

OPERATING INSTRUCTIONS AND PARTS LIST FOR **THICKNESS PLANER**

6 INCH

Model Number 103.1801

This is the model number of your Thickness Planer. It will be found on a plate on the right side of the column. Always mention this model number when communicating with us regarding your Thickness Planer or when ordering parts.

Instructions for Ordering Parts

All parts listed herein must be ordered through a Sears retail store or mail order house. Parts are shipped prepaid. When ordering repair parts, always give the following information:

1. The Part Number.
2. The Part Name and Price.
3. The Model Number 103.1801.

This list is valuable. It will assure your being able to obtain proper parts service. We suggest you keep it with other valuable papers.

SEARS, ROEBUCK and CO.

OPERATING INSTRUCTIONS FOR 6 INCH THICKNESS PLANER MODEL 103.1801

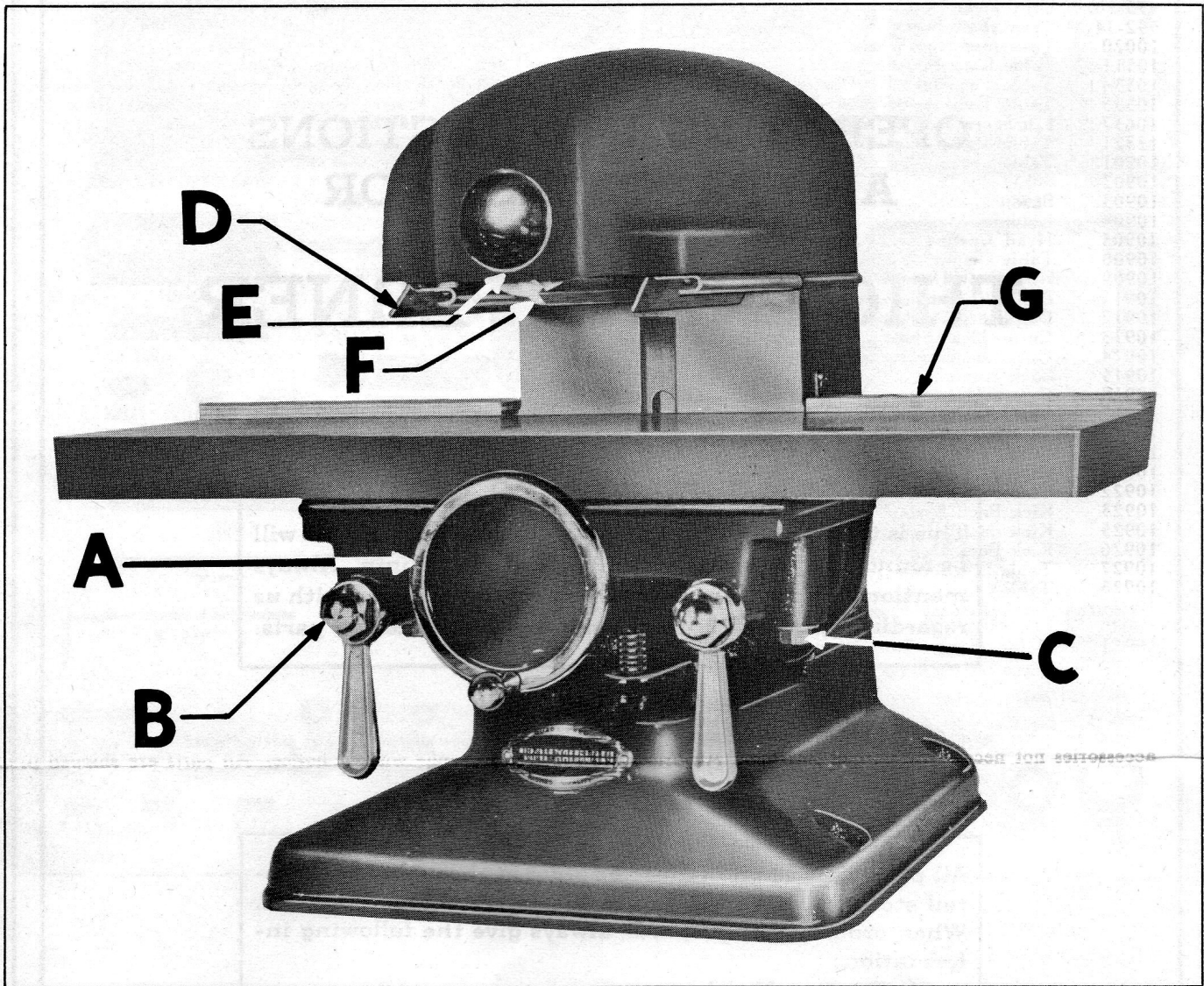


FIG. 1

INSTALLATION

When installing this Thickness Planer, mount the motor directly below the tool on a bench shelf. When the desired position of the planer has been established, draw a line on the bench around the rear half of the base as indicated in figure 3. Cut a rectangular hole $1\frac{1}{2} \times 4$ inches the ends of which should be equidistant from the sides of the base, and the nearest edge of which should be $2\frac{3}{4}$ inches from the rear edge of the base. This hole, when properly located as described will provide belt clearance through the bench when the planer is set in its original position as marked, and the standard $\frac{1}{2}$ -inch belt is installed.

Four $\frac{3}{8}$ inch diameter holes are provided in the base for bolting the planer securely to the work bench.

