CROSSWOOD
MODEL#28
BAND SAWMILL

CROSSWOOD TIMBER PRODUCTS
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Dear Sir,
I thank you for your purchase of plans for my band sawmill. I hope that this building project will be a profitable exp. for both of us. But rather you are building a band sawmill for profit or just to saw a few logs for yourself I am sure it will be a learning exp. for us both.

You can reach me at 217-204-5110 by phone or e-mail me at this address, *sawmiller89@gmail.com*.

Again thanks

Roy
Crosswood Timber Products

Note also sawmills are very dangerous and need to be approached with great respect and humility, and Crosswood Timber Products and owners there of are not responsible for accidents and accepts no liability for use of these mills by any one.

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STEP #1
TOOLS NEEDED FOR BUILDING CROSSWOOD MODEL#28 BAND SAWMILL

- level surface
- 2 saw horses or jack stands sturdy enough to support project (I have found saw horses made from steel aprox. 24" tall and 36" wide to work best)
- clamps c or wide fabricator hand type.minimum of 4, more if possible
- some short pieces of 1/4" x 2"'x 2" x 10" long angle iron for clamping purposes
- tape measure 24' or longer
- welder, stick or mig
- bandsaw for cutting metal or you will need to buy precut steel
  (fabricating shops can help with this, but find one that will reasonably work with you)

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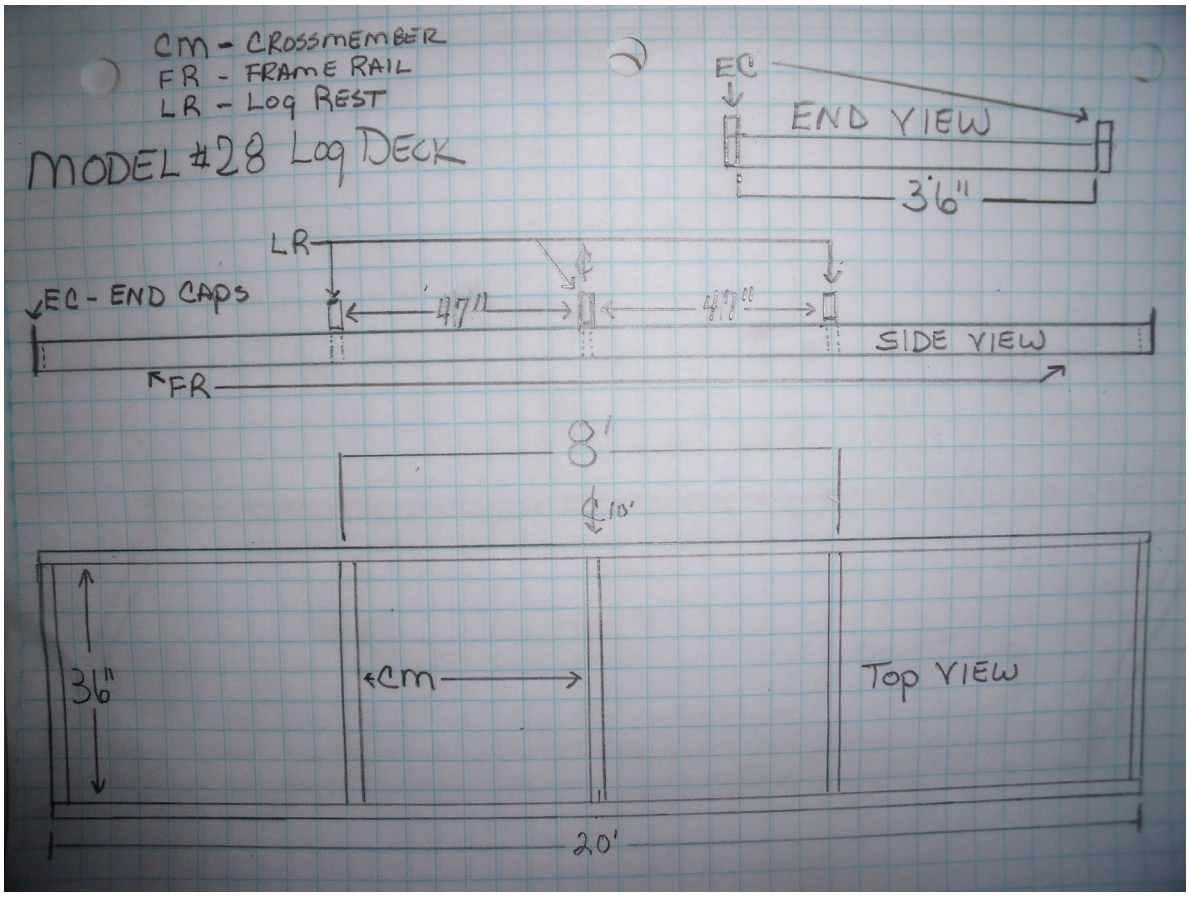
STEP #2
CROSSWOOD MODEL #28 LOG DECK MATERIAL LIST

- 2/ 3/16" x 2" x 3" x 20' pieces tube steel for frame rails (FR)
- 5/ 3/16" x 2" x 3" x 36" pieces tube steel cross members to join frame rails together (CM)
- 3/ 3/16" x 2" x 4" x 28" tube steel for log rest(LR)
- 2 / 1/8" x 1" x 20' angle iron for track on top of rail beams (v groove of angle iron down and welded to top of frame rail
- 4/ 1/4" x 2" x 5" flat steel for end caps(EC) also serve as stops for carriage at end of frame rail
- 3/ 1/4" x 2" x 5" flat steel to cap log rest(LR) and perform as cant stop
- 4/ 1/2" x 2" x 3" bar stock to end cap log dogs and act as swivel
- 2/ 1/8" x 2" x 2" x 33" for log dog swivel cross members
- 2/ 1/8" x 2" x 2" x 15" tube steel for log stop uprights
- 2/ 1/8" x 2" x 2" x 14" tube steel
- 2/ 1/4" x 3" x 4" flat steel for capping log dog slides for clamping log
- 4/ 1/4" x 3" x 3" flat steel for log dog clamping slides
- 2/ 1/4" x 2" x3" flat steel
- 2/ 1/4" x 2" x 2" flat steel for capping log stop uprights
- 4/ 3/8" x 5" bolts with lock nuts for log dogs to attach to railling
- 40/ 3/8" flat washers for spacers between rail and log dog for swivel



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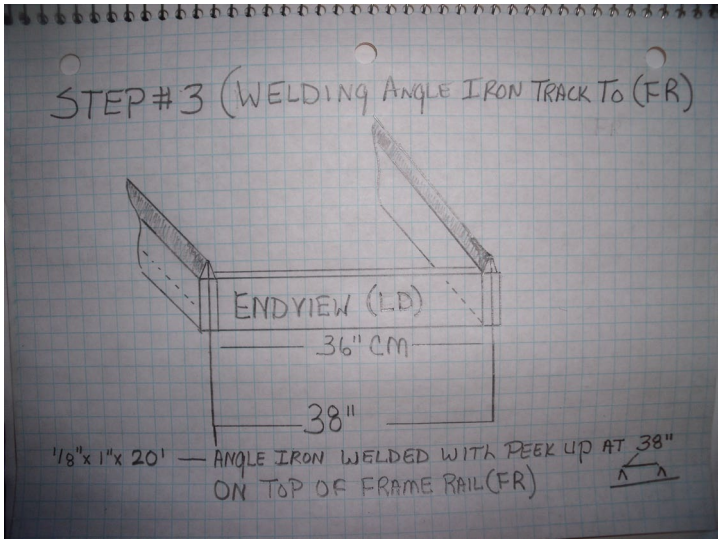
STEP #3
WELDING ANLE IRON DOWN TO TOP OF FRAME RAIL

The 1/8" x 1" x 20' angle iron is welded down to the frame rail(fr), the angle iron is turned with peek up and is welded at 38" from peek to peek from side to side making welds aprox, 1' intervals from end to end

I have found placing one angle down and welding straight from end to end then measure from welded piece.

This step can also be done after carriage unit is built and casters have been installed on carriage and then roll carrige down angle iron welding as you go.

Rather you measure and weld or use carriage this angle is your track that casters will roll on and support carriage and power unit.



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STEP# 4
LOG DOG FABRICATION AND MOUNTING CROSSWOOD MOD# 28

LOG DOGS MATERIAL LIST

- 2/ 1/8" x 2" x 2" x 33" tube steel
- 2/ 1/2" x 2" x 3" lng flat steel for end cap and 3/8" bolt hole
- 1/ 1/8" x 2" x 2" x 15" tube steel for log back stop
- 1/ 1/8" x 2" x2" x 14" tube steel for sliding log dog
- 1/ 1/4" x 3" wide x 4" long cap for dogging plate that locks into log
- 1/ 1/4" x 2" wide x 3" long flat steel
- 2/ 1/4" x 3" wide x 3" long with 3/8" hole drilled 1/2" up from bottom of each plate to center of hole and center of plate,these are welded to log slide dog plate and straddle 33" log dog rail. 3/8" x 3 1/2" bolt goes here and allows slide and cater lever motion when dogging log. using a pop sickle stick or feeler gauge will offer enough side to side slack for sliding back and forth on log dog rail.

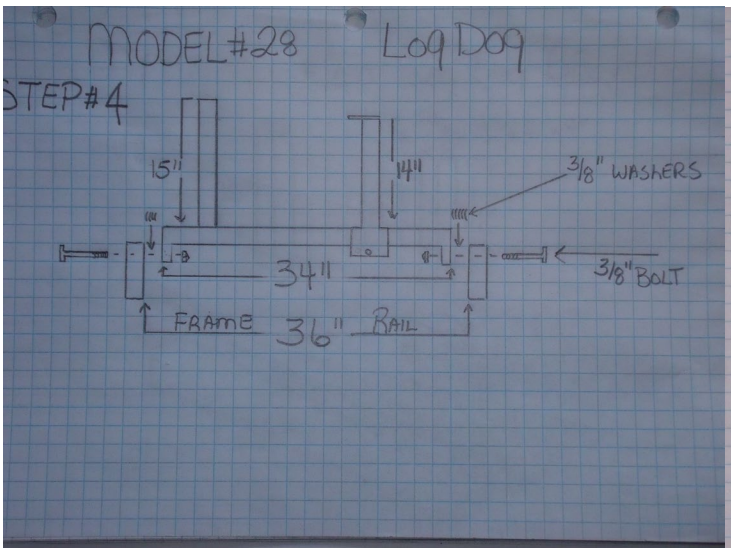
Though the log dogs will be mounted farther into fabrication i have deemed it time to build while building log deck so that they will be built when ready to mount.

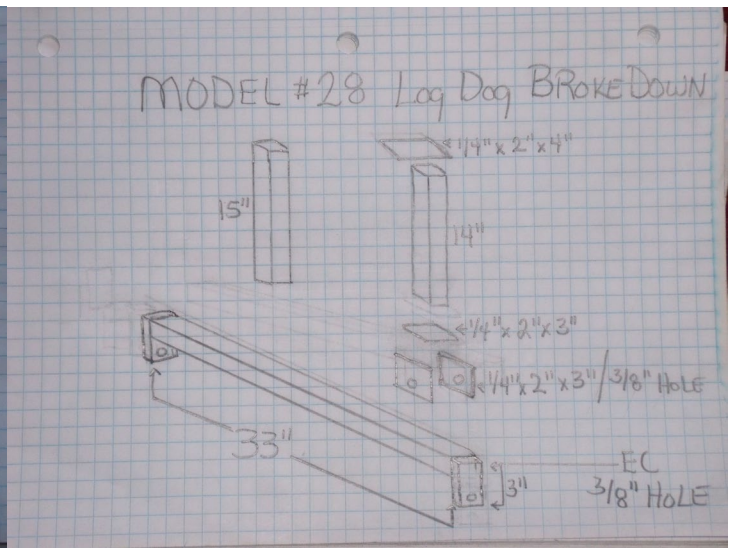
The log dogs serv a very critical part in the mod# 28 , they will hold log tight on log rest while sawing as well as to offer a squaring mechanism for squaring log.

