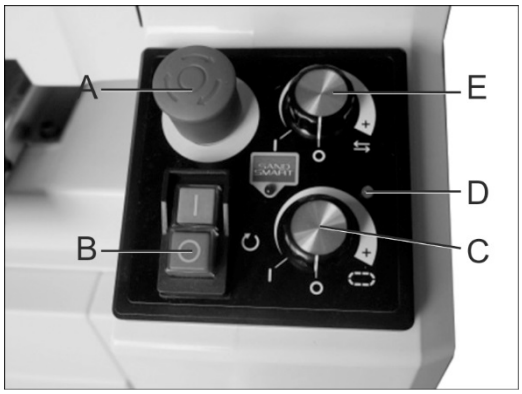


Figure 9-1: control panel

9.2 **Oscillation mode**

The sander can be used with sanding drum in fixed position or in oscillation mode. The top dial (Figure 9-1, E) activates oscillation mode.

NOTE: If changing from oscillation mode to fixed mode, allow drum to center itself over conveyor before turning off oscillation mode.

9.3 **Basic Operating Procedure**

1. Establish depth of cut.
2. Start dust collection system.
3. Start sanding drum.
4. Start oscillation and select speed.
5. Start conveyor and select feed rate.
6. Feed stock through machine.

To feed stock through the sander, rest and hold board to be sanded on conveyor belt, allowing conveyor belt to carry board into drum. Once stock is halfway through, reposition yourself to outfeed side of machine to receive and control board as it exits.

⚠CAUTION Board will be forced down against conveyor table as it begins feeding, causing pinching hazard. Keep fingers away.

⚠CAUTION Do not open drum hood until drum comes to a complete stop.

9.4 **Setting depth of cut**

Adjusting the drum sander for proper contact between abrasive and stock determines the depth of cut. The depth of cut is controlled by the height adjustment handle.

It may take experimentation to determine proper depth of cut, given the variables of abrasive grit, type of wood and feed rate. For best results, use scrap wood to practice sanding and to develop skill and familiarity with the machine before doing finish work.

A combination of several variables will determine proper depth of cut to use, including the following:

1. Abrasive type and grit size.
2. Width of piece being processed.
3. Hardness of piece.
4. Feed rate of conveyor belt.

NOTE: The use of a carrier or backer board (not provided), is recommended for cuts 1,5mm or less. This is a flat board, usually of wood or MDF, slightly larger than the workpiece and of even thickness, placed beneath the workpiece as it is fed through the sander. The workpiece may be attached to the carrier with rubber cement, carpenter's tape or some other easily removable adhesive. However, some operators use a rubber or textured surface on the carrier to help stabilize the workpiece by simple friction.

9.5 **Establishing drum height**

A good rule of thumb when sanding with grits finer than 80:

1. To establish drum height, position stock under the drum. Do NOT start drum.
2. Lower drum to the stock thickness, making sure drum can still be rotated by hand while just contacting stock.

   ⚠WARNING Do not start drum while in contact with stock.
3. Without changing drum height, turn on conveyor and run the stock out from under the drum. Start sanding drum and sand stock at that same position.
4. With the drum operating, feed stock under the drum from the infeed side and against the rotation of the drum. Always maintain control of the stock to avoid kickback and/or slippage.

For sanding with grits coarser than 80, you can lower the drum slightly.

Always maintain control of stock. Through practice you will learn the proper depth of cut considering the variables above.

9.6 **Selecting SandSmart™ feed rates**

A faster feed rate allows faster sanding but fewer revolutions of the drum per inch of sanding. A slower feed rate provides more revolutions of the drum per inch of sanding to allow a greater depth of cut and smooth sanding.

Begin experimenting with the feed rate set at about 50% of maximum. The best feed rate will depend on a number of factors, including type of stock, grit and depth of cut used, and whether the stock is fed directly in line with the conveyor table or at an angle.

