Northfield

HEAVY DUTY & PATTERNMAKERS 12" - 16" - 24" JOINTERS

OPERATION AND MAINTENANCE INSTRUCTIONS AND PARTS LIST

ALL PARTS FOR THIS MACHINE MAY BE PROCURED FROM:

NORTHFIELD MACHINERY BUILDERS, INC.
320 WATER STREET NORTH
PO BOX 140
NORTHFIELD, MN 55057-0140
PHONE: (507) 645-5641
FAX: (507) 645-4005

WHEN ORDERING PARTS - PLEASE INCLUDE THE SERIAL NUMBER AS SHOWN ON THE FRONT OF THIS MANUAL.

TABLE OF CONTENTS

NOTE:

The safety rules contained herein are printed for your protection and well-being. Read them carefully and observe them strictly. If there are any portions of this manual that you do not understand completely, do not hesitate to contact your supervisor for clarification.

Your undivided attention is required when operating this machine. Concentrate fully on the task at hand and accord the Jointer the respect a machine of this type is due. Usage of your good common sense is essential for safe, efficient operation. The following list of safety instructions are general in nature and you will want to incorporate specific rules related to your application.

GENERAL SAFETY INSTRUCTIONS FOR JOINTER

1. Familiarize yourself with all machine controls. Pay particular attention to the location of the start-stop control.
2. Ground the machine properly.
3. DO NOT operate the machine unless the cutterhead is properly guarded.
4. Check all guards to see that they are mounted tightly and functioning properly.
5. DO NOT wear loose clothing while operating this machine.
6. Always wear proper eye and ear protection around machinery.
7. Use only sharp knives. Dull knives are dangerous. Use knives of equal weight to prevent vibration.
8. Set knives accurately to produce a smooth, even cut, and fasten them securely to prevent them from flying out.
9. Use a push block when possible, especially on short pieces, because these are easily tipped at the end of the infeed table.
10. DO NOT hold hands too near to the ends of the stock, because a sudden jar such as may be caused by a knot is likely to dislodge them. Never hold the hands over the knives on thin or narrow stock.
11. Too heavy of a cut may cause a kickback. It is safer and better for the machine to take lighter cuts instead of a deep cut.
12. Stop the machine before cleaning off shavings or moving the fence.
13. See that the tables and fence are properly set and locked before starting the machine.
14. Make all necessary adjustments before turning on the machine. Be sure that the depth of cut is correct.
15. Allow the motor to reach its full operating speed before starting the cut.
16. Check stock for nails, staples, etc., before cutting.
17. An offbearer should be used on long boards.
18. Upon completion of an operation, shut off the power and wait until the cutterhead stops before leaving the machine or setting up another cut. Never leave the machine running and unattended.
19. Make sure all electrical power is off and cannot be restarted before making any adjustments, repairs, replacements or lubricating the machine.
20. Keep the table clean and free of scrap and shavings. Keep the floor clean.

UNPACKING

Your NORTHFIELD JOINTER was checked and operated before it left the factory to be shipped to you.

Remove crating and secure the machine to the floor, the protective coating of rust preventive compound should be removed from all parts of the machine by a good grade of kerosene or a good grade of a nonflammable material.

Lubricate all parts per lubrication instructions. Check to make sure that all parts move freely without binding.

LUBRICATION

The ball bearings in the motor are lubricated and sealed for the life of the bearing.

Once every six months use a light coat of multi-purpose grease on the table elevating screws.

Use a couple drops of SAE 20 W oil in the top oil holes on the elevating screw brackets once a week. As needed, use a couple drops of oil on the fence hinges in the oil holes provided.

For heavy-duty jointers, use a multi-purpose grease on the infeed table miter gears once every six months.

ELECTRICAL CONNECTIONS

WARNING: Connections and changes in electrical connections should be made by a qualified electrician only.

Under normal work usage, and if proper (full) voltage is supplied to the motor, your jointer will operate efficiently on the voltage as connected at the factory. Voltage on the machine will vary as per customer order.

Connect power supply wires to terminals L-1, L-2 and L-3 in the magnetic starter. Looking from the operator's side of the jointer, the cutterhead MUST be turning in a clockwise direction. If not, change any two of the terminal wires to change direction of the cutterhead. If the cutterhead does not turn in this direction, the jointer will not operate properly.

DANGER

ANY MACHINERY USED FOR CUTTING IS CAPABLE OF CAUSING SERIOUS BODILY INJURY. USE EXTREME CAUTION AT ALL TIMES. THE SAFETY RULES, OPERATION AND LUBRICATION INSTRUCTIONS CONTAINED IN THE MANUAL ARE FOR YOUR PROTECTION AND INFORMATION. COMPLETELY FAMILIARIZE YOURSELF WITH THE CONTENTS PRIOR TO OPERATING THE MACHINE.

HEAVY DUTY JOINTER OPERATIONAL CONTROLS

START-STOP STATION

Located on the front face of the jointer and below the infeed table vee block is the start-stop station that controls the cutterhead motor.

INFEED TABLE ELEVATION SHIPS WHEEL

Located on the rear of the infeed table is the wood handled ships wheel that adjusts the height of the infeed table. Moving the wood handles away from the cutterhead raises the infeed table reducing the depth of cut. Moving the wood handles towards the cutterhead lowers the infeed table increasing the depth of cut. There are no locks on this adjustment as the handwheel operates through right angle miter gearing and rotates an acme thread screw which is a self-locking thread.

OUTFEED TABLE ELEVATION HAND WHEEL

The outfeed table elevation hand wheel is located on the outfeed end of the incline base. Rotating this hand wheel clockwise lowers the outfeed table, counterclockwise raises the outfeed table. There are no locks on this adjustment as the hand wheel rotates an acme thread screw which is a self locking thread.

FENCE DEGREE HAND KNOB

Behind the fence is the fence degree hand knob. Looking from the ear of the jointer, rotating this hand knob clockwise stands the fence up vertically in the 0 degree position. Rotating the hand knob counterclockwise tilts the fence to a maximum of 45 degrees in relation to the tables.

TABLE HOLD DOWN KNOBS

Located on the back side of the jointer, inside the top of the infeed and outfeed vee blocks, are the J-31 table holddown knobs. These cast iron knobs lock the infeed and outfeed tables to the vee blocks. Loosening the knobs allows the tables to be pulled away from the cutterhead to better expose it when changing knives. **NOTE:** Use only moderate hand pressure to tighten the knobs. Excessive tightening can draw the middle of the tables down, distorting them.

TABLE STOPS

On the bottom of the infeed and outfeed table are the J-6 table stop castings. These stops limit the travel of the tables when they are slid back towards the cutterhead. The stop should be set so that the cutterhead knives come no closer than 1/8" to the bottom side of the table lips.

HAND BRAKE

The hand brake lever is located in the center of the machine, on the end of the cutterhead. Lifting this lever up applies a brake pad to the end of the cutterhead. It is good practice to bring the cutterhead to a full stop before leaving the jointer. Do not apply the brake with the cutterhead under power as this will result in premature wear of the brake pad.

DEPTH OF CUT SCALE

Located on the infeed vee block, is the depth of cut scale and pointer. This indicates how much material will be removed from your stock each time it is pressed over the cutterhead.

SETTING TABLE HEIGHTS

The outfeed table height should be set so that it is even with the cutting circle of the cutterhead knives. Before starting, verify that all cutterhead rotation has stopped and the power is off and locked. Place a straight edge on the outfeed table with its end projecting past the table lip over the cutterhead. Raise the outfeed table to the point where the cutterhead knives just contact the straight edge when the cutterhead is rotated by hand. **NOTE:** Always start with the outfeed table lower than the cutting circle of the knives, as this eliminates any backlash in the elevating screw mechanism. This will make your setting less prone to change with time.

With the outfeed table rough set with the straight edge, remove the straight edge and start the cutterhead. Joint a piece of stock approximately 18" long. When the trailing end of the stock has cleared the cutterhead, stop and slide it backwards a few inches over the rotating cutterhead. If you feel or hear the cutterhead contacting the newly jointed surface, continue to raise the outfeed table to the point where no material is removed. Remember to take a fresh cut every time you do this. **NOTE:** This procedure compensates for any dynamic growth of the cutting circle due to the cutterhead rotating at speed.

Shut down the power and lock it out and verify that all cutterhead rotation has stopped before proceeding.

To set the infeed table height, place a straight edge on the outfeed table with its end projecting over the infeed table. Raise the infeed table until it is even with the outfeed table. If the tables are even you should be able to pass a piece of stock over the cutterhead without removing any material. Verify that the depth of cut scale is sitting on zero. If it is not, loosen the two screws that hold the scale and reset to zero and tighten the screws.

PATTERNMAKER TILTING INFEED TABLE OPTION

On the Patternmaker's Jointers the infeed table is adjustable to 5 degrees in relation to the cutterhead. This is extremely useful for planing draft on deep ribs and large bevels on various pattern components.

The table is tilted by means of a small handwheel on the back of the infeed table. The infeed table depth of cut should always be lowered, by means of the large ships wheel, before the infeed table is tilted. This is necessary so that the fence does not become twisted on its mount base.

Cutting should be done on the extreme outer edge of the cutterhead. The fence should be positioned parallel to the front edge of the outfeed table, and at the point where the two table planes intersect. By raising and lowering the infeed table depth of cut, the proper cutting width between the front table edge and the fence can be attained. The tilting screw is also provided with a locking handwheel.

SETTING KNIVES

NOTE: The most common problem with any jointer is dull or improperly set knives.

Before starting, verify that all cutterhead rotation has stopped and the power is off and locked. Loosen the table hold down knobs and pull the infeed and outfeed tables away from the cutterhead a few inches.

When setting knives, they should not project more than 1/8 of an inch above the cutterhead. This dimension may be checked by placing the shank end of a 1/8" drill bit between the dial indicator plunger and the cutterhead body. Zero out the dial indicator on that reading and set all the knives to that common height.

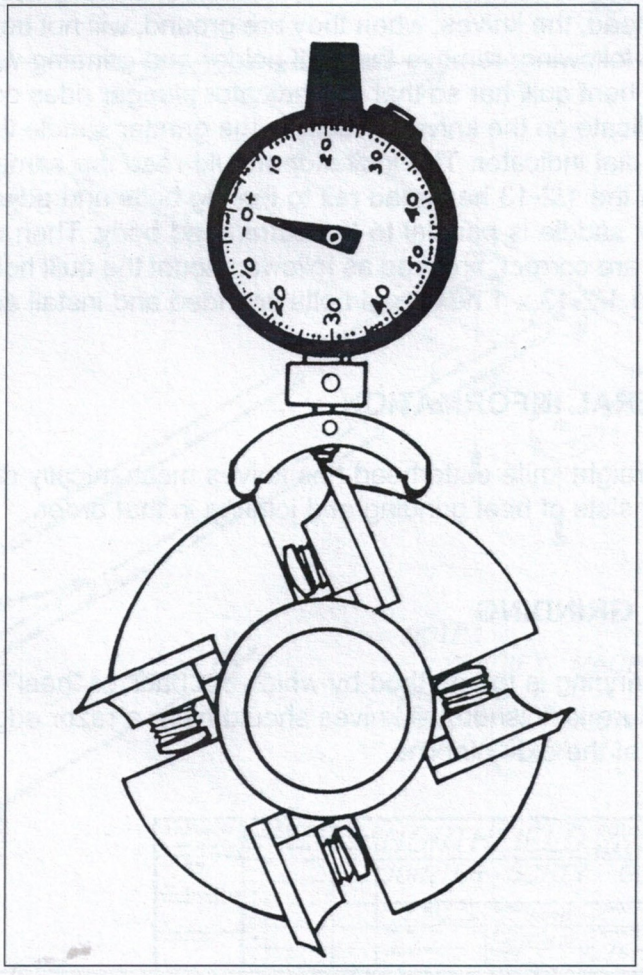
It is a good idea when replacing the knives to clean the wedges and the slots with alcohol or thinner to remove both dirt and pitch. The wedges and slots are numbered so that the wedges get put back into the right slot, to keep the cutterhead balanced. Knives should be of the same weight and balance.

In setting the knives, the square head set screws that clamp the gib between the knife and the cutterhead body should only be tightened to the point where the knife can be slid up by means of the raising screws using the 3/16" tee handle allen wrench provided.

Use a short (less than 6" long) 3/8" open end wrench on the cutterhead wedge screws. Set the knives even with the end of the cutterhead and the rabbet groove. Use the dial indicator with the knife setting bracket previously set and raise the ends to this dimension first, raising the middle lastly. Before retightening the square head gib screws, use a brass rod or hardwood dowel, rap the gibs down firmly to assure that they are bottomed out in their respected slots. This assures that the gibs will not cause an imbalance situation from raising up with the knives. At this point the gib set screws should be retightened evenly. DOUBLECHECK TO MAKE SURE ALL SQUARE HEAD SCREWS ARE EVENLY TIGHT.

NOTE: UNDER NO CIRCUMSTANCES SHOULD KNIVES WITH A WIDTH OF UNDER 15/16" BE USED. USING KNIVES SMALLER THAN THIS CANNOT BE CLAMPED ADEQUATELY TO PREVENT THEIR COMING OUT AT SPEED.

NOTE: Adjust knives to a common height along the axis of the cutterhead. Measure knives by each knife raising hole.



KNIFE GRINDER

SETTING UP KNIFE GRINDER

Disconnect all power to the Jointer and remove the front swinging guard and the fence assembly.

Position to KG-9 RH & KG-10 LH grinder legs on the outfeed table. Align the 3/16" witness pins on each leg and insert the 1/2-13 hex head holddown bolts but do not tighten them at this time. Place the grinder rail onto the legs and tighten the two 1/2-13 hex head bolts that secure the rail to the legs. Then go back and tighten the 1/2" leg to the table bolts.

HORIZONTAL ALIGNMENT

The grinder legs were pinned to the outfeed table after the grinder rail was dial indicated parallel to the knife slot in the cutterhead. This was done at the factory when the Jointer was built and normally does not need to be checked every time the head is ground. But if the head/yoke assembly has been removed from the Jointer base, this alignment will have to be indicated and the head/yoke assembly shifted to assure that the knife slot in the cutterhead is parallel to the grinder rail in the horizontal plane. Horizontal alignment must be done before the vertical alignment.

VERTICAL ALIGNMENT

The grinder legs have 1/2" square head set screws to adjust the parallelism of the grinder rail to the body of the cutterhead. This should be checked periodically because if the grinder rail is not parallel to the body of the cutterhead, the knives, when they are ground, will not be parallel with the outfeed table. To check this alignment do the following: remove the quill holder and grinding wheel from the bent quill bar and mount a dial indicator on the bent quill bar so that the indicator plunger rides on the body of the cutterhead, inbetween the knives. Do not indicate on the knives. Traverse the grinder saddle the length of the cutterhead and observe the movement of the dial indicator. The indicator should read the same from one end of the head to the other. If it does not, loosen the 1/2-13 hex head rail to the leg bolts and adjust the square head leveling bolts until the travel of the grinder saddle is parallel to the cutterhead body. Then retighten the rail to the leg bolts and recheck. If alignments are correct, proceed as follows: mount the quill holder/grinding wheel assembly to the grinder saddle with the two 1/2-13 x 1 hex head bolts provided and install and tension the drive belt.

GENERAL INFORMATION

The straight knife cutterhead has knives mechanically clamped in the cutterhead body. Total cutterhead grinding consists of heel grinding and jointing in that order.

HEEL GRINDING

Heel grinding is the method by which the back or "heel" clearance of the knives is set. When the heel grinding procedure is finished, all knives should have a razor edge left on their leading edges. There should be no evidence of the old "joint line."

THE CUTTERHEAD DOES NOT ROTATE IN THIS OPERATION, AND THE CUTTERHEAD STOP BUTTON SHOULD BE LOCKED OUT.

Disconnect power from the machine.

INDEX RING SETUP FOR DIRECT MOTOR DRIVE (DMD) MACHINES

Remove the fan cover and fan from the cutterhead motor. Slip the index ring onto the exposed cutterhead shaft, and mount the stop screw and bracket with the two 5/16" socket head cap screws.

INDEX RING SETUP FOR BELT DRIVE MACHINES

On belt drive machines, the stop screw can be threaded into the bracket mounted at the 12 o'clock position between the cutterhead yoke and the cutterhead belt pulley. On belt drive machines, the index ring and stop bracket remain mounted and do not have to be removed.

With the brass-head set screw loose and the index bolt engaging one of the notches in the index plate, the cutterhead may rotate within the index ring. Mount the quill, wheel belt assembly onto the grinder saddle and adjust the belt tension. As a starting point, lower the grinder wheel until it is approximately 1/16" above the body of the cutterhead, at this point rotate the cutterhead so that the back side or "heel" of the knife butts against the O.D. of the grinding wheel. Lock the brass head set screw down onto the cutterhead shaft, then traverse the grinder saddle so that the grinding wheel is off the knife on the side of the cutterhead body. **NOTE:** Keep the brass head set screw away from the keyway area of the cutterhead shaft. Examine all the knives and start grinding on the knife which is the most badly chipped or the dullest and lock in place with the indexing stop screw.

Grind the first knife completely remembering that jointing is the last operation to take out any minute nicks if any are present.

After the first knife is ground completely and with the grinding wheel left at the ground depth of the first knife, index the cutterhead to the next knife by using the indexing ring and the indexing stop screw to lock and hold the cutterhead in place.

Grind in on the next knife about 1/4 of an inch to establish witness grind. Repeat this procedure on the remaining knives in the head. It is recommended that each witness mark be marked with blue dykem or a marking pen. Raise the grinding wheel and grind each knife in the same manner as the first knife. Grind each knife until the marking or witness marks are just removed.

When all knives are ground, rermove the indexing stop bolt on belt drive machines and on DMD machines remove the indexing ring, and indexing stop bracket. Replace the fan and fan cover. Check that the cutterhead revolves freely. Remove the grinding wheel assembly.

JOINTING

Jointing is the method by which a common circle for all the knives in the head is established. In the case of high-speed steel knives, the jointing process also removes the wire edge left by the heel grinding phase on the tips of the knives. A land width of approximately .010" will enhance edge retention without affecting cutterhead noise. Land widths wider than .010" will result in increased cutterhead noise.

Remove the quill holder and the grinding wheel, replace with the jointing attachment making sure that the jointing attachment is tight and away from the cutterhead.

Reconnect the power to the jointer.

Start the cutterhead and lower the jointing attachment until the stone is just touching the rotating knives. Traverse the jointing attachment across the knives several passes until with very few sparks come off the jointing stone.

When this is complete, remove the jointing stone assembly and then the grinder rail and legs may be removed.

You may wish to hone the bottom side of the knives. This can be done by removing the 3/4" x 3/4" jointing stone from the jointing attachment and rubbing its flat side by hand against the flat side of the knife. This can eliminate any turned over edge left by the jointing operation. Be sure that all cutterhead rotation has stopped and the power is locked out before attempting this.

Whenever the cutterhead is ground, the cutting circle diameter of the head is reduced. This necessitates resetting the outfeed and infeed table heights. When that is complete, replace the front swinging guard and the fence assembly.

