Large Drill Attachment
LEX050

Congratulations on the purchase of your **Darex XT-3000** Large Drill Attachment. (21 mm—30 mm) As part of the assembly (see picture from left to right) you should have a SA16565XA Large drill alignment, SA16575CA Sharpening fixture,

and SA16500TA Large Drill Chuck.
By now you are familiar with the 'quick disconnect' feature of your **XT-3000**. Start by placing the Large Drill Alignment on the top of your **XT-3000**. Rotate the 'Docking Lever' clockwise to securely lock the fixture in place. In a similar manner, remove your current sharpening fixture and replace it with the Large Drill Sharpening

Fixture.
Now would be a great time to determine the point angle of the drill that is to be sharpened and adjust both the sharpening fixture and alignment to that point angle. The Sharpening fixture is adjusted by pulling the red lever towards (counter clockwise) the operator and sliding the fixture to the point angle desired. Lock the fixture by returning the red lever to its original position. The

alignment is adjusted by rotating the black lever located at on the front of the alignment fixture. As per the decal, rotating the lever towards the operator will reduce the amount of relief ground onto the drill and pushing the lever away from the operator will increase the relief. Placing the pin at the midway point on the decal is a good starting place for 118° drills. For 135°-150° drills start with the alignment 2 marks towards the operator. You can set the alignment at any setting necessary to achieve the amount of relief desired.

Place the drill in the chuck and turn the chuck knob clockwise until the drill slides freely through the chuck jaws. Next slide the Chuck and drill into the alignment rotating the chuck until one of the

'cam dogs' aligns with the mating 'notch' in the fixture.

You will notice the opposite 'dog' aligns with a reference mark machined into the alignment fixture.

Now push the drill through the chuck until it contacts the stop. Rotate the drill clockwise until

Incorrect **Correct**

the outer edge of the cutting lip is touching the pins in the setting fixture.
Firmly tighten the chuck by turning the knob clockwise while the chuck is still in the fixture. Remove the chuck and drill. The drill is now aligned and set to length to the chuck cam for the necessary grinding.

Slide the chuck into the Sharpening fixture and rotate the Chuck clockwise applying slight pressure into the wheel. It is also necessary to keep the cam up against the swing cam follower bearing.

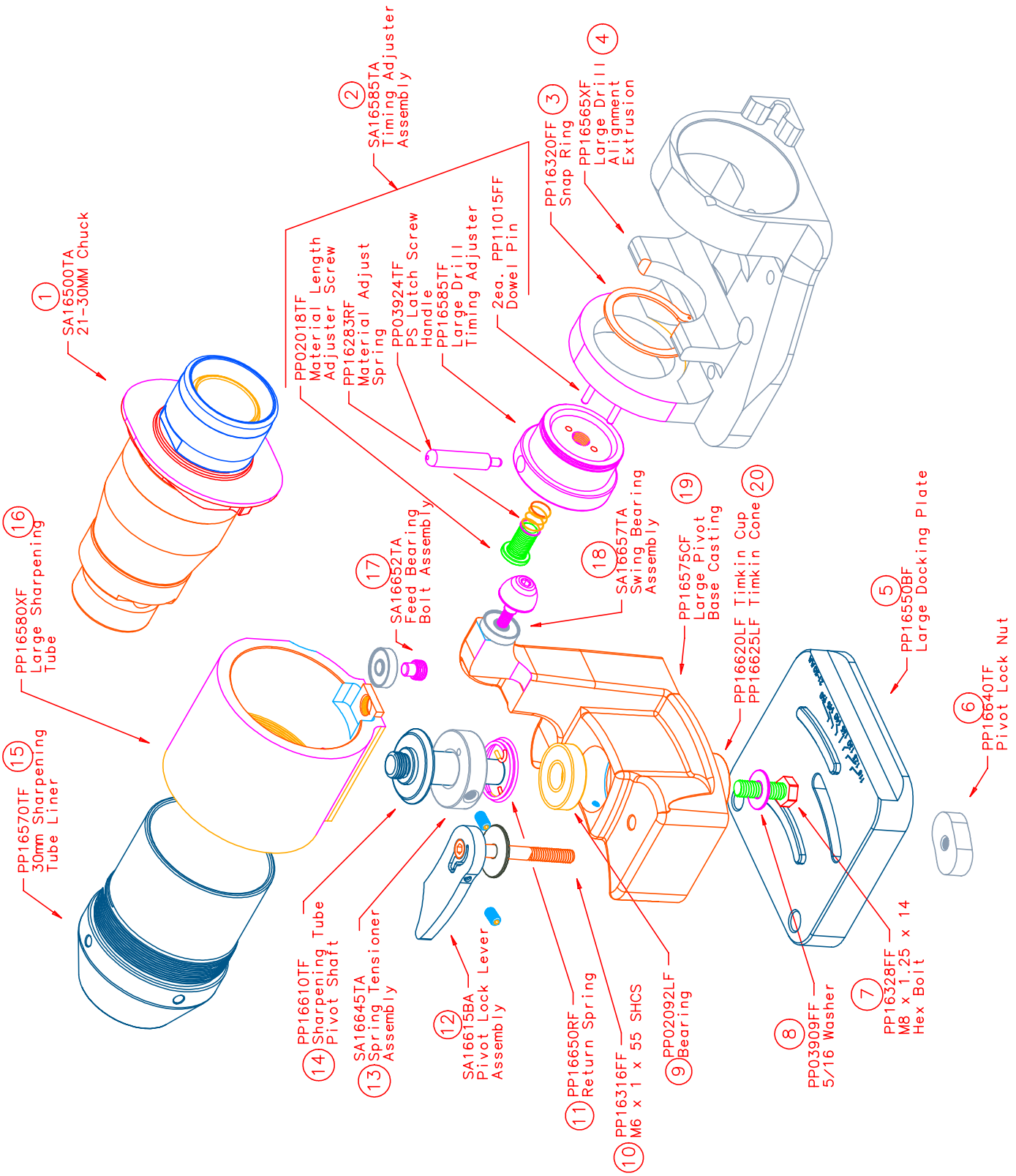
Try to sharpen the drill in such a manner that the drill is off the wheel before you reposition your hand on the chuck.