The dogs are designed to swivel 180 degrees from side to side between log rest and will lower and raise as they are swiveled to accomadate different heights and sawing.

The log dogs are mounted into and between frame rail with a 3/8" x 5" long bolt through a pre drilled hole in frame rail and a hole in end swivel cap at the end of each log dog and using the 3/8" washers as spacers to fill void between end cap

*note log dogs will always remain below band saw blade while sawing.





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STEP #5
EXPLAINING LOG REST AND LOG DOGS
CROSSWOOD MODEL #28 BAND SAWMILL

At this point the materials list and fabrication of both log dogs and log rest have been explained, it should be mentioned that the log dogs and log rests 3/16" x 2" x 4" should be set to the side for now while we head in to the fabrication of the 2 post carriage.

The log dogs and log rests will be attached to the log deck and frame rail further into the build.

Also it may be mentioned that our log deck assuming that you have built it at thia point can be used as a building table for the carriage , i will explain more of this in the next step.

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STEP# 6
BUILDING MODEL 28 POST AND CARRIAGE UNIT

MATERIAL LIST

- 2 / 3/16" x 2" x 3" x 24" long rectanguler tubing for feet
- 8 / 1/4" x 1 1/2" x 5" flat steel for roller casters,1/2" holes 3/4" from end to center of hole to receive 1/2" caster roller axles
- 2 / 3/16" x2" x 3" x 43" rectanguler tubing for 2 upright post
- 2 / 1/2" x 1" x2" flat steel for head stop welded 7 3/4" up from bottom of foot
- 1 / 3/16" x 2" x 3" x36" rectanguler tubing for crossmember to connect post from side to side at top and welded centered in post
- 1 / 1/8" x 2" x 3" flat steel for post end cap on left post standing in rear
- 1 / 3/16" x 2" x3" x 2 1/4" long rectanguler tubing with 3/8" hole and mounted at top of right post on 15 degree angle to the inside to receive cable pulley leading to winch
- 1 / 1/4" x 2" x 2" x 18" long angle iron for mounting winch and push handle, has 2 3/8" holes and can be drilled when installing winch
- 1 / 1/8" x 1" x 1" x 8" angle iron for scale sight and this also can be welded on after mounting scale
- 1 / 1/8" x 1" x 1" x 11" tube steel for push handle and can be welded at latter part of fabrication

In this step it can be mentioned that the log deck can be used as a flat building platform for the fabrication of carriage post and crossmembers.

Note- when building post the crossmember at top is centered in the 3" post at very top and flush with top of 2 upright post and also do not weld on caster plates at this point , they will be welded after we set carriage down on log deck angle iron. Also it should be noted after post carriage fabrication is completed you will need the 4 roller casters. They can be purchased from me or you can purchase them from king architecture design. Also you can use your own idea for this but remember heighth of whatever you use will effect cut height from log rests. Design is for a 2" wide x 4" tall cater wheel.

Also it may be noted that push handle , 18" angle iron for winch mount and scale sight 8" angle and 20% slanted pulley mount can be attached later or now.

In order to view the fabricating step below on video copy and paste link below in tool bar of a google page
http://youtu.Be/hb9wwr9mdte

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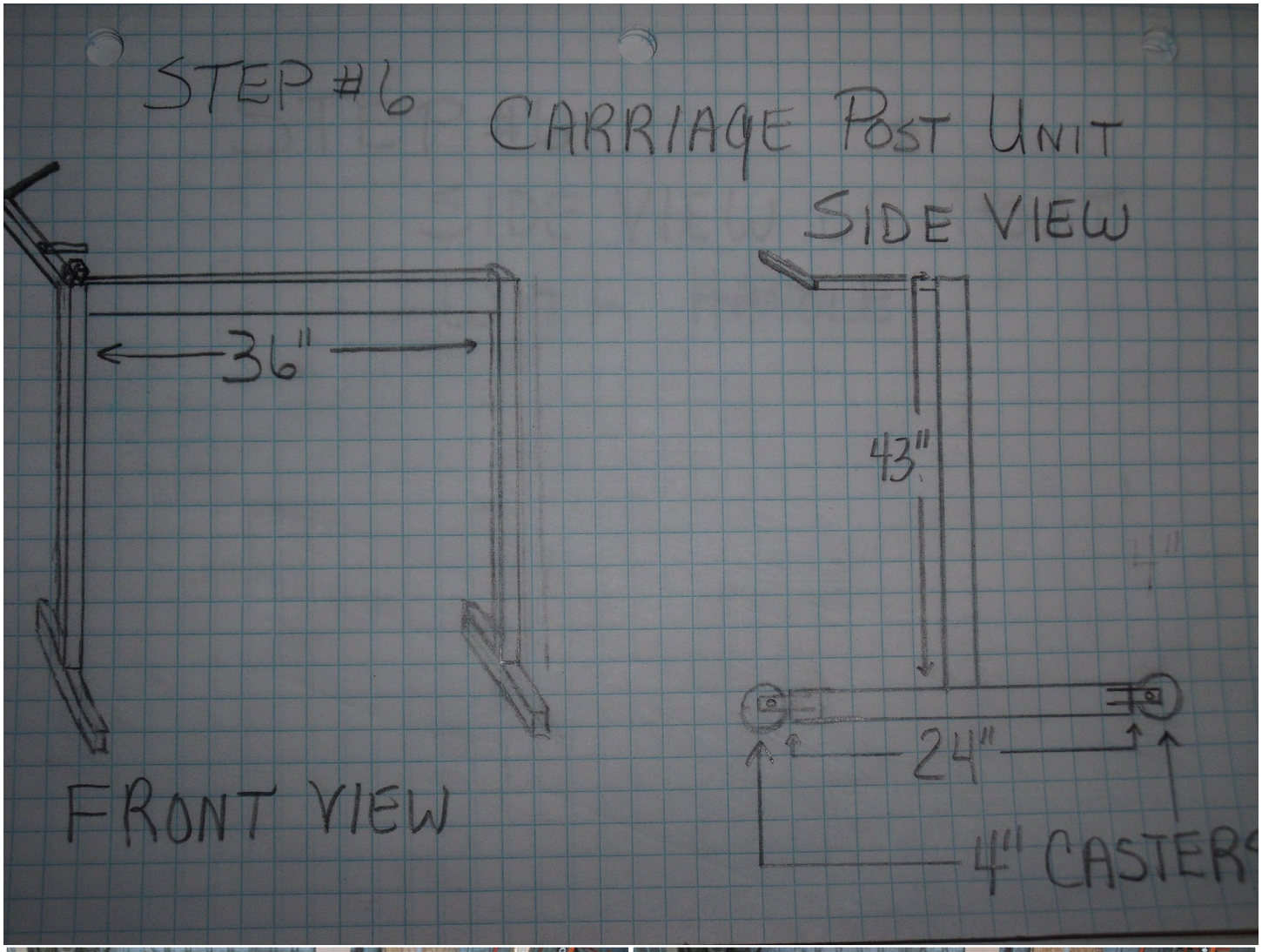


STEP#7
END OF THE FIRST PHASE OF FABRICATION MODEL#28

Now that we have come to the end of the first phase steps # 1 through step# 6 we will begin to talk about other aspects of the build.
At this point you should be at the stage of having your log deck and frame rail built as well as the 2 post uprights and ready to mount your 1/4" x 2" x5" plates on feet with caster rollers. These caster rollers can be purchased from me or you can oder them online at architecture metals (item#30-400-4) i have downloaded an attachment for item. I will note at this point you can use any roller that would fit down on the angle iron frame rail but keep in mind that putting a taller than 4" roler on feet will raise mill and change your last cut, if you do use a taller roller you will need to raise log rest and possibly leghthen log dogs.Another plus to using these rolers is that they come with axles and needle bearings and are greaseable. Price is around $10.00 Each

Ok to press on place the 2 post uprights upon your log deck frame rail and put some 1/4" or 3/8" spacers between feet and top of angle iron on frame rail. If you have already welded down angle to frame rail , no problem but if you have not make sure you are centered and square and clamp your 2 post and frame rail straight at this point making sure you are 36" inside to inside of feet you may have to pull feet in or push them out depending on amount of movement you had when welding post feet and crossmember together.(Normally clamping frame rail and feet up the sides will bring post and rail true, one of the advantages to using tube steel in fabricating.

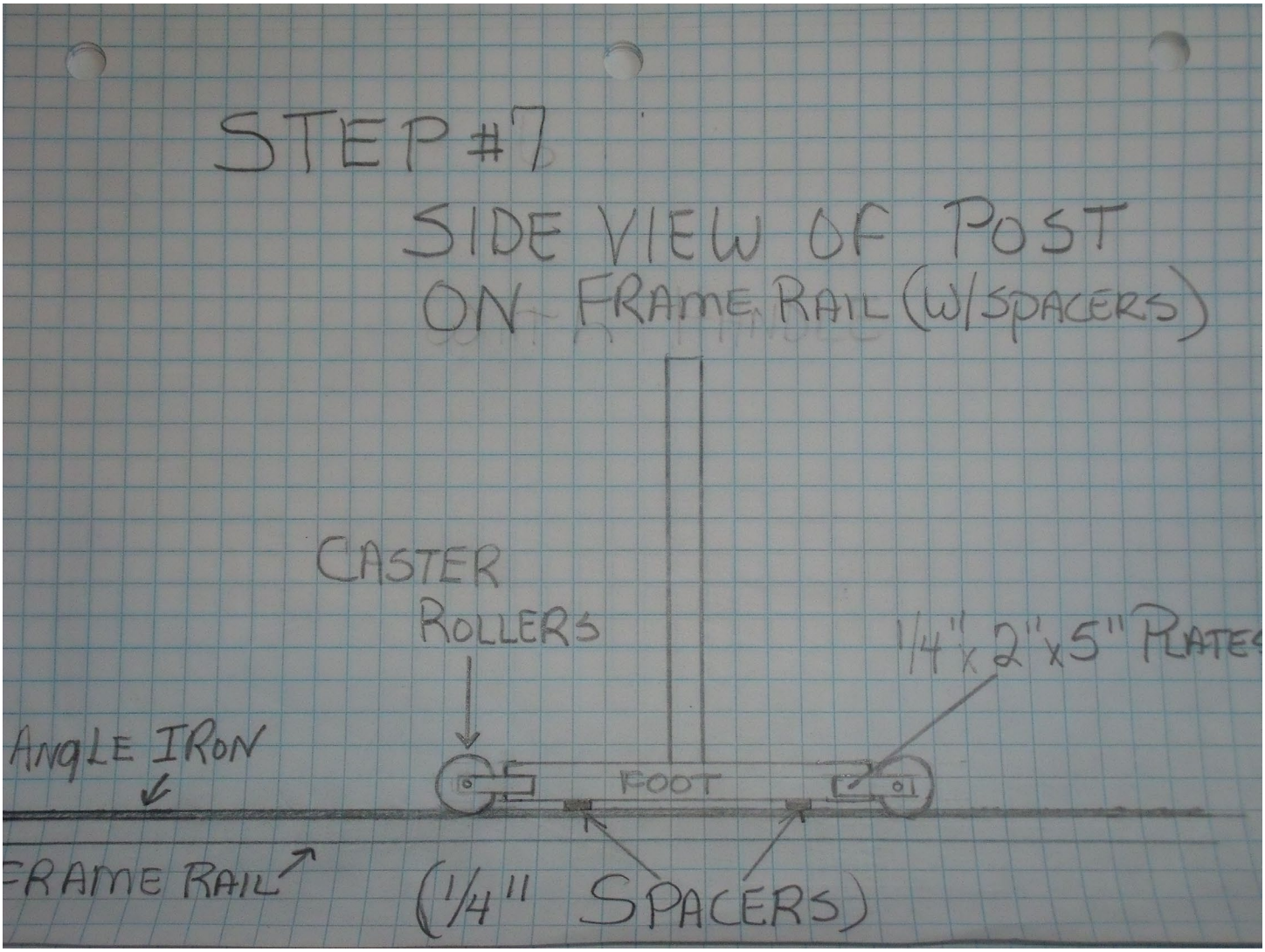
Now sandwich your caster rollers in between feet plates and put the axles through 1/2" holes that you have drilled. Place plates and casters on ends of each foot and allow caster to set down into v groove on angle iron check double check and clamp all 4 caster rollers and plates to feet and weld plates to feet.Remove spacers and let 2 post carriage settle down on angle iron .

