Northfield 240 FACER PLANER

"TECH TIPS" # 1

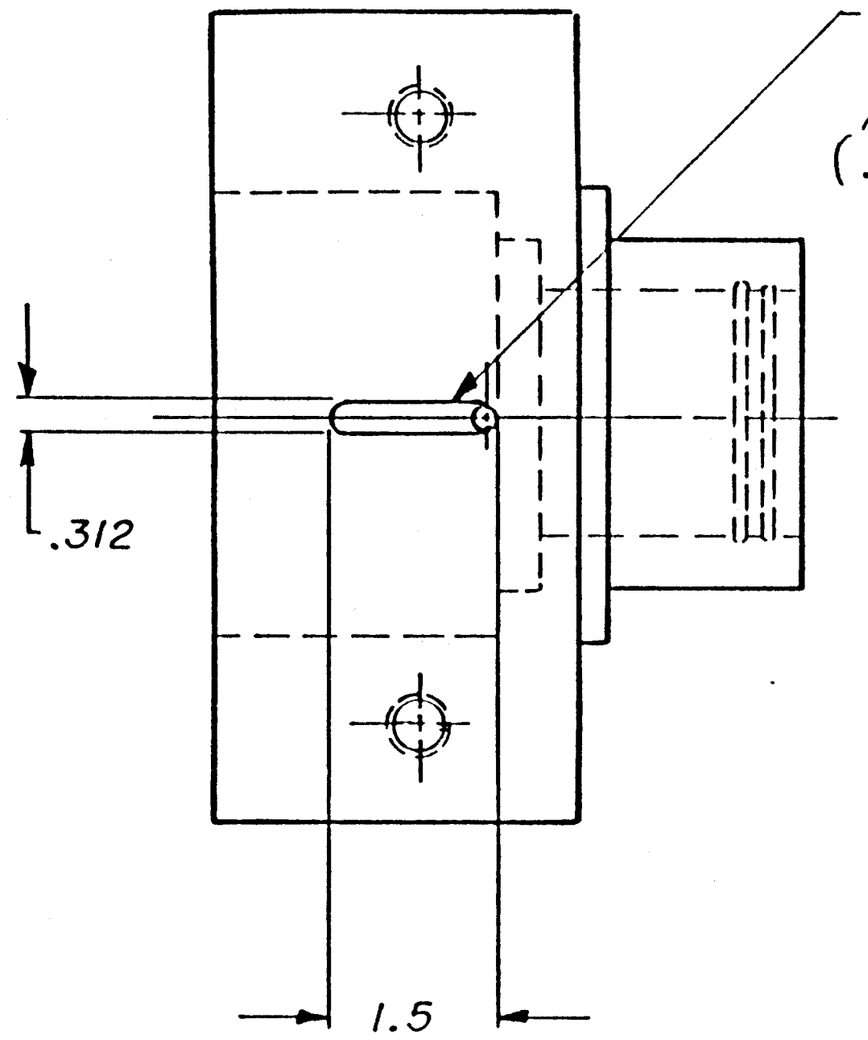
April 21, 1993

TO ALL NORTHFIELD 240 FACER PLANER OPERATORS

Over the past few years some modifications and options have been developed that can greatly affect feeding and surface finish of this machine.