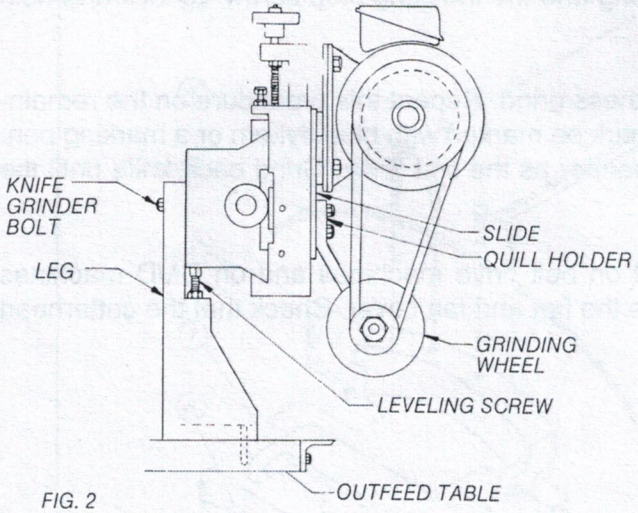


FIG. 2

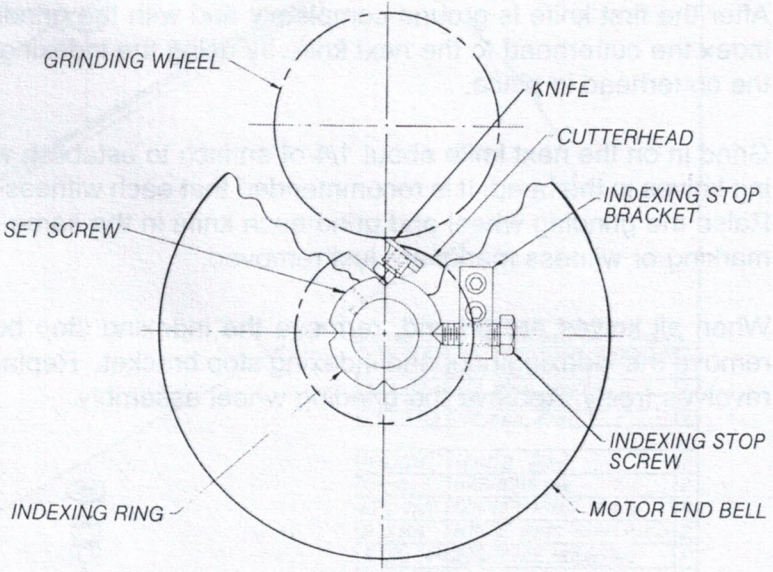
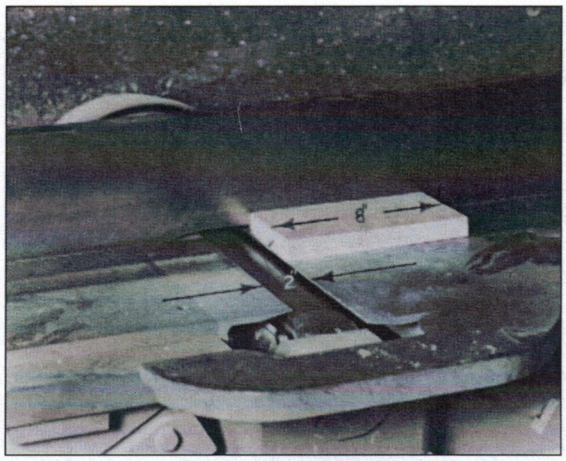


FIG. 3

JOINTING SHORT STOCK

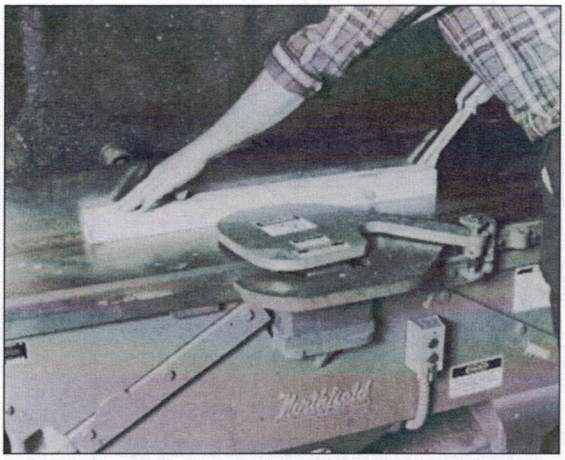


Guard removed for demonstration purposes

The hazard of jointing pieces that are too short is excessive. Minimum length of the piece jointed should not be less than four times the width of the bed opening. Neither half of the jointer table shall be adjusted horizontally so that the clearance between the edge of the table and the revolving knives is more than 1/4 inch. The knife blade shall be so installed and adjusted that it does not protrude more than 1/8 inch beyond the cylindrical body of the head. Push sticks or push blocks, shall be provided at the workplace in the several sizes and types suitable for the work to be done.

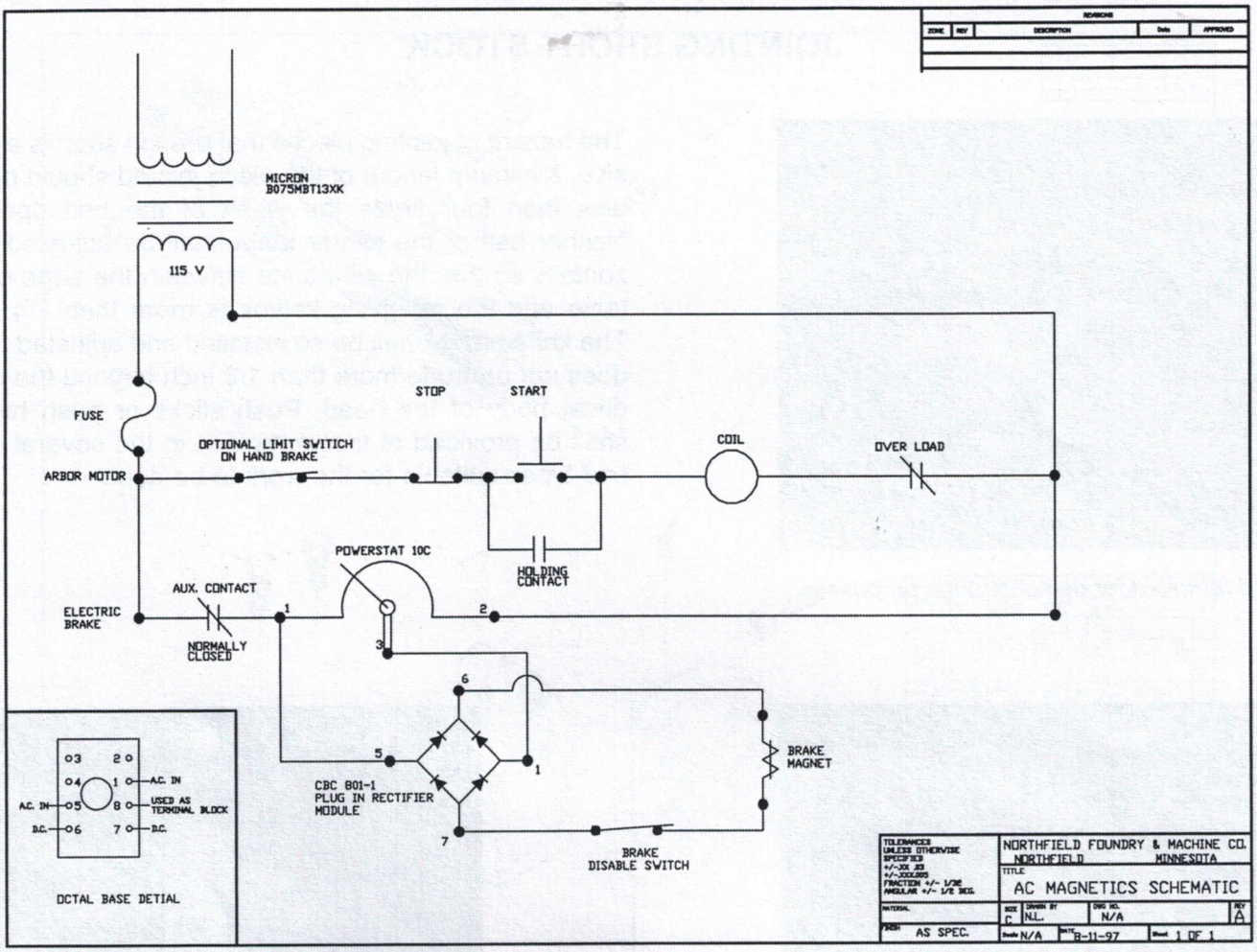
Use of push stick

Use of push blocks



Use of push stick

Push block and push stick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ARBOR MOTOR
COIL
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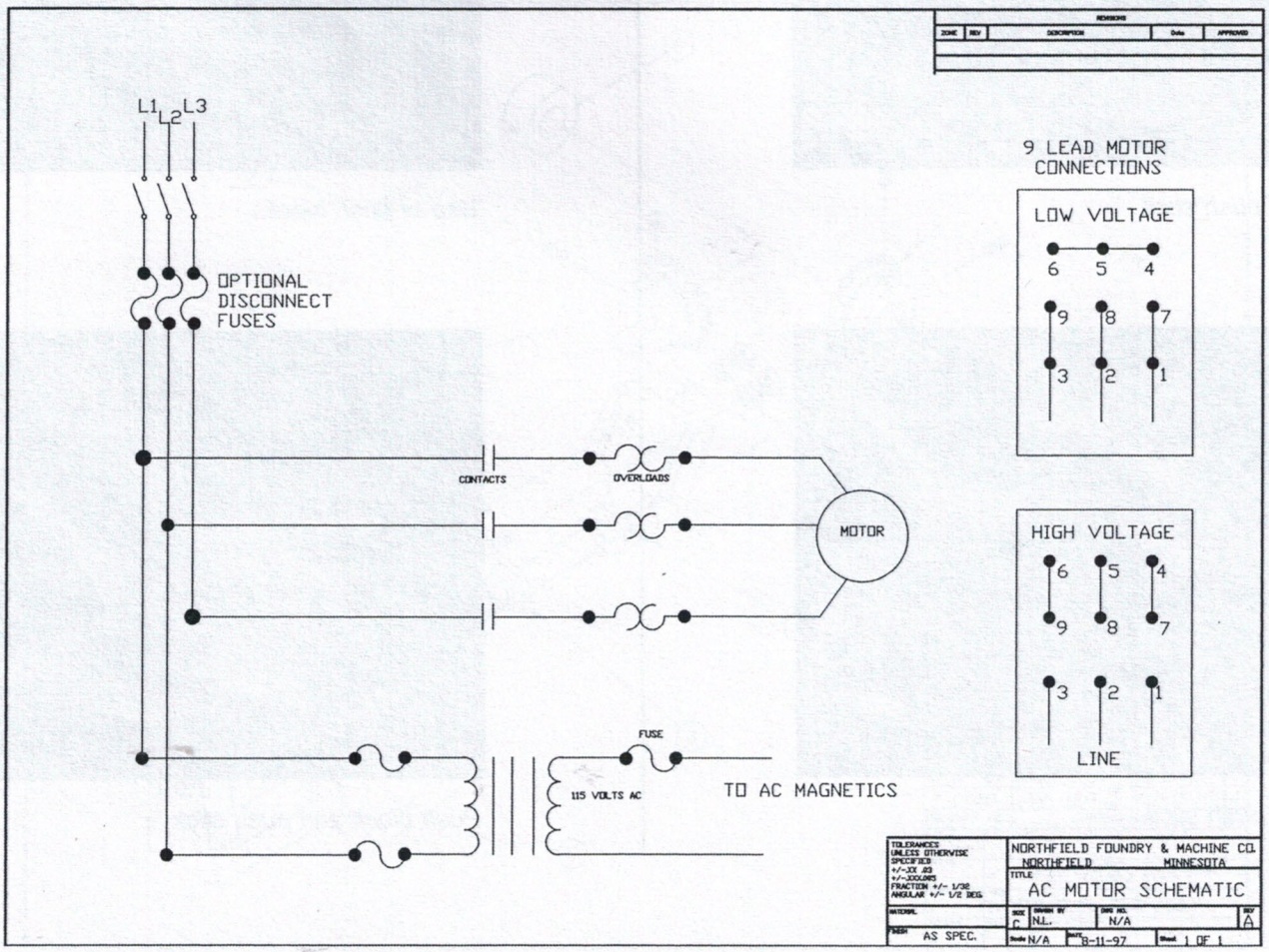
HOLDING
CONTACT
POWERSTAT 10C
AUX. CONTACT
ELECTRIC
BRAKE
NORMALLY
CLOSED
1
2
3
5
6
7
CBC 801-1
PLUG IN RECTIFIER
MODULE
BRAKE
MAGNET
BRAKE
DISABLE SWITCH
A.C. IN
USED AS
TERMINAL BLOCK
D.C.
DCTAL BASE DETIAL
NORTHFIELD FOUNDRY & MACHINE CO.
NORTHFIELD MINNESOTA
AC MAGNETICS SCHEMATIC
AS SPEC.
N.L.
N/A
8-11-97
1 OF 1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L2
L3
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CONTACTS
OVERLOADS
MOTOR
FUSE
115 VOLTS AC
TO AC MAGNETICS
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CONNECTIONS
LOW VOLTAGE
6 5 4
9 8 7
3 2 1
HIGH VOLTAGE
6 5 4
9 8 7
3 2 1
LINE
NORTHFIELD FOUNDRY & MACHINE CO.
NORTHFIELD MINNESOTA
AC MOTOR SCHEMATIC
AS SPEC.
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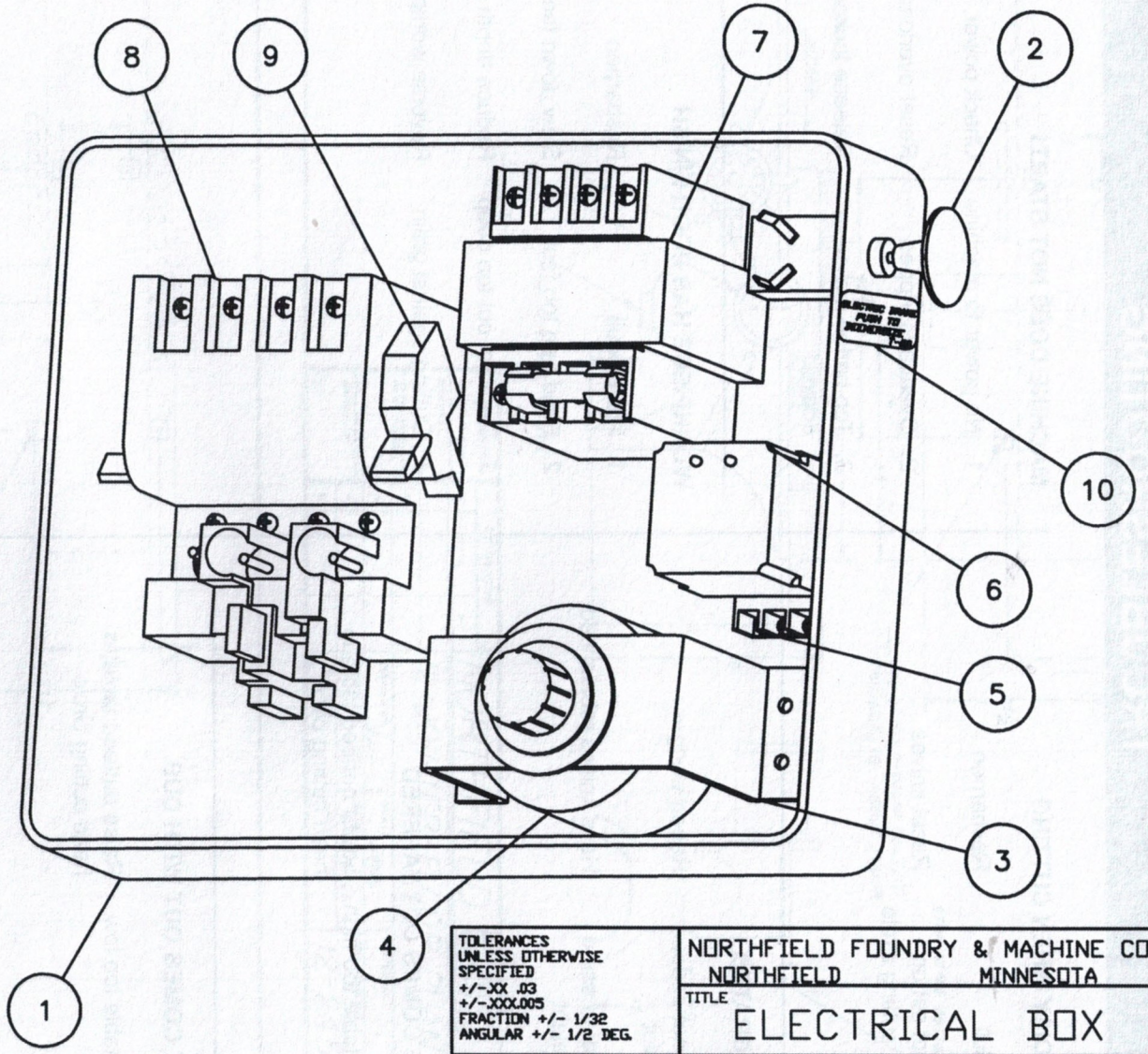
1 OF 1



Parts list			
Item	Part No.	Description	Cn.
1	14DP32BAE1	ELECTRICAL BOX	1
2	N-2150	BRAKE DISABLE SWITCH	1
3	N-2179	BRACKET	1
4	N-2153	POWERSTAT 10C	1
5	N-2177	OCTAL BASE	1
6	N-2149	POWER SUPPLY	1
7	B075MBT13XK	TRANSFORMER	1
8	14DP32A	STARTER	1
9	49D54682NC	INTERLOCK SWITCH N/C	1
9	49D54682NC	INTERLOCK SWITCH N/C	1

TOLERANCES UNLESS OTHERWISE SPECIFIED
+/-.XX .03
+/-.XXX.005
FRACTION +/- 1/32
ANGULAR +/- 1/2 DEG.

NORTHFIELD FOUNDRY & MACHINE CO.
NORTHFIELD MINNESOTA

TITLE: ELECTRICAL BOX

MATERIAL: N/A
FINISH: AS SPEC.
SIZE: B
DRAWN BY: N.L.
DWG NO.: ELECTBOX
REV: A
Scale: N/A
DATE: 4-20-99
Sheet: 1 OF 1

TROUBLESHOOTING

MACHINE NOISY WHEN CUTTING

1. Knives dull	Resharpen
2. Knives not set on common cutting circle	Reset knives

MACHINE VIBRATES

1. Wedges not bedded in knife slot	Rebed wedges
2. Knives not of same size & weight	Have knives rebalanced

WORKPIECE COMES OUT TAPERED

1. Outfeed table too high	Lower outfeed table to head cutting circle

WORKPIECE COMES OUT WITH DUB

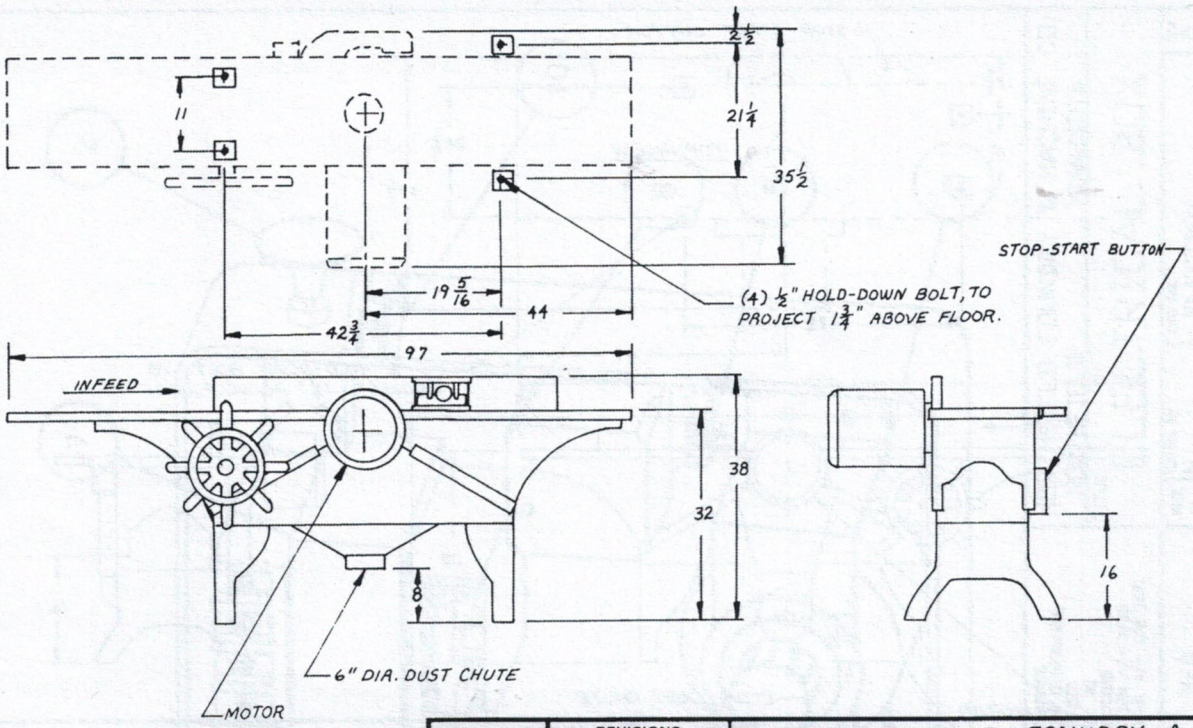
1. Outfeed table too low	Raise outfeed table to head cutting circle

MACHINE DOES NOT START

1. No power to machine	Check power, fuses, etc.
2. Overloads tripped	Reset overloads
3. Top button locked down	Release lockout

WORKPIECE HAS POOR FINISH

1. Knives dull	Resharpen
2. Feed rate too fast	Slow down feed
3. Depth of cut too deep	Reduce depth of cut
4. Cutting against grain	Reverse workpiece

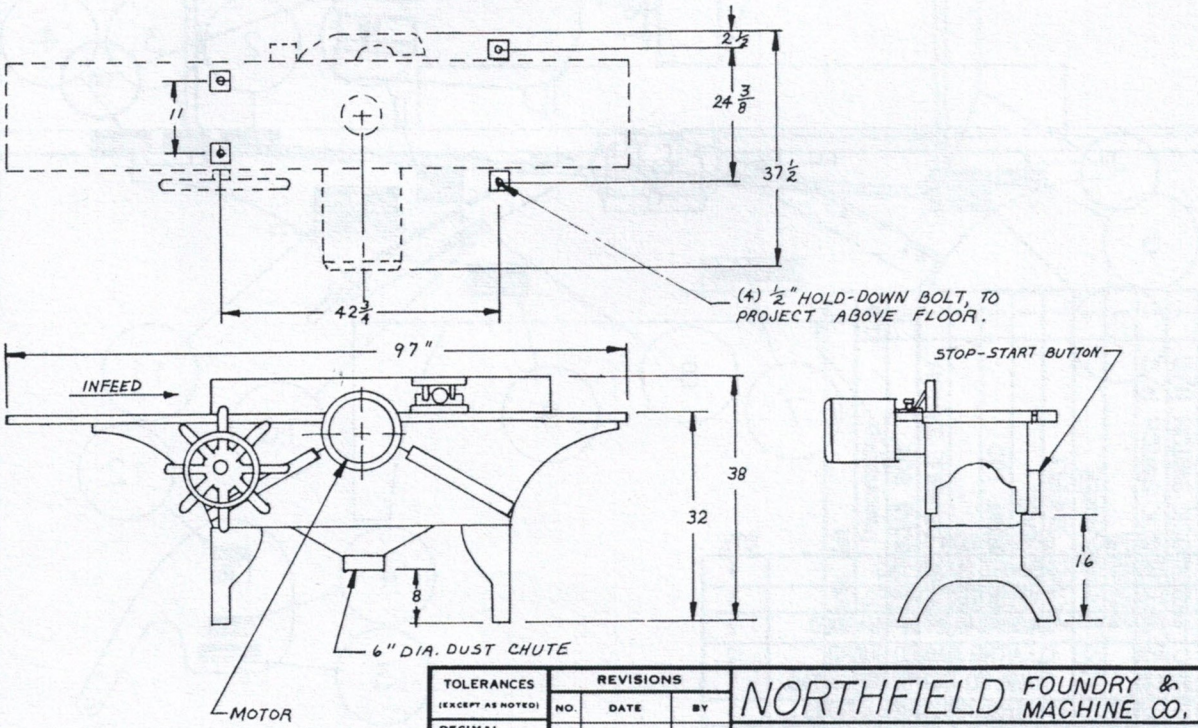


TOLERANCES (EXCEPT AS NOTED)	REVISIONS NO.	DATE	BY
DECIMAL ±	1		
FRACTIONAL ±	2		
ANGULAR ±	3		
	4		
	5		

NORTHFIELD FOUNDRY & MACHINE CO.