Now if you have not welded angle iron down to frame rail now is the time to do so.
Simply center and square angle tack in place and rolling carrige down frame rail tack as you go welding angle iron to frame rail.

If caster rollers are a bit sloppy in plates they can be spacered with 1/2" washers before welding down angle iron. If you do not get angle welded perfectly strait do not worry (a horizontal band mill can run from side to side with out effecting cut) unlike a vertical or circle mill.

This brings us to the end of first phase and gives us a building plat form for installing our head rig section onto our 2 post uprights and finish our carriage.

Any questions at this point feel free to call me at 217-204-5110
Roy



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STEP#8
HEADRIG MATERIAL LIST MODEL#28 BAND SAWMILL

(refer to numbers on material list with photo of headrig for parts display)

#1 1- 3/16" x 2" x 6" x 35" rectanguler steel tube (main crossmember)
#2 4- 3/8" x 5" x 8" long flat plate(though you will only use 2 of these for this step the other 2 plates will have the same drilled bolt pattern and should be drilled together they will be used in next building step)
#3 2- 1/4" 2" x 2" x 1" long angle iron for cable lifting eyebolts
#4 2- guide brackets{ these can be purchased from me or fabricated in a different way, we will discuss this farther in build, reffer to attachment for bracket photo)
#5 4- 1/4" x 1" x 3" flat steel notched(referr to drawing roller brackets)
#6 1- 1/4" x 2" x 3 1/2" flat iron for scale bracket stand off
#7 1- 1/8" x 1" x 1" x 32" tube steel for scale post
#8 2- 3/16" x 2" x 3" x 12" rec tube for motor plate support
#9 1- 3/8" x 5" x 12" flat steel for motor mounting plate(refer to drawing for fabricating)
#10 1- 1/8" 2" x 2" flat for drive pulley guard support bracket
#11 2- 1/8" x 1" x 1" x 9" angle iron for battery box
#12 2- 1/8" x 2" x 6" flat for battery box
#13 2 - 1 1/4" diameter rollers with predrilled 3/8" hole
#14 2- 3/8" x 3 1/2" bolts for rollers

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STEP#8
FABRICATING HEAD RIG AND MOTOR PLATFORM TO PLACE BETWEEN 2 POST UPRIGHTS MODEL #28 BAND SAWMILL

The head rig is no doubt the more complex part of our build. The head rig supports motor, band wheels and cutting system for the sawmill. My design is a simple ruggid design consisting of plates and rollers sandwiching the 2 post uprights and is lifted by steel cable and a hand winch.

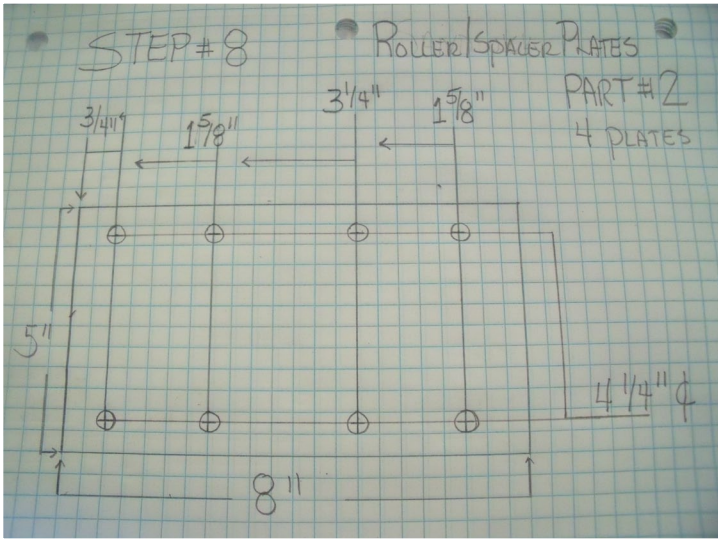
In step#8 there is a certian amount of drilling and fabricating to be done, the first part of drilling is the plates that are welded to the crossmember for receiving our rollers and spacers.There are 4 of these plates that will be drilled for the mill , they are labeled #2 in drawings and material list.Though the pattern calls for 3/8" diameter holes they can be oversized a 1/16" or less to allow for error if you are hand drilling and measuring with tape measure and square.

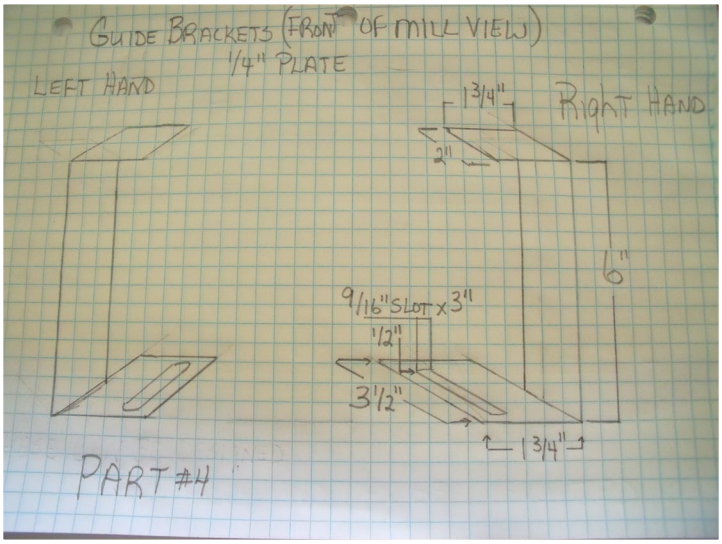
To break down this part of the build i will begin by assuming your log deck and 2 post have been fabricated. Beginning with the 2" x 6" x 35" crossmember we will begin by welding 2 of the 3/8" x 5" x 8" pre drilled plates on ends of crossmember the crossmember is centered and at top of each plate clamped and welded. (Referr to photos and drawings)

For fabricating purposes most of drawings and demensions are taken from rear view of haedrig.The only pieces that are welded on front of crossmember are our lift eyelets for receiving our 3/8" eyebolts, they can be welded at another time before mounting hardware, right now we will consentrate on the motor mount and plates.

The roller brackets can be milled or ground with a 4" grinder they are simply for keeping side lash out of headrig and to assist in free rolling of head up and down they also are what hit stop blocks on inside of post.

The guide brackets can be purchased from me or can be fabricated by using 1" x 1" tube steel and a plate, just make sure width and heighth remain near same as drawings.





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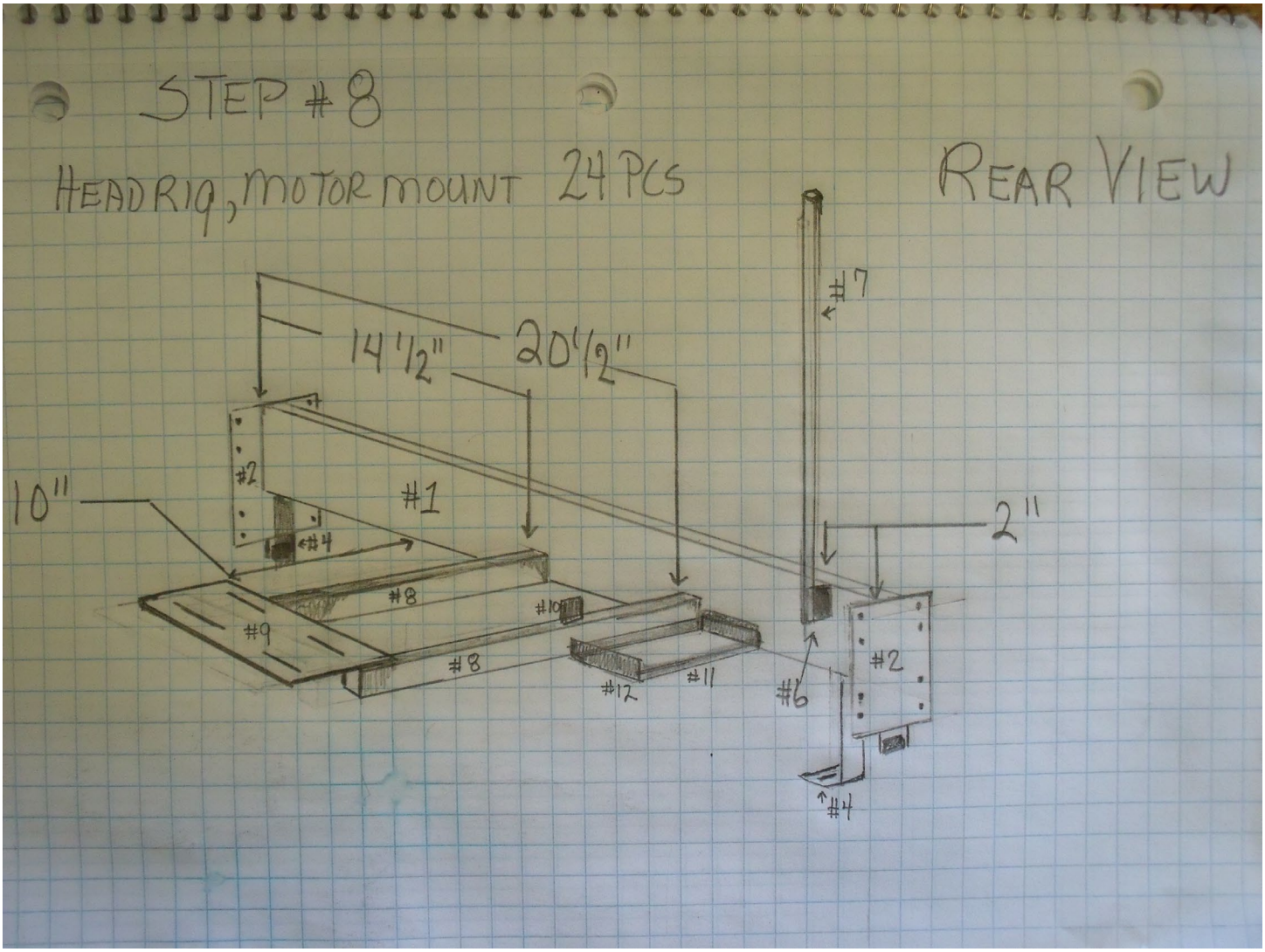