If the drum motor is lugging down, if conveyor belt is slipping, or if you observe a ripple effect on the stock, slow the feed rate. If the finish is smooth and the machine is not overworking, you can experiment using a faster feed rate.

The SandSmart™ controller continuously monitors the load on the drum motor, and automatically regulates the speed of the conveyor motor to maintain the highest feed rate without overload.

When the red indicator light (A, Figure 9-2) comes on, the SandSmart™ control has detected too great a depth of cut and/or too fast a feed rate.

If the load on the drum motor increases, the SandSmart™ control will decrease the conveyor feed rate and will stop the conveyor under extreme conditions. If the load on the drum decreases, SandSmart™ will increase the feed rate but will not increase it faster than the manual setting on the speed adjustment label.

The best and most consistent finish will be achieved if the conveyor does not change speed during operation.

Figure 9-2: SandSmart™

A change in conveyor speed may affect the finish surface. If the finish is affected, make another sanding pass without changing any settings.

If the finish is still affected, make adjustments by slowing the conveyor and/or decreasing the depth of cut and run the stock through again.

Also try a faster feed rate or less depth of cut if the stock you are working begins to show burn marks. With cherry, hard maple or other hardwoods, using a shallower depth of cut and a faster feed rate will help minimize burn marks. Slightly angling the stock as it is fed into the machine will also help prevent burning the stock.

Because of the wide range of variables, it is important to experiment with your specific conditions and make adjustments to achieve the optimum feed rate. If problems occur, first check and adjust the feed rate, referring to the "Troubleshooting" section in this manual.

9.7 Maximum performance tips

The versatility designed into the drum sander allows it to be used for a variety of tasks that will boost return on your investment. For example, it will speed up fine sanding work often done with slower, dust-generating hand sanders, and will achieve fine thickness adjustments not possible on some sanders. It can be used to surface figured woods – bird's eye or curly maple, for example – which can be damaged if fed through a planer.

Learning how to use its adjustments and controls will allow you to fine-tune the machine for maximum results. The best results come from experimenting with different abrasive grits and machine adjustments to fit the job at hand. Following is a list of useful tips which can help you improve performance of your sander.

9.7.1 Dust collection

When connecting dust collectors, remember that straight pipe will not restrict airflow as much as flexible tubing. Y's and elbows will restrict airflow less than T's. Hoses smaller than 80mm diameter should not be used.

9.7.2 Multiple-piece sanding runs

When abrasive planing (or thickness sanding) a run of similar pieces that you want to have the same thickness, it is best to determine the thickness of the thinnest piece and process all pieces to that same thickness in one session. Be aware that the sander will remove cups and crowns in the workpiece; consider this when measuring and processing stock to the same thickness.

9.7.3 Simultaneous multiple pieces

When sanding multiple pieces simultaneously, make sure to stagger (step) the pieces across the width of the conveyor belt. This provides better contact with the tension rollers. Try to process only multiple pieces of similar thickness.

If there is a significant thickness difference, the thinner pieces can slip on the conveyor belt if they do not contact the tension rollers. Also note that pieces thicker than 20mm should be longer than the minimum normally recommended to prevent tipping of the stock.

9.7.4 Edge sanding

When edge sanding, the sander will mimic the opposite edge of the stock which is lying on the conveyor belt. Because of this, it is important for the stock edge to have been ripped at the proper angle to the face before the sanding process. When edge sanding stock that is less than 20mm wide or more than 50mm high, it is good procedure to stack and

clamp several pieces together to prevent them from slipping or tipping on the conveyor belt.

9.7.5 **Sanding imperfect stock**

When sanding stock with a cup or crown, place the crown up. This will stabilize the stock to help prevent tipping or rocking during sanding. After the crown has been removed and the top is flat, turn the stock over and sand the opposite side. To avoid personal injury, take special care when sanding stock that is twisted, bowed, or otherwise varies in thickness from end to end. If possible, support such stock as it is being sanded to keep it from slipping or tipping. Use extra roller stands, help from another person, or hand pressure on the stock, to minimize potentially hazardous situations.