12" JOINTER-FLOOR PLAN

DRAWN BY Jim	SCALE NONE	MATERIAL
CHK'D	DATE 2-24-82	DRAWING NO. 12-245
TRACED	APP'D	



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FRACTIONAL ±	2		
ANGULAR ±	3		
	4		
	5		

NORTHFIELD FOUNDRY & MACHINE CO.

16" JOINTER-FLOOR PLAN

DRAWN BY Jim	SCALE NONE	MATERIAL
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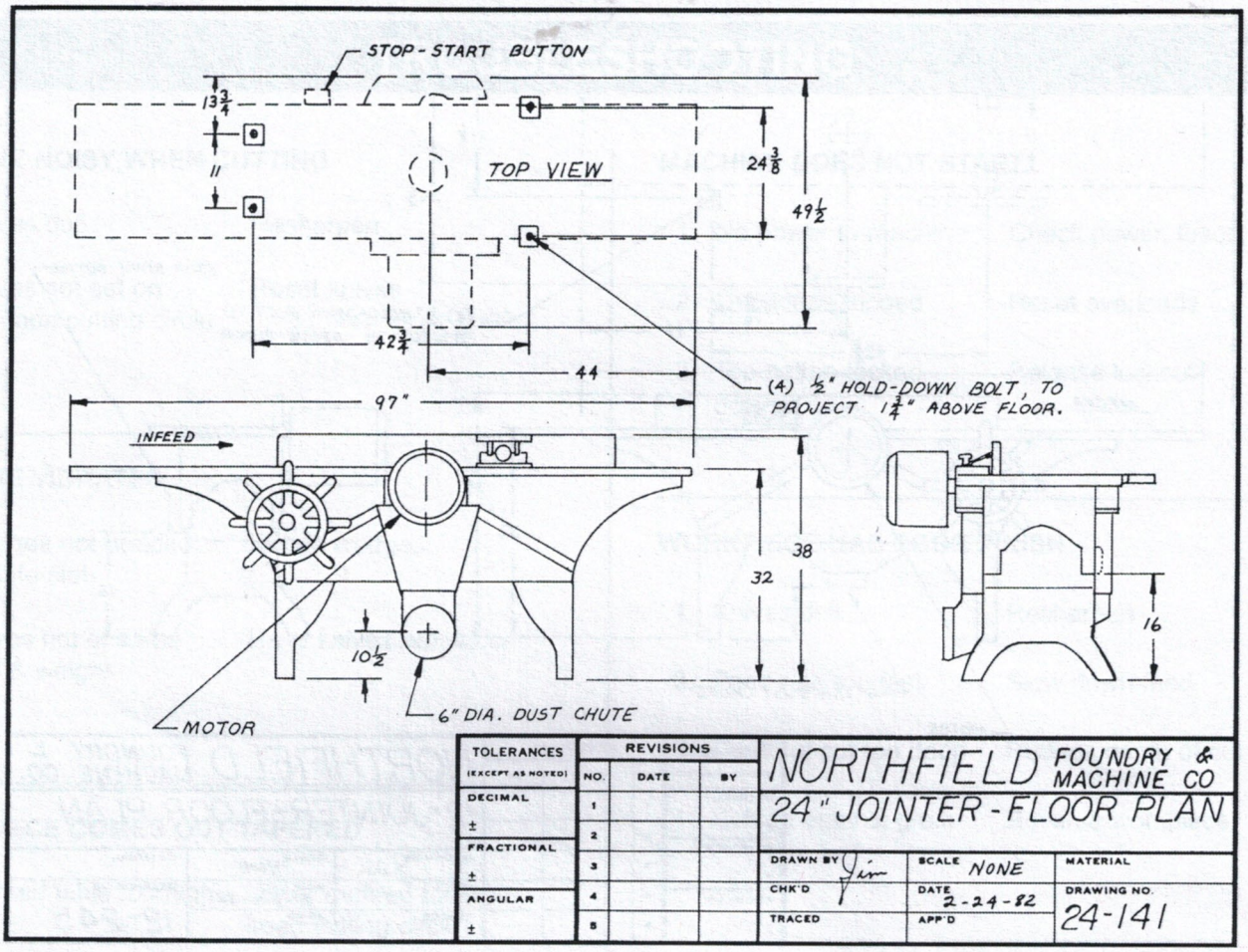
TRACED	APP'D	



TOLERANCES (EXCEPT AS NOTED)	REVISIONS			NORTHFIELD FOUNDRY & MACHINE CO		
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ANGULAR ±	2			CHK'D	DATE 2-24-82	DRAWING NO. 24-141
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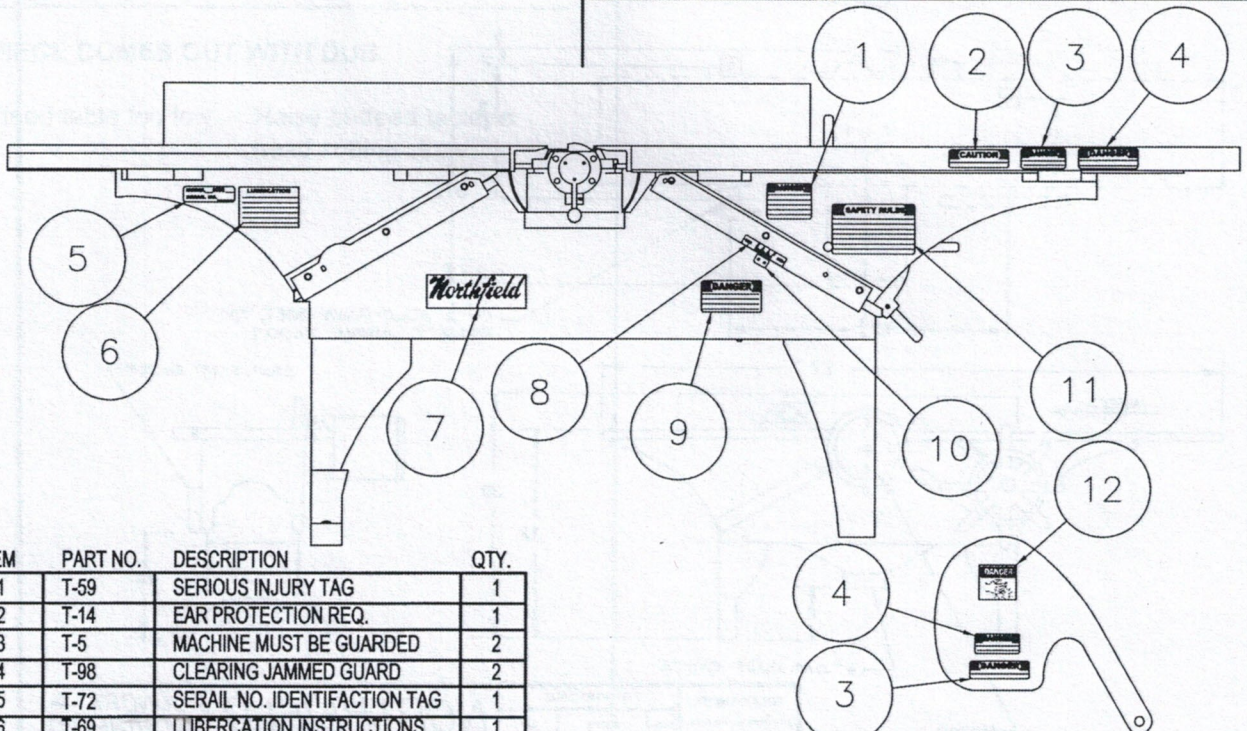
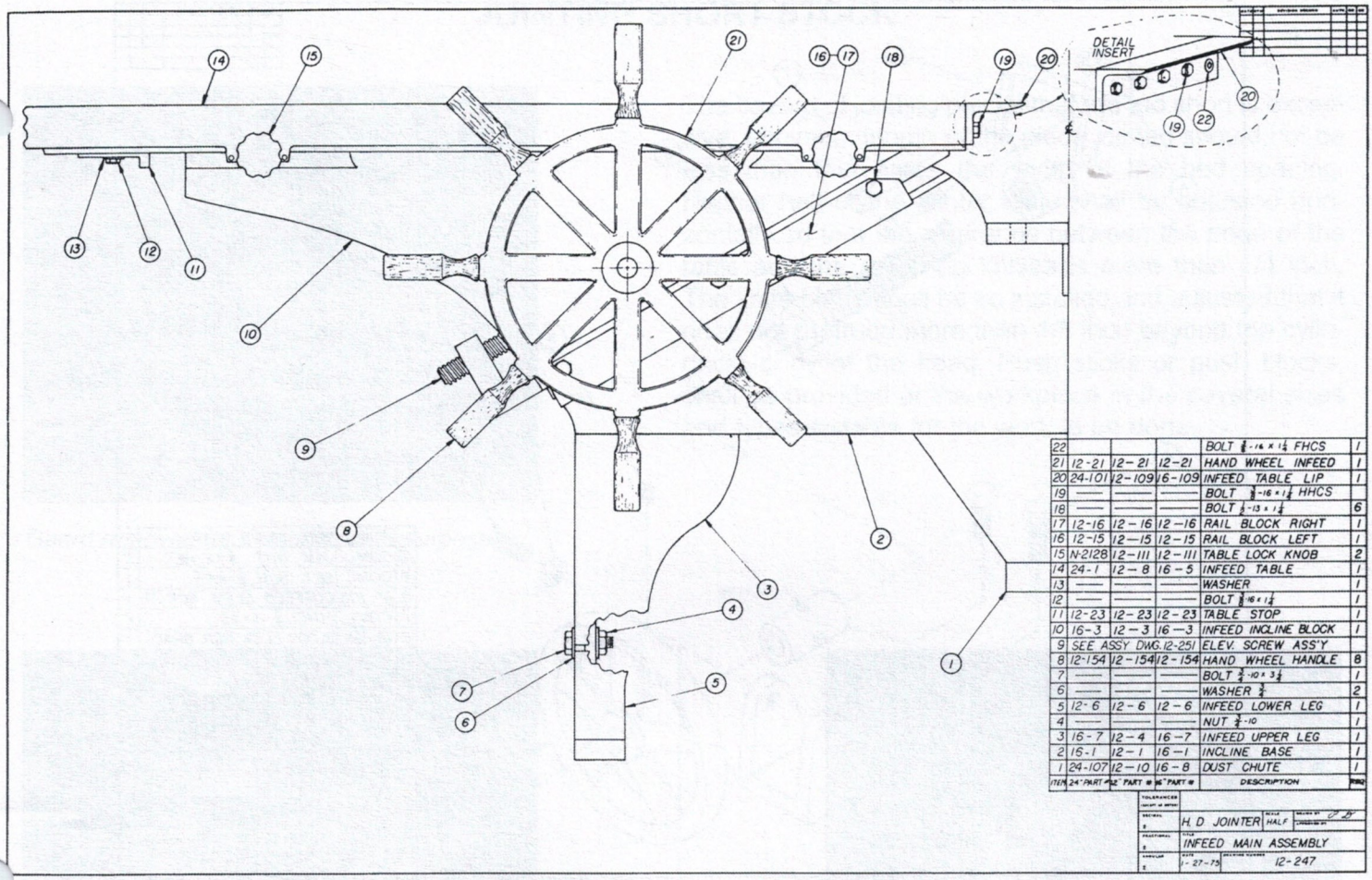
	5					

ZONE	REV	DESCRIPTION	Date	APPROVED



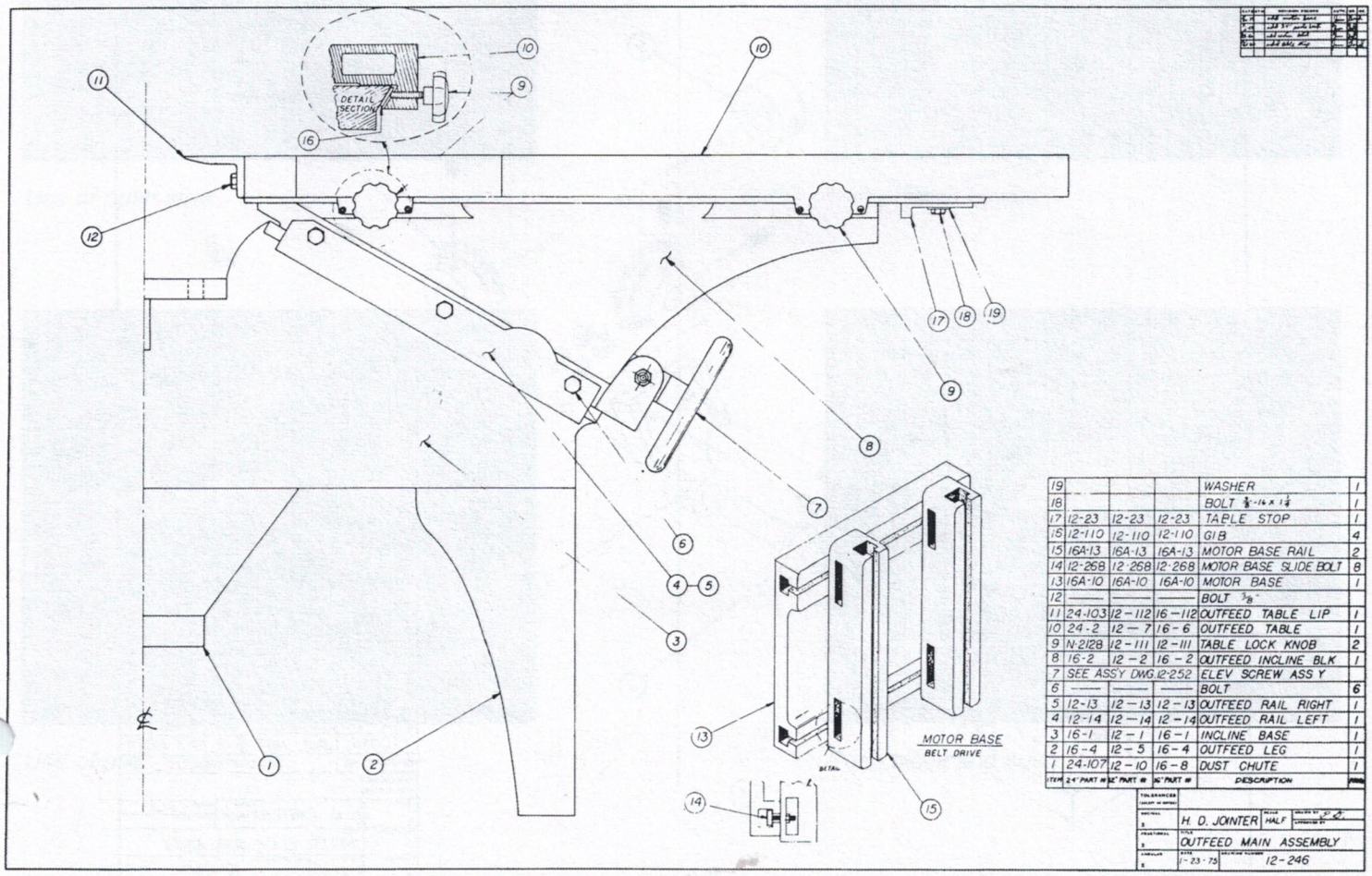
ITEM	PART NO.	DESCRIPTION	QTY.
1	T-59	SERIOUS INJURY TAG	1
2	T-14	EAR PROTECTION REQ.	1
3	T-5	MACHINE MUST BE GUARDED	2
4	T-98	CLEARING JAMMED GUARD	2
5	T-72	SERAIL NO. IDENTIFACTION TAG	1
6	T-69	LUBERCATION INSTRUCTIONS	1
7	T-70	NORTHFIELD PLASTIC LOGO	1
8	12-230	INCLINE BLOCK DEPTH GAUGE	1
9	T-26	LOCK STOP BUTTON WHEN...	1
10	12-231	DEPTH GAUGE POINTER	1
11	T-80	SAFTEY RULES	1
12	T-96	FINGER DANGER STICKER	1

TOLERANCES UNLESS OTHERWISE SPECIFIED +/-.XX .03 +/-.XXX.005 FRACTION +/- 1/32 ANGULAR +/- 1/2 DEG.	NORTHFIELD FOUNDRY & MACHINE CO. NORTHFIELD MINNESOTA		
	TITLE TAG PLACEMENT DWG.		
MATERIAL	SIZE B	DRAWN BY N.L.	DWG NO. JOINTERTAGS
FINISH AS SPEC.	Scale N/A	DATE 10-02-00	Sheet 1 OF 1



ITEM	24" PART #	32" PART #	36" PART #	DESCRIPTION	REQ'D
22				BOLT $\frac{5}{16}$-16 x $1\frac{1}{4}$ FHCS	1
21	12-21	12-21	12-21	HAND WHEEL INFEED	1
20	24-101	12-109	16-109	INFEED TABLE LIP	1
19	——	——	——	BOLT $\frac{5}{16}$-16 x $1\frac{1}{4}$ HHCS	
18	——	——	——	BOLT $\frac{1}{2}$-13 x $1\frac{1}{4}$	6
17	12-16	12-16	12-16	RAIL BLOCK RIGHT	1
16	12-15	12-15	12-15	RAIL BLOCK LEFT	1
15	N-2128	12-111	12-111	TABLE LOCK KNOB	2
14	24-1	12-8	16-5	INFEED TABLE	1
13	——	——	——	WASHER	1
12	——	——	——	BOLT $\frac{5}{16}$-16 x $1\frac{1}{4}$	1
11	12-23	12-23	12-23	TABLE STOP	1
10	16-3	12-3	16-3	INFEED INCLINE BLOCK	1
9	SEE ASSY DWG. 12-251			ELEV. SCREW ASS'Y	
8	12-154	12-154	12-154	HAND WHEEL HANDLE	8
7	——	——	——	BOLT $\frac{3}{8}$-10 x $3\frac{1}{2}$	1
6	——	——	——	WASHER $\frac{3}{8}$	2
5	12-6	12-6	12-6	INFEED LOWER LEG	1
4	——	——	——	NUT $\frac{3}{8}$-10	1
3	16-7	12-4	16-7	INFEED UPPER LEG	1
2	16-1	12-1	16-1	INCLINE BASE	1
1	24-107	12-10	16-8	DUST CHUTE	1