Grinding time will vary depending on wheel condition and amount of material removal but it should require a minimum of 8-10 rotations.

NOTE: The MTO drill stop setting is adjustable using a 5/32” or 4 mm hex key if you think more or less material removal is desired.

Please Note, you do not have the ability to split drills from 21 mm to 30 mm on the XT-3000.

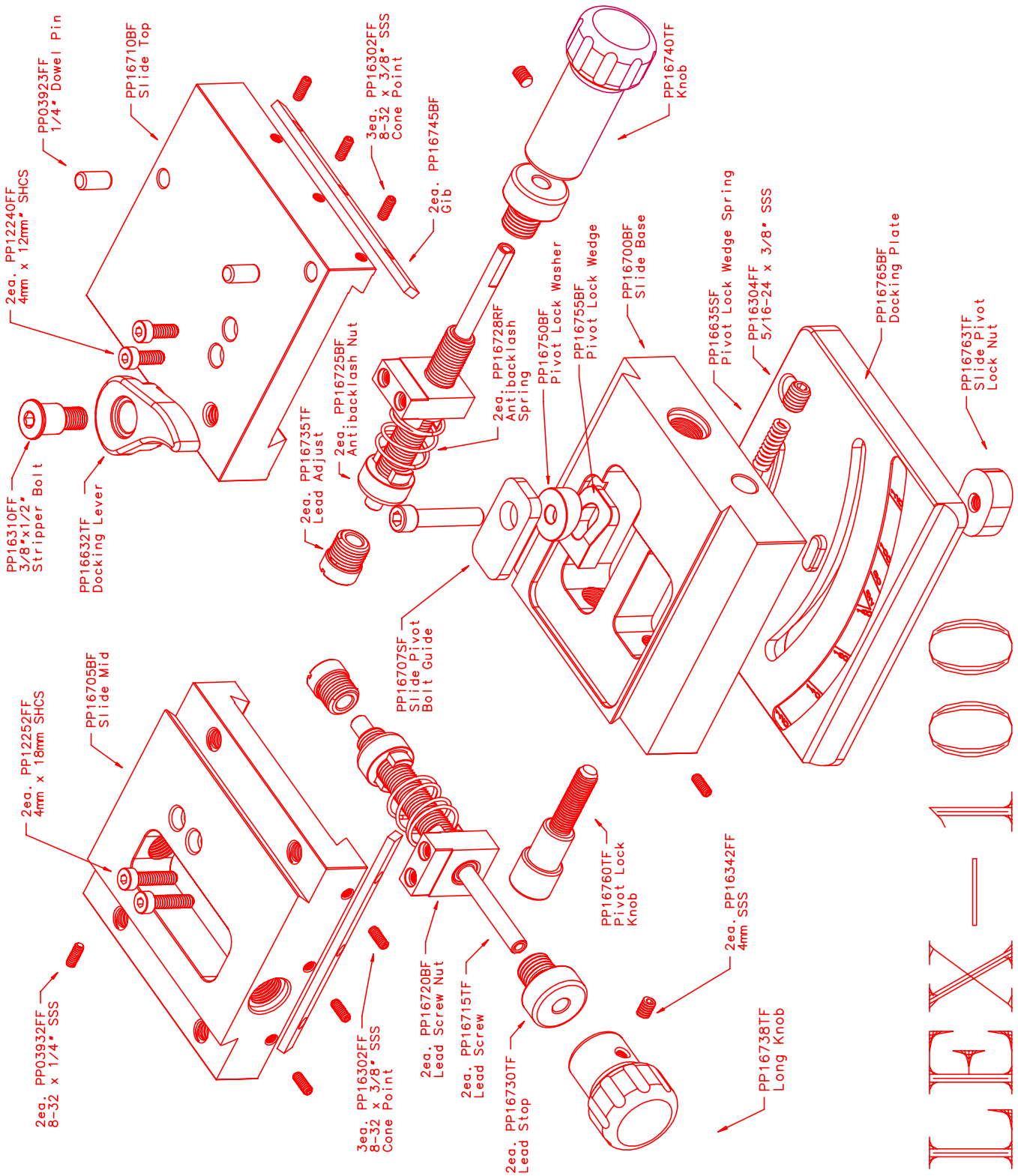
Large Drill Attachment



Large Drill Attachment LEX050

SA16615BA	**Pivot Lock Lever Assembly**	
	PP16615BF	Pivot lock lever
	PP16630FF	5mmX8mm SSS
SA16585TA	**Timing Adjuster Assembly**	
	PP16283RF	Material adjust spring
	PP16285TF	Material adjust screw
	PP03924TF	PS Latch Screw Handle
	PP16585TF	Large Drill Timing Adjuster
	PP11015FF	1/8" Dowel Pins
SA16652TA	**Feed Bearing Assembly**	
	PP16652TF	Feed Bearing Bolt
	PP08560LF	Bearing
SA16657TA	**Swing Bearing Assembly**	
	PP16655LF	Swing Bearing
	PP16657TF	Swing Bearing Bolt
SA16645TA	**Spring Tensioner Assembly**	
	PP16645TF	Spring Tensioner
	PP12280FF	M6 x 1 x 8mm SSS
SA16500TA	**21-30 MM Chuck**	
	PP16500TF	Large chuck Body 21-30mm
	PP16505TF	21-30mm chuck cam
	PP16510TF	21-30mm chuck knob
	PP16515TF	21-30mm Closing sleeve
	PP16520TF	21-30mm closing screw
	PP16525NF	Thrust Washer
	PP16530SF	Jaws
	PP16535TF	Jaw guide
	PP16472FF	Snap ring
	PP16540LF	Jaw race
	PP12560RF	Jaw springs
	PP16440FF	Jaw key screw