9.7.6 **Face frames and raised panel doors**

It is very important to have the proper abrasive contact when doing this type of sanding. If the machine is set to take an excessive depth of cut, the result can be a gouge or dip as the drum goes from sanding the rails at full width to sanding just a small width on the stiles. To prevent this make sure, when using abrasives finer than 80 grit, that the drum is in contact with the wood but can still be spun by hand. If there is room, angling the stock on the conveyor belt can also help. Slowing the conveyor feed when coming to a rail in the stock can help prevent a dip or gouge. This allows the abrasive to work the wider width with less effort, and to achieve better consistency of the finished surface.

9.7.7 **Stock feeding angle**

Some pieces, because of their dimensions, will need to be fed into the machine at a 90° angle (perpendicular to drum). However, even a slight offset angle of stock will provide for more effective stock removal. The optimum feeding angle for stock removal is about 60°.

Angling the workpiece for stock removal provides other advantages, such as less loading of certain areas of the drum due to glue lines or mineral streaks in the stock, more even wear of abrasive strips, potentially faster feed rates, and lighter loads on the motor. Note that to get the best final finish however, the stock should be fed through the machine so it will be sanded in line with the grain of the wood on the final one or two passes.

10.0 **User-maintenance**

⚠WARNING Before doing maintenance on the machine, disconnect it from the electrical supply (pull out the plug), unless indicated otherwise. Failure to comply may cause serious injury.

10.1 **Cleaning and lubrication**

For best results, make cleaning the sander a regular shop procedure. Allowing excess build-up of dust and debris can adversely affect performance through loading of the abrasives, slippage on the conveyor table, and/or the accumulation of material inside the drums which can throw off the center of balance.

NOTE: Bearings are pre-sealed and require no lubrication.

- Brush the conveyor belt after cleaning operations. If not cleaned, the conveyor belt could allow stock to slip during sanding operations.
- Lubricate conveyor bushings as needed, and check for wear.
- Lubricate elevating leadscrew (A, Figure 10-1) as needed.
- Clean sawdust from abrasive strip and brush dust from conveyor belt.
- Keep slide areas clean (B, Figure 10-1).
- Insert bearing grease (NLGI #2, DIN 51818) into the five fittings (C, Figure 10-2) every 150 work hours. *Do not over-grease.*
- Blow dust from motors and switches.
- Blow dust from inside of sanding drum, which may cause vibration or offset the center of balance. (Leave your dust collector on when cleaning dust from the drums.)
- Check all set screws for tightness on parts such as bearings, conveyor table, and couplings.