The length of belt necessary may be determined by measuring the distance around the outside edge of the pulleys. Do not measure in the groove of the pulley. When installing the motor, keep in mind that the direction of rotation of the cutter head must be

counter clockwise when viewed from the control side of the machine.

LUBRICATION

This planer is equipped with two precision ball bearings which have been packed with grease at the factory, and should require no further attention for the life of the bearing. Other moving and sliding parts may require an occasional application of a good quality light machine oil to preserve the smooth operation of the control units of the planer.

SPEED

For best results under normal operating conditions, the cutter head should travel at approximately 4200 revolutions per minute. Proper operating power and speed may be attained by using a $\frac{1}{2}$ H.P., 3450 R.P.M. motor equipped with a $2\frac{1}{2}$ inch diameter pulley, or a 1750 R.P.M. motor of the same horse power equipped with a 5 inch diameter pulley.

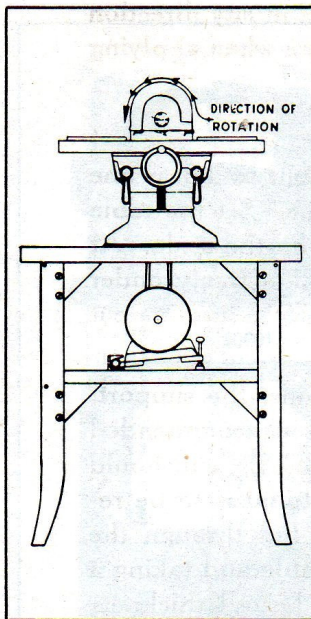


FIG. 2

approximately $2\frac{1}{4}$ inches as indicated on the calibrated scale located on the right side of the planer column behind the table.

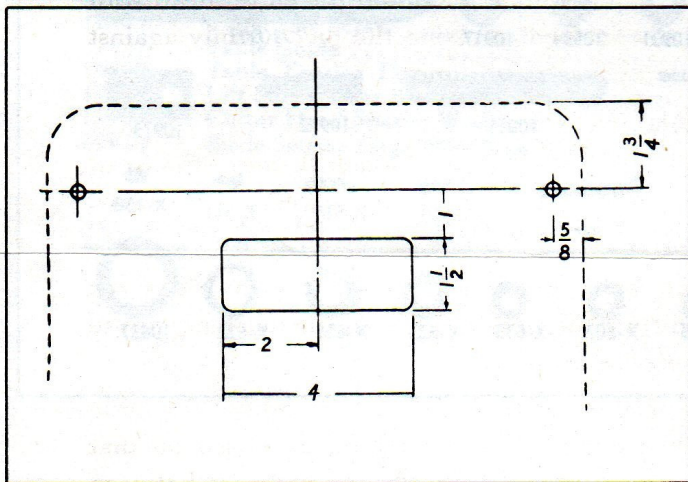


FIG. 3

The two clamp nuts (B) when tight, clamp the table firmly in place. These nuts should be loose when the table setting is being changed, and tightened securely when the desired position has been attained.

A handle or wrench has been provided on each of the table clamp nuts, designed in such a manner that after the setting is made and the clamp nuts tightened, the hexagon recess of the wrench may be disengaged from the hexagon head of the nut, thus allowing the handle to hang freely in a vertical position.