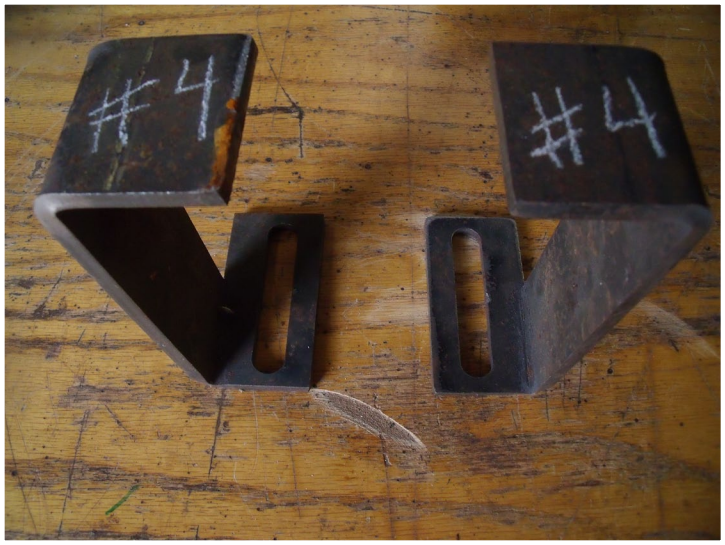

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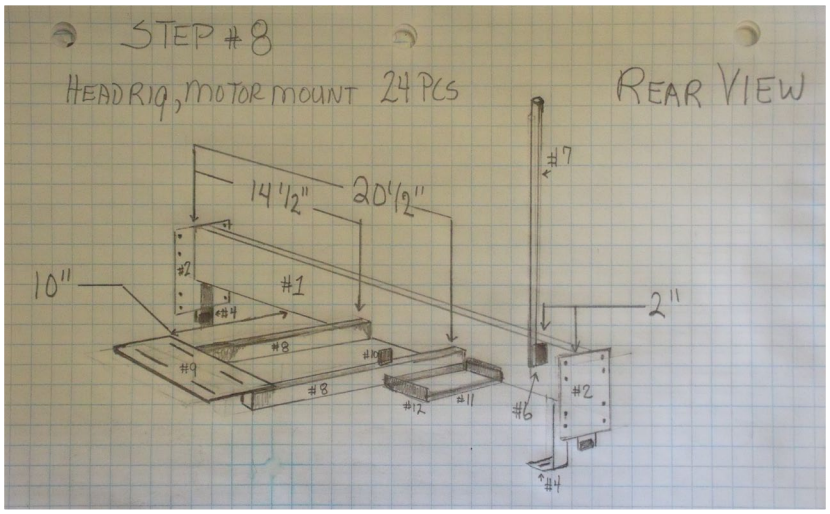
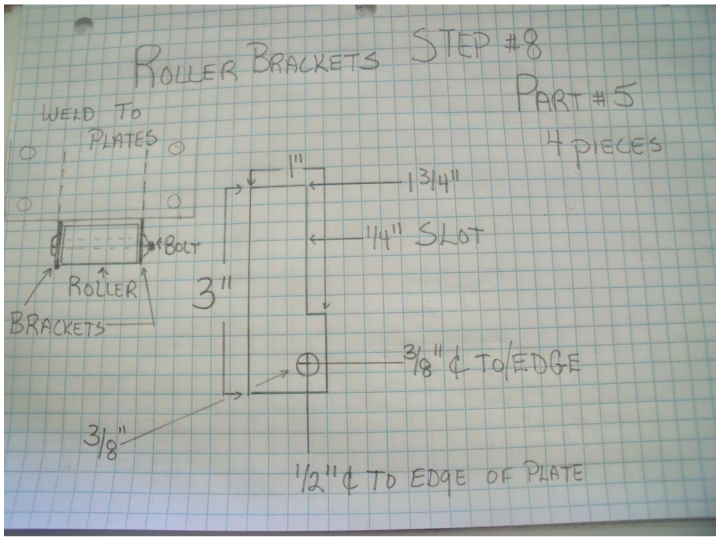
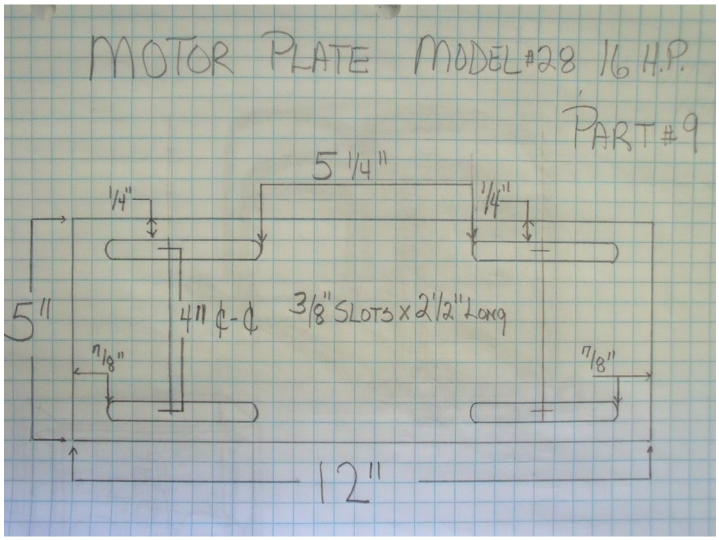
STEP#8B
DRAWINGS HEADRIG







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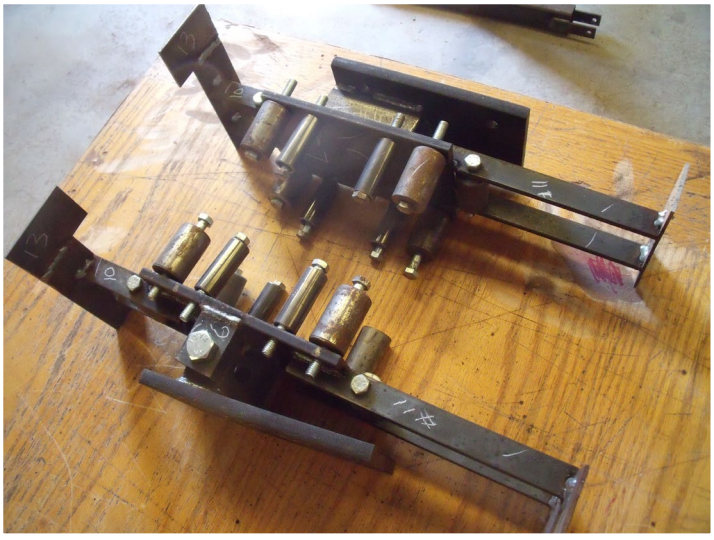
STEP#9
MATERIAL LIST OUTSIDE PLATES OF HEAD RIG

#2- 2/3/8" x 5" x 8" flat plate predrilled
#3- 1/ 1/2" x 5" x 8" flat plate drilled for pillow block bearings drive side
#4- 1/ 1/2" x 5" x 8" flat plate drilled for pillow block bearings and 3/4" all thread for tension swivel side
#5- 1/ 3/16" x 2" x 3" x 4" long for welded spacer between roller plate and bearing plate on drive side
#6- 4/ 1/2" x 2" x 2" flat with drilled 5/8" holes for swivel on tensioner(welded to roller plate and bearing plate)
#7- 12/ 1 1/4" x 2" rollers with pre drilled 3/8" holes through center
#8- 8/ 3/4" diameter x 2 1/4" thin walled tubing for spacers between roller plates
(3/8" washers can be used here to avoid machining)
#9- 20/ 3/8" x 3 1/2" bolts for bolting roller plates and spacers together around post
(20 lock nuts will be used also)
#10- 4/ 1/4" x 1" x 5" flat metal for roller brackets
#11- 4/ 1/4" x 1" x 9 1/4" flat metal for roller brackets
#12- 4/ 1/8" x 2" x 5 1/2" flat steel for guard brackets
#13- 2/ 1/8" x 2" x 3" flat steel for guard brackets
#14- 1/ 3/4" diameter x 18" all thread for tensioner rod
#15- 1/ 1/8" x 1" x 1" x 8" tube steel for tensioner handle (welded on end of tensioner rod)



STEP#9
A LEFT PLATE FROM REAR OF MILL DRAWINGS

These photos and drawings show the left outside roller plate, bearing plate and guard brackets.

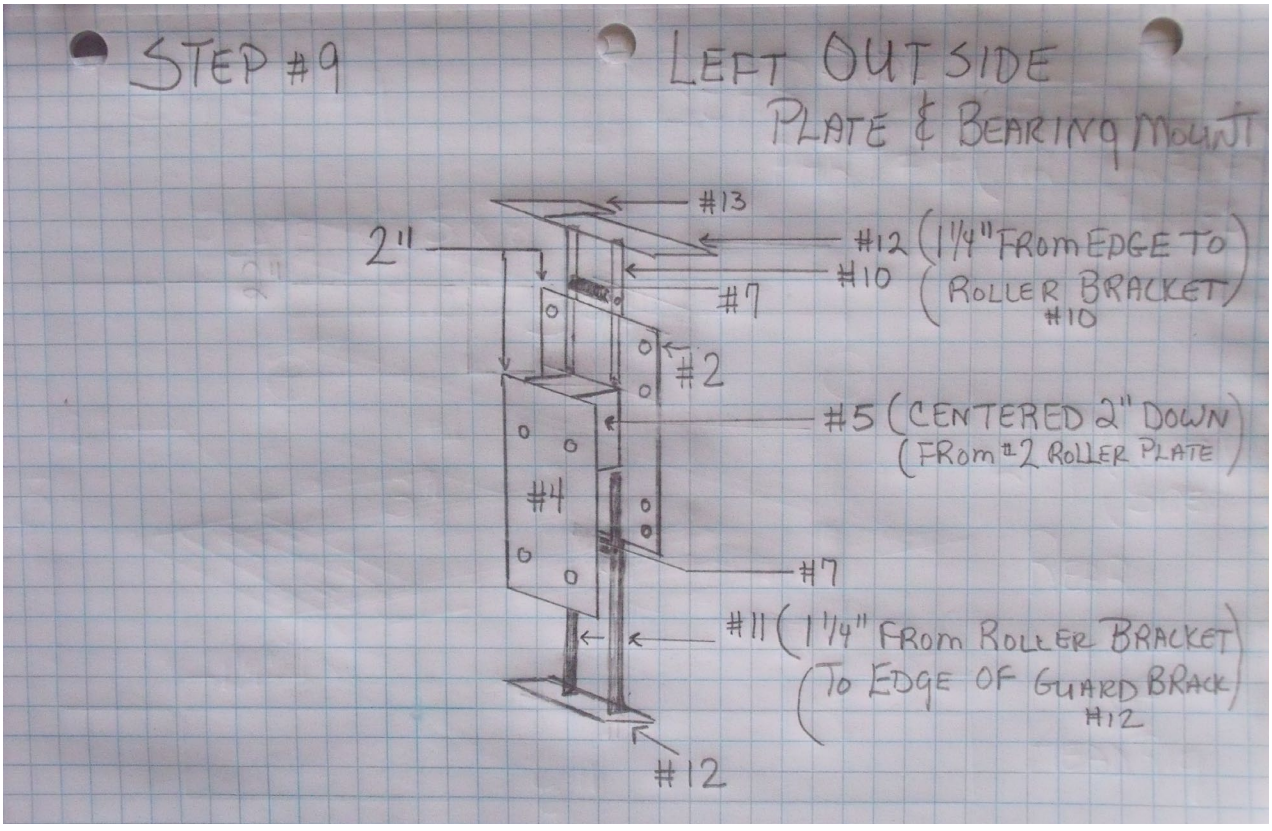
Looking from rear of mill or the motor mount side this would be to left.

The left differs from right as it only supports bearings and shaft and is fixed, the right side though is the same bearing allignment but differs in the aspect it also houses the tension rod and swivels for tension adjustment of band blade.

The guard brackets are same left and right side except that the top bracket is turned in on each side making them a left and right.

Band blade runs clock wise looking from rear and saw dust exits to left of operator, log is positioned on operator side of log deck and turns up toward operator so that we begin cutting clean wood after first or second cut, more on this later

I will send many photos and drawings labeled step#9 so if you have questions ask, this part is no doubt the hardest part of build.