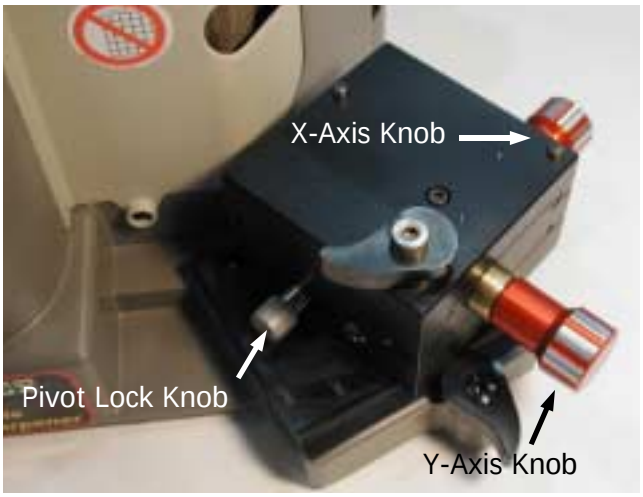
XY Table Attachment



X-Y Table No Sub Assemblies, Send in for Repair

Countersink Instructions
LEX150

Congratulations on the purchase of your **Darex XT-3000** Countersink Attachment. This fixture comes with 2 V-40 double angle collets and is used in conjunction with the **Darex XT-3000** X-Y Attachment.



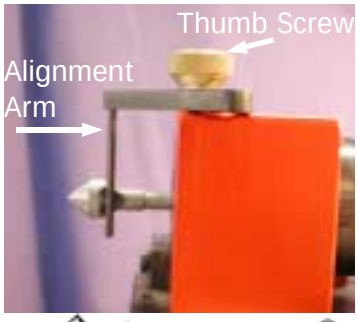
By now you are familiar with the 'quick disconnect' feature of your **XT-3000**. Begin by removing the current sharpening fixture and replacing it with the X-Y table. Secure it in place by rotating the 'Docking Lever' clockwise. In a similar manner, lock the Countersink Attachment to the top of the machine.

It is now necessary to determine the shank diameter of the tool that will be sharpened and place the corresponding collet into the Countersink Attachment.

To do so slowly rotate the spindle clockwise until the Spindle Lock engages the spindle.

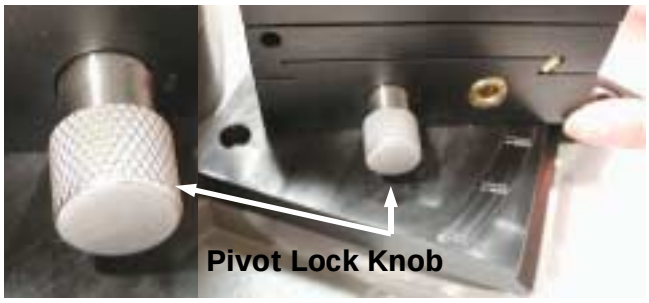
Now unscrew the Draw Tube assembly. Place the correct collet in the end of the Draw Tube and replace the Draw Tube assembly and tighten 3 or 4 revolutions. Should you need a collet size other than the ones provided, you may order them from Darex Corporation. (1-800-547-0222)

Slide the cutting tool into the spindle leaving approximately 1" or more of the tool exposed. Loosen the Alignment Thumb Screw and rotate the Alignment Arm assembly around until the dowel pin intersects both the cutting edge and the heel simultaneously.



Tighten the Alignment Thumb Screw. Rotate the Draw tube assembly clockwise to tighten the tool in the spindle. Return the Alignment Arm to its original position and release the spindle lock pin by pulling up and turning the pin 90°. The cutting tool is now oriented to the spindle cam and is ready to be sharpened.

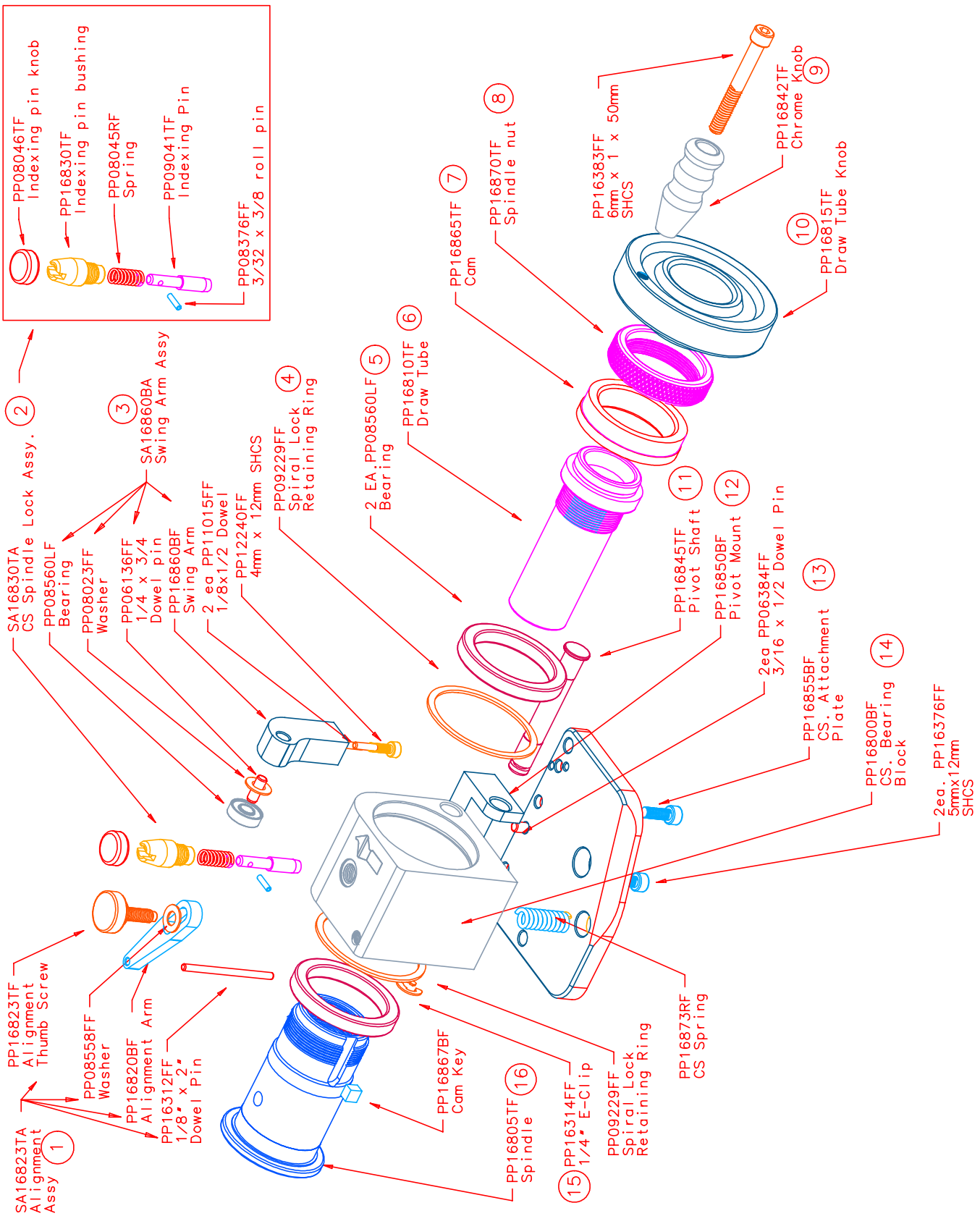
To sharpen the tool, determine which angle the tool will be sharpened at. To adjust the X-Y table, loosen the Pivot Lock Knob and swing the table to that angle. Tighten the Pivot Lock Knob.