The kick back dogs (D) prevent the work piece from being thrown back toward the operator in case the cutter blades should strike a hard spot in the work piece.

The guides (G) keep the work piece inside the cutting range of the blades.

ADJUSTMENTS

If the thickness of the piece after planing does not agree with the reading on the calibrated scale on the right hand side of the column, the pointer may be

If the machine is to be used almost exclusively for light finishing cuts, a $\frac{1}{3}$ H.P. motor will provide sufficient power, but if continuous heavy cutting is planned, a $\frac{1}{2}$ horsepower motor should be used.

Be sure to specify the shaft diameter of your motor when ordering your motor pulley.

CONTROLS

The handwheel (A) in figure 1 when turned will raise or lower the table $\frac{1}{16}$ inch per revolution through a range of approx-

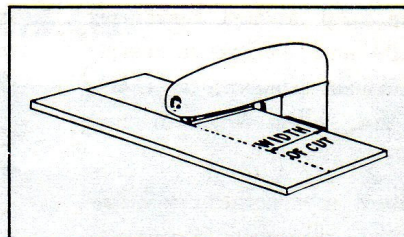


FIG. 4

reset to correspond to the thickness actually obtained by loosening the screw which holds it to the casting and rotating the pointer to the desired point on the scale before retightening the screw.

The table surface has been set parallel with the cutter head and blades, and should require no further adjustment unless misaligned as a result of a severe shock. If adjustment is necessary, insert a block 6 inches long, with straight parallel sides, between the surface of the cutter head (not a blade) and the table surface. Loosen the two hex head cap screws (C) in figure 1, which will allow the table to shift to the proper position. Raise the table until the block is clamped firmly between the full length of the cutter head and the table surface. With the table thus held parallel with the cutter head, tighten the two cap screws securely.

An adjustment is provided for the tension of the sub-table No. 10902 against the column No. 10904. Two hex nuts, accessible through the rear of the column when tightened will further compress the table tensioner rubber, thus increasing the pressure of the sub-table against the column.

The guides may be adjusted by loosening the attaching screws along the rear edge of the table. Should such an adjustment become necessary, the guides should always be aligned with a straightedge to assure free passage of the work piece across the full length of the table without interference from a projecting end of a guide. A line across the face of both guides should cross the cutter head within the cutting limits of the blades.

Retighten pulley set screws after a few hours operation.

SHARPENING BLADES

The high speed steel cutter blades supplied with this machine have been sharpened and aligned at the factory. When dull, these blades may be removed for

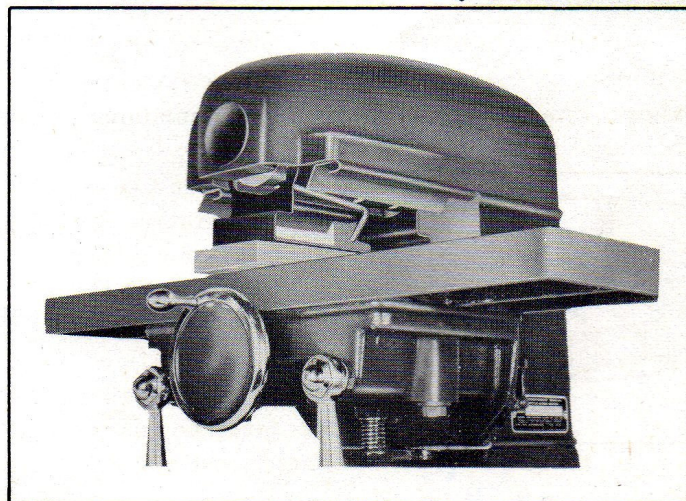


FIG. 5

sharpening by loosening the four socket head set screws which hold each blade and wedge in place. The table should be in its lowest position to allow access to these screws with the Allen Wrench provided.