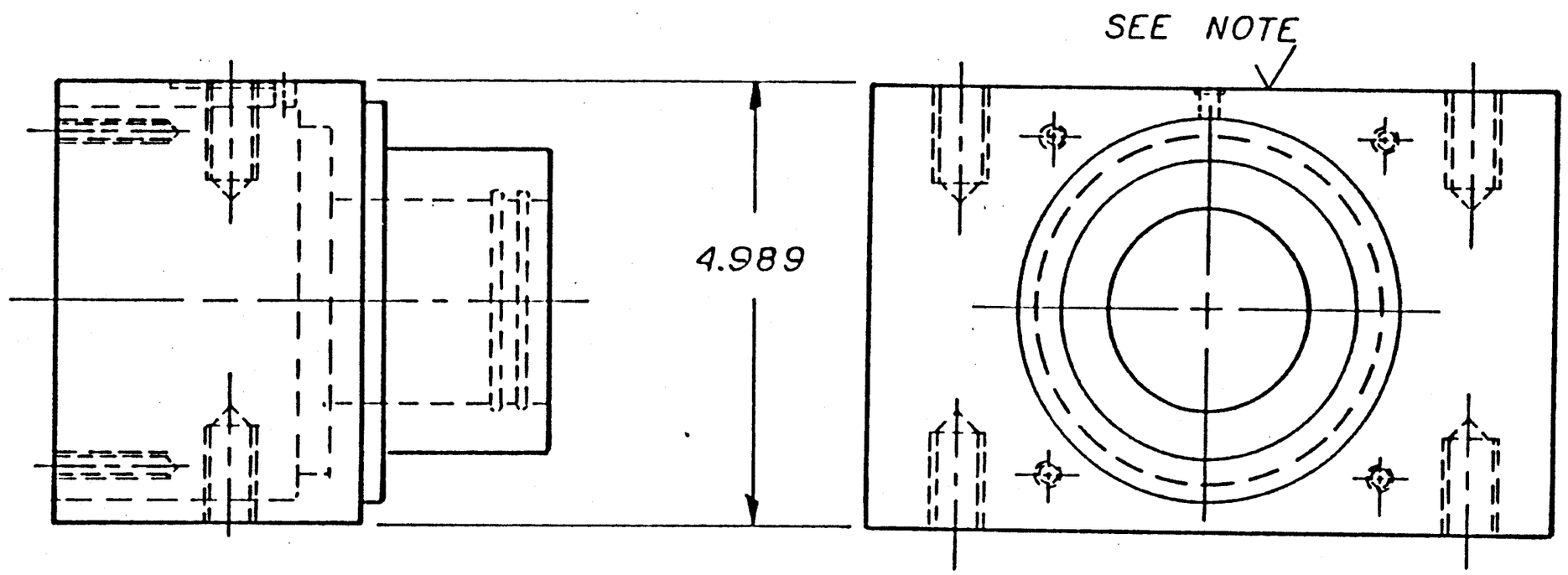
UPPER HEAD BEARING BLOCK REDESIGN

We recommend milling 3/16" .1875" off the tops of the cast iron rectangular bearing blocks, part number 240-48. This raises the cutterhead in relation to the carpet track, upperfeed rolls, chipbreaker, and pressure bar. By doing this, the problem of not being able to get the pressure bar low enough is eliminated. But most importantly, it allows the carpet feed mechanism to have more pin travel when doing hit and miss planing. Remember, the 240-48 bearing block forms the bottom mounting plane of the upper platen assembly. When you mill 3/16" off the top of the blocks, you will either have to add a 3/16" cold roll steel spacer between the bearing block and the outfeed elevating leg, or raise the outfeed elevating legs 3/16" so that your carpet and upper platen is not running downhill towards the outfeed end of the machine. Failure to do this can result in broken leg flanges or carpet bar damage.



NOTE

MILL .1875 OFF THIS SURFACE.
4.989 IS THE FINISHED HEIGHT.



NORTHFIELD FOUNDRY & MACHINE CO
BEARING HOUSING (UPPER HEAD)
PART NO. 240-48

Also, when you mill 3/16" off the top of the bearing blocks, you will wipe out the shallow grease gallery groove milled into the top of the block. This will have to be recut back into the top of the block before reassembly.

CARPET PIN SPRINGS

We have come out with a new carpet pin spring which is approximately 30% stronger than the original design. This change in conjunction with milling the upper bearing blocks greatly improves the ability of the machine to pull material through the machine.

What you can do to change these springs without much downtime, is to remove every 6th or so bar assembly. The machine will run just fine with these missing, so there is no need to shut down for an extended period to change all the springs. Put some paint on the ends of the bars you have changed so you don't get them mixed up.

SERVICING CARPET BARS

Carpet bar assemblies occasionally get bent when the machine is lowered with a piece of stock lying on the main bed. Bent bars should be straightened as a unit in a small hydraulic press before they are disassembled for spring or pin replacement. Keep the carpet bars together in their original sets. You may want to flip the bar assembly over when you reassemble it with the new springs. This accomplishes two things, it equalizes the hole wear out, normally the hole on the side where the pin sticks out wear more than the blunt end, and it stresses the bar assembly in the opposite direction it was bent in..

SHARPENING PINS

Carpet pins that have skidded over work pieces and that have become dull, can be sharpened in a small vertical drill press. Make a wood cradle that holds the carpet bar assembly with the pins sticking up, use a small vise grip to keep the pins from spinning. You can use a carbide tipped masonry drill ground at the appropriate angle to repoint the tips of the pins.