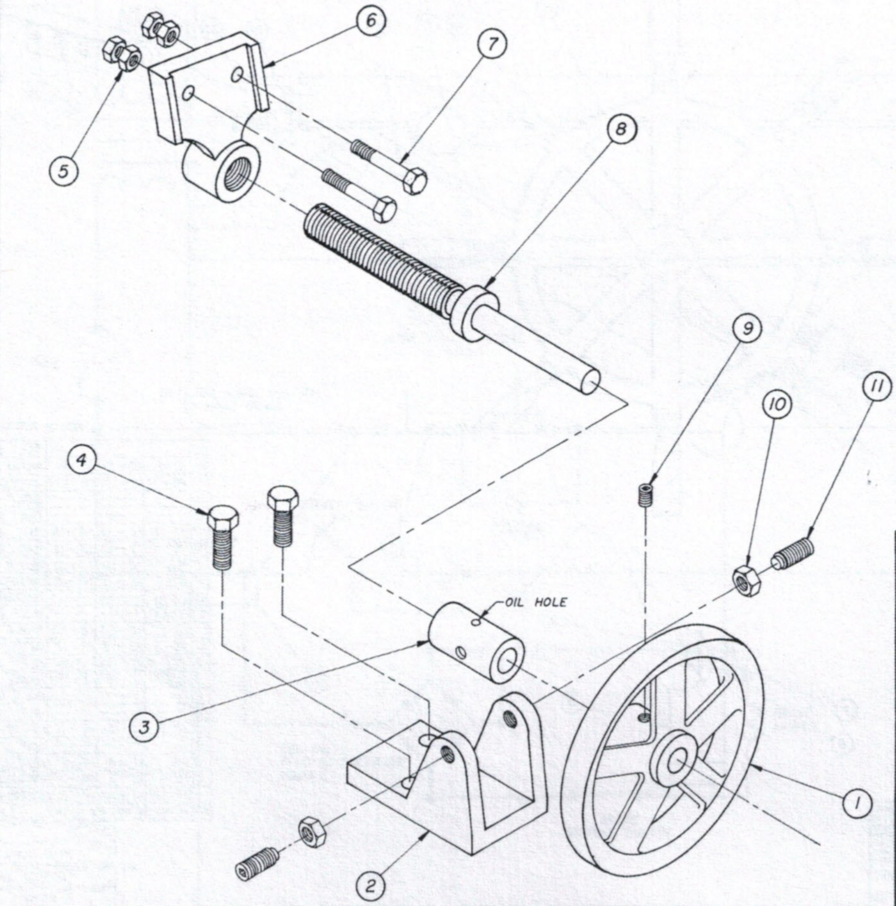
TOLERANCES			
DECIMAL	H. D. JOINTER	SCALE HALF	DRAWN BY
FRACTIONAL	TITLE INFEED MAIN ASSEMBLY		CHECKED BY
ANGULAR	DATE 1-27-75	DRAWING NUMBER 12-247	



ITEM	24" PART #	32" PART #	36" PART #	DESCRIPTION	REQ'D
19				WASHER	1
18	——	——	——	BOLT $\frac{5}{16}$-16 x $1\frac{1}{4}$	1
17	12-23	12-23	12-23	TABLE STOP	1
16	12-110	12-110	12-110	GIB	4
15	16A-13	16A-13	16A-13	MOTOR BASE RAIL	2
14	12-268	12-268	12-268	MOTOR BASE SLIDE BOLT	8
13	16A-10	16A-10	16A-10	MOTOR BASE	1
12	——	——	——	BOLT $\frac{3}{8}$-16	
11	24-103	12-112	16-112	OUTFEED TABLE LIP	1
10	24-2	12-7	16-6	OUTFEED TABLE	1
9	N-2128	12-111	12-111	TABLE LOCK KNOB	2
8	16-2	12-2	16-2	OUTFEED INCLINE BLK	1
7	SEE ASSY DWG. 12-252			ELEV SCREW ASS Y	
6	——	——	——	BOLT	6
5	12-13	12-13	12-13	OUTFEED RAIL RIGHT	1
4	12-14	12-14	12-14	OUTFEED RAIL LEFT	1
3	16-1	12-1	16-1	INCLINE BASE	1
2	16-4	12-5	16-4	OUTFEED LEG	1
1	24-107	12-10	16-8	DUST CHUTE	1

TOLERANCES			
DECIMAL	H. D. JOINTER	SCALE HALF	DRAWN BY
FRACTIONAL	TITLE OUTFEED MAIN ASSEMBLY		CHECKED BY
ANGULAR	DATE 1-23-75	DRAWING NUMBER 12-246	

DATE	SYM	REVISION RECORD	AUTH.	DR.	CK.



NOTE: OUTFEED ELEV. SCREW PART NO. 16-130 USED ON PATTERNMAKERS, (#8).

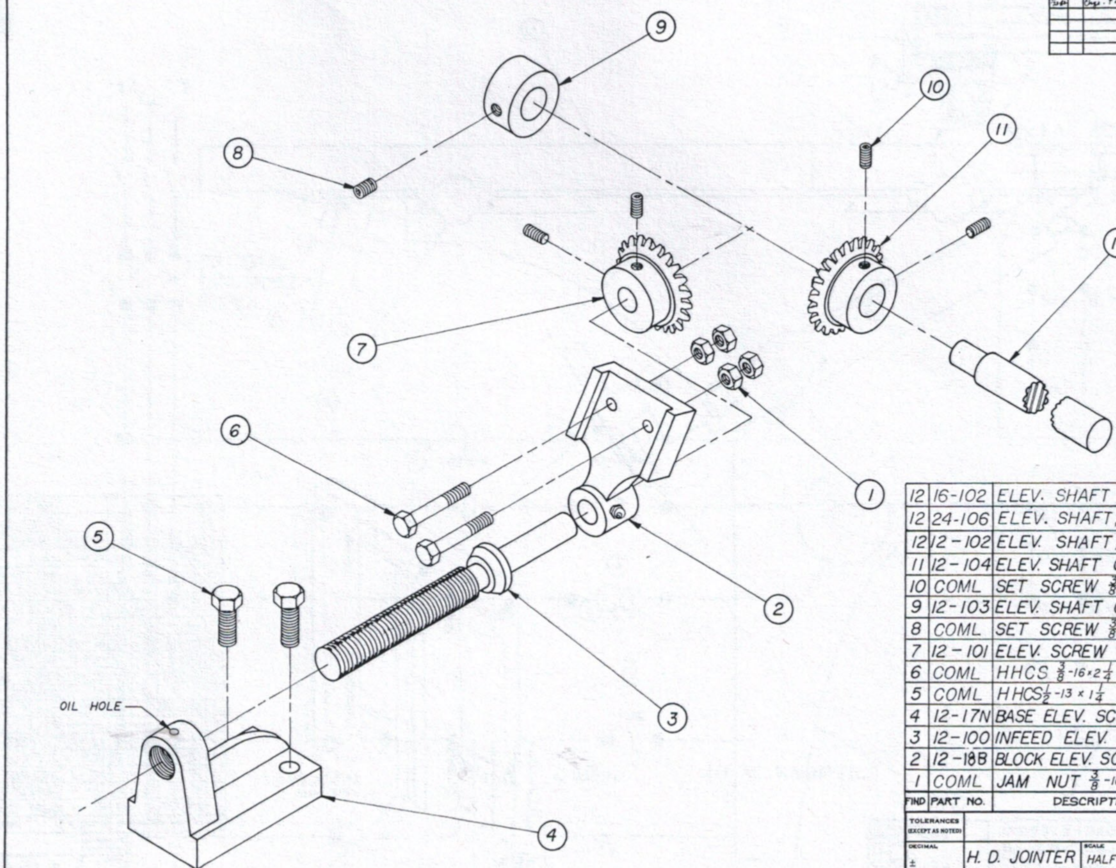
FIND	PART NO.	DESCRIPTION	REQ
11	COML	SET SCR. $\frac{1}{2}$-13 × $1\frac{1}{4}$	2
10	COML	JAM NUT $\frac{1}{2}$-13 HEX	2
9	COML	SET SCR. $\frac{3}{8}$-16 × $\frac{1}{2}$	1
8	12-105	OUTFEED ELEV. SCR. SEE NOTE	1
7	COML	HHCS $\frac{3}{8}$-16 × $2\frac{1}{4}$	2
6	12-18N	BLOCK ELEV. SCR. BRAC.	1
5	COML	JAM NUT $\frac{3}{8}$-16 HEX HD	4
4	COML	HHCS $\frac{1}{2}$-13 × $1\frac{1}{4}$	2
3	12-156	ELEV. SCR. STEEL BRG.	1
2	12-24N	BASE ELEV. SCR. BRAC.	1
1	JA-36	HAND WHEEL	1

TOLERANCES (EXCEPT AS NOTED)			
DECIMAL ±	H. D. JOINTER	SCALE HALF	DRAWN BY P. D. / APPROVED BY
FRACTIONAL ±	TITLE OUTFEED ELEV. SCR. ASS'Y		
ANGULAR ±	DATE 1-21-75	DRAWING NUMBER 12-252	

K+E ALBANENE ® 10 2481 ENGINEERS' STANDARD FORM

MADE IN U.S.A.

DATE	SYM	REVISION RECORD	AUTH.	DR.	CK.
[illegible]		Chgs. + additions #12	Jim	Jeff	

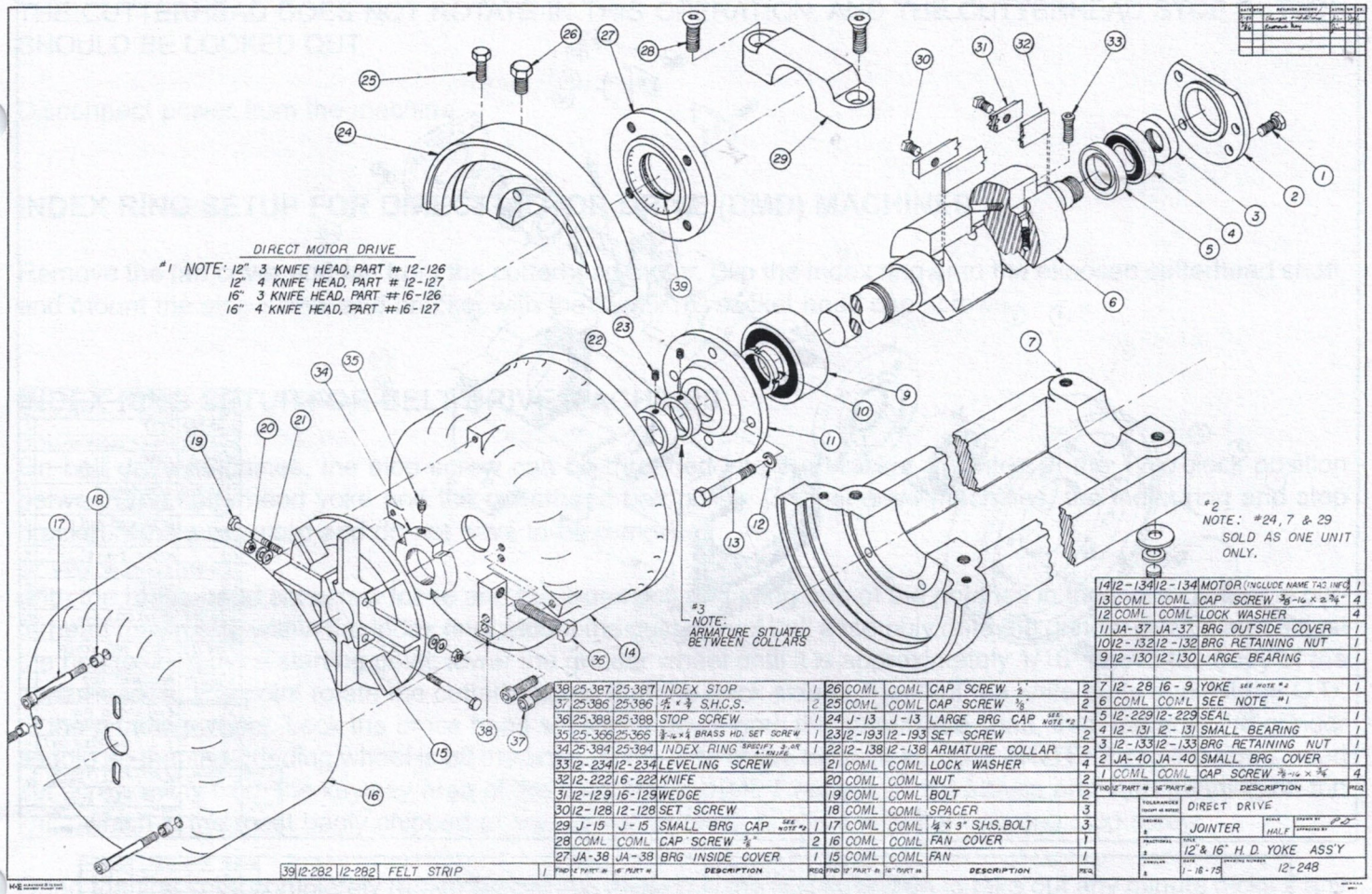


FIND	PART NO.	DESCRIPTION	REQ
12	16-102	ELEV. SHAFT 16", 12" P.M.	1
12	24-106	ELEV. SHAFT, 24, "24 PM 16 PM	1
12	12-102	ELEV. SHAFT, 12" STD. ONLY	1
11	12-104	ELEV. SHAFT GEAR	1
10	COML	SET SCREW $\frac{3}{8}$-16 × $\frac{5}{8}$	4
9	12-103	ELEV. SHAFT COLLAR	1
8	COML	SET SCREW $\frac{3}{8}$-16 × $\frac{1}{2}$	1
7	12-101	ELEV. SCREW GEAR	1
6	COML	HHCS $\frac{3}{8}$-16 × $2\frac{1}{4}$	2
5	COML	HHCS $\frac{1}{2}$-13 × $1\frac{1}{4}$	2
4	12-17N	BASE ELEV. SCR. BRAC.	1
3	12-100	INFEED ELEV. SCREW	1
2	12-18B	BLOCK ELEV. SCR. BRAC.	1
1	COML	JAM NUT $\frac{3}{8}$-16 HEX HD	4

TOLERANCES (EXCEPT AS NOTED)			
DECIMAL ±	H. D. JOINTER	SCALE HALF	DRAWN BY P. D. / APPROVED BY
FRACTIONAL ±	TITLE INFEED ELEV. SCR. ASS'Y		
ANGULAR ±	DATE 1-23-75	DRAWING NUMBER 12-251	

K+E ALBANENE ® 10 2481 ENGINEERS' STANDARD FORM

MADE IN U.S.A.



FIND	12" PART #	16" PART #	DESCRIPTION	REQ'D
14	12-134	12-134	MOTOR (INCLUDE NAME TAG INFO)	1
13	COML	COML	CAP SCREW $\frac{3}{8}$-16 x 2$\frac{3}{4}$"	4
12	COML	COML	LOCK WASHER	4
11	JA-37	JA-37	BRG OUTSIDE COVER	1
10	12-132	12-132	BRG RETAINING NUT	1
9	12-130	12-130	LARGE BEARING	1
7	12-28	16-9	YOKE SEE NOTE #2	1
6	COML	COML	SEE NOTE #1	2
5	12-229	12-229	SEAL	1
4	12-131	12-131	SMALL BEARING	1
3	12-133	12-133	BRG RETAINING NUT	1
2	JA-40	JA-40	SMALL BRG COVER	1
1	COML	COML	CAP SCREW $\frac{5}{16}$-14 x $\frac{3}{4}$	4
38	25-387	25-387	INDEX STOP	1
37	25-386	25-386	$\frac{1}{4}$" x $\frac{3}{4}$" S.H.C.S.	2
36	25-388	25-388	STOP SCREW	1
35	25-366	25-366	$\frac{3}{8}$-16 x $\frac{1}{4}$ BRASS HD. SET SCREW	1
34	25-384	25-384	INDEX RING SPECIFY 3- OR 4- KNIFE	1
33	12-234	12-234	LEVELING SCREW	
32	12-222	16-222	KNIFE	
31	12-129	16-129	WEDGE	
30	12-128	12-128	SET SCREW	
29	J-15	J-15	SMALL BRG CAP SEE NOTE #2	1
28	COML	COML	CAP SCREW $\frac{3}{8}$"	2
27	JA-38	JA-38	BRG INSIDE COVER	1
26	COML	COML	CAP SCREW $\frac{1}{2}$"	2
25	COML	COML	CAP SCREW $\frac{1}{2}$"	2
24	J-13	J-13	LARGE BRG CAP SEE NOTE #2	1
23	12-193	12-193	SET SCREW	2
22	12-138	12-138	ARMATURE COLLAR	2
21	COML	COML	LOCK WASHER	4
20	COML	COML	NUT	2
19	COML	COML	BOLT	2
18	COML	COML	SPACER	3
17	COML	COML	$\frac{1}{4}$" x 3" S.H.S. BOLT	3
16	COML	COML	FAN COVER	1
15	COML	COML	FAN	1
39	12-282	12-282	FELT STRIP	1

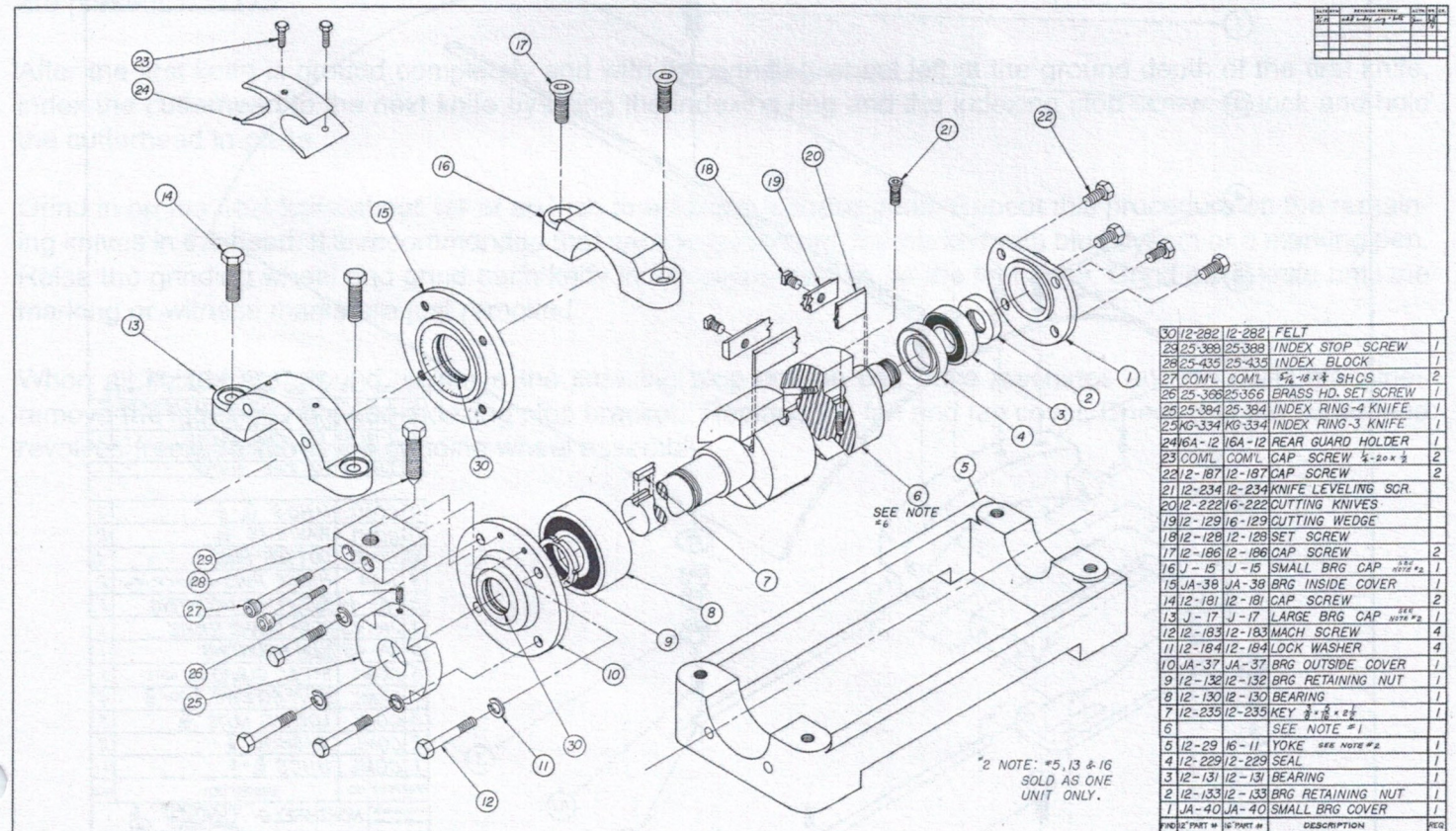
TOLERANCES (EXCEPT AS NOTED): DECIMAL ± ; FRACTIONAL ± ; ANGULAR ±

DIRECT DRIVE

JOINTER — SCALE: HALF — DRAWN BY — APPROVED BY

SIZE: 12" & 16" H. D. YOKE ASS'Y

DATE: 1-16-75 — DRAWING NUMBER: 12-248



FIND	12" PART #	16" PART #	DESCRIPTION	REQ'D
30	12-282	12-282	FELT	
29	25-388	25-388	INDEX STOP SCREW	1
28	25-435	25-435	INDEX BLOCK	1
27	COML	COML	$\frac{5}{16}$-18 x $\frac{3}{4}$ SHCS	2
26	25-366	25-366	BRASS HD. SET SCREW	1
25	25-384	25-384	INDEX RING-4 KNIFE	1
25	KG-334	KG-334	INDEX RING-3 KNIFE	1
24	16A-12	16A-12	REAR GUARD HOLDER	1
23	COML	COML	CAP SCREW $\frac{1}{4}$-20 x $\frac{1}{2}$	2
22	12-187	12-187	CAP SCREW	2
21	12-234	12-234	KNIFE LEVELING SCR.	
20	12-222	16-222	CUTTING KNIVES	
19	12-129	16-129	CUTTING WEDGE	
18	12-128	12-128	SET SCREW	
17	12-186	12-186	CAP SCREW	2
16	J-15	J-15	SMALL BRG CAP SEE NOTE #2	1
15	JA-38	JA-38	BRG INSIDE COVER	1
14	12-181	12-181	CAP SCREW	2
13	J-17	J-17	LARGE BRG CAP SEE NOTE #2	1
12	12-183	12-183	MACH SCREW	4
11	12-184	12-184	LOCK WASHER	4
10	JA-37	JA-37	BRG OUTSIDE COVER	1
9	12-132	12-132	BRG RETAINING NUT	1
8	12-130	12-130	BEARING	1
7	12-235	12-235	KEY $\frac{3}{8}$ x $\frac{3}{8}$ x 2$\frac{1}{4}$	1
6			SEE NOTE #1	
5	12-29	16-11	YOKE SEE NOTE #2	1
4	12-229	12-229	SEAL	1
3	12-131	12-131	BEARING	1
2	12-133	12-133	BRG RETAINING NUT	1
1	JA-40	JA-40	SMALL BRG COVER	1