If the blades are not nicked, a satisfactory edge may be attained by honing only. However, if nicked,

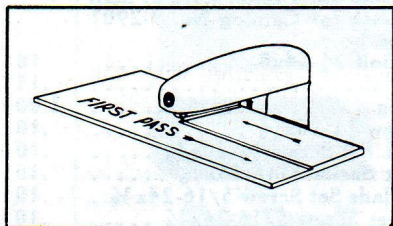


FIG. 6

the blades must be ground and then honed to produce a straight sharp cutting edge. Always maintain the original angle of the bevel at the cutting

edge, and keep the blade width uniform from end to end. **To insure safe operation of the machine, blades should not be reinstalled whose width has been reduced below 9/16 inch.** Below this dimension, insufficient grip is provided to guarantee holding the blade in the cutter head at high speeds.

To reinstall and properly align the blades:

1. Set the table at its lowest position.
2. Place the blades and wedges in the cutter head so that the set screws will tighten against the slot in the wedge (see Figure 7) which in turn clamps the blade in place. The bevel on the blade should be on the side away from the set screws and wedge. Tighten the set screws only enough to grip the blades lightly, yet allow moving of the blades for proper setting.
3. Place a piece of wood $\frac{1}{2}$ inch thick 3 inches wide and 6 inches long on the table under the blade setting gage as shown in figure 5 to provide clearance for the Allen wrench when tightening the set screws.
4. Raise the table until the gage touches the cutter head front and rear at the bearing points indicated in figure 5.
5. Adjust the blade position so that it touches the gage lightly at each end and tighten the blade clamp set screws securely.
6. Lower the table, remove the gage to allow rotation of the cutter head, and repeat the above operations on each of the remaining blades.

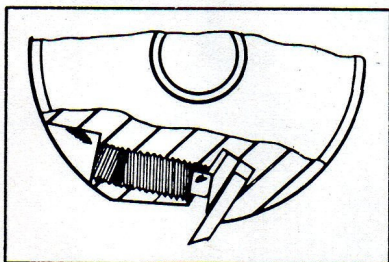


FIG. 7

During the blade setting operation do not force the gage against the blades in such a manner as to nick the blade or cut the gage. Be certain that the blade is held loosely in the

cutter head so that it may be shifted in any direction without application of excessive force when applying the gage.

OPERATING INSTRUCTIONS

The work piece must be fed from right to left as one faces the control side of the machine. Set the table for the desired thickness as shown on the scale. At this point, the work piece should slide freely under the kick back dog support No. 10926 to insure a cut of moderate depth.

If the piece is forced tightly against the support, the resulting cut will be heavier than is recommended for efficient operation. For best results, the cut should not exceed $\frac{1}{16}$ inch. If more material is to be removed, the work piece should be fed through the machine several times, raising the table and taking a moderate cut each time until the desired thickness has been attained. When a finish is desired on both sides, be sure each side has been planed before the final thickness is attained. The work piece should be advanced across the table under the cutter head with a slow steady feed, pressing the piece firmly against the table surface at all times.

CAUTION

Do not at any time place the hands under the head casting of the planer while the machine is in operation.

When completing a cut, either pull the piece through from the opposite side of the machine, or use a pusher of scrap wood.

When turning the handwheel to change the table position, extreme care should be exercised so that projecting fingers and thumbs do not pass between the cutter head and table.

The quality of finish varies with the feed and depth of cut. A slow feed and a light cut will produce a high quality finish, while a fast feed and heavy cut will tend to produce a rough finish.

When planing pieces wider than the capacity of the cutter blades it is best to minimize the overlap of the cut. For instance, if the piece to be planed is 10 inches wide, a spacer strip approximately 1 inch wide and thinner than the intended finished work piece should be secured next to the guides so that only a 5 inch cut is taken as each half of the piece is fed through the planer. See figures 4 and 6.

For safety purposes, the table cannot be set closer than $\frac{1}{8}$ inch from the cutter blades. For this reason, when a piece $\frac{1}{8}$ inch or less in thickness is to be planed, a sub-board should be used. This sub-board should be planed on each side before use, to insure parallel sides on the finished thin piece.