Remove the Countersink Attachment from the top of the machine and place it on the X-Y Table. Again, rotate the Docking Lever clockwise to secure the fixture. Turn the machine ON.
Using both the X and Y axis feed knobs, carefully position the cutter into the grinding wheel.

Once the tool touches the grind wheel, begin to rotate the spindle in a clockwise direction slowly feeding the cutter into the wheel. Once the desired amount is ground off, continue rotating 1 or 2 more revolutions to “spark out” the cutter. While still rotating the spindle, use one of the feed axis knobs to position the cutter safely away from the grinding wheel. Loosen the Docking Lever and return the Countersink Assembly to the top of the XT-3000 to remove the cutter. The sharpening is now complete.

Countersink Attachment

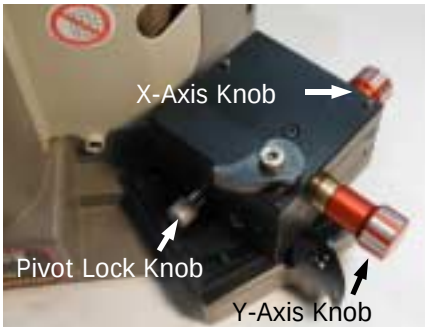


Counter Sink Attachment LEX150		
SA16823TA	**Alignment Assembly**	
	PP16823TF	Alignment Thumb Screw
	PP16820BF	Alignment Arm
	PP16312FF	1/8"x2" Dowel pin
	PP08558FF	Washer
SA16860BA	**Swing Arm Assembly**	
	PP16860BF	Swing Arm
	PP06136FF	Dowel Pin
	PP08560LF	Bearing
SA16830TA	**CS Spindle lock assy.**	
	PP16830TF	Indexing Pin Bushing
	PP08041TF	Indexing Pin
	PP08046TF	Indexing Pin Knob
	PP08045TF	spring
	PP08376FF	roll pin

BRAD POINT ATTACHMENT
LEX200

Congratulations on the purchase of the Darex XT-3000 Brad point Attachment. (LEX200) This attachment consists of 2 pieces, 1 Sharpening Fixture, SA16900BA and 1 - 3mm – 12mm Chuck, SA16916TA. (The 12mm – 21mm Chuck, SA16918TA is available as an optional accessory) Both components are laser marked with a Brad Point icon to minimize confusion with other XT-3000 attachments.

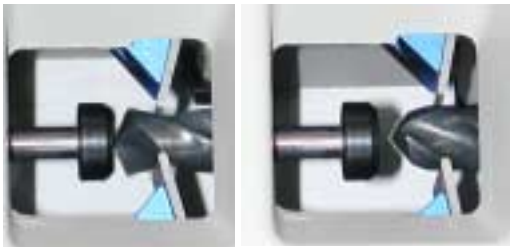
SETTING UP:
To sharpen a Brad Point, you will have to remove the standard sharpening fixture and replace it with the **X-Y Table** (LEX100).



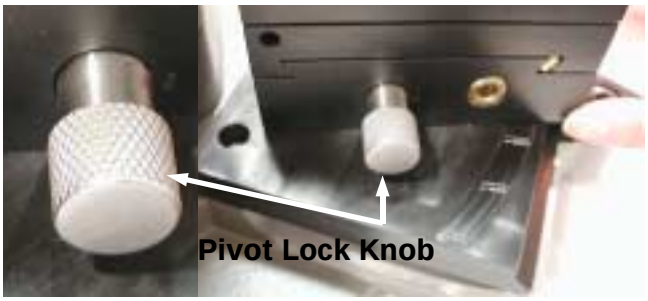
The Brad Point Attachment works in together with the X-Y Table. By now you are familiar with the 'quick' disconnect feature or your XT-3000. Begin by removing the current sharpening fixture and replacing it with the X-Y Table. Secure it in place by rotating the Docking Lever CW. In much the same manner, secure the Brad Point Sharpening Fixture to the X-Y Table.