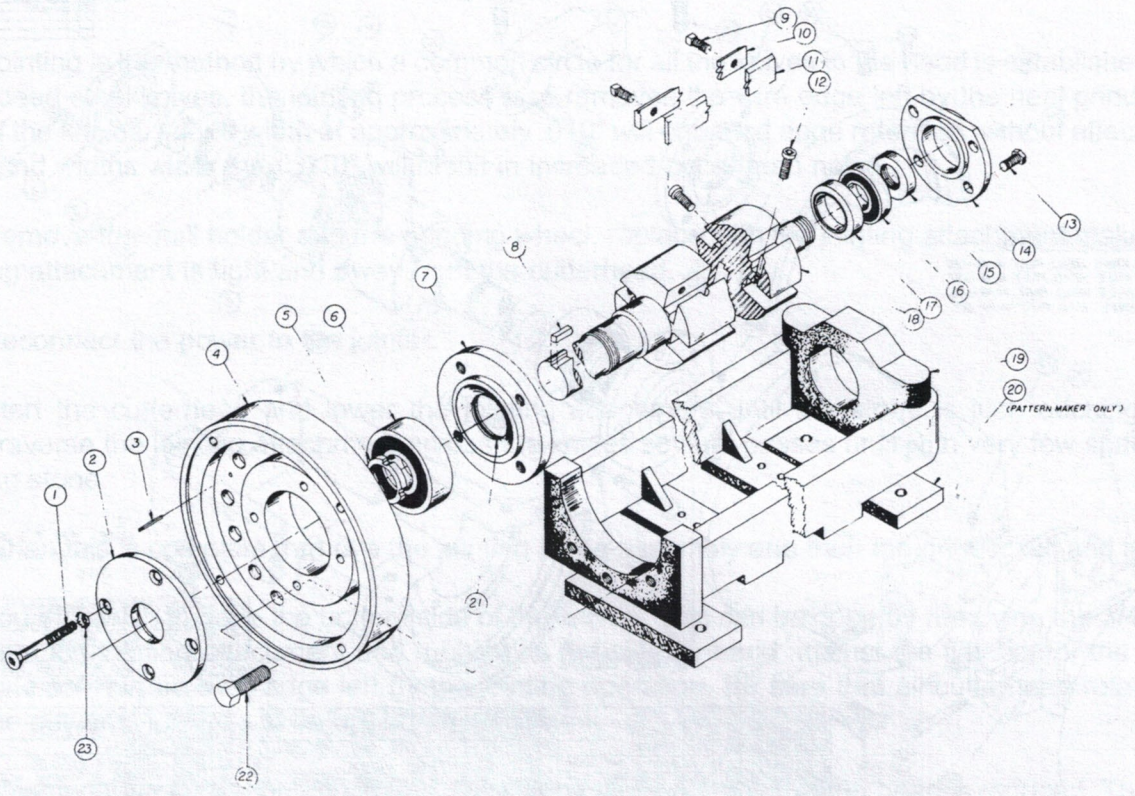
TOLERANCES (EXCEPT AS NOTED): DECIMAL ± ; FRACTIONAL ± ; ANGULAR ±

BELT DRIVE

JOINTER — SCALE: HALF — DRAWN BY — APPROVED BY

SIZE: 12" & 16" YOKE ASS'Y

DATE: 1-15-75 — DRAWING NUMBER: 12-249



ITEM	PART NO.	DESCRIPTION	REQ
23		WASHER	4
22		HHCS ½-13 x 1½	5
21	12-282	FELT	1
20	12-283	SPACER BLOCK 2½ x 3 x 1	2
19	24-3	YOKE	1
18	24-113	4-KNIFE HEAD	1
17	12-229	SEAL #8160-S	1
16	12-131	BEARING, SMALL	1
15		RETAINING NUT	1
14	JA-40	SM. BRG. COVER	1
13		H.H.C.S. ⅜-16 x ½"	4
12	12-234	⅝ LEVELING SCREW	16
11		KNIFE	4
10	24-115	WEDGE	8
9	12-128	SQ HD. BOLT ⅜-20	40
8		KEY	1
7	24-125	INSIDE BRG. COVER	1
6	12-130	BEARING, LARGE	1
5	12-132	RETAINING NUT	1
4	25-18	MOTOR BEARING CSTG.	1
3		⅞ x 1½ SPRING PIN	2
2	25-243	OUTSIDE BRG. COVER	1
1		⅜-16 x 3" SHOULDER BOLT	4

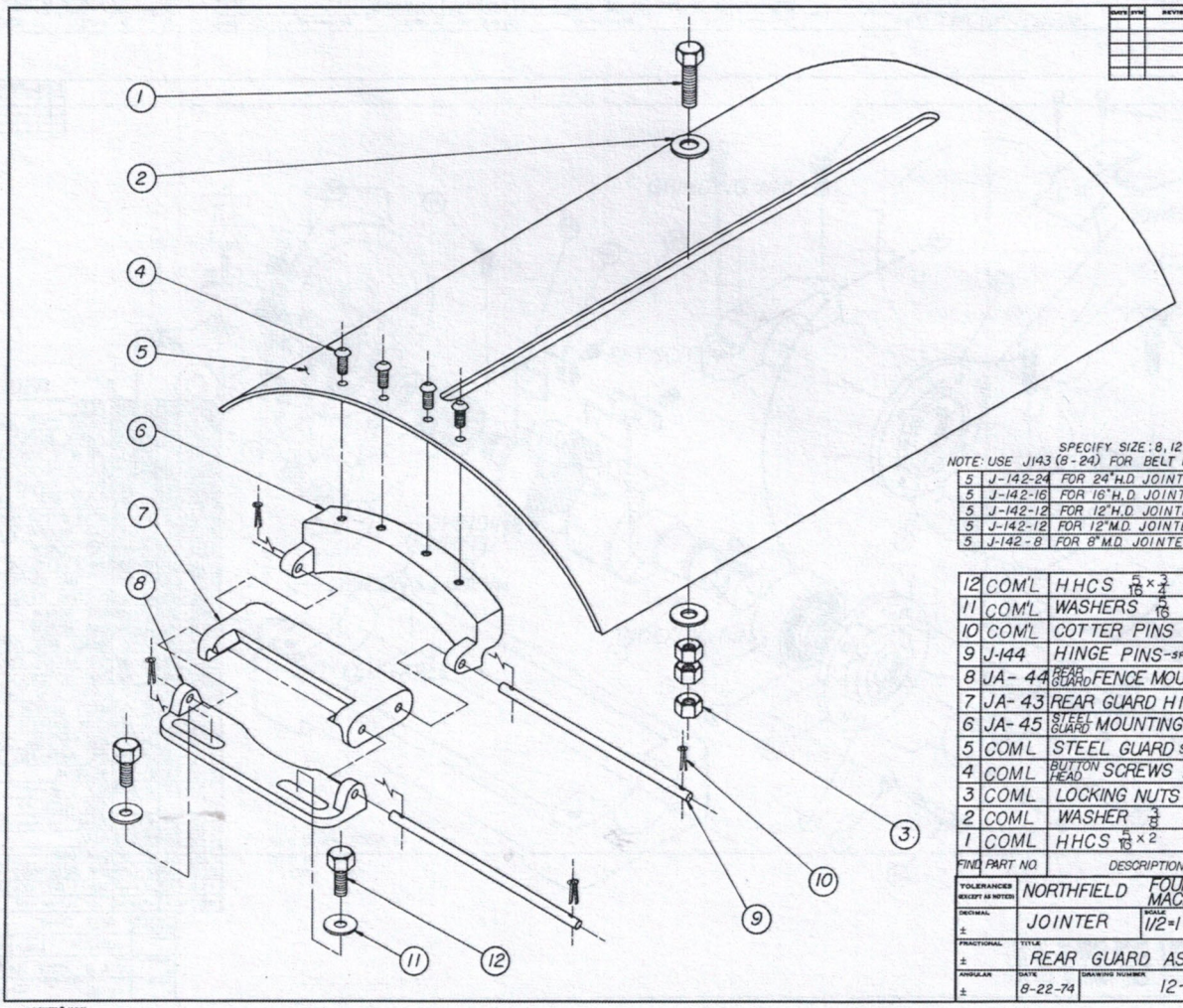
TOLERANCES	REVISIONS		
EXCEPT AS NOTED	NO.	DATE	BY
DECIMAL			
FRACTIONAL			
ANGULAR			

NORTHFIELD FOUNDRY & MACHINE CO.

24" JOINTER YOKE ASSY.

MATERIAL: NONE

DRAWING NO. 24-144



DATE	SYM	REVISION RECORD	AUTH.	DR.	CK.

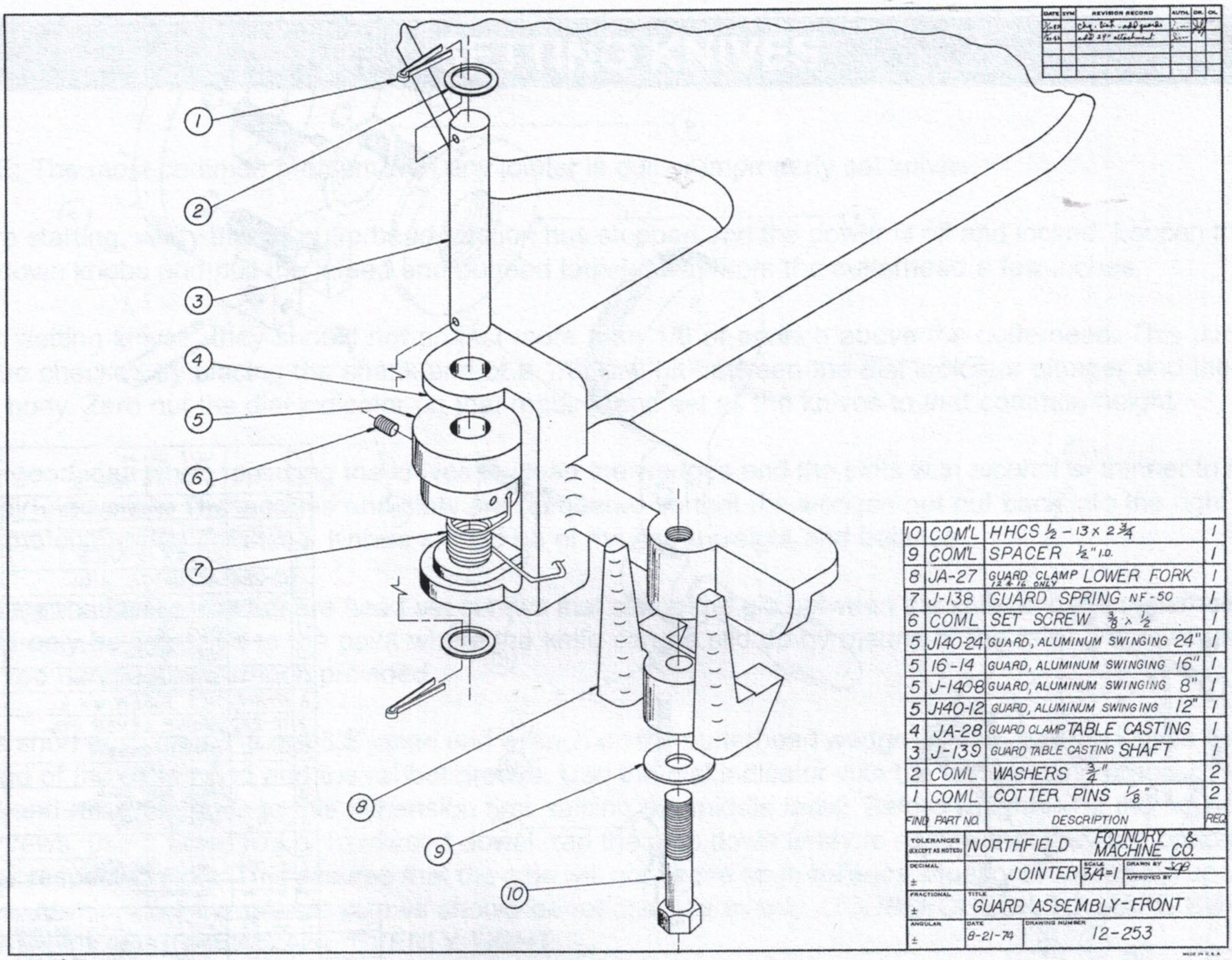
SPECIFY SIZE: 8, 12, 16 OR 24"

NOTE: USE J143 (8-24) FOR BELT DRIVE JOINTER

5	J-142-24	FOR 24" H.D. JOINTER MOTOR DRIVE	1
5	J-142-16	FOR 16" H.D. JOINTER " "	1
5	J-142-12	FOR 12" H.D. JOINTER " "	1
5	J-142-12	FOR 12" M.D. JOINTER " "	1
5	J-142-8	FOR 8" M.D. JOINTER " "	1

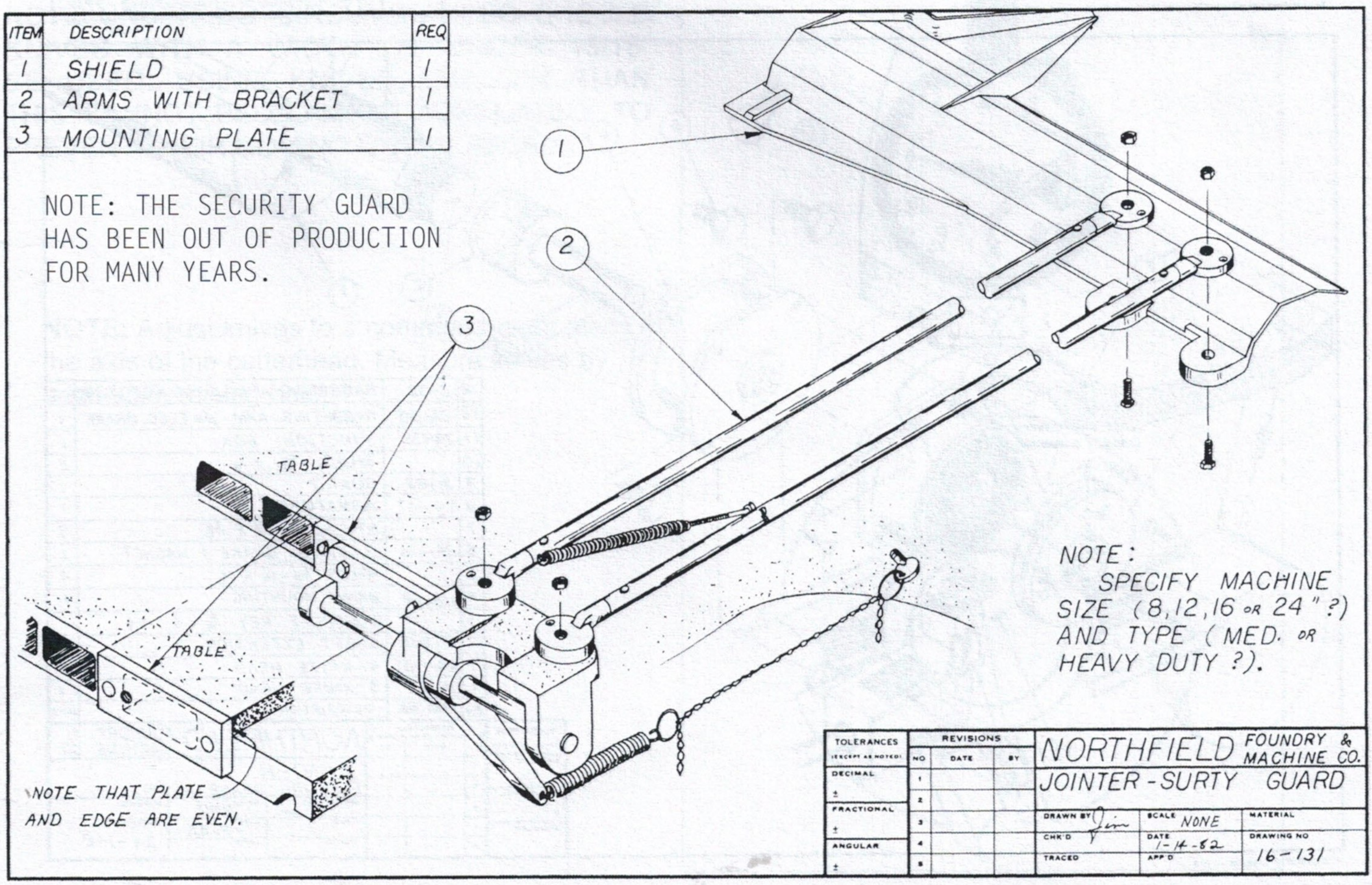
FIND	PART NO.	DESCRIPTION	REQ.
12	COM'L	HHCS 5/16 x 3/4	2
11	COM'L	WASHERS 5/16	2
10	COM'L	COTTER PINS 1/16 x ½"	4
9	J-144	HINGE PINS - SPECIFY 8", 12", 16"	2
8	JA-44	REAR GUARD FENCE MOUNTING	1
7	JA-43	REAR GUARD HINGE	1
6	JA-45	STEEL GUARD MOUNTING	1
5	COM'L	STEEL GUARD SEE NOTE	1
4	COM'L	BUTTON HEAD SCREWS ¼-20 x 5/8	4
3	COM'L	LOCKING NUTS 5/16	3
2	COM'L	WASHER ⅜	2
1	COM'L	HHCS 5/16 x 2	1

TOLERANCES EXCEPT AS NOTED	NORTHFIELD FOUNDRY & MACHINE CO.		
DECIMAL ±	JOINTER	SCALE 1/2=1	DRAWN BY JGB
FRACTIONAL ±	TITLE REAR GUARD ASSEMBLY		APPROVED BY
ANGULAR ±	DATE 8-22-74	DRAWING NUMBER 12-255	



FIND	PART NO.	DESCRIPTION	REQ
10	COM'L	HHCS $\frac{1}{2}$ - 13 x 2 $\frac{3}{4}$	1
9	COM'L	SPACER $\frac{1}{2}$" I.D.	1
8	JA-27	GUARD CLAMP LOWER FORK 12 & 16 ONLY	1
7	J-138	GUARD SPRING NF-50	1
6	COML	SET SCREW $\frac{3}{8}$ x $\frac{1}{2}$	1
5	J140-24	GUARD, ALUMINUM SWINGING 24"	1
5	16-14	GUARD, ALUMINUM SWINGING 16"	1
5	J-140-8	GUARD, ALUMINUM SWINGING 8"	1
5	J-140-12	GUARD, ALUMINUM SWINGING 12"	1
4	JA-28	GUARD CLAMP TABLE CASTING	1
3	J-139	GUARD TABLE CASTING SHAFT	1
2	COML	WASHERS $\frac{3}{4}$"	2
1	COML	COTTER PINS $\frac{1}{8}$"	2

NORTHFIELD FOUNDRY & MACHINE CO.
JOINTER — SCALE 3/4=1 — DRAWN BY SQB
TITLE: GUARD ASSEMBLY-FRONT
DATE 8-21-74 — DRAWING NUMBER 12-253

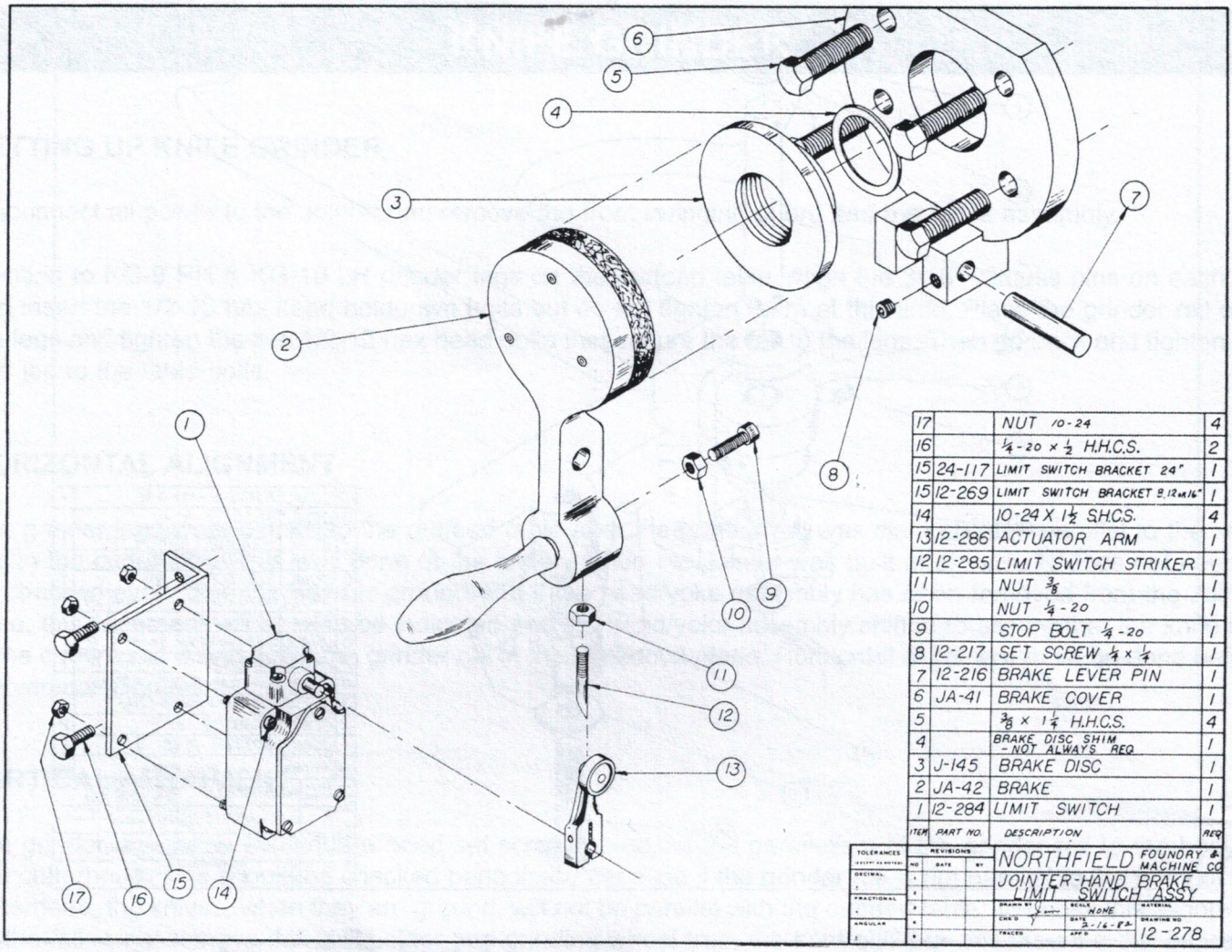


ITEM	DESCRIPTION	REQ
1	SHIELD	1
2	ARMS WITH BRACKET	1
3	MOUNTING PLATE	1

NOTE: THE SECURITY GUARD HAS BEEN OUT OF PRODUCTION FOR MANY YEARS.