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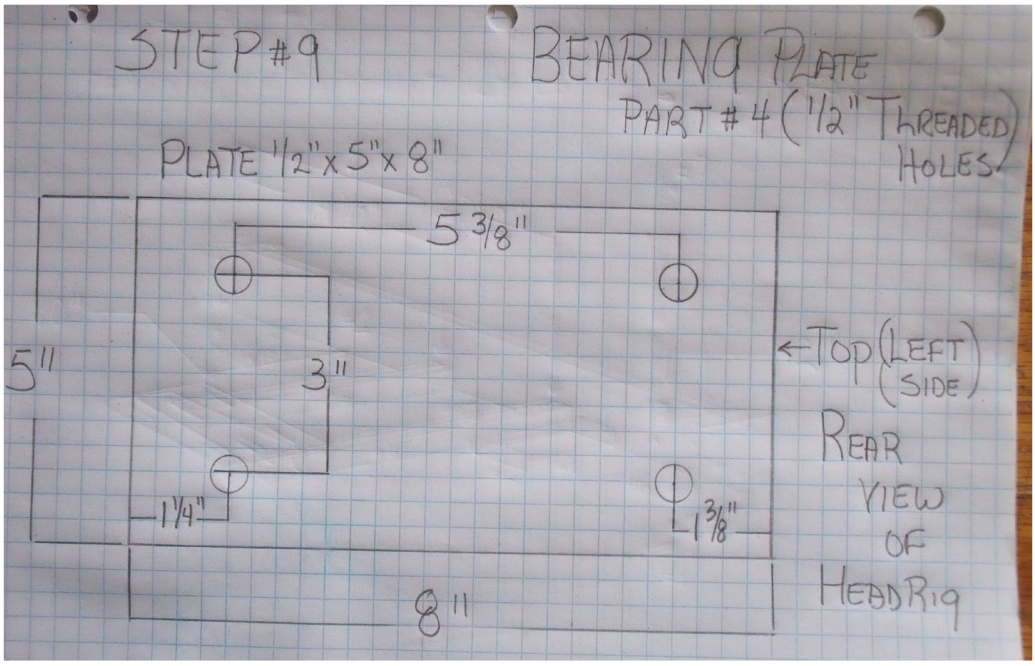
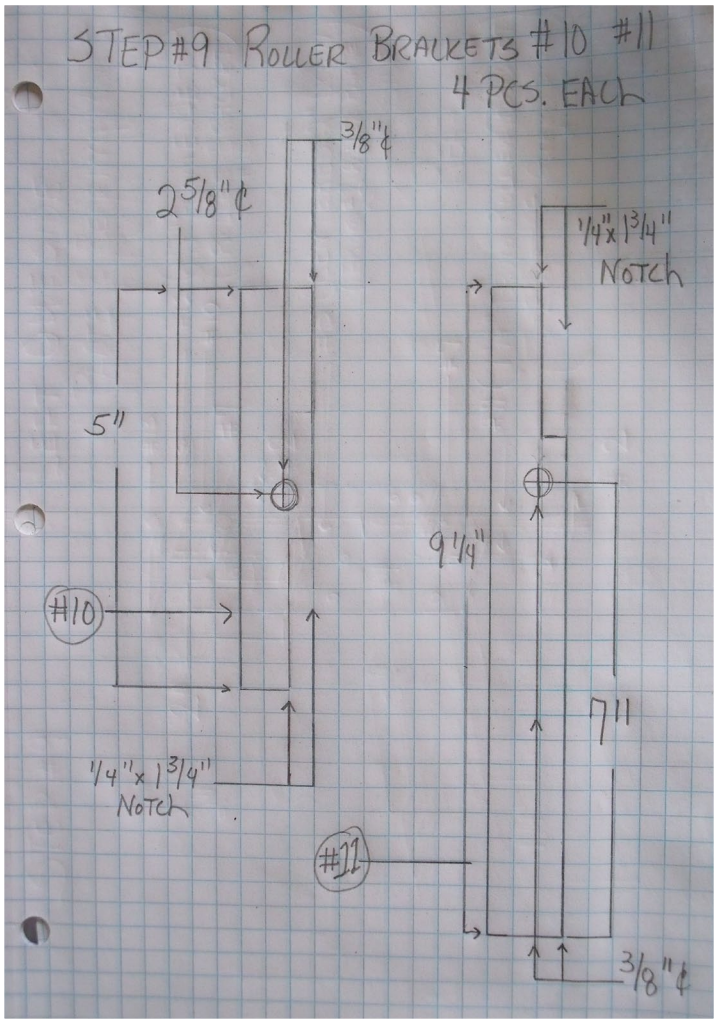
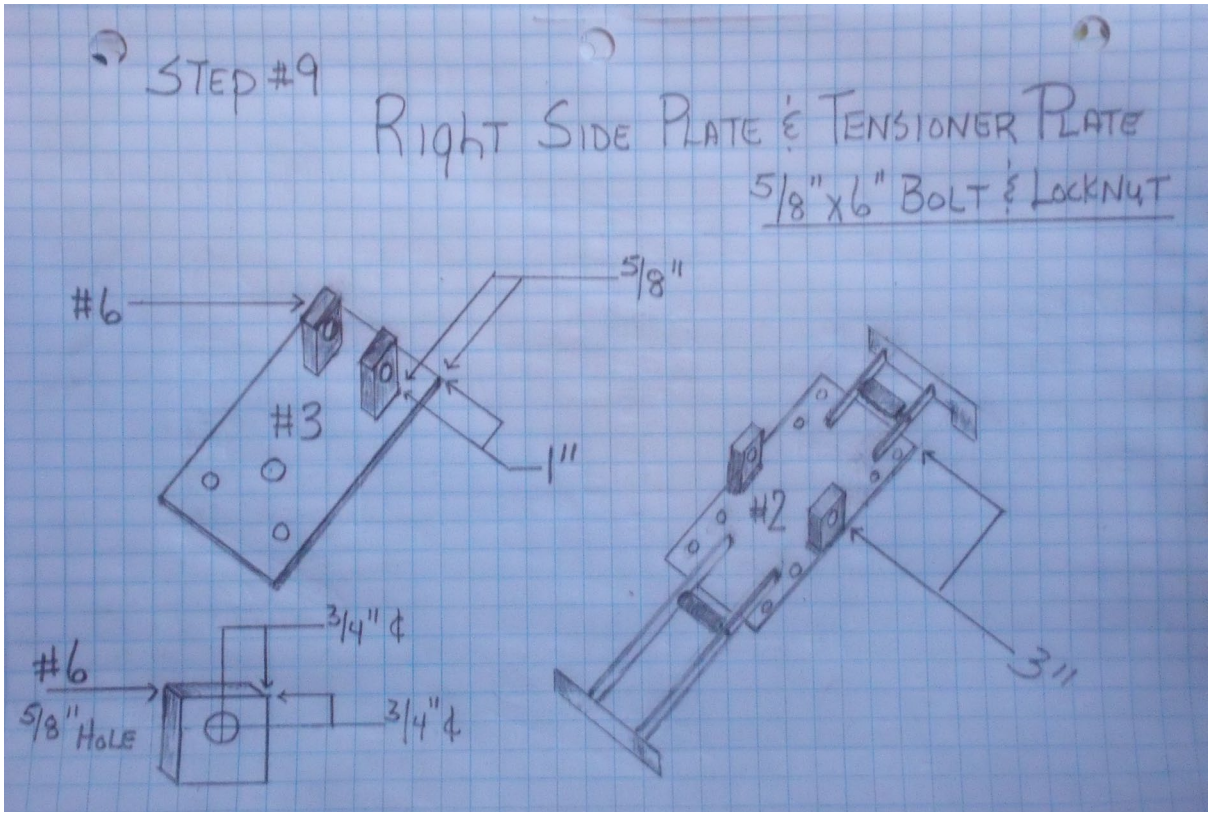
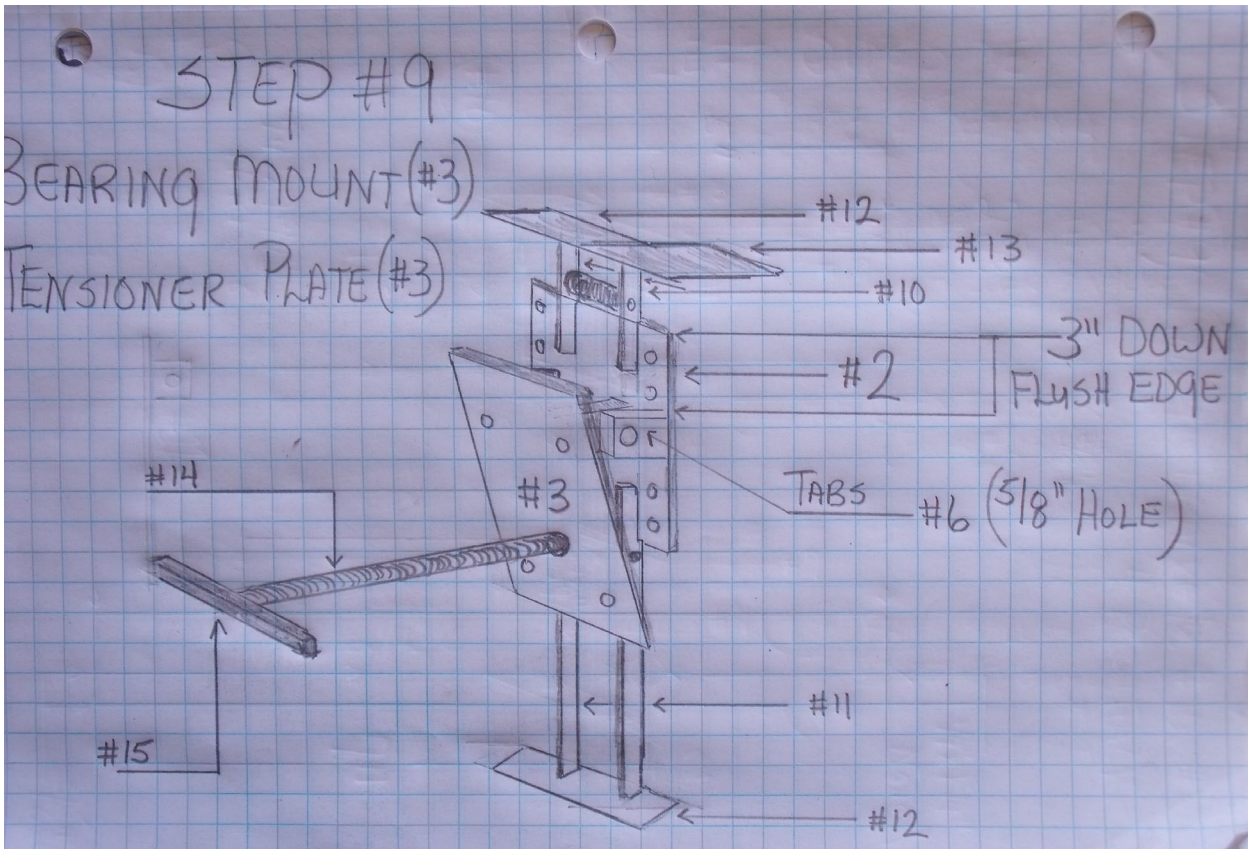