ALIGNING THE DRILL:
The alignment of the drill happens in the XT-3000 Alignment. Loosen the Timing Tube Lock lever and position the Tube @ 118°. Push the lever down to lock the tube. Align the drill as you normally would.

CORRECT **INCORRECT**

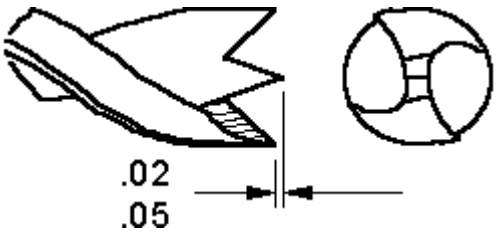


SETTING UP THE X-Y TABLE:
Brad point drills are ground with the X-Y Table positioned at the 180° mark. Loosen the Pivot Lock Knob and rotate the X-Y Table to 180°. Lock the Table.

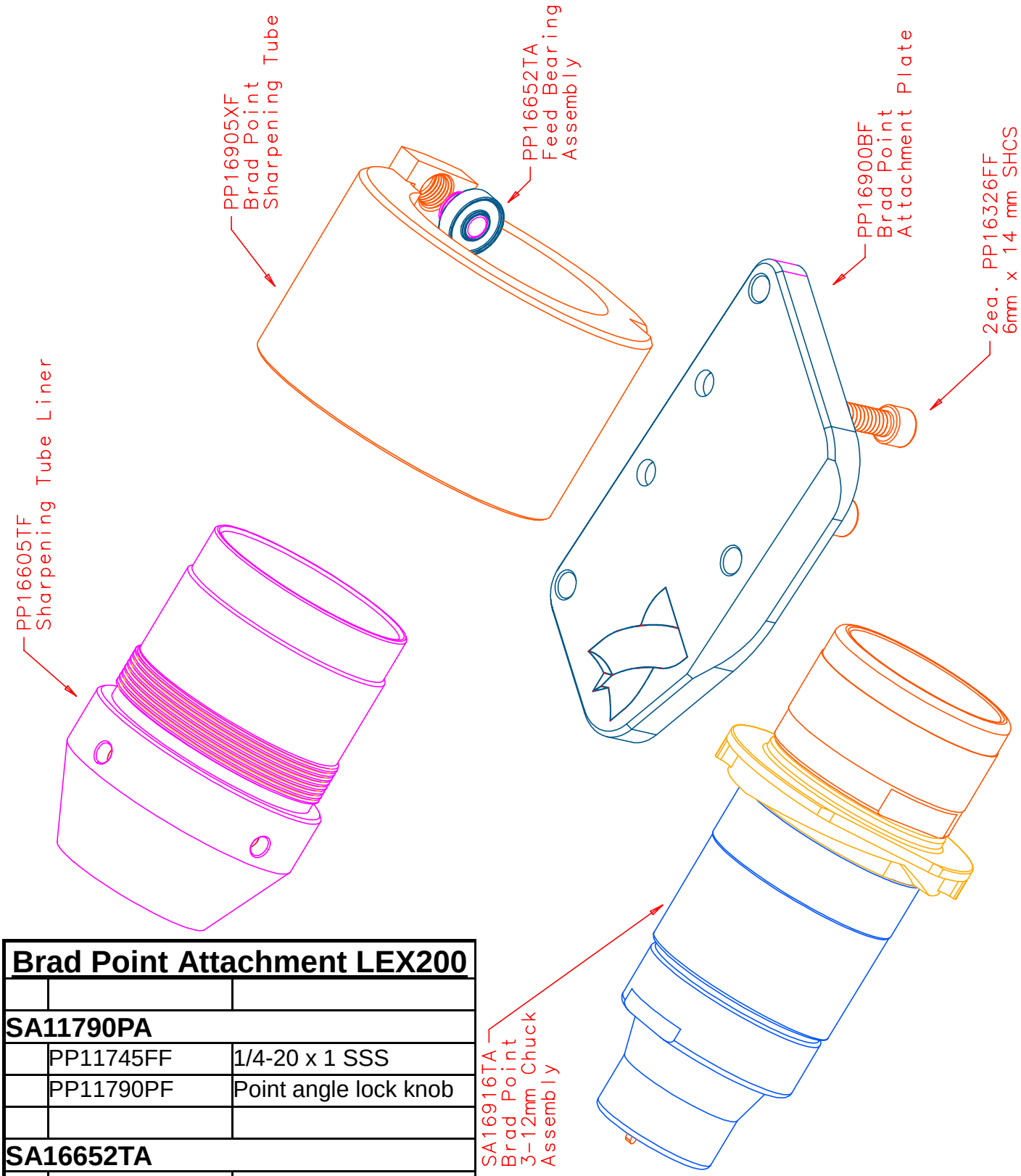


SHARPENING:
With the XT-3000 ***OFF***, place the Chuck in the sharpening mechanism making sure the drill ***DOES NOT*** contact the grinding wheel. If it does, use the X-Y axis knobs to position the drill ***OFF*** the wheel.

Turn ***ON*** your XT-3000. Using the same Axis Knobs, start to move the drill into the grinding wheel while rotating the Chuck. This fixture is meant to re-sharpen existing drills. During the sharpening process, should you remove an excessive amount of material, due to damage, it will be necessary to re-align the drill and sharpen again. Refer to the diagram below for examples of proper drill geometry.



Brad Point Attachment



Brad Point Attachment LEX200		
SA11790PA		
	PP11745FF	1/4-20 x 1 SSS
	PP11790PF	Point angle lock knob
SA16652TA		
	PP16652TF	Feed Bearing Bolt
	PP08560LF	Feed Bearing

STEP DRILL ATTACHMENT
LEX 250

Congratulations on the purchase of your **Darex XT- 3000** Step Drill Attachment. (LEX250). This attachment consists of 3 pieces, 1 Sharpening Fixture, SA16950BA, 1 Alignment Fixture, SA116970XA and a 3mm – 12 mm Chuck, SA16975TA. (The 12mm – 21mm Chuck, SA16980TA is available as an optional accessory) All 3 components are laser marked with a Step Drill icon to minimize confusion with other XT-3000 attachments.