NOTE:
SPECIFY MACHINE SIZE (8, 12, 16 OR 24"?) AND TYPE (MED. OR HEAVY DUTY ?).

NORTHFIELD FOUNDRY & MACHINE CO.
JOINTER - SURTY GUARD
SCALE NONE — DATE 1-14-82 — DRAWING NO 16-131



ITEM	PART NO.	DESCRIPTION	REQ
17		NUT 10-24	4
16		1/4-20 x 1/2 H.H.C.S.	2
15	24-117	LIMIT SWITCH BRACKET 24"	1
15	12-269	LIMIT SWITCH BRACKET 8,12 & 16"	1
14		10-24 X 1 1/2 S.H.C.S.	4
13	12-286	ACTUATOR ARM	1
12	12-285	LIMIT SWITCH STRIKER	1
11		NUT 3/8	1
10		NUT 1/4-20	1
9		STOP BOLT 1/4-20	1
8	12-217	SET SCREW 1/4 x 1/4	1
7	12-216	BRAKE LEVER PIN	1
6	JA-41	BRAKE COVER	1
5		3/8 x 1 1/4 H.H.C.S.	4
4		BRAKE DISC SHIM - NOT ALWAYS REQ	1
3	J-145	BRAKE DISC	1
2	JA-42	BRAKE	1
1	12-284	LIMIT SWITCH	1

TOLERANCES (EXCEPT AS NOTED): DECIMAL ±, FRACTIONAL ±, ANGULAR ±

REVISIONS: NO | DATE | BY

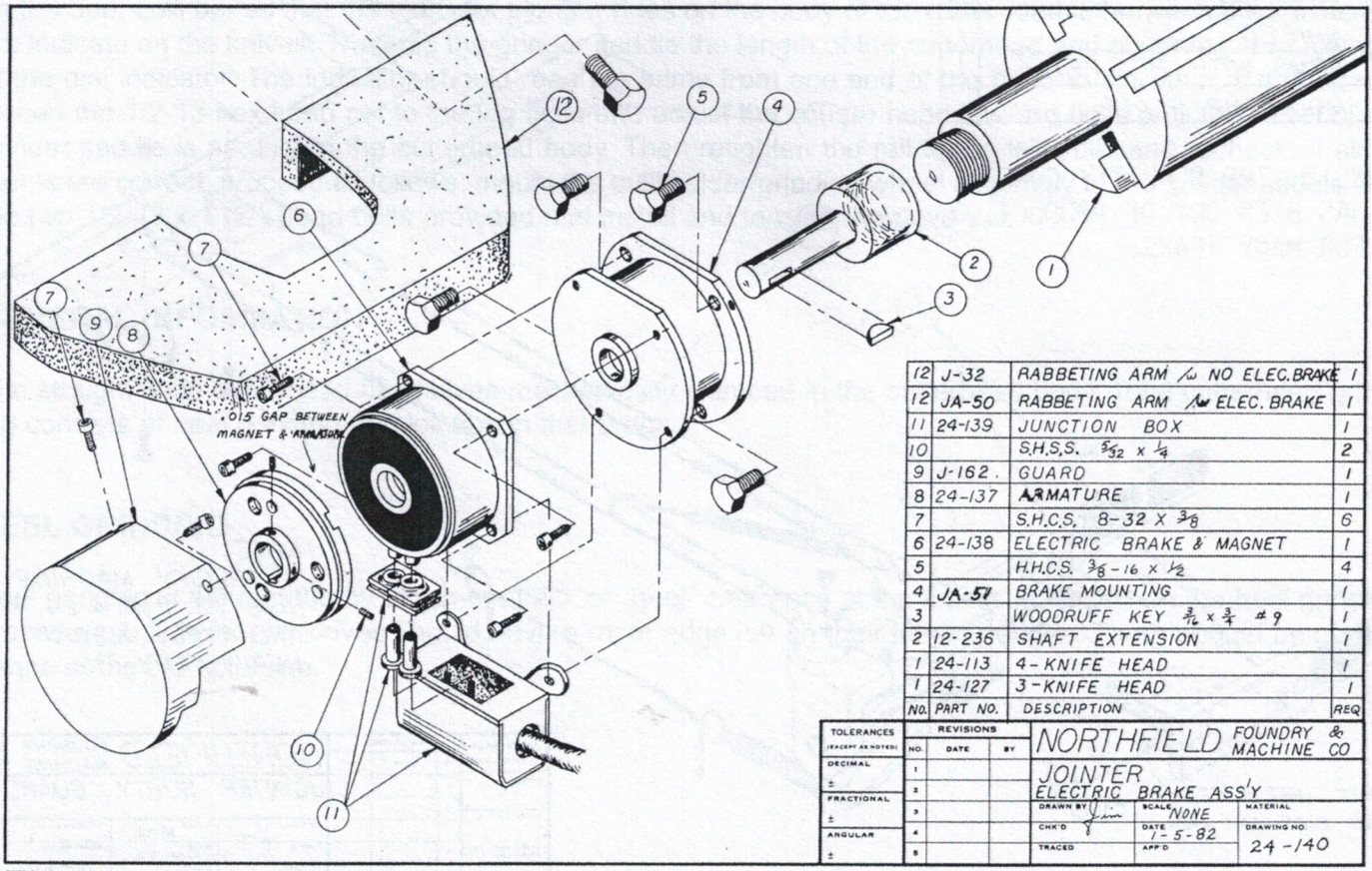
NORTHFIELD FOUNDRY & MACHINE CO

JOINTER-HAND BRAKE LIMIT SWITCH ASSY

DRAWN BY | SCALE NONE | MATERIAL

CHK'D | DATE 3-16-82 | DRAWING NO. 12-278

TRACED | APP'D



NO.	PART NO.	DESCRIPTION	REQ
12	J-32	RABBETING ARM W/o NO ELEC. BRAKE	1
12	JA-50	RABBETING ARM W/ ELEC. BRAKE	1
11	24-139	JUNCTION BOX	1
10		S.H.S.S. 5/32 x 1/4	2
9	J-162	GUARD	1
8	24-137	ARMATURE	1
7		S.H.C.S. 8-32 X 3/8	6
6	24-138	ELECTRIC BRAKE & MAGNET	1
5		H.H.C.S. 3/8-16 x 1/2	4
4	JA-57	BRAKE MOUNTING	1
3		WOODRUFF KEY 3/16 x 3/4 # 9	1
2	12-236	SHAFT EXTENSION	1
1	24-113	4-KNIFE HEAD	1
1	24-127	3-KNIFE HEAD	1

TOLERANCES (EXCEPT AS NOTED): DECIMAL ±, FRACTIONAL ±, ANGULAR ±

REVISIONS: NO. | DATE | BY

NORTHFIELD FOUNDRY & MACHINE CO

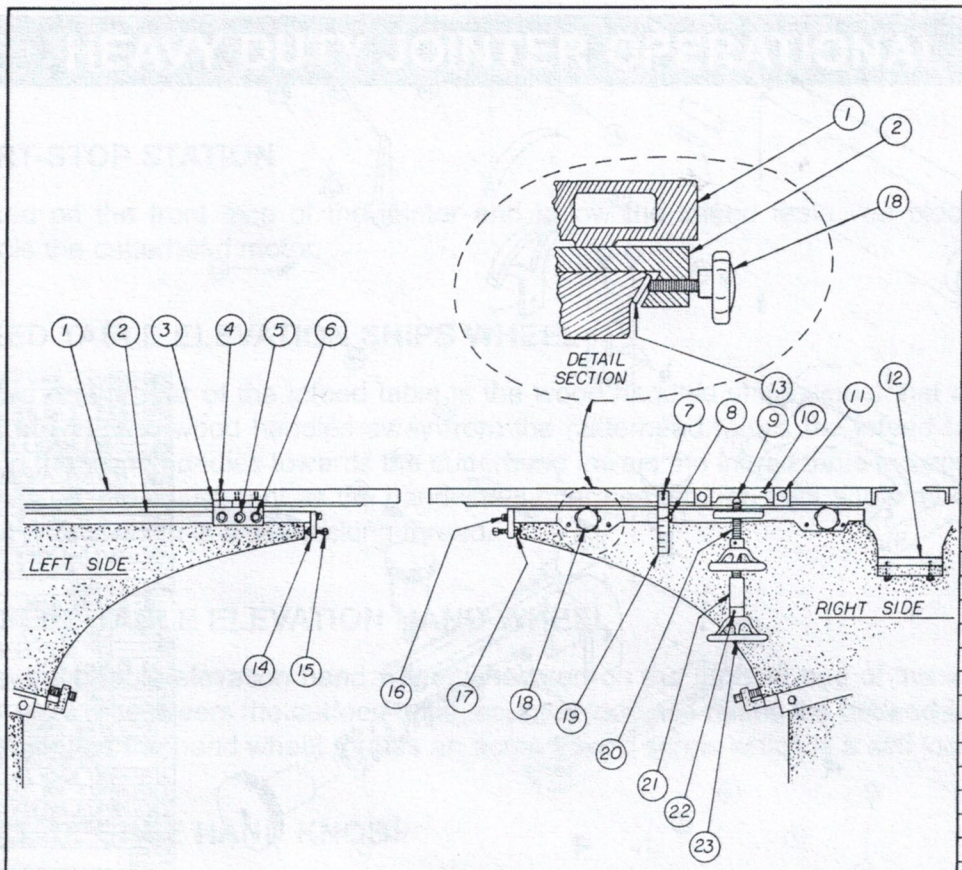
JOINTER ELECTRIC BRAKE ASS'Y

DRAWN BY Jim | SCALE NONE | MATERIAL

CHK'D | DATE 1-5-82 | DRAWING NO. 24-140

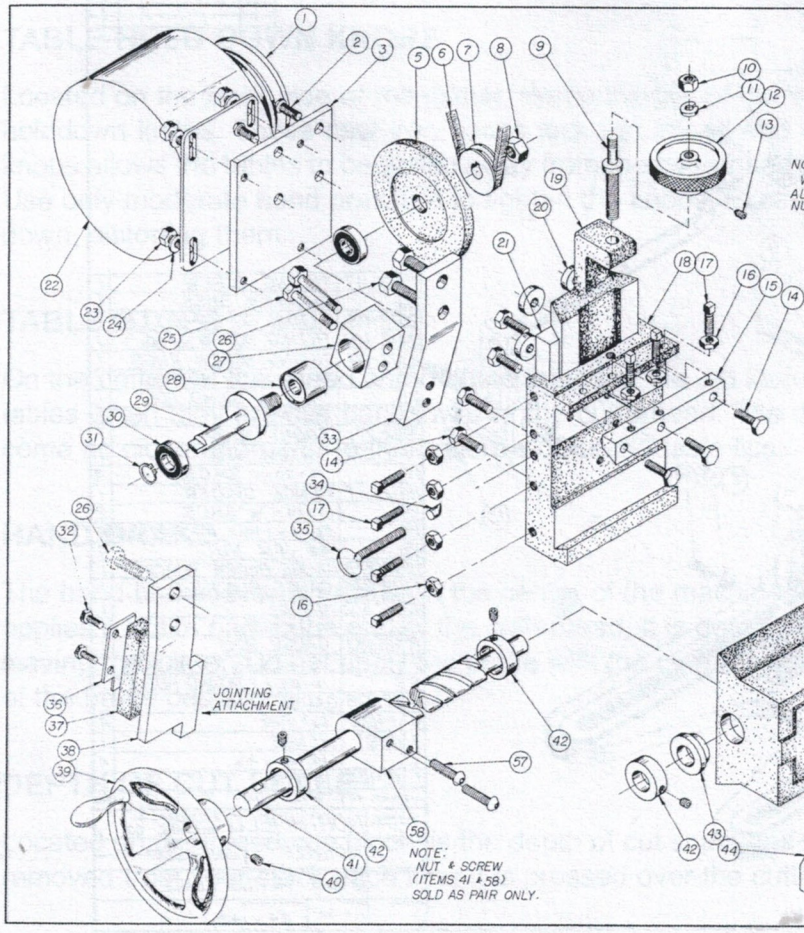
TRACED | APP'D

**TELEDYNE POST 18AE-08E-11X17



ITEM	PART NO.	DESCRIPTION	REQ
23	12-267	HANDWHEEL	1
22		3/8-16 x 1/4 SHSS	2
21	12-266	SPACER	1
20	12-280	ELEV. SCREW	1
19	24-124	TABLE ELEV. GAUGE 24"	1
19	12-265	TABLE ELEV. GAUGE 12&16	1
18	DK-6	HANDKNOB	4
17		1/4" JAM NUT	1
16		3/8" SHCS	2
15		1/4" SQ. HD. BOLT	1
14	12-281	SUB-TABLE STOP	1
13	12-110	GIB (SEE INSERT)	4
12	12-283	YOKE SPACER BLOCK	2
11		3/8-16 x 1 1/4 HHCS	2
10	Z-40	TABLE REST	1
9	24-120	SWIVEL PIN	1
8	J-158	POINTER	1
7		1/4-20 B.H.C.S.	2
6		3/8" x 1 1/4 H.H.C.S.	6
5		3/8" FLAT WASHER	6
4		3/8" x 1 1/4 B.H.C.S.	6
3		4" HINGE	2
2	16-15	INFEED SUB-TABLE 16"	1
2	12-33	INFEED SUB-TABLE 12"	1
2	24-4	INFEED SUB-TABLE 24"	1
1	16-5	INFEED TABLE 16"	1
1	12-8	INFEED TABLE 12"	1
1	24-1	INFEED TABLE 24"	1

TOLERANCES	REVISIONS			NORTHFIELD FOUNDRY & MACHINE CO.
DECIMAL	NO	DATE	BY	JOINTER PATTERNMAKER
FRACTIONAL				SCALE NONE
ANGULAR				DRAWN BY DATE 2-15-82
				CHK'D APP'D
				TRACED
				DRAWING NO 12-279

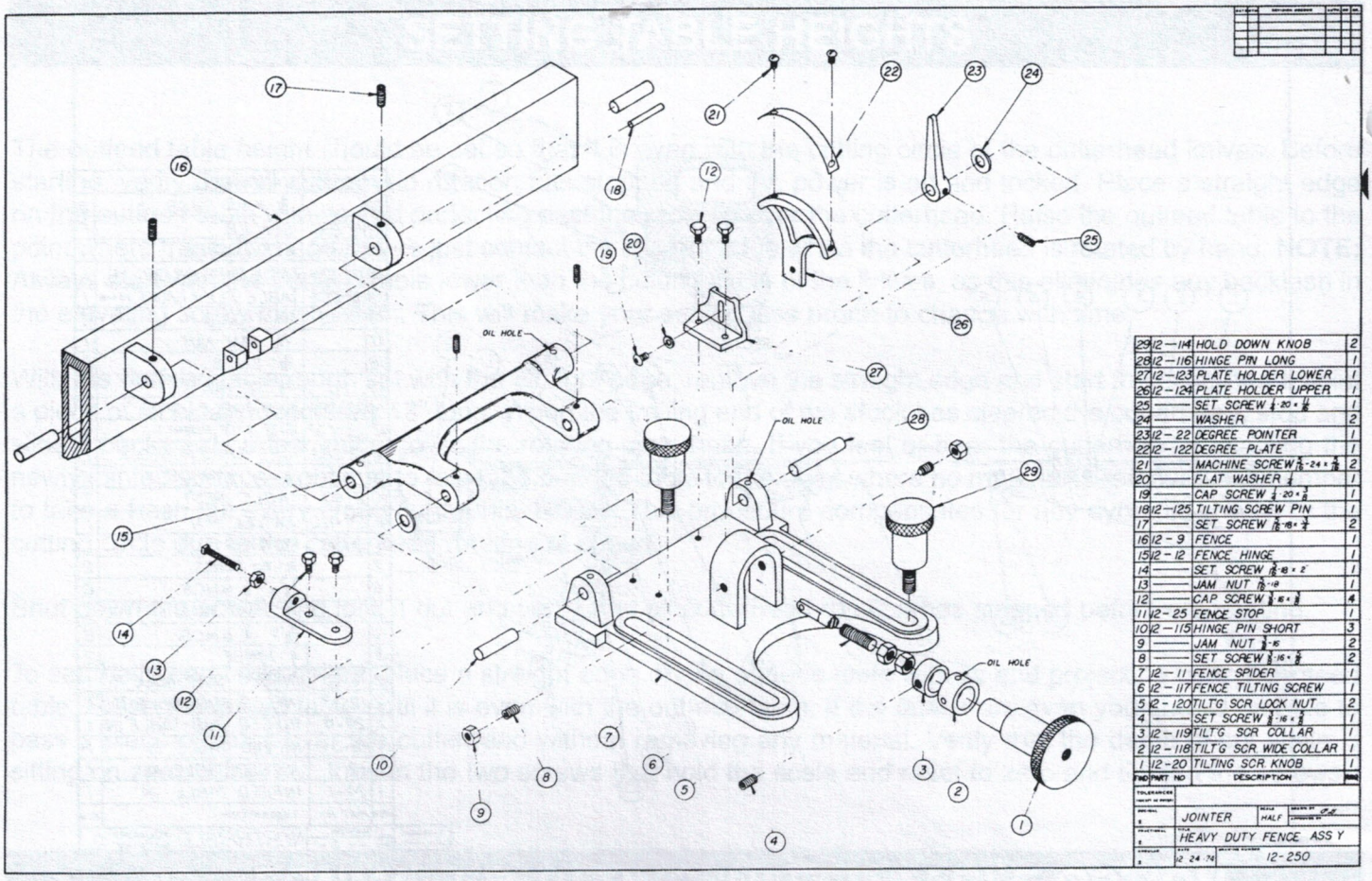


NOTE:
WHEN ORDERING PARTS ALWAYS INCLUDE SERIAL NUMBER OF MACHINE.

NOTE:
NUT & SCREW (ITEMS 41 & 58) SOLD AS PAIR ONLY.