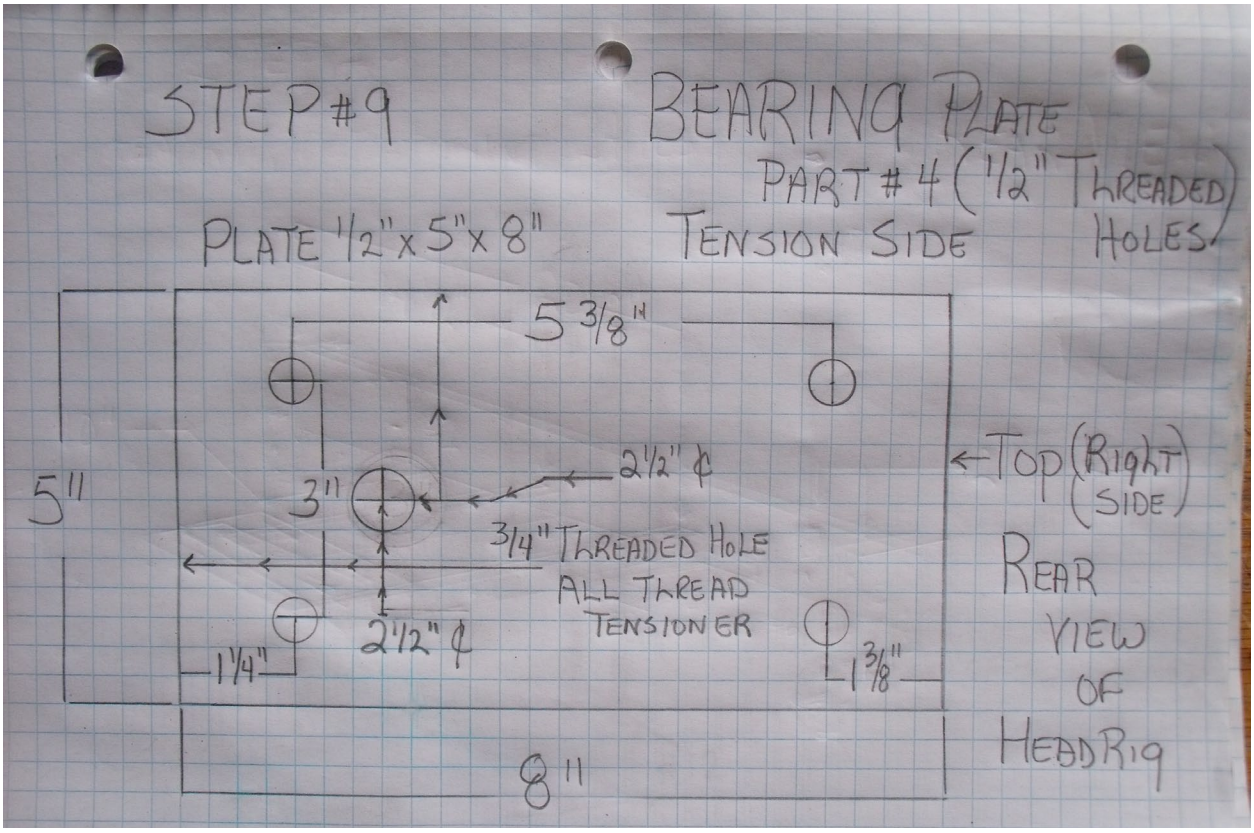


STEP#9B
RIGHT OUTSIDE PLATE AND TENSION SIDE.

As I have said the right plate differs from the left in that it is the tension side and has a swivel mechanism involved.







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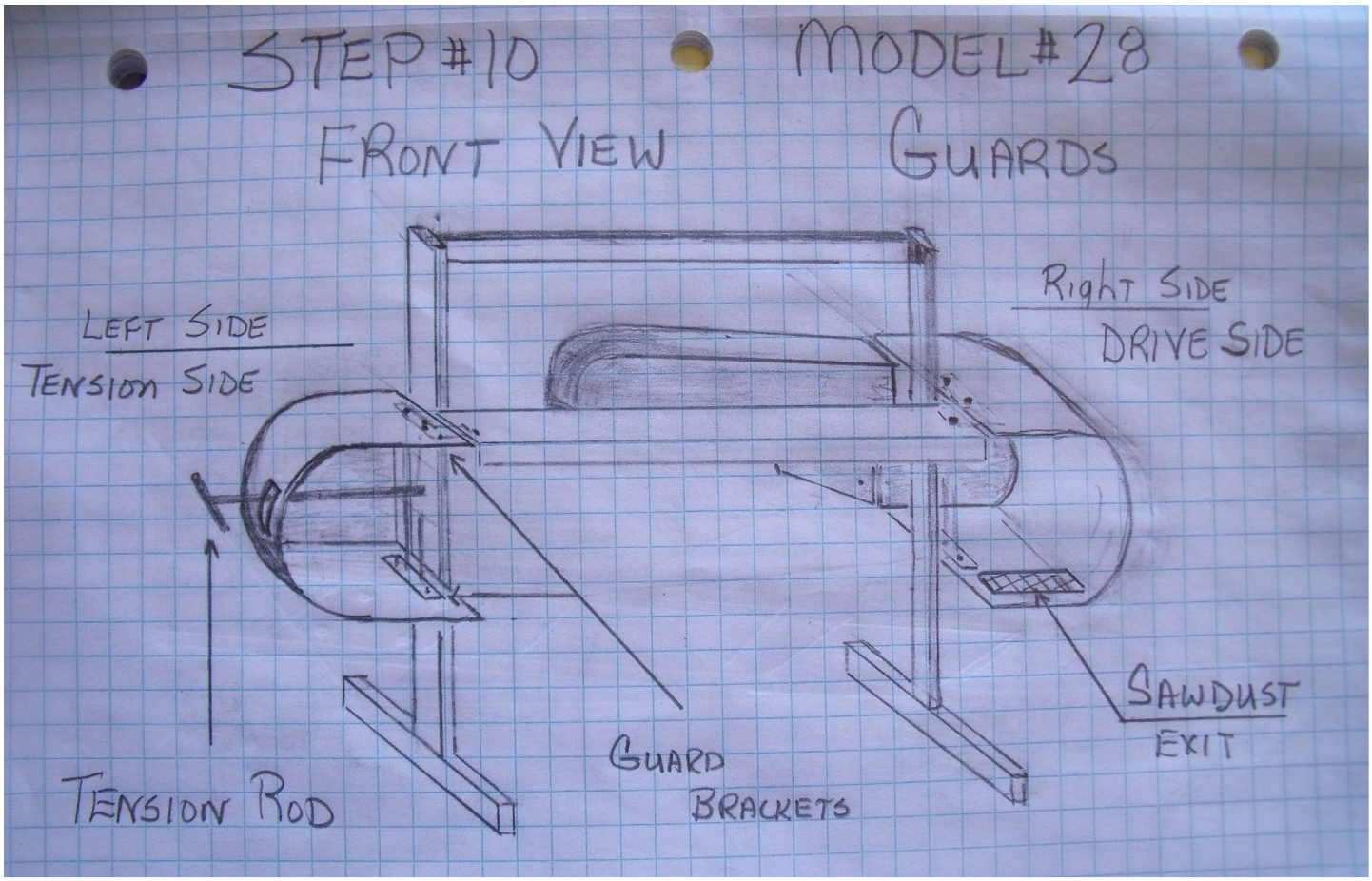
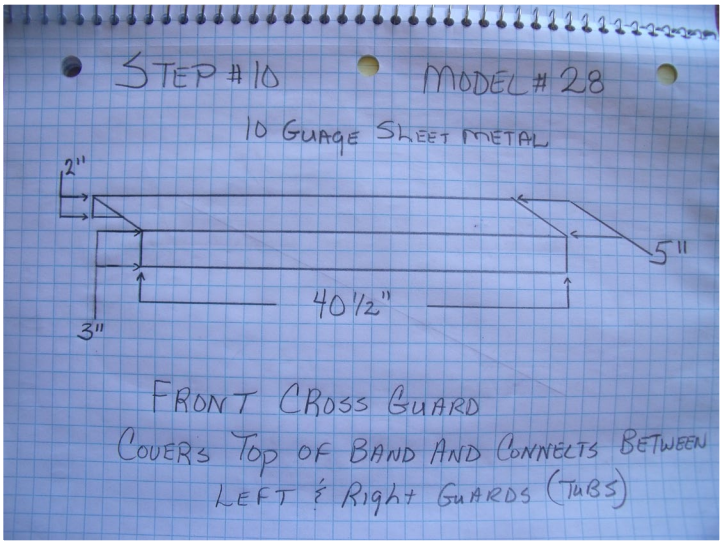
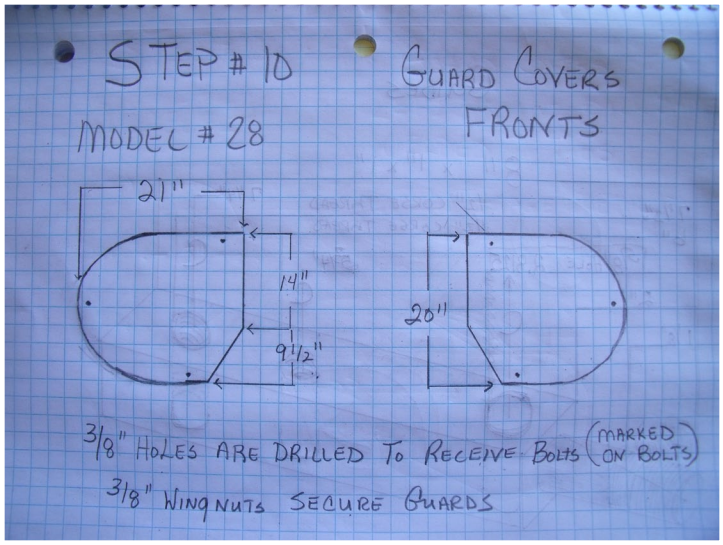
STEP#9C
RIGHT SIDE ,LEFT SIDE AND BOTH PLATES ATTACHED TO MILL

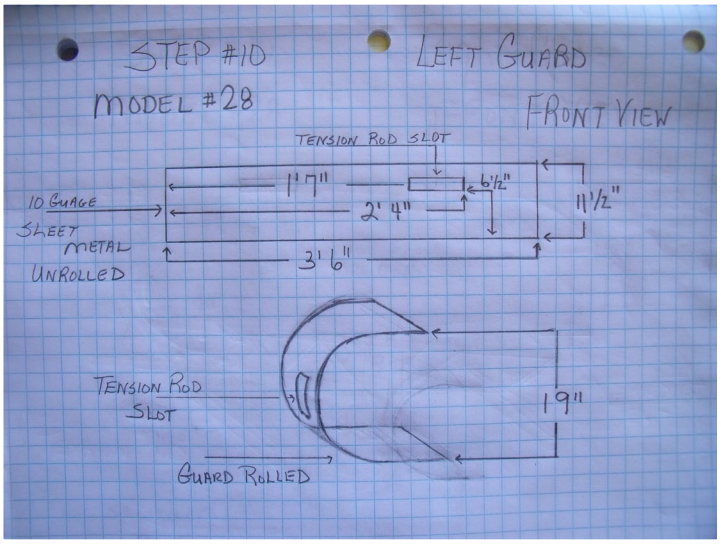
STEP#10
GUARDS FOR MODEL 28 BAND SAWMILL