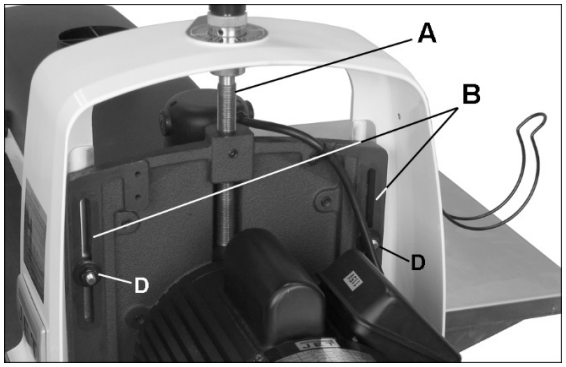


Figure 10-1: maintenance areas

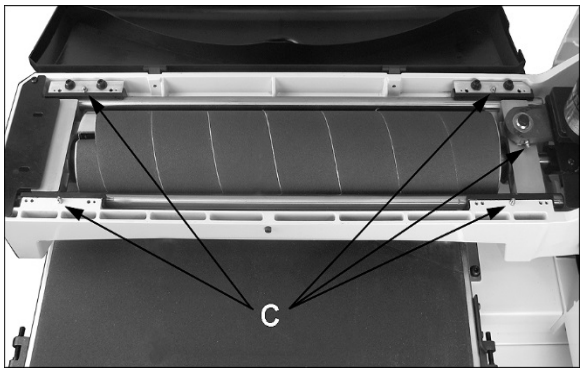


Figure 10-2: maintenance areas

10.2 **Drum elevation adjustment**

If the height control mechanism does not operate easily or smoothly or there is excessive vertical movement or deflection of the drum carriage tighten all four (4) lock nuts (D, Figure 10-1) and then loosen them 1/8 to 1/4 turn. If the lock nuts are set too tight, height control will not operate easily. If the lock nuts are too loose, excessive deflection of the outboard end of the drum carriage will result.

10.3 **Conveyor belt replacement**

1. Disconnect sander from power source/unplug.
2. Raise drum to highest position.
3. Remove infeed/outfeed tables, if installed.
4. Turn take-up screws (Figure 8-3) on both sides of conveyor to relieve belt tension, and slide the driven roller fully inward.
5. Remove two (2) screws that attach conveyor table to base.
6. Remove two (2) screws that attach conveyor table to drum alignment bracket (E, Figure 10-3).
7. Loosen two locks (F).
8. Lift up conveyor table and remove it from machine. Avoid tearing the belt on any edges underneath the conveyor table. *Do not allow the Trackers to drop, as they may break.*
9. Set conveyor on motor side and slide conveyor belt off end of conveyor table.
10. Install new belt along with trackers (see *sect. 11.0*), and re-install conveyor table. Tension and track the new belt.

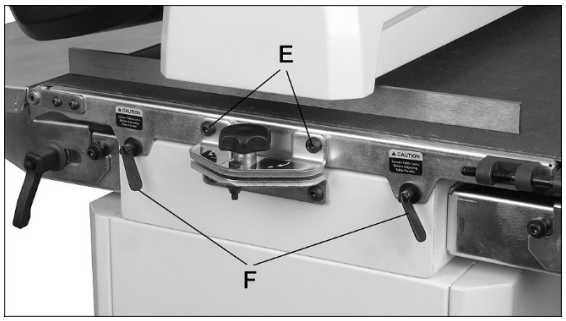


Figure 10-3

Note: If conveyor belt continually tracks to one side of the machine, reversing the belt on the conveyor table may remedy the problem. To make sure the conveyor table is not twisted, place a level on the conveyor table. Level the machine if needed. If there is still a problem, proceed with the steps below:

Step 1: Check conveyor drive roller and driven roller to make sure they are parallel to surface of conveyor table. To do this, first center conveyor belt on the conveyor table. Then lay a straight-edge on the exposed edge of conveyor table on left (outboard) side, extending it over the roller. Note distance between roller and straightedge.

Step 2: Now repeat Step 1 on right (inboard) side of conveyor. Compare the measurements from side to side. If they are not equal, loosen one of the brackets that hold the roller in place. Tip this bracket until distance between roller and straight-edge are equal from side to side, then tighten bracket.

10.4 **Commutator brush inspection**

To maintain motor efficiency, inspect the two carbon brushes every two months, or more frequently if sander is heavily used. Stalling or loss of power may be a symptom of worn carbon brushes. If one brush is worn out, replace both at the same time.

⚠CAUTION Continued use of damaged or worn brushes may result in damage to motor armature.

1. Disconnect sander from power source/unplug.
2. Unscrew and remove cap with flat blade screwdriver. See Figure 10-4.
3. Gently pry up an edge of the brass clip, until the spring causes it to disengage from hole. (Notice orientation of brush as you remove it; it should be inserted in the same manner; curvature of brush will match curvature of motor.)
4. Pull out brush and inspect. Brush should be replaced if any of the following are discovered:
   - Brush has worn to about 13mm long.
   - Signs of crumbling, burning or breaking.
   - End of brush is rough or pitted.