PARTS LIST

Part No.	Part Name	Price	Part No.	Part Name	Price
475-18	Bevel Gear	\$.25	10950	Cutter Head Assembly (Not Illus.)	\$9.00
592-34	Crankshaft Screw .....	.15		(10916-1) (10921-3) (10922-3)	
10020	Tensioner Stud Washer .....	.25		(X-121-12) (X-125-2)	
10511	Table Lock Handle .....	.45	10951	Hand Crank Assembly	1.35
10534	Table Tensioner Retainer .....	.15	M-200-B	Pulley with set screws — 2 inch single groove V-pulley $\frac{3}{8}$ inch bore. Purchase from your nearest Sears retail store or mail order house. Ask for Catalog No. 9-2901 — $\frac{5}{8}$ inch bore.	
10535	Table Tensioner Rubber .....	.15			
10637	Lift Screw Stop Washer .....	.15			
12321	Table Clamp Nut .....	.25			
10901	Table	4.20			
10902	Sub-Table	4.00	*X-321	Table Clamp Bolt $\frac{3}{8}$ -24x8 .....	.10
10903	Base	3.50	*X-1403	Allen Wrench .....	.15
10904	Column	3.95	X-1705	Spindle Bearing	1.00
10905	Head Casting	4.60	X-100	Pulley Set Screw $\frac{1}{4}$ -20x $\frac{1}{4}$ .....	.10
10908	Table Clamp .....	.30	X-103	Outer Brg. Ret. Set Screw $\frac{1}{4}$ -20x $\frac{3}{8}$ .....	.10
10909	Kick Back Dog .....	.25	X-117	Bevel Gear Set Screw $\frac{5}{16}$ -24x $\frac{3}{8}$ .....	.10
10911	Depth of Cut Scale .....	.15	X-121	Cutter Head Blade Set Screw $\frac{5}{16}$ -24x $\frac{3}{4}$ .....	.10
10912	Depth of Cut Pointer .....	.15	X-125	Cutter Head Set Screw $\frac{5}{16}$ -24x $\frac{3}{4}$ .....	.10
10913	Cutter Head Shaft .....	.60	X-150	Inner Brg. Ret. Set Screw $\frac{1}{4}$ -20x $\frac{3}{8}$ .....	.10
10914	Outer Bearing Retainer .....	.25	*X-202	Hex Head Column Screw $\frac{1}{4}$ -20x1 $\frac{3}{8}$ .....	.10
10915	Back Guide .....	.30	X-204	Hex Head Table Screw $\frac{3}{8}$ -16x3 $\frac{1}{4}$ .....	.10
10916	Cutter Head	5.00	*X-210	Hex Head Column Screw $\frac{1}{4}$ -20x1 .....	.10
10917	Inner Bearing Retainer .....	.25	X-417	Crank Shaft Screw Lock Nut, Table Tensioner Stud Nut $\frac{5}{16}$ -18 .....	.10
10918	Table Tensioner Stud .....	.15			
10920	Bearing Retainer Cap .....	.20	*X-420	Column Screw Nut $\frac{1}{4}$ -20 Hex. ....	.10
10921	Cutter Blade	1.20	*X-421	Back Guide Screw Nut $\frac{1}{4}$ -20 Sq. ....	.10
10922	Cutter Blade Wedge .....	.35	*X-511	Pointer Screw 10-24x $\frac{3}{8}$ .....	.10
10923	Kick Back Spring .....	.15	*X-513	Kick Back Screw 10-24x $\frac{5}{8}$ .....	.10
10925	Kick Back Hinge Rod .....	.15	*X-605	Base and Column Screw Lock Washer 9/32 .....	.10
10926	Kick Back Dog Support .....	.25	X-606	Table Screw Washer $\frac{3}{8}$ .....	.10
10927	Table Lift Screw .....	.55	X-607	Back Guide Screw Washer 17/64 .....	.10
10928	Table Guide .....	.35	*X-608	Kick Back Screw Lock Washer .200 .....	.10
10929	Table Tension Plate .....	.15	X-615	Kick Gage Spacer 17/64 .....	.10
10930	Lift Screw Gear Spacer .....	.15	X-622	Lift Screw Thrust Washer 17/32 .....	.10
10931	Cutter Head Spacer Washer .....	.15	*X-1100	Lift Screw Cotter Pin $\frac{1}{8}$ -5/32x1 .....	.10
10934	Blade Setting Gage (Not Illus.) .....	.40	X-3500	Back Guide Hold Down Screw $\frac{1}{4}$ -20x $\frac{3}{4}$..	.10

*Parts marked in this manner may be purchased locally.

This sheet is intended for instruction and repair parts only and is not a packing slip. The parts shown and listed may include accessories not necessarily part of this tool. All prices are subject to change without notice. All parts are shipped prepaid.

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