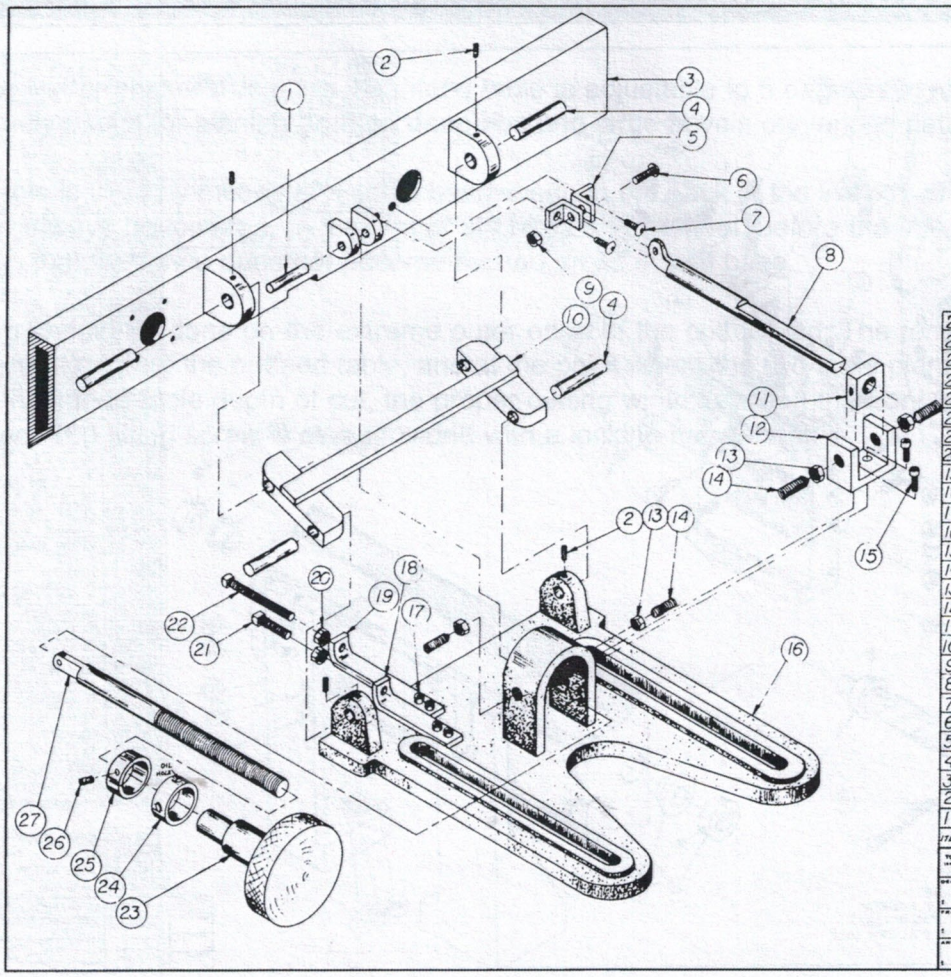
ITEM	PART NO.	DESCRIPTION	REQ
48	COML	1/2-13 NUT	2
49	COML	1/2-13 x 2 1/2 SQ. HD. BOLT	2
50	KG-10	LEFT LEG	1
51	COML	1/2-13 x 1 1/2 HHCS	2
52	COML	1/2" WASHER	2
53	KG-8	RAIL 12" & 16"	1
53	KG-1	RAIL 24"	1
54	KG-243	5/8" FLANGE BUSHING	1
55	KG-244	5/8" COLLAR	1
56	COML	1/4 x 1/4 SET SCREW	4
57	COML	5/16-18 x 3/4 B.H.C.S.	2
58	KG-11	FOLLOW NUT	1
47	COML	1/2 x 1 1/4 H.H.C.S.	2
46	COML	1/2" WASHER	2
45	COML	3/16 x 2" SPRING PIN	2
44	KG-9	RIGHT LEG	1
43	KG-241	BUSHING	1
42	KG-242	1" COLLAR	3
41	KG-237B	SCREW 12" & 16"	1
41	KG-237A	SCREW 24"	1
40	COML	3/8 x 1/2 S.H.S.S.	1
39	KG-12	HANDWHEEL	1
38	KG-228	JOINTING BAR	1
37	KG-212	JOINTING STONE	1
36	KG-228	STONE HOLDER	1
35	KG-116	3/8-16 x 2" THUMBSCREW	1
34	KG-240	BRASS PLUG	1
33	KG-224	QUILL HOLDER	1
32	COML	1/4 x 1/2 H.H.C.S.	2
31	KG-219	SNAP RING	1
30	KG-216	QUILL BEARING	2
29	KG-217N	QUILL SHAFT	1
28	KG-226	SPACER	1
27	KG-218	QUILL	1
26	COML	1/2 x 1 1/4 H.H.C.S.	2
25	COML	3/8-16 x 2 1/2 BOLT	2
24	COML	5/16-18 WASHER	4
23	COML	5/16-18 x 1/2 HHCS	4
22	KG-333	1/3 H.P. MOTOR	1
21	KG-203	SADDLE GIB	1
20	KG-215	MOTOR BASE SHIM	4
19	KG-3	SLIDE	1
18	KG-2	SADDLE	1
17	COML	1/4-20 x 1 SQ. HD. BOLT	7
16	COML	1/4-20 NUT	7
15	KG-201	BAR GIB	1
14	COML	1/4 x 1 1/4 H.H.C.S.	7
13	COML	3/16 x 3/8 SET SCREW	1
12	KG-223	HAND KNOB	1
11	COML	3/8" WASHER LOCK	1
10	COML	3/8-24 NUT	1
9	KG-222	ADJUSTING SCREW	1
8	COML	5/8-11 NUT	1
7	KG-220	QUILL COLLAR PULLEY	1
6	KG-210	BELT, GATES #1280	1
5	KG-213	GRINDING WHEEL	1
3	KG-207	MOTOR MOUNT PLATE	1
2	COML	5/16-18 x 3/4 H.H.C.S.	2
1	KG-246	LARGE MOTOR PULLEY	1

TOLERANCES	REVISIONS			NORTHFIELD FOUNDRY & MACHINE CO.
DECIMAL	NO	DATE	BY	JOINTER-KNIFE GRINDER ASSY
FRACTIONAL				SCALE 1/4 MATERIAL
ANGULAR				DRAWN BY DATE 2-15-82
				CHK'D APP'D
				TRACED
				DRAWING NO 12-288



ITEM	PART NO	DESCRIPTION	REQ
29	12-114	HOLD DOWN KNOB	2
28	12-116	HINGE PIN LONG	1
27	12-123	PLATE HOLDER LOWER	1
26	12-124	PLATE HOLDER UPPER	1
25	———	SET SCREW 1/4-20 × 1/4	1
24	———	WASHER	2
23	12-22	DEGREE POINTER	1
22	12-122	DEGREE PLATE	1
21	———	MACHINE SCREW 5/16-24 × 3/8	2
20	———	FLAT WASHER 1/4	1
19	———	CAP SCREW 1/4-20 × 3/8	1
18	12-125	TILTING SCREW PIN	1
17	———	SET SCREW 5/16-18 × 3/4	2
16	12-9	FENCE	1
15	12-12	FENCE HINGE	1
14	———	SET SCREW 5/16-18 × 2	1
13	———	JAM NUT 5/16-18	1
12	———	CAP SCREW 3/8-16 × 3/4	4
11	12-25	FENCE STOP	1
10	12-115	HINGE PIN SHORT	3
9	———	JAM NUT 3/8-16	2
8	———	SET SCREW 3/8-16 × 3/4	2
7	12-11	FENCE SPIDER	1
6	12-117	FENCE TILTING SCREW	1
5	12-120	TILT'G SCR LOCK NUT	2
4	———	SET SCREW 3/8-16 × 3/8	1
3	12-119	TILT'G SCR COLLAR	1
2	12-118	TILT'G SCR WIDE COLLAR	1
1	12-20	TILTING SCR. KNOB	1

TOLERANCES	JOINTER	SCALE HALF
	HEAVY DUTY FENCE ASS'Y	
	DATE 12 24 74	DRAWING NUMBER 12-250

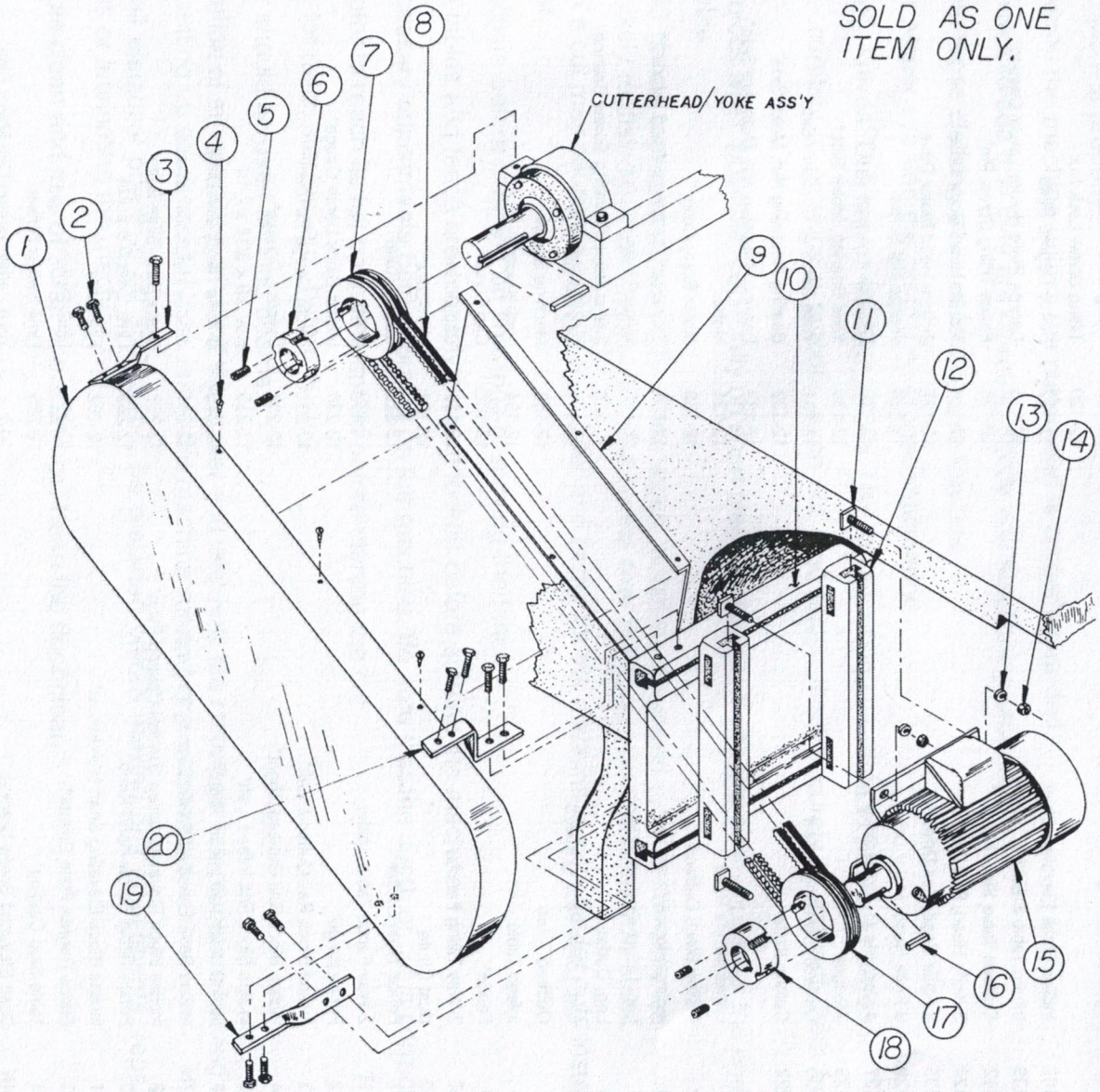


ITEM	PART NO	DESCRIPTION	REQ
27	12-117	TILTING SCREW	1
26		1/4-20 x 1/4 S.H.S.S.	1
25	12-119	TILTING SCREW COLLAR	1
24	12-118	TILTING SCREW WIDE COLLAR	1
23	12-20	TILTING SCREW KNOB	1
22		5/16 x 2" SQ. HD. BOLT	1
21		5/16 x 1/2 SQ. HD. BOLT	1
20		5/16 NUT	2
19	12-271	FRONT STOP	1
18	12-272	BOTTOM STOP	1
17		1/4-20 x 1 S.H.C.S.	4
16	12-11T	FENCE SPIDER	1
15		10-24 x 3/8 S.H.C.S.	2
14		3/8-16 x 1 HALF DOG POINT S.S.	4
13		3/8 JAM NUT	4
12	12-273	GAUGE BLOCK BRACKET	1
11	12-274	GAUGE BLOCK	1
10	12-275	HINGE	1
9		10-24 NUT	1
8	12-257	GAUGE ROD	1
7		10-24 x 3/8 RD. HD. BOLT	2
6		10-24 x 1 ROUND HD BOLT	1
5	12-276	GAUGE BRACKET	2
4	J-105	1/2" PIN	4
3	12-9T	FENCE	1
2		1/4-20 x 3/8	4
1	12-125	1/4" PIN	1

TOLERANCES	NORTHFIELD FOUNDRY & MACHINE CO	
	JOINTER	SCALE NONE
	2-WAY TILTING FENCE	
	DATE 1-7-82	DRAWING NUMBER 24-142

1. NOTE: WHEN ORDERING PARTS ALWAYS INCLUDE SERIAL NUMBER OF MACHINE.

2. NOTE: #1,3,9,19 & 20 SOLD AS ONE ITEM ONLY.



ITEM	PART NO.	DESCRIPTION	REQ
20	12-298	BELT GUARD TOP BRACKET	1
19	12-298	BELT GUARD BOTTOM BRACKET	1
18	COM'L	MOTOR PULLEY BUSHING	1
17	COM'L	MOTOR PULLEY	1
16	COM'L	KEY	1
15	COM'L	MOTOR	1
14	COM'L	3/8 NUT	4
13	COM'L	3/8 LOCK WASHER	4
12	16A-13	MOTOR BASE RAIL	2
11	ZHRT-289	TEE BOLT	4
10	16A-10	MOTOR BASE	1
9	12-298	BELT GUARD BACK PANEL	1
8	COM'L	BELT	2
7	COM'L	CUTTERHEAD DOUBLE PULLEY	1
6	COM'L	CUTTERHEAD PULLEY 1½" I.D. BUSHING	1
5	COM'L	3/8 x 5/8 HEX HD. SET SCREW	4
4	COM'L	SHEET METAL SCREW	6
3	12-298	BELT GUARD END BRACKET	1
2	COM'L	HEX HD. CAP SCREW	11
1	12-298	BELT GUARD FRONT PANEL	1

TOLERANCES	REVISIONS			NORTHFIELD FOUNDRY & MACHINE CO.		
	NO.	DATE	BY	H.D. JOINTER		
DECIMAL ±	1			BELT DRIVE ASS'Y		
FRACTIONAL ±	2			DRAWN BY Jim	SCALE NONE	MATERIAL
ANGULAR ±	3			CHK'D	DATE 3-10-84	DRAWING NO.
	4			TRACED	APP'D	12-297
	5					

NUMERICAL PARTS LIST

HEAVY DUTY JOINTER

16-1	Lower Incline Base
16-2	Incline Block Outfeed
16-3	Incline Block Infeed
16-4	Leg, Outfeed Side
16-5	Infeed Table
16-6	Outfeed Table
16-7	Leg, Upper Casting, Infeed
16-8	Dust Chute
16-9	Yoke, Motor Drive
16A-10	Motor Base*
16-11	Yoke, Belt Drive
16A-12	Rear Guard Holder Belt Drive*
16A-13	Motor Base Rails*
16-14	Aluminum Swing Guard 16"
16-102	Incline Block Elevating Shaft
16-109	Infeed Table Steel Lip
16-112	Outfeed Table Steel Lip
16-124	3-Knife Head, Belt Drive
16-125	4-Knife Head, Belt Drive
16-126	3-Knife Head, Motor Drive
16-127	4-Knife Head, Motor Drive
16-129	Wedges
16-130	Outfeed Elevating Screw
16-222	Cutting Knife
12-1	Lower Incline Base
12-2	Incline Block Outfeed
12-3	Incline Block Infeed
12-4	Leg, Upper Casting Infeed
12-5	Leg, Outfeed
12-6	Leg, Lower Casting Infeed*
12-7	Outfeed Table
12-8	Infeed Table
12-9	Fence*
12-9T	2-Way Tilting Fence
12-10	Dust Chute
12-11	Fence Table Spider*
12-11T	2-Way Fence Table Spider
12-12	Fence Hinge*
12-13	Incline Block Rail Outfeed, Left*
12-14	Incline Block Rail Outfeed, Right*
12-15	Incline Block Rail Infeed, Left*
12-16	Incline Block Rail Infeed, Right*
12-17N	Incline Base Elevating Screw Bearing Casting*
12-18	Incline Block Elevating Screw Bracket Casting Plain*
12-20	Fence Tilting Screw Hand Knob*
12-21	Incline Block Elevating Shaft Handwheel*
12-22	Fence Degree Plate Pointer*
12-23	Table Stop Casting*
12-24N	Base Elevating Screw Bracket
12-25	Fence Stop*
12-28	Yoke, Motor Drive
12-29	Yoke, Belt Drive
12-100	Incline Block Elevating Screw Infeed*
12-101	Incline Block Elevating Shaft Gear*
12-102	Incline Block Elevating Shaft*
12-103	Incline Block Elevating Shaft Collar*
12-104	Incline Block Elevating Shaft Gear*
12-105	Incline Block Elevating Screw, Outfeed*
12-109	Infeed Table Steel Lip
12-110	Infeed & Outfeed Table Gibs*
12-111	Table Lock Hand Knob DK-8*
12-112	Outfeed Table Steel Lip
12-115	Spider Hinge Pin*
12-116	Fence Hinge Pin*
12-117	Fence Tilting Screw*
12-118	Tilting Screw Collar, Wide*
12-119	Tilting Screw Collar, Narrow*
12-120	Tilting Screw Lock Nut
12-122	Fence Degree Plate
12-123	Degree Plate Holder Lower Casting*
12-125	Fence Tilting Screw Pin*
12-126	3-Knife Head Motor Drive
12-127	4-Knife Head Motor Drive
12-128	Wedge Set Screw
12-129	Wedges
12-130	Yoke Bearing, Motor Side*
12-131	Yoke Bearing, Outboard Side*
12-132	Bearing Reatining Nut, Motor Side*
12-133	Bearing Retaining Nut, Outboard Side*
12-134	Motor
12-138	Motor Rotor Collar*
12-154	Elevating Handwheel Wood Handle*
12-155	Wood Screw
12-156	Incline Base Elevating Screw Bearing
12-181	Cap Screw
12-183	Machine Screw
12-184	Lock Washer
12-186	Cap Screw
12-187	Cap Screw
12-193	Set Screw
12-222	Cutting Knife
12-229	Seal*
12-230	Incline Block Depth Gauge*
12-231	Depth Gauge Pointer*
12-234	Leveling Screws*
12-235	Key 3/8 x 5/16 x 2-1/2
12-240	3-Knife Head, Belt Drive
12-241	4-Knife Head, Belt Drive
12-268	Motor Base Slide Bolt
12-269	Limit Switch Bracket
12-282	Felt LIner
12-284	Limit Switch
12-285	Limit Switch Striker
J-13	Yoke Large Bearing Cap Motor Side*
J-15	Yoke Small Bearing Cap*
J-17	Large Bearing Cap*

JA-27	Guard Clamp Lower Fork*
JA-28	Guard Clamp Table Casting*
J-32	Table Rabbet Arm
J-33	Fence Degree Plate Holder*
JA-36	Incline Base Elevating Screw Handwheel*
JA-37	Yoke Large Bearing Outside Cover*
JA-38	Yoke Large Bearing Inside Cover*
JA-40	Yoke Small Bearing Cap Outside Cover*
JA-43	Hinge*
JA-44	Fence Mounting*
JA-45	Steel Guard Mounting*
JA-50	Electric Brake Rabbet Arm
J-104	Spider Hold Down Knob*
J-138	Guard Spring NF-50*
J-139	Guard Table Casting Shaft*
J-140-12	Aluminum Guard Swinging 12"
J-140-24	Aluminum Guard Swinging 24"
J-142-12	Rear Guard Motor Drive 12"
J-142-16	Rear Guard Motor Drive 16"
J-142-24	Rear Guard Motor Drive 24"
J-143-12	Rear Guard Belt Drive 12"
J-142-16	Rear Guard Belt Drive 16"
J-142-24	Rear Guard Belt Drive 24"
J-144	Hinge Pin
J-158	Pointer
25-435	Index Block
DK-6	Handknob
Z-40	Table Rest
N-2128	Table Lock Knob

24" JOINTER

24-1	Infeed Table
24-2	Outfeed Table
24-3	Yoke
24-4	Infeed Sub-Table
24-101	Infeed Table Lip
24-103	Outfeed Table Lip
24-106	Infeed Incline Block Horizontal Elevator Shaft
24-107	Dust Chute
24-109	Yoke Large, Bearing Outside Cover
24-113	4-Knife Head
24-115	Wedge
24-117	Limit Switch Bracket
24-124	Table Elevating Gauge
24-125	Inside Bearing Cover
25-18	Motor Bearing Casting
25-243	Outside Bearing Cover

PATTERNMAKER

12-33	Infeed Sub-table
12-265	Table Elevating Gauge
12-266	Handwheel Spacers
12-267	Handwheel
12-280	Elevating Screw
12-281	Sub-table Stop
12-283	Yoke Block
16-15	Infeed Sub-table
24-4	Infeed Sub-table
12-120	Swivel Pin
12-289	Spacer Guard Arm

OPTIONAL PARTS

JA-41	Yoke Small Bearing Outer Cover with Brake
JA-42	Brake Lever
J-145	Brake Disc
12-216	Brake Lever Pin
12-217	Brake Lever Pin Set Screw
12-218	Brake Lining

KNIFE GRINDER

KG-1	Knife Grinder Rail 24"
KG-2	Saddle
KG-3	Slide
KG-8	Rail, 12" & 16"
KG-9	Right Leg
KG-10	Left Leg
KG-12	Handwheel
KG-116	Thumbscrew
KG-200	Thread Follower
KG-201	Bar Gib
KG-202	Thread Follower Holder
KG-203	Saddle Gib
KG-204	Hand Knob
KG-205	Screw
KG-206	Screw Bushing
KG-207	Motor Mount Plate
KG-208	Motor Base
KG-210	Belt (Gates No. 1280)
KG-212	Jointing Stone
KG-213	Grinding Wheel
KG-215	Motor Base Shim
KG-216	Quill Bearing
KG-217	Quill Shaft
KG-218	Quill
KG-219	Quill Shaft Snap Ring
KG-220	Quill Collar Pulley
KG-222	Adjusting Screw
KG-223	Handknob
KG-224	Quill Holder
KG-225	Slide Adjusting Screw
KG-226	Quill Bearing Spacer
KG-227	Grinding Wheel Spacer
KG-228	Jointing Stone Holder
KG-229	Jointing Bar
KG-230	Screw Holder Collar
KG-237A	24" Screw
KG-237B	12" & 16" Screw
KG-240	Brass Plug
KG-241	Bushing
KG-242	Collar
KG-243	Bushing
KG-244	Collar
KG-246	Pulley
KG-333	Knife Grinder Motor (1/2 HP)
25-344	3-Knife Index Ring
25-366	Brass Head Set Screw

25-387	Index Stop
25-384	4-Knife Index Ring
25-386	15/16 x 3/4 SHCS
25-388	Index Stop Screw

TWO-WAY TILTING FENCE

J-105	Two-Way Fence 1/2" Pin
12-257	Two-Way Fence Gauge Rod
12-271	Two-Way Fence Front Stop
12-272	Two-Way Fence Bottom Stop
12-273	Two-Way Fence Gauge Block
12-274	Two-Way Fence Gauge Block
12-275	Two-Way Fence Hinge
12-276	Two-Way Fence Gauge Bracket

ELECTRIC BRAKE

JA-50	Rabbeting Arm
J-162	Guard Brake Cover
12-236	Shaft Extension
24-135	Inside Cover
24-137	Outside Cover
24-138	Electric Brake & Magnet
24-139	Junction Box

BELT DRIVE

12-298	Belt Guard Assembly
ZHRT-2389	Tee Bolt

SURTY GUARD

Shield

Arms/Bracket - Specify Machine Size & Type

Mounting Plate

*Parts used on both machines.