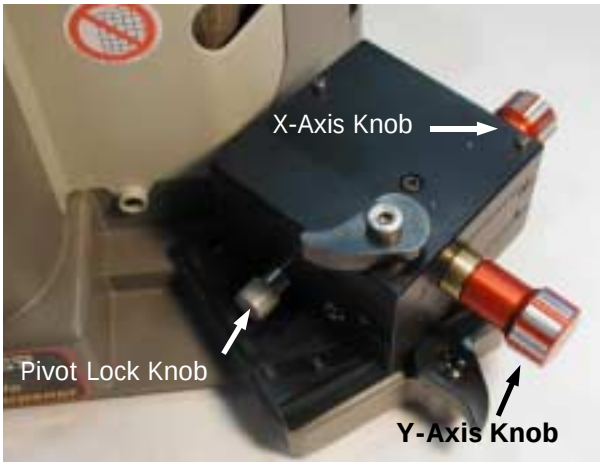
SHARPENING THE PILOT

Should the pilot of the step drill need re-sharpened, do so, just as you sharpen a standard twist drill. Having the exploded view drawing handy will be beneficial at this point.

SHARPENING THE STEP

SETTING UP:
To sharpen the 'step' on your step drill, you will have to remove the standard sharpening fixture and replace it with the **X-Y Table** (LEX100). The Step Drill Attachment works together with the X-Y Table.

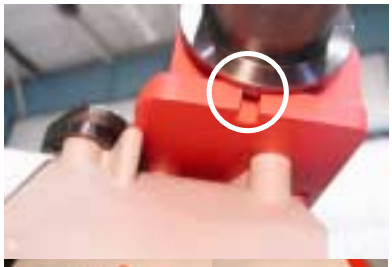
Rotate the Docking Lever CCW to free the standard sharpening fixture, then remove. Place the X-Y Table on the XT-3000. Rotate the Docking Lever CW to secure the X-Y Table to the XT-3000.



In a similar manner, lock the Step Drill Sharpening Fixture on to the top of the X-Y Table. Secure the Step Drill Alignment Fixture to the top of the XT-3000.

ALIGNING THE DRILL:
Place the drill in the chuck and tighten chuck by rotating the chuck knob CW. Stop just before the chuck jaws make contact with the drill. Make sure the drill still slides easily through the chuck. Place the Chuck in the Alignment fixture until the shoulder of the chuck stops against the alignment.

Rotate the Chuck until 1 of the alignment dogs rests firmly against the Alignment.



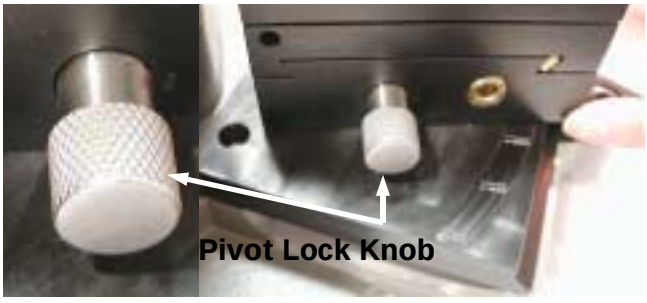
Rotate the Pawl Locating Cam until the arrow lines up to the major diameter of the drill. As indicated by the logo on the Timing Arm, rotating it will have an impact on the amount of relief ground on the drill. Unless the drill is intended for a unique material, it is our recommendation that it stay in its normal location. Push the drill through the chuck until the pilot starts to pass through the Alignment.

Slide the Length Setting Pawl until it almost touches the pilot. Continue to slide the drill through the chuck until the major diameter stops against the Length Setting Pawl.

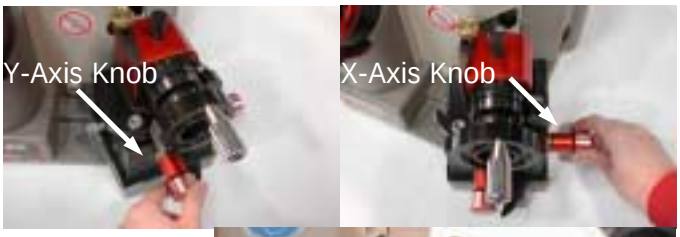
Rotate the drill CW until the cutting edges align with the pawls. The drill is now set to length and oriented to the chuck cam. Tighten the chuck and remove it from the Alignment.

SETTING UP THE X-Y TABLE:

Utilizing the X-Y Table, the angle ground into the step portion of the drill can be 90°-180°. Loosen the Pivot Lock Knob and slide table to the desired angle. Tighten the knob.



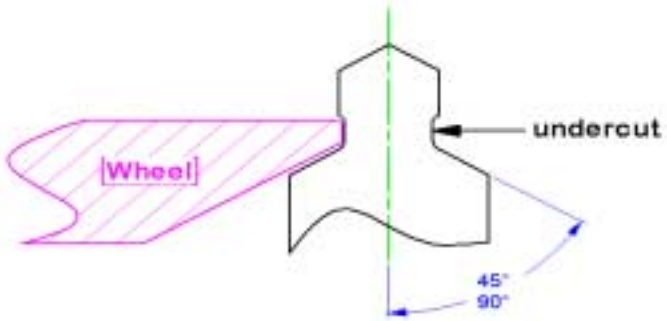
With the XT-3000 ***OFF,*** Slide the chuck into the Sharpening Fixture making sure the drill is clear of the grinding wheel. Using both the X and Y axis knobs, position the drill close to, but not touching the wheel.



Now, turn your machine ***ON***. Continue to position the drill into the wheel while rotating the chuck.