- Abnormal coloration of spring
- Broken lead in spring
- Collapsed spring

5. Install new brush (or reinstall current brush) and gently press it all the way into hole until the brass clip is secured.
6. Install cap.
7. Repeat for other brush.

NOTE: It is recommended that sander be run without load for several minutes to seat new brushes.

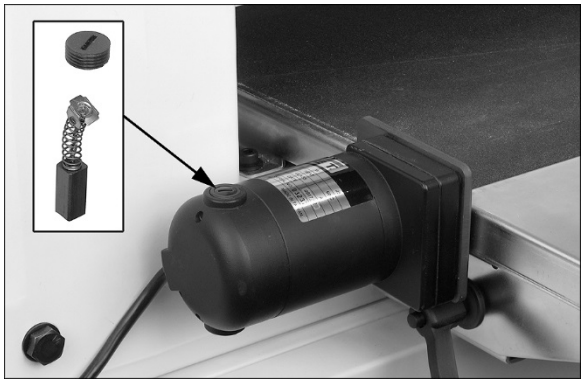


Figure 10-4

10.5 **Additional servicing**

Any additional servicing should be performed by an authorized service technician.

11.0 **Tracker kit (set of 2)**

Stock No.: PM2244-213

Trackers dramatically reduce tracking adjustments of conveyor belts. They are already installed on your sander. The following information is for resetting or replacing your trackers, should that become necessary.

1. Disconnect sander from power source/unplug.
2. Raise drum as high as it will go.
3. Turn both conveyor take-up screws to relieve conveyor belt tension and slide driven roller fully inward.
4. Remove the 2 bolts and loosen 2 wing screws holding conveyor table to sander base.
5. Lift conveyor table and slide it out of sander. Turn conveyor table upside down. Be careful not to damage conveyor belt.
6. On the underside of the conveyor table, there are U-channels welded to the table. The Tracker is positioned on the inside of the first U-channel on the infeed side of sander (Figure 11-1). The back of tracker is magnetized and will stick to side wall of conveyor table. Do not install tracker if edge of conveyor belt is damaged or torn.

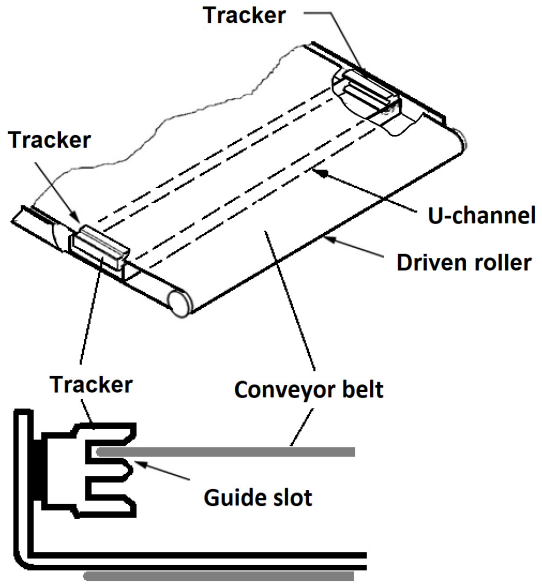


Figure 11-1: Underside of conveyor shown

7. With first tracker installed, slide conveyor belt into bottom slot of tracker. **Note:** When installed properly, only bottom lip of tracker will be visible. The top slot can be used if bottom slot wears out.
8. Install second tracker opposite the first. Use both trackers unless the second one does not fit in conveyor or unless conveyor belt is damaged.
9. Turn conveyor table right-side up and reposition it onto sander. Re-attach three mounting screws and tighten. **Caution:** Be careful not to knock tracker(s) out of conveyor table when turning conveyor over. Trackers may break if allowed to fall.
10. Make sure all switches are off. Connect power to sander and plug in motor.
11. Tension conveyor belt using take-up screws. If both trackers are installed, it is very important to have equal tension on both sides of conveyor belt. Turn take-up screws on both sides until equal tension is obtained.
12. To check tension, turn on conveyor full speed and place both hands on conveyor. If conveyor belt can be stopped, continue tensioning until conveyor belt cannot be stopped by both hands on the belt while conveyor is operating at full speed.
13. Make sure conveyor belt runs smoothly inside tracker slot and that the magnet is holding the tracker in position.
14. Continue to watch tracking of conveyor and adjust only if necessary, making sure to keep

equal tension on conveyor belt at all times and not allowing conveyor belt to buckle under conveyor table.