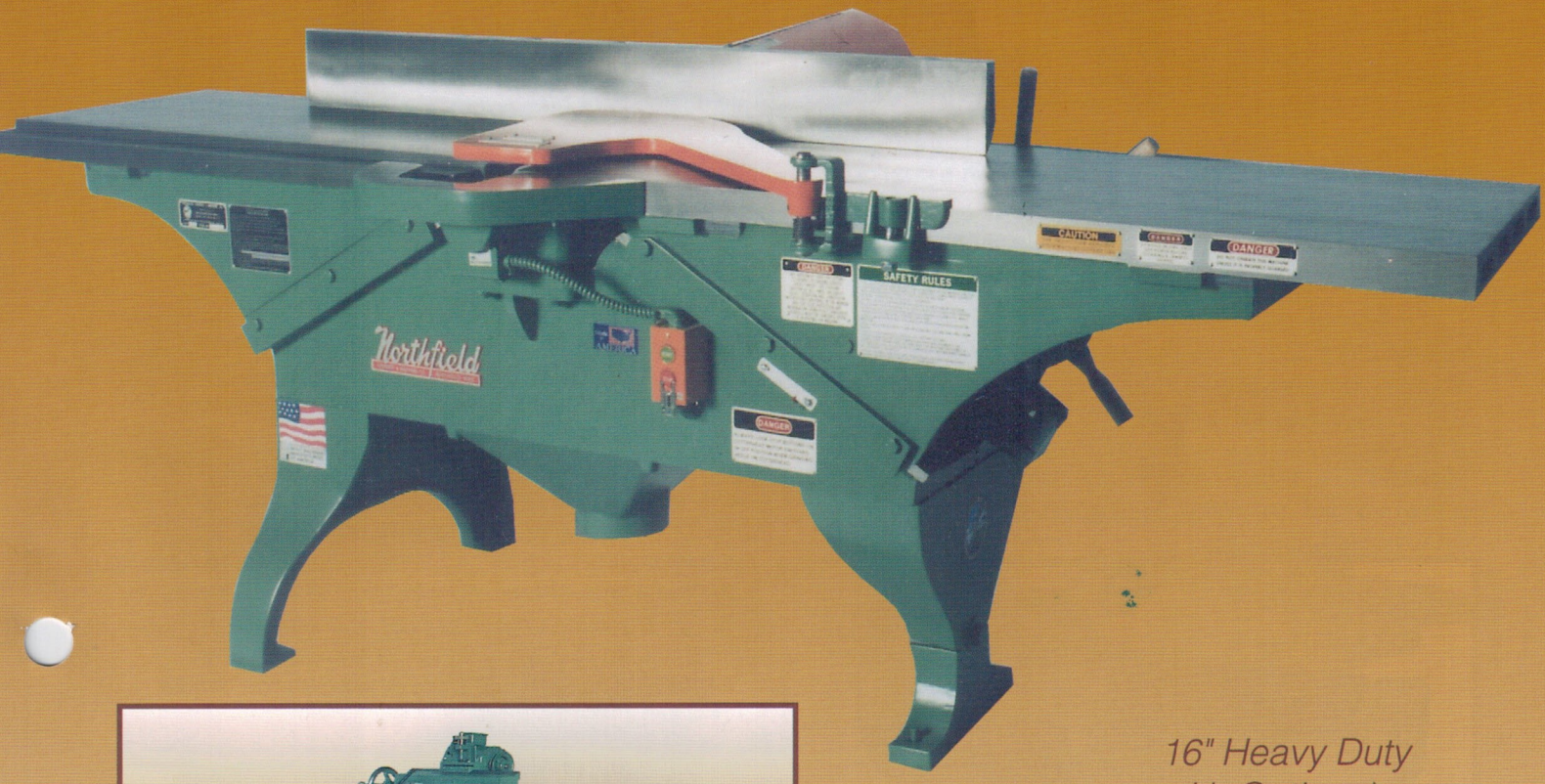
NORTHFIELD WARRANTY

All machines or parts of our manufacture are under warranty against defective material or workmanship for a period of one year from the date of sale. We will replace or repair any part or parts that, upon examination by us, appear to be defective, provided the parts claimed defective are sent to us at Northfield, MN, transportation prepaid. This warranty does not obligate us to bear the cost of labor in replacing such parts. Defects in electrical equipment, ball or roller bearings, or other trade accessories will be in accordance with standard warranty of the manufacturer thereof. The company makes no warranty as to fitness of its products for specific applications by the buyer.

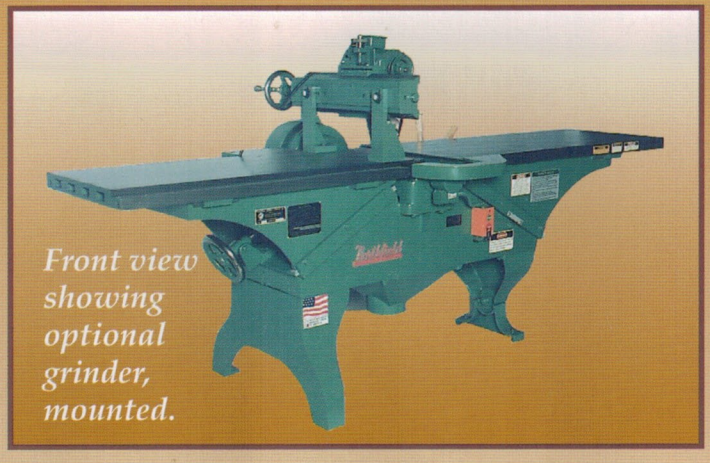
NORTHFIELD MACHINERY BUILDERS, INC

Northfield Heavy Duty and Patternmaker's 12", 16", & 24" JOINTERS

For accuracy, speed, precision & trouble-free dependability



16" Heavy Duty with Optional Electric Brake



Front view showing optional grinder, mounted.

Northfield Heavy Duty and Patternmaker's Jointers are designed and built for production and educational work where accuracy and fine quality of work are desired. Their design is such that the working surfaces are easily accessible to the operator. The weight is well distributed throughout making a well balanced and smooth operating machine.

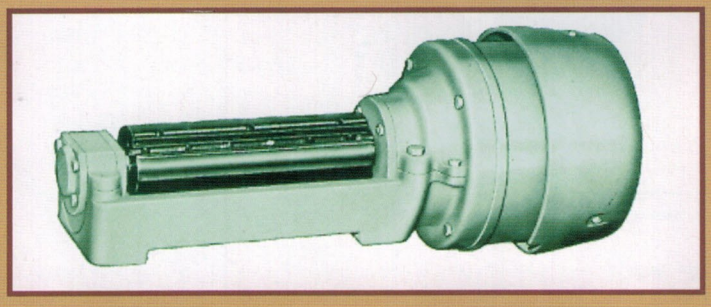
Northfield Heavy Duty and ....

Heavy Ribbed and Cored Frame

The heavily ribbed and cored frame is cast in three pieces. The two inclines and bed are bolted to legs which are set to provide a wide, three point floor spread. Perfect alignment is insured at all times by the rocker base feature on the front leg. The legs are so placed as not to obstruct the feet of the operator permitting him to work in a comfortable, natural position.

Easily Adjustable Inclines

Inclines are placed at such an angle that they can be raised or lowered without interfering with the cutterhead. The outfeed incline is operated by a handwheel at the end of the machine. The infeed incline is adjustable and operated by a large wood spoked ships wheel on the side of the machine and within easy reach of the operator.



Accurately Machined, Dynamically Balanced Cutterhead

The cutterhead is made from high carbon steel that is accurately machined and dynamically balanced. Four-knife heads are standard on all direct motor drive and Patternmaker machines. Three-knife heads are standard on 16" heavy duty belt drive machines. Four-knife belt drive heads are available as optional extras on the 16" belt drive machines. All cutting circles are 4-1/4" except the 24" machine which is 4-1/2". The knives are adjusted by integral, micrometer-type knife raising screws and held in place by fitted wedges.

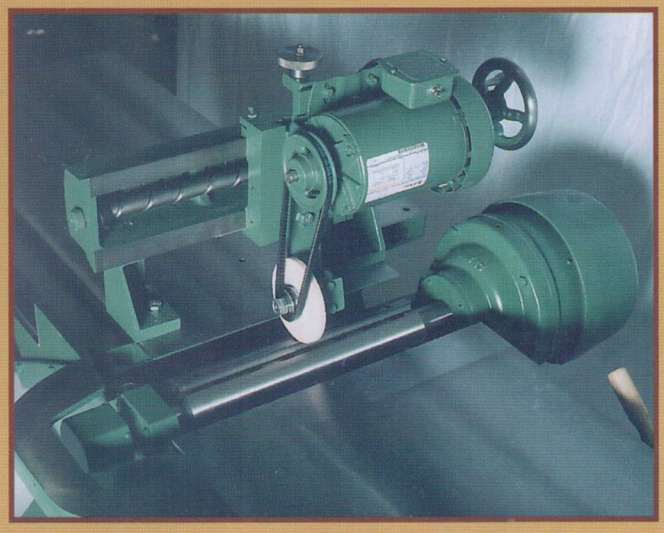
The cutterhead is mounted in a carefully machined, one-piece, cast-iron yoke. The yoke is carefully fitted into heavy supports on the frame of the machine.

Sealed-For-Life, Precision Ball Bearings

Both the direct motor and the belt drive machines are equipped with heavy-duty, sealed-for-life, precision ball bearings.

Full Length Cored, Box Form Tables

The overall length of the tables on all machines is 8 feet. Both tables can be drawn away from the cutterhead on a level independent of the inclines leaving an opening around the cylinder head for adjustment of knives, etc. The rear table is provided with a rabbetting groove and the infeed table is equipped with a rabbetting arm. Both tables are of the box form construction and cored the full length. This is the finest type of table construction widely used in quality machine tools. This type of construction makes a very rigid table which cannot warp under any condition. The tables are equipped with removable steel lips.



Knife Grinding and Jointing Attachment

Knife grinders are available for all Heavy Duty Jointers. Features include 1/2 hp motor, fast helix rail screw, and positive stop indexing for heel grinding.

Patternmaker's JOINTERS

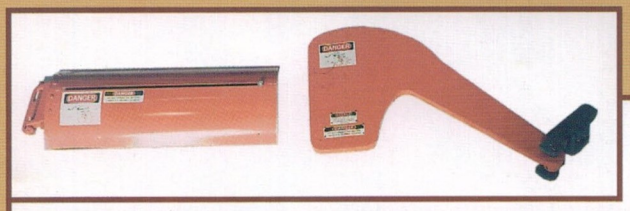
Guarding

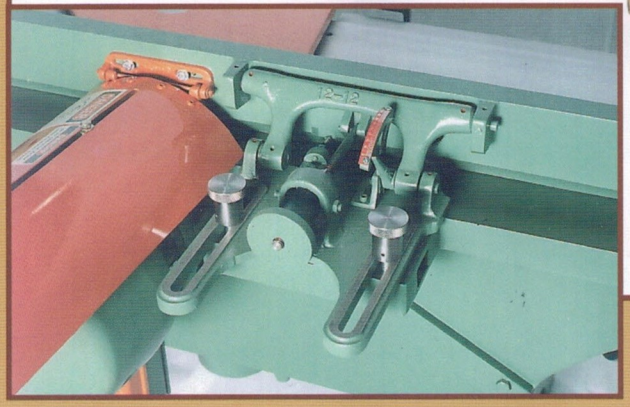
Standard equipment on Northfield Heavy Duty Jointers is the front and rear guards. The front guard is the swing out type with spring tension. The shield is made of aluminum. The rear guard is attached to the fence and moves with it, keeping the cutterhead in back of the fence protected at all times. A cutterhead hand brake is also standard. A switch that stops the power upon application of the hand brake can also be ordered as an option.

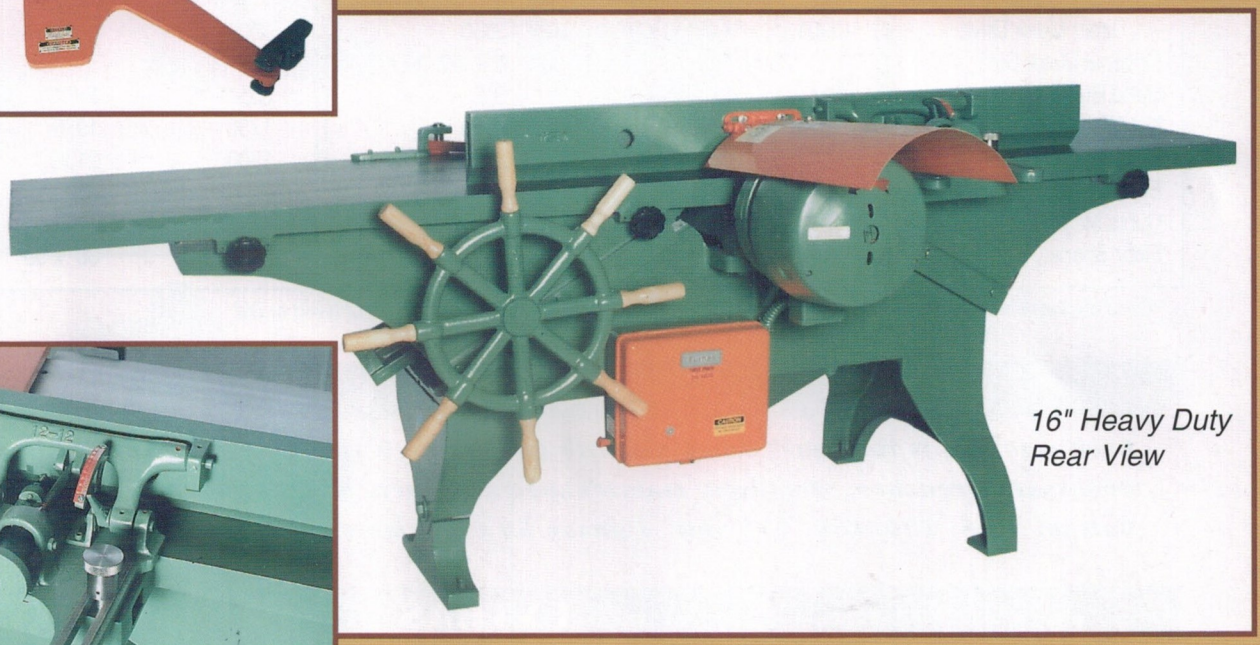
All of the above features are included on the Patternmaker's Jointers.

Direct Motor Drive Integral with Cylinder Head

12" and 16" machines are equipped with 3 hp, 3600 RPM, totally-enclosed, fan-cooled motors. The front plate of the motor is cast as part of the cylinder yoke. 24" machines are equipped with 5 hp motors of the same type. 5, 7-1/2 and 10 hp motors are available as optional extras on all models. The motor rotor is mounted on the cylinder head shaft which is extended through the motor. This design integrates the cylinder head bearings and motor as a complete unit. The motor is controlled by a magnetic starter with overload and low voltage protection and 110 volt at push button.







16" Heavy Duty Rear View

Quickly Adjustable Fence

On all Heavy Duty and Patternmaker machines a quickly adjustable fence which tilts 45^0 to the right is furnished. Fence angularity is accomplished through an Acme thread screw and hand knob, with a positive stop provided at the 90^0 position. As an optional extra, a fence that tilts both left and right 45^0 is available. Both styles of fences can be placed at an angle to the head for shear cutting.

Patternmaker Tilting Infeed Table

On the Patternmaker's Jointer the infeed table is adjustable to 5^0 in relation to the cutterhead. This is extremely useful for planing draft on deep ribs and large bevels on various pattern components.

Belt Drives to Your Specifications

Jointers can be furnished with a belt drive if desired. Cutterhead speeds to 4,500 RPM are available.

SPECIFICATIONS

Northfield Heavy Duty and Patternmaker's Jointers

Machine Size	12"	16"	24"	12" PM	16" PM	24" PM
Length of Knives	12"	16"	24"	12"	16"	24"
Knife Size	12" x 1-1/4" x 1/8"	16" x 1-1/4" x 1/8"	24" x 1-1/4" x 5/32"	12" x 1-1/4" x 1/8"	16" x 1-1/4" x 1/8"	24" x 1-1/4" x 5/32"
Knives per Head, DMD	4	4	4	4	4	4
Knives per Head, Belt Drive	4	3 (4 opt.)	4	4	4	4
Cutting Circle	4-1/4"	4-1/4"	4-1/2"	4-1/4"	4-1/4"	4-1/2"
Overall Length of Tables	96"	96"	96"	96"	96"	96"
Height of Tables from Floor	32-1/2"	32-1/2"	32-1/2"	32-1/2"	32-1/2"	32-1/2"
Rear Table – Width	17"	21"	27"	17"	21"	27"
Infeed Table – Tilts	Stationary	Stationary	Stationary	5^0	5^0	5^0
Fence Size	52" x 5-1/2"	52" x 5-1/2"	52" x 5-1/2"	52" x 5-1/2"	52" x 5-1/2"	52" x 5-1/2"
Fence Tilts	45^0	45^0	45^0	45^0	45^0	45^0
Maximum Rabbet Depth	5/8"	5/8"	3/4"	5/8"	5/8"	3/4"
Drives Available	Direct Motor V-Belt	Direct Motor V-Belt	Direct Motor V-Belt	Direct Motor V-Belt	Direct Motor V-Belt	Direct Motor V-Belt
Motor Size	3 hp	3 hp	5 hp	3 hp	3 hp	5 hp
Cutterhead RPM Vee-Belt*	4500	4500	4500	4500	4500	4500
Cutterhead RPM						
Direct Motor Drive	3600	3600	3600	3600	3600	3600
Optional Motor Size	5, 7-1/2, 10 hp	5, 7-1/2, 10 hp	5, 7-1/2, 10 hp	5, 7-1/2, 10 hp	5, 7-1/2, 10 hp	5, 7-1/2, 10 hp
Hand Brake	Std.	Std.	Std.	Std.**	Std.**	Std.**
Net Weight	1650	1825	2200	1750	1975	2400
Domestic Shipping Weight	1800	2000	2300	1900	2100	2600
Export Shipping Weight	2300	2500	2900	2400	2500	3100
Cubic Measure	121 cu. ft.	144 cu. ft.	152 cu. ft.	121 cu. ft.	144 cu. ft.	144 cu. ft.
Floor Space	34" x 96"	38" x 96"	44" x 96"	34" x 96"	38" x 96"	44" x 96"

Or to customer's specification* * Includes switch to shut off power upon application of hand brake*

EQUIPMENT

Each machine is furnished complete with one set high speed steel knives, cutting depth gauge, necessary wrenches, steel lips, maintenance and parts manual, hand brake, 110 volt at push button. 208, 230/460, 575 volt, 3 phase 60 cycle motors are standard.

EXTRAS

Knife grinder and jointing attachment
Four knife heads
Switch for hand brake
Warner electric brake
Balanced knife sets
Dial type knife setting gauge
Two way tilting fence
24 volt at push-button
Nema 12 electrics with disconnect
Surty front guard (12 & 16 only)
Single phase in belt drive only
And MORE! Contact:

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