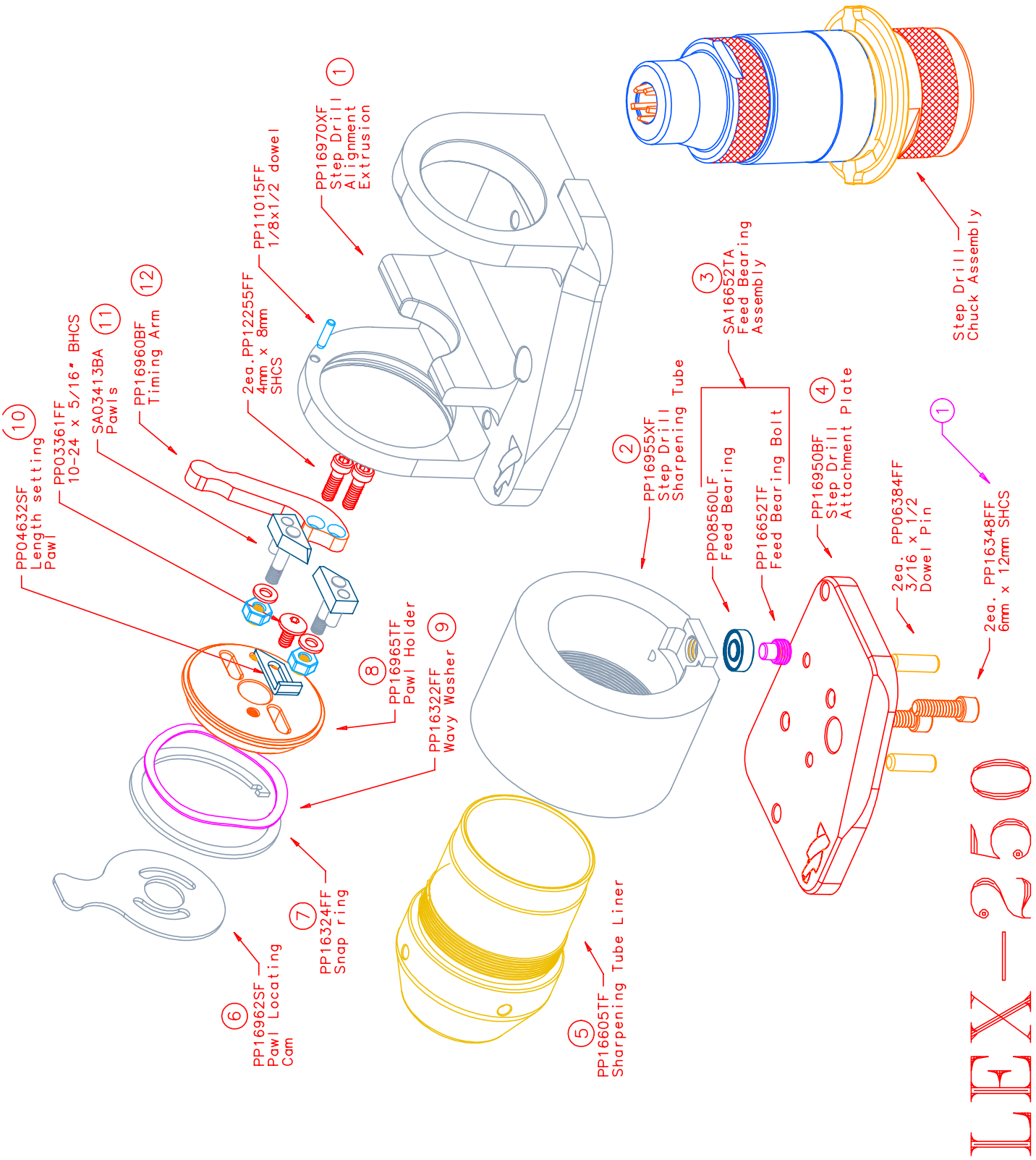
It will be necessary to slightly undercut the pilot of the step drill to produce a sharp corner at the end of the pilot and beginning of the step.

Refer to the diagram below.



Once you are satisfied with the results, turn the cross feed knob with your right hand CCW to remove the drill from the grinding wheel. Carefully remove the chuck from Sharpening Fixture. The sharpening is now complete. During the sharpening process, should you remove an excessive amount of material, due to damage, it will be necessary to re-align the drill and sharpen again.

Step Drill Attachment



Step Drill Attachment SA16950BA		
SA16652TA	**Feed Bearing Assembly**	
	PP16652TF	Feed Bearing Bolt
	PP08560LF	Bearing
SA03413BA	**Pawl Assembly**	
	PP03440FF	10-24 Nylon hex nut
	PP03435FF	#10 nylon washer
	PP03420TF	Pawl Retaining Pin
	PP03415TF	Pawl Guide Pin
	PP03412BF	Pawl
Step Drill 3mm-12mm Chuck		
SA16975TA	**Step Drill 3-12mm Chuck**	
	PP16400TF	3-12mm Body
	PP16975TF	Step Drill 3-12mm Cam
	PP16410TF	3-12mm knob
	PP16415TF	3-12mm closing sleeve
	PP16420TF	3-12mm closing screw
	PP02404SF	Thrust Washer
	PP16425SF	3-12mm - 12-21mm jaws
	PP16442FF	snap ring
	PP16430TF	Jaw guide
	PP16435LF	3-12mm Jaw race
	PP12560RF	3-12mm jaw springs
	PP16440FF	Jaw key screw

90° - 120° Drill Attachment
LEX300

Congratulations on the purchase of your **Darex XT-3000** 90°-120° Sharpening Attachment. As part of the assembly you should have a Sharpening fixture (SA16995XA) and Drill Chuck (SA16890TA) range 3mm to 12mm. (SA016880TA

12mm to 21mm chuck available as optional accessory.)

By now you are familiar with the 'quick disconnect' feature of your **XT-3000.** Start by replacing the current fixture with the 90°-120° attachment.