CHIPBREAKER INSPECTION

If you are experiencing rapid dulling of the upper cutterhead, it may be that the chipbreaker toes are coming in contact with the cutterhead teeth. This can be caused by the chipbreaker toe travel stop bolts being bent. Straighten the bolts and check the toe travel. It is very difficult to determine if the chipbreaker toes are contacting the cutterhead without removing the chipbreaker assembly from the machine. If the toes are hitting the cutterhead you will see smooth bare iron on the individual toes radius tips. If your stop bolts are not bent check that the two pivot shaft stabilizer blocks are bolted rigidly to the main chipbreaker bar. If they are loose the force of the wood passing under the chipbreaker will allow the toes to deflect into the head. There should also be a chipbreaker spring counter balance on the machine to help the chipbreaker float over the stock more easily. If this is missing it should be replaced.

LOWER HEAD OUTFEED TABLE LIP

Occasionally the tapered steel lip just past the lower cutterhead forms a fine wire edge on its point. . This can grab the wood like a row of fish hooks and cause feeding problems. Take a single cut file and round this edge occasionally to eliminate this.

MAIN FEED CLUTCH

If you are experiencing slippage in the carpet feed clutch and do not have replacement clutch discs in stock, you can resurrect your old clutch discs by scraping the glaze off them with the putty knife and then giving them a bath in lacquer thinner to draw any oil out of them.

We also have an improved hub bushing that keeps the discs centered better on the hub. If your clutch-hub-sprocket assembly is rotating in an egg shaped manner, the bushing should also be replaced.

LOUIS ALLIS "ALISPEDE" DRIVE

The "Alispede" drives that were used from the late 1970's to mid 1980 have proved to be the least reliable drive we have used. There is no cure for the spline wear these things experience, other than periodic shaft and sheave replacement. We recommend converting to the Reeves drive that we now use. These drives are quite expensive, but are virtually maintenance free. We rarely even have to sell belts for them. We will give you the best price we can including new mounting bars and drive sprocket hub. All you should have to do to convert is drill and tap four holes in the slide plate.

PUSH BUTTON PLACEMENT

If you are continually experiencing smashed ammeters and push buttons on your control panel, you may want to consider relocating them to the side or door of the main electrical enclosure. Any qualified electrician should be able to do this with little problem. You may want to add an additional emergency stop button on the other side of the machine, because your controls will no longer be centrally located.

CUTTERHEAD

When we originally came out with the Model 240 Planer, we offered only one style of cutterbit. This had a hook angle of approximately 23-24 degrees and was suitable for both hard and soft wood planing.

In time, installations doing hardwood only planing wanted less pickout around knots in such species as birdseye maple. So we came out with a cutterbit that had a 7 degree hook angle. This cutterbit configuration where installed has greatly improved finish and has extended knife life being there is more carbide backing up the leading edge of the cutterbit than in the original 24 degree design.

We also have cutterbits that use Tang Tung G as the cutterknife. These have been used for softwood planing applications where a sharper knife edge is desired. Also, because it is not carbide it is not affected by the resins in such species as southern yellow pine that can adversely affect carbide.

SOME NOTES ON GRINDING

We still see bits being ground with too much back angle. The more back angle you put on, the less the knife life. Remember, a jointed bit is at "zero" clearance, anything past the cutting circle is clearance. Carbide is nothing but little hard chunks glued together, you've got to have material backing up the leading edge or its going to erode and be dull leaving a bad finish and longitudinal streaking. Keep the back angle flat.

The brass guide on the end of the finger follower assembly is prone to wear. Any time you can detect head rotation with the brass guide tight in the tracking slot on the head, the guide should be replaced. Also, keeping a film of oil in the tracking slot will give smoother grinding and minimize wear on the brass guide.

LONGITUDINAL STREAKING

Streaking down the length of the stock is caused when cutterbit tips are all not at a common cutting circle. This can be caused by wear, sloppy heel grinding, and improper jointing.

When you heel grind the bits after jointing, and you grind through the joint line on the tip of the bit, you have a cutterbit at a smaller cutting circle then his neighbors. This will result in a longitudinal streak because the cutting pressure in not equal in that area. The cutterbit rows are staggered 1/4" with a 1/4 gap between them so 3 knives cleanup cut the gap left by the original row. If one of these 3 bits is low you have lost 33% of your cutting ability in that area and a streak forms in the work piece. To avoid grinding away the joint line on the bit tips each cutterbit should be heel ground individually. Work the grinding wheel back and forth across a single bit until you have narrowed the joint line to approximately .015" or 1/64". Then raise the diamond wheel up and move onto the next bit and repeat the procedure on all bits in the head.