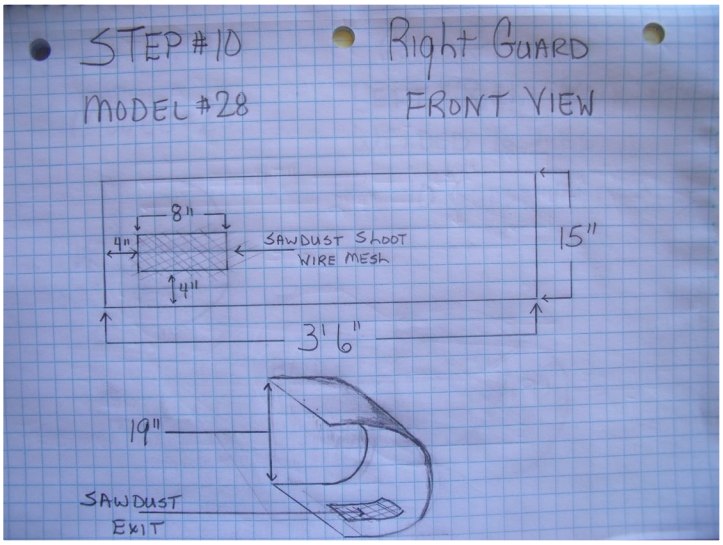
Guard drawings and dimensions

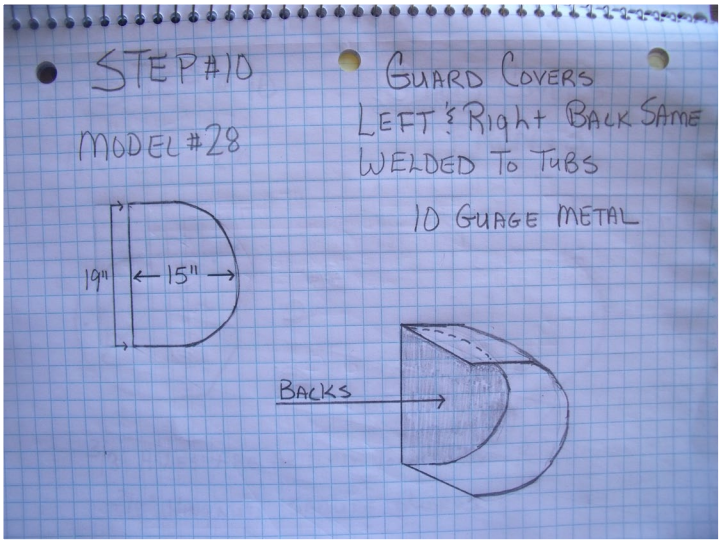


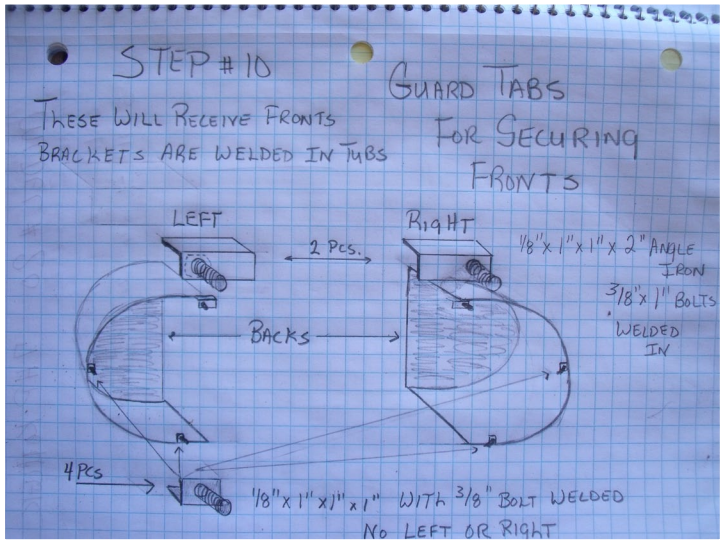


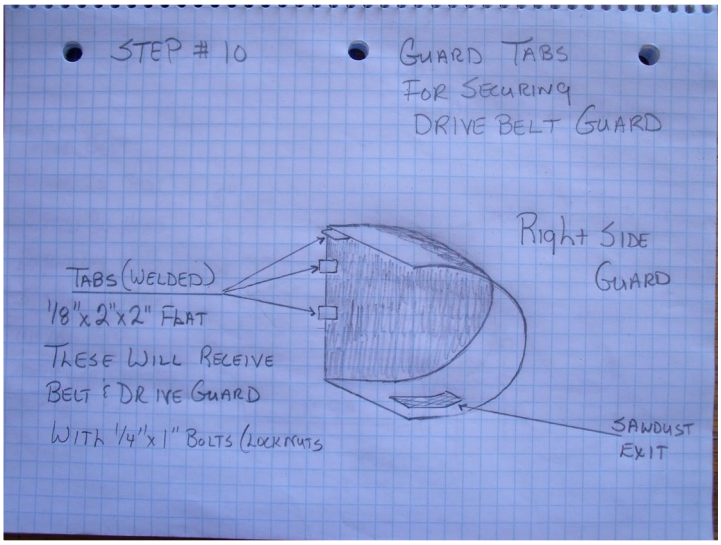


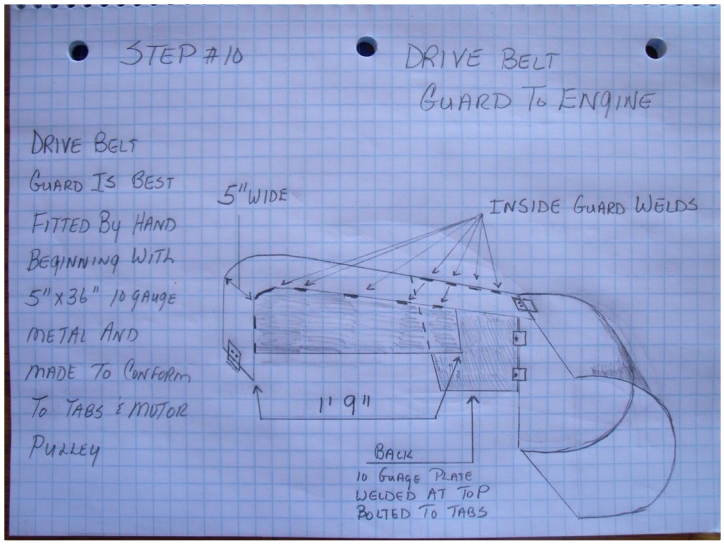












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STEP#10B
GUARD PHOTOS MODEL 28 BAND SAWMILL

STEP#11
LIST OF HARDWARE MODEL 28

1-- 16hp gas motor

1---12 volt battery optional

4-- 3/8" x 2 1/2" bolts with washers and locknuts for motor mounting

1-- 1200 lb. manuel winch

20 feet of 3/16" or 1/4" cable

6-- cable clamps

4-- 1/4" x 3" cable pulleys with 3/8" center holes

2-- 3/8" x 3" eye bolts amd nuts for lifting eyes

1-- 3" diameter with 1" bore b section single groove pulley for power pulley

1-- 1bkh140 pulley for drive pulley

2-- 1bkh160 pulleys for band wheels

2-- 50" b section belts for band wheel tires

4-- 1 1/2" bore pillow block bearings with locking collars

1-- 1 1/2" diameter x 8" keyed shaft for tension side of mill

1-- 1 1/2" diameter x 12" keyed shaft for drive side of mill

3-- 1 1/2" bore h style bushing for drive pulley and band wheels to fix to shafts

4-- 1 1/2" x 4" casters with axles for trolley carriage and headrig to run on log deck

1-- 1 1/4" wide x 12' 6" x .035 thickness band blade 7/8" tooth spacing

10-- 1/4" x 1" bolts with lock nuts for attaching guards to machine guard brackets

6-- 3/8" wing nuts for securing fronts to guard covers

1-- 3/4" x 18" all thread for tension rod

1-- 1" diameter x 8" shaft for tensioner handle (welded to all thread)

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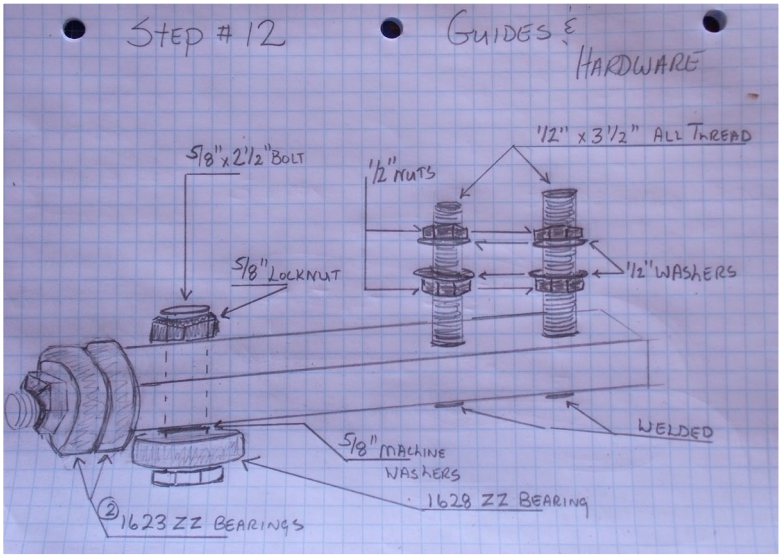
STEP#12
GUIDE BLOCKS AND MATERIAL LIST FOR GUIDE BLOCKS MODEL 28

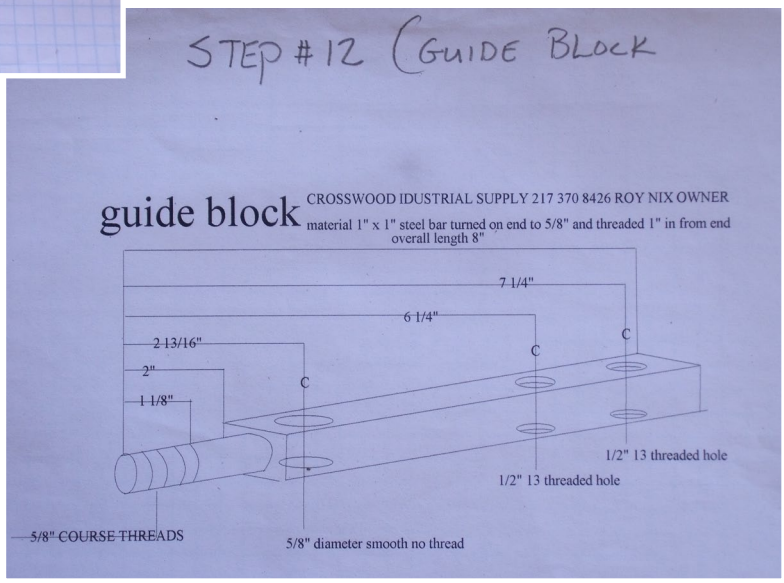
Guide blocks can be purchased from me or can be fabricated as shown in drawings
Any one not having access to a fabricator there is a less expensive way of manufactureing, if you need assistance contact me at 217 204 5110

Thanks
Roy

Note- final step will be assembly of guards ,hardware and guides, as well as instruction on adjusting and setting up mill to saw logs.

Any, any questions on parts or fabricating contact me.





FINAL STEP 13A
GUARD ASSEMBLY AND BOLTING MODEL#28 BAND SAWMILL

Now that we have our log deck,2 post carriage and plates fabricated , we are ready for the assembly of guards and then paint.Just a little on placing and bolting guards on. I design the guards so they can be taken off for adjustments when needed, once adjustments are made they should remain ok unless there is a reason for removing something.More about this later.

To begin installing guards start with the left and right tubs .
Place (tub) guard onto guard brackets making sure that edge of tub and bracket are flush with each other and assure guard does not rub post and then clamp guard to bracket top and bottom. The only real measurement is from front of post to front edge of guard (6") it helps to clamp brackets and guard at least 2 places top and bottom. Now go to oppisite sde and do other guard, once you have clamped both guards place a straight edge across front top and bottom edge of tubs to assure allignment of guards across front left to right.
Once allighned and clamped drill 1/4" holes through guard and brackets and install 1/4" x 1" bolts and lock nuts top and botom and tighten and remove clamps 2 bolts per bracket.