Set your desired point angle by pulling the red Pivot Lock Lever (counter clockwise) towards the operator

and

sliding the fixture across the base plate to the desired point angle.
Lock the fixture by returning the red Pivot Lock Lever to its original position.

Use the **XT-3000** alignment to align the drill in the same manner that you are accustomed to. The Alignment tube should be positioned at the ***118° mark.***

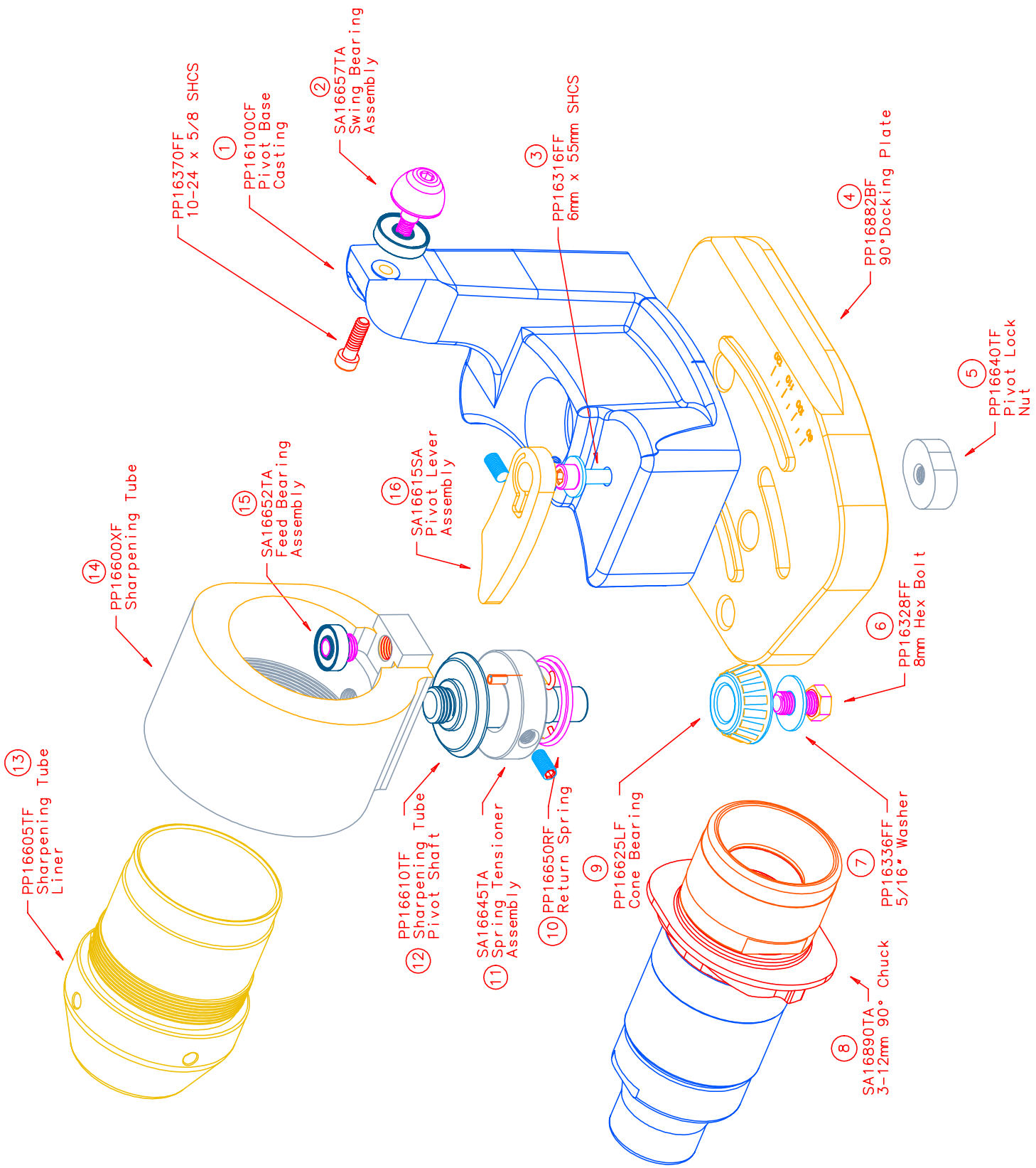
With the red Slide Handle touching the Alignment casting, tighten the Chuck by rotating the Chuck Knob clockwise.

CORRECT **INCORRECT**

Remove the Chuck.

Gently slide the Chuck into the Sharpening fixture. While keeping the Swing Cam in contact with the Swing Cam Bearing, apply slight pressure into the Grind wheel and rotate the chuck clockwise. Try to sharpen the drill in such a manner that the drill is off the wheel before you reposition you hand on the Chuck Knob. Grinding time will vary depending on wheel condition and amount of material removal but it should require a minimum of 8-10 rotations.

90º - 120º Sharpening Attachment



90°- 120º Attachment		
SA16652TA	**Feed Bearing Assembly**	
	PP16652TF	Feed Bearing Bolt
	PP08560LF	Bearing
SA16615BA	**Pivot Lock Lever Assembly**	
	PP16615BF	Pivot lock lever
	PP16630FF	5mmX8mm SSS
SA16657TA	**Swing Bearing Assembly**	
	PP16655LF	Swing Bearing
	PP16657TF	Swing Bearing Bolt
SA16645TA	**Spring Tensioner Assembly**	
	PP16645TF	Spring Tensioner
	PP12280FF	M6 x 1 x 8mm SSS
SA16890TA	**3-12mm 90° Chuck**	
	PP16400TF	3-12mm body
	PP16890TF	90° 3-12 mm Cam
	PP16410TF	Knob
	PP16415TF	Closing sleeve
	PP16420TF	Closing screw
	PP02404SF	Thrust Washer
	PP16425SF	Jaws
	PP16430TF	3-12mm jaw guide
	PP16435LF	3-12mm jaw race
	PP12560RF	Jaw springs
	PP16440FF	Jaw key screw