SEEING WHAT YOU ARE DOING

Lighting up the area where you are grinding helps tremendously. Using a flex head high intensity like Sunnex or even a trouble

light will make grinding much less fatiguing. If you are still having trouble narrowing the joint line, try painting the tips of the bits with machinists bluing prior to heel grinding to provide a better contrast with the heel grind.

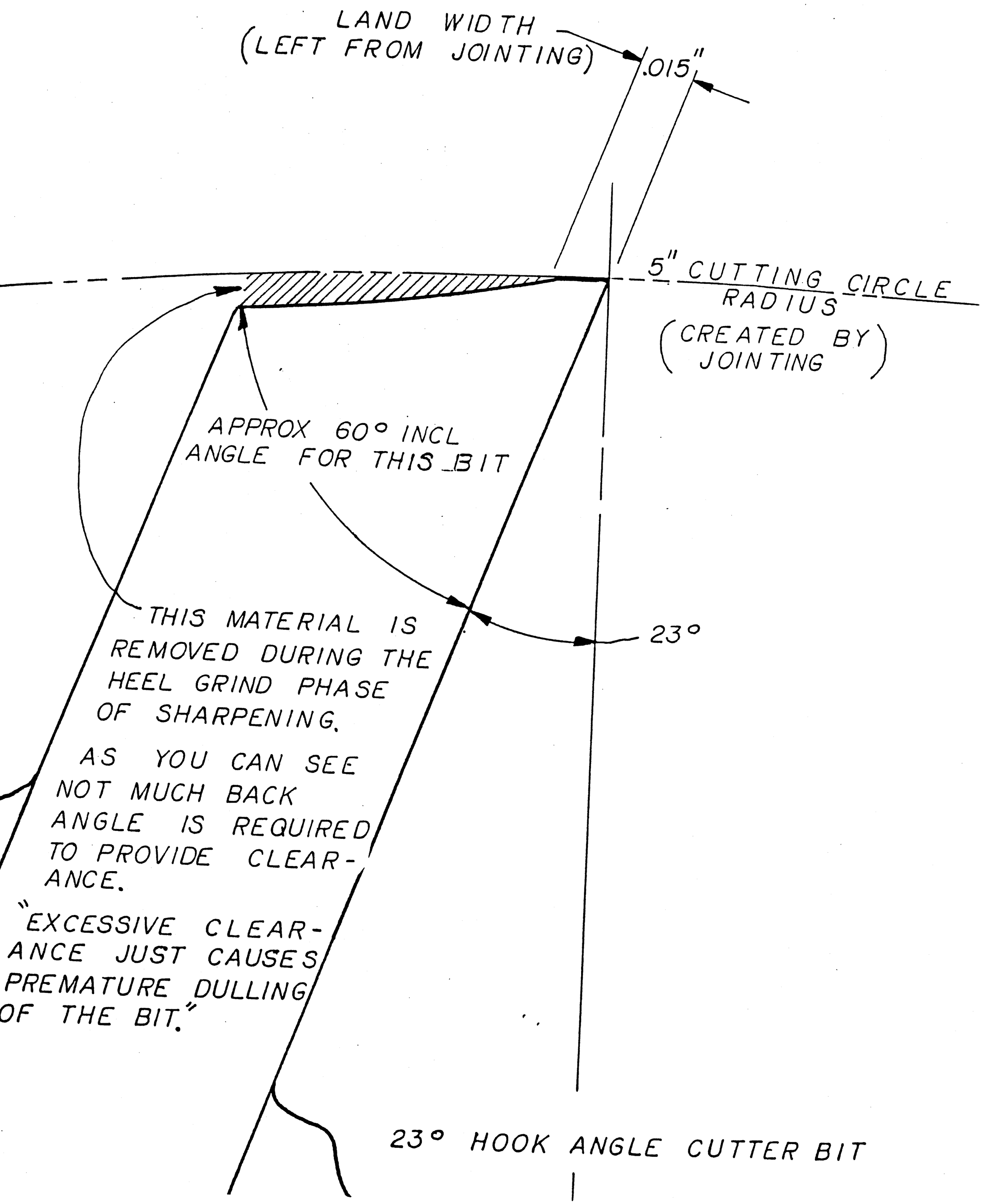
The following numbers can be used to reach Northfield Technical Personnel from 7:00 AM - 4:30 PM M-F CST.