Now moving on to the 5" wide sheet metal guard across front.This guard drops down between tubs and flush across front with 3" face forward, sit down over bracket tab on each side and your guard tab with 3/8" bolt you welded into top of tub, clamp and drill 1/4" bolt hole through bracket tabs and tub tab install 1/4" x 1" bolt and tighted.

Now we can move to back and begin installing belt and pulley guard.This guard is a bit trickier to manage but not difficult if you take your time. It is best to place motor on motor plate and bolt temperarly so we can install and finish fabricating belt guard this will insure that guard fits above shaft and drive pulley on motor.If you have already fabricated guard that is fine but if not you can start here. Using 5" wide sheet medal clamp to tab on guard you have mounted and mark where you will need to roll (5") guard.Roll sheet metal and attach with clamp to tab in front of motor plate.Assuring that guard is off of drive pulley drill 1/4" holes in tabs and bolt.
The front piece of this guard can be tack welded and the back piece the same taken then off and welded firm, and then put back on later for drilling and mounting after paint.

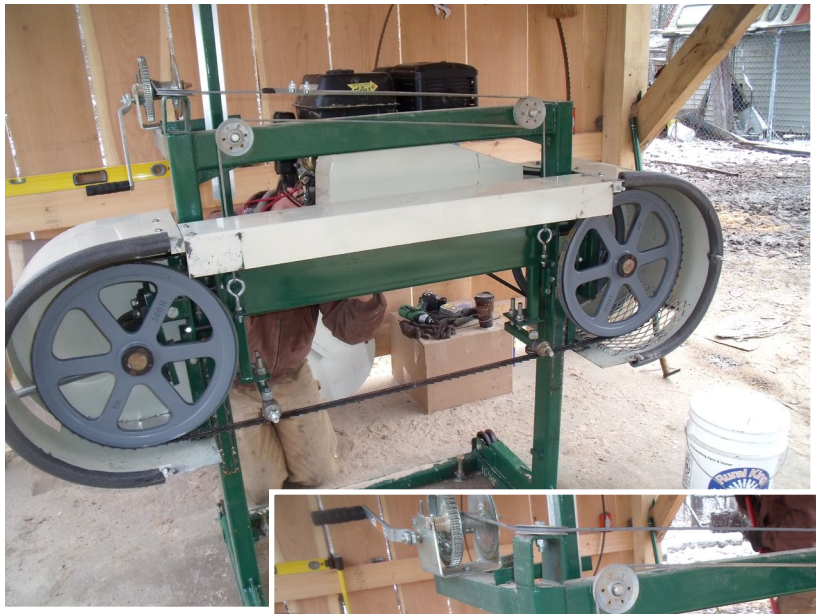
Front guards or covers can be drilled before or after paint, and they are simply lifted and held in place against 3/8" bolts that are welded onto tubs and petruding out, taking a permanent marker or chalk, mark around 3/8" bolts reaching into tub guards and behind fronts, note-- to align front assure that metal is even around and should overlap tubs by aprox. 1/2" Inch, also you can allign inside top

straight edge of front with guide brackets this will assure a uniform look . Fronts will later be secured with wing nuts 3/8" and to take any rattle or vibration out of guards you can purchase from any hardware store 1/2" pipe foam insulation and place between tub edge and front if installed properly no glue is needed.

Photo is model 28 with electric motor rather than 16 hp gas motor but shows good positioning of guards and bolt configuration as well as paint.

At this point things can be disassembled and painted.
I use a oil based paint with hardener and no primer but you can paint as you see fit. If you want the paint type i use contact me for details.

FINAL STEP#13B
GUARD AND OVERALL ASSEMBLY VIEW PHOTOS



STEP#14
FINAL ASSEMBLY OF MODEL 28 BAND SAWMILL
INSTALLATION OF HARDWARE

PART#1 ISTALLATION OF WINCH AND LIFT CABLE

A--- we begin by first installing our 3/8" x 3" eye bolts(home depot or hardware store) into our angle iron lift tabs that we welded on front of our 2" x 6" headrig crossmember these will will need an addittional 3/8" nut for adjusting and locking eyebolt one on top of lifting tab and one on bottom.
Adjustment is not critical at this point , just leave as much thread as possible for adjustment later.

B--- now place one end of our 3/16" cable(home depot or hardware store) through one eyebolt and place 2 clamps on cable with aprox. 2" Of cable overlapping, at this point we can drill our 3/8" hole in overhaed post crossmember to receive our 3" cable pulley(home depot,hardware store or garage door supply).(Referr to photo attached) this hole will be aprox. 3" In from side post,to assure good allignment draw cable straight up and place pulley on crossmember and mark through hole.Now follow this same procedure on oppisite side.
The tension side will receceive one cable pulley but we will install two on drive side.
Once you have pulleys mounted on crossmember we will istall cable pulley on our angled stand off and continue to winch and install winch.

C--- now bring cable on tensioner side up and over single pulley over and under cable pulley on drive side and around slanted pulley and back to winch. Cut off cable where needed and attach to winch.

D--- now pull opiste cable up over second crossmember pulley and clamp to already installed winch cable immediately at top of crossmember.2 Cable clamps are required here. Be sure to keep clamps over to idler side so they do not hit slanted pulley when lifting.(Referr to photo attachment)

E--- now that we have installed winch and cables tighten eyebolt adjusters evenly and secure nuts firmly on eyebolts.This adjustment may have to be made more times as cable may stretch some.
At this point we can lift our headrig up so we can better istall other hardware.

PART#2 INSTALLATION OF BEARINGS, SHAFTS,AND BANDWHEELS

A--- beginning on tensioner side we install our two 1 1/2" pillow block bearings with 1/2" x 1/12" long bolts with with flat washer onto our outsde swivel bearing plate, and leave loosely for now and continue to drive side and do same. The washers i use have a narrow side and will assist later in adjusting wheels, they can be purchased at any hardware store. Our pillow block bearings can just be a gerneric bearing they do not have to be real expensive.

These can be purchased from me for around $23.00 Each or can be purchased from a fastenal store as well as a bearing supply ware house, the only thing to make sure of is that you get the locking collar type and a flat machined bottom on housing .

B-- now we install our 1 1/2" x 8" keyed shaft through both bearings on our tensioner side and our 12" long shaft through bearings on drive side, making sure our locking collars are on shaft,but do not lock down collars and shafts at this point. You may tighten down bearing bolts some at this point but we will be adjusting more later (leave about 3" of shaft out front for receiving band wheels).
C--- now we are ready to install band wheels on to shafts.
Band wheels are (1 bkh 160) pulleys and can be purchased from me or through a bearing supply such as motion industries,make sure if you buy these some where besides me you get the bushing style as where the single bore type will not stay tight.
The belts i install on these are 50" exact in length , if you have already put belts on wheels this is fine but can also be done later.
Place pulley on shaft and then bushing and key and tighten as to bushing is flush to end of shaft.
If you are not familliar with bushing style pulleys follw instructions in box or contact me for further instruction.

D--- we will make a preliminary adjustment at this point on band wheels, measuring from front of upright post to pulley get as close to 3" measurement as possible, a tape measure will work but we need to assure 3" at top and bottom of pulley(front edge of bandwheel pulley) as close as possible, this is our sawing plane and will need to be level with log rest.(I will cover another way to adjust this later but for now this will surfise. Also you can lock down locking collars after you are confident of measurement.

PART#3 INSTALLATION OF TENSIONER ROD AND BANDBLADE

A----- simply screw 3/4" x 18" all thread (tensioner rod) and t handle into 3/4" threaded hole on tensioner side and thread into and against plate, install 12' 6" band blade onto wheels and tension band. Tensioner side plate should tighten to paralell of roller plate. If it begins to rise before band is tight you may have to install spacer plates of 1/4" thick on drive side between bearing and plate.
Once band is tight we will adjust our tow from side to side ,our tow is adjusted and checked by stretching a string across front of wheels. String should touch evenly in four points of wheels. Tow assures that band runs true and stays on wheels.
Backside of bandblade should just run about 1/8" off backside of band wheels on both wheels. Also there should not be any curve or bow shape in band from side to side.
To adjust tow i use auto body spacers between bearings and bearing plates.This usally requires 1 or 2 on under bearing on one side or other, i purchase spacers or shims at auto supply stores, napa carrys the best ones and are 1/64" thick and slotted to fit around 1/2" bearing bolts.
If and when performing this procedure make sure you put even amount of shims on both top and bottom of bearing.

PART#4 INSTALLING BAND BLADE GUIDES

A---- now that you have all preliminary adjustments made we can install our blade guides.
With band tensioned simply install blade guides onto guide brackets and thread on 1/2" washers and nuts to allthread.

To adjust guides let the double 1623zz bearings settle on to top of band and bring back bearing up to back of band and tighten all thread nuts in guide bracket.
Guide rollers should just be touching band on top and back with little or no pressure down or on back of band.
Give band a spin and assure smooth movenent and adjustments.

Note-bearings are self alligning and allows you to adjust bearings where you need to.

FINAL STEP#15 MODEL#28 BAND SAWMILL
INSTALLATION OF DRIVE PULLEY,MOTOR, AND MOTOR PULLEY


PART#1 DRIVE PULLEY

A. Drive pulley on shaft is a 1bkh140 single groove pulley and slides on the 1 1/2" x 12" shaft and will receive belt from motor pulley.
Here is where some things may change depending on what motor you have or use , will determine length of belt and belt guard.
I will explain using the 16 hp gas motors i install that have proved to be very good in this application.These are a powerland motor i purchase from a vendor in california, for more info. Contact me.
Leaving the drive pulley and bushing loose at this point we can mount our motor to motor plate and install power pulley to motor.
I use a direct drive system that starts band when motor is running and will continue to run band as long as motor is running.
You can use a electric clutch but i have found them to be expensive and not worthy of using.
Just remember for safety purpose always have motor shut off when making log adjustments and removing boards from mill.
After motor , pulleys and belt have been installed and tensioned you can put on battery and follow wiring instructions with your motor you choose, if you choose to run without battery pull starting will work fine for the model#28.

B. Once we have installed all but scale we can put our log bunks on if you have not already done so.
Put log bunks in down position row mill forward and measure from log rest up to band blade on both sides , measurenent will determine where we mount scale with scle sight.

C. Reviewing over all adjustments before sawing.
1- Band wheel tow should be even across face of band wheels and this is adjusted with auto body shims under bearings.

2- Band should be level front and back (this can be accomplished by raising mill to about 24" up and using a light plastic torpedo level placed on top of band and roll mill forward and measure down to log rest and roll forward and measure other end of torpedo level down to log rest, continue to oppisite side and do same) any adjusting needed here can be accomplished by slightly loosening bearings and tapping up or down. This will allow wheels to tip forward or back,measurement should be the same at all four points.
Note-- always keep band level front to back, this will keep band from dipping or climbing out of cut.
3-- Drive belt straight from power pulley to drive pulley.(Use strait edge from pulley to pulley)
4-- Guides should be sitting down on and just behind band with very little or no pressure on band.
5-- Band blade is tight if you can strumb band with finger and get a ring out of it.(Check this at top part of band between wheels.
6-- Place guards back on mill and load log deck make sure log is dogged well and begin sawing.
7-- Always keep head blocks and log dogs below cut.

This concludes the fabricating of the MODEL#28 BAND SAWMILL
I have tried to keep these plans as simple and as thurrow as possible but I know you will have questions. As I said from the start these plans include consulting from front to finish.
In any case you have any questions about any of the fabrication, parts, adjustments,or sawmilling contact me and I will try to answer your questions.

Thanks again for your purchase and happy sawing.

Roy Nix
Crosswood Timber Products
109 Spaulding
Jacksonville, Illinois
62650
Phone 217-204-5110
Email sawmiller89@gmail.com

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