12.0 **Abrasives**

The abrasive material you choose will have a substantial effect on the performance of your sander. Variations in paper type, weight, coating and durability all contribute to achieving your desired finish.

12.1 **Selecting drum abrasives**

It is important to select the proper grit of abrasive for the type of sanding being performed to achieve maximum results. As with any sanding operation, first begin sanding with a coarser grit, depending upon the roughness of the stock or the amount of stock to be removed. Then progressively work toward finer grits. The chart below shows the general uses for the various grits.

The amount of stock to be removed is a major consideration when choosing the grit grade with which to begin. Grits 24, 36, 40 and 60 are primarily designed for stock removal. Grits 24 and 36 will remove the most material in one pass, whether you are doing abrasive planing, cleaning up glued panels, or flattening stock. Grits from 100 through 220 are primarily finishing grits designed to remove the scratch pattern from the previous grit used. For best results, never skip more than one grit grade when progressing through a sanding sequence.

For fine work, such as furniture, try not to skip any grit grades during the sanding process.

In general, premium quality abrasives will produce a better finish with a less noticeable scratch pattern.

Note: Grits that are too fine can sometimes burnish the wood and leave a glossy surface which will not accept stains evenly. This will vary by type of wood. Oak, for example, is susceptible to burnishing because of its open pores.

12.2 **Cleaning abrasive strips**

Regularly clean the abrasive strip on the drum with commercially available cleaning sticks, following the manufacturer's directions. When cleaning, also brush the stick crumbs from the drum while it is still rotating.

In some cases, heavy loaded areas can be removed with Plexiglas held on edge over the rotating drum.

⚠CAUTION **Always wear eye protection while performing sandpaper cleaning, and take all precautions to avoid any contact of hands or clothing with the rotating drum.**

Cloth-backed abrasives can be cleaned by soaking in paint thinner or mineral spirits for 20 minutes to one hour, then using a brush to remove any build-up. Dry the abrasive strips completely before using. Any used solvents should be discarded in compliance with environmental regulations.

12.3 **Increasing abrasive life**

Abrasive life can be increased not only by cleaning, but by removing the abrasive strip from the drum and reversing it. To do this, remove the strip and use what was the trailing end as the starting end on the left (outboard) side of the drum. Reversing the strip will provide a fresh set of cutting edges on the abrasive.

12.4 **Abrasive selection guide**

Grit	**Common Application**
24, 36	Abrasive planing, surfacing rough-sawn boards, maximum stock removal, glue removal.
40, 60	Surfacing and dimensioning boards, truing warped boards
80	Light dimensioning, removal of planer ripples.
100	Light surfacing.
120	Light surfacing, minimal stock removal.
150	Finish sanding, minimal stock removal.
180	Finish sanding only, not for stock removal.
220	Finish sanding only, not for stock removal.