1-507-645-5641

24 Hours FAX 1-507-645-4005

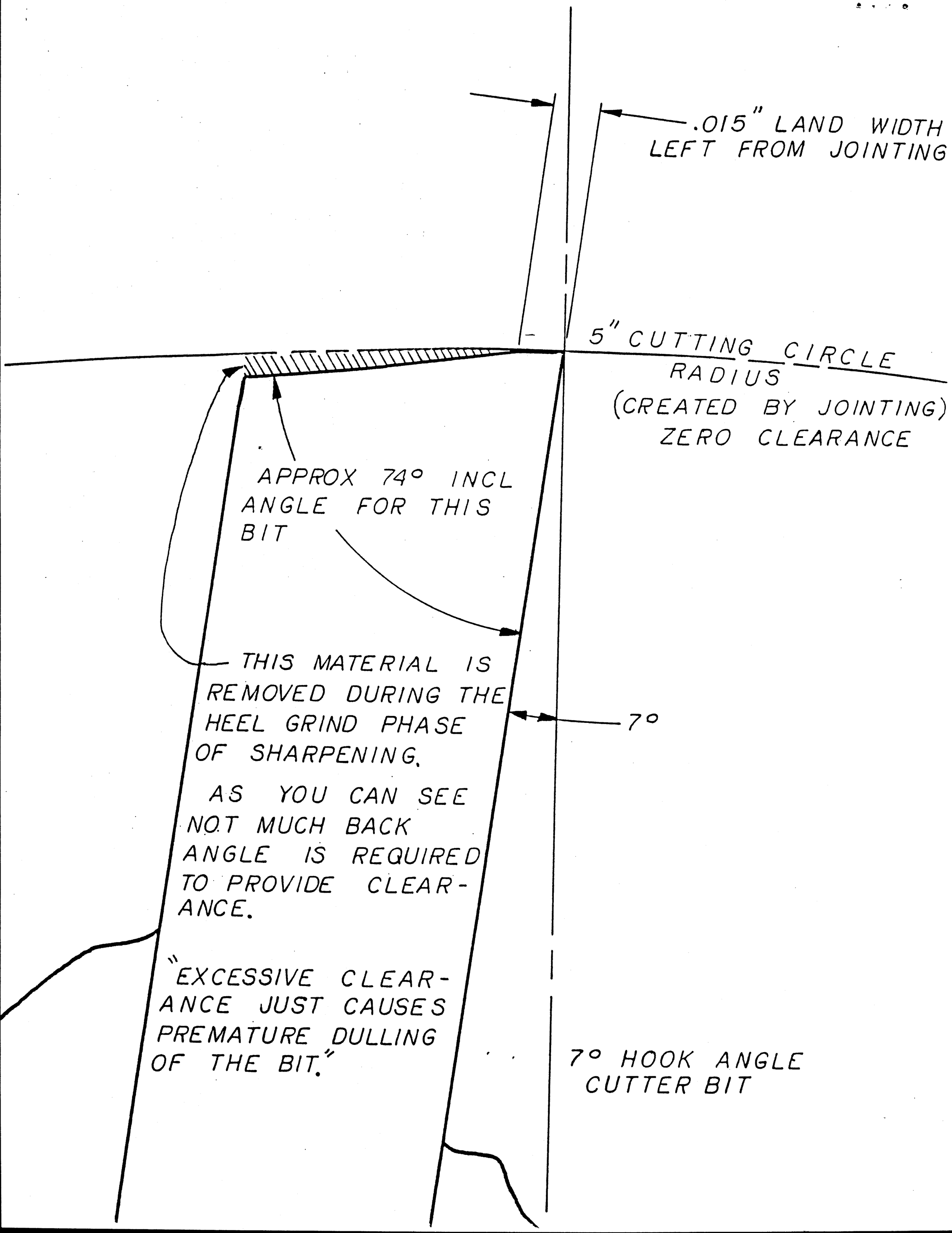
UPS Parts Shipments leave at approximately 3:30 PM CST M-F.

SCALE - 20 X



23° HOOK ANGLE CUTTER BIT

SCALE 20X


.015" LAND WIDTH LEFT FROM JOINTING
5" CUTTING CIRCLE RADIUS (CREATED BY JOINTING) ZERO CLEARANCE
APPROX 74° INCL ANGLE FOR THIS BIT
THIS MATERIAL IS REMOVED DURING THE HEEL GRIND PHASE OF SHARPENING.
AS YOU CAN SEE NOT MUCH BACK ANGLE IS REQUIRED TO PROVIDE CLEARANCE.
"EXCESSIVE CLEARANCE JUST CAUSES PREMATURE DULLING OF THE BIT."
7°
7° HOOK ANGLE CUTTER BIT