Table 2

13.0 **Troubleshooting JWDS-2244OSC-M Drum Sander**

Symptom	Possible Cause	Correction *
Drum motor won't start when switch is activated.	No incoming current.	Check connections at plug or circuit panel.
	Low voltage.	Check power line for proper voltage.
	Open circuit in motor or loose connection.	Inspect all lead connections on motor for loose or open connections.
	Switch malfunction.	Replace switch.
Drum motor will not start: fuses blow or circuit breakers trip.	Short circuit in line cord or plug.	Inspect cord or plug for damaged insulation and shorted wires.
	Short circuit in motor or loose connections.	Inspect all connections on motor for loose or shorted terminals or worn insulation.
	Incorrect fuse or circuit breaker in power line.	Install correct fuse or circuit breaker.
Drum motor overheats.	Air circulation through motor restricted.	Clean motor fan with compressed air to restore normal air circulation.
	Motor overloaded (SandSmart™ not functioning properly).	Have controls inspected and repaired.
Drum motor stalls, resulting in blown fuses or tripped circuit.	Short circuit in motor or loose connections.	Inspect connections on motor for loose or shorted terminals or worn insulation.
	Low voltage.	Correct low voltage conditions.
	Incorrect fuse or circuit breaker in power line.	Install correct fuse or circuit breaker.
Loud, repetitive noise or vibration coming from machine.	Fasteners loose.	Inspect fasteners and tighten where needed.
	Motor fan is hitting cover.	Tighten fan or shim fan cover.
	Machine not level.	Place sander on level floor; shim if needed.
Conveyor motor stalls.	Excessive depth of cut.	Reduce depth of cut; use coarser grit; reduce feed rate.
Conveyor belt does not move.	Shaft coupler is loose or unattached.	Adjust shaft coupler.
Conveyor rollers run intermittently.	Shaft coupling is loose.	Align the shaft flats of the gear motor and the drive roller and tighten the shaft-coupling setscrews.
Conveyor belt slips on drive roller.	Improper conveyor belt tension.	Adjust belt tension.
	Excessive depth of cut and/or feed rate.	Reduce depth of cut and/or feed rate.
Abrasive strip comes off drum.	Slack in abrasive strip on drum.	Remove slack in strip.
	Abrasive improperly wrapped.	Read the section on installing abrasives, and rewrap.
Abrasive strip is loose.	Strip caught on inside edge of slot, or on inboard side of drum.	Re-adjust the strip end in the slot and/or trim the abrasive edge.
	Strip not cut properly.	Re-cut and re-install the abrasive strip.
Abrasive loads up prematurely.	Excessive depth of cut.	Reduce depth of cut.
	Excessive feed rate.	Reduce feed rate.
	Inadequate dust collection.	Increase airflow at dust port.
	Inadequate abrasive.	Use an open-coat abrasive.
Line or groove in stock.	Inconsistent feed rate.	Do not stop or change the feed rate while feeding stock.

Symptom	Possible Cause	Correction *
Snipe marks.	Improper tension on rollers.	Re-tension rollers.
Sander burns wood.	Abrasive strip is overlapped.	Re-wrap abrasive strip.
	Abrasive is loaded.	Clean abrasive.
	Depth of cut excessive for fine grit.	Use coarser grit or reduce depth of cut.
	Feed rate too slow.	Increase feed rate.
	Abrasive is worn.	Replace abrasive.
Board slips on conveyor belt.	Tension rollers too high.	Lower tension rollers.
	Excessive feed rate.	Reduce feed rate.
	Dirty or worn conveyor belt.	Replace conveyor belt.
Ripples in sanded surface. A. Non-uniformly spaced ripples. B. Uniformly spaced ripples.	A. Uneven feed rate.	Conveyor belt slipping (see above) Board slips on conveyor belt (see above). Conveyor motor stalls (see above).
	B. Conveyor table flexing or vibration.	Reduce depth of cut and/or feed rate. Check for loose bolts, loose shaft coupling set screws, or out-of-balance drum.
Wood is gouged.	Stock slipping on conveyor.	Correct depth of cut or roller tension.
	Work piece not properly supported.	Add work supports for long work pieces.

Table 3

* **WARNING:** Some corrections may require a qualified electrician.

14.0 **Optional accessories for JWDS-2244OSC-M**

723551 Folding Infeed/Outfeed Tables for JWDS-2244OSC / JWDS-2550-M
723552 Digital Read Out