

WILSON EXPRESS CLAMPING SYSTEM™



Operator's Manual

for:

Amada® Z2 Style Press Brakes

Amada® Z1 and most European (Promecam®) Style Press Brakes

S.C. SM TECH S.R.L.

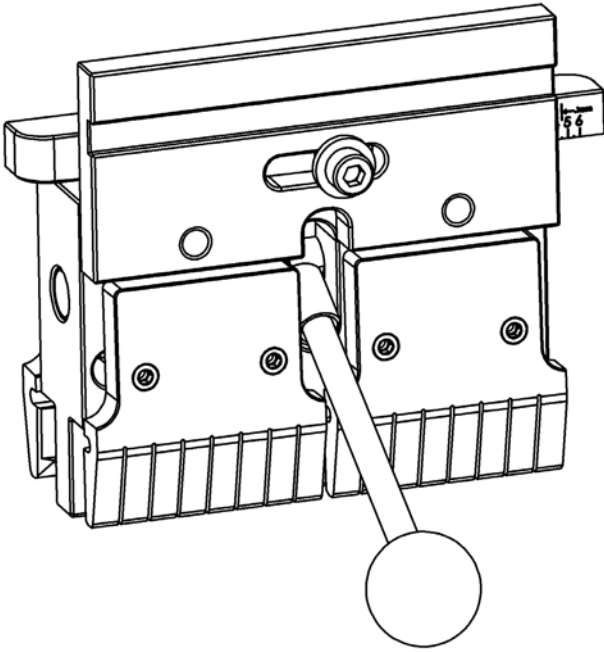
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The Wilson Express Clamping System™ is the most exciting development in press brake technology to take place in decades. The Wilson Express Clamping System is a new, highly advanced series of punch holders that include a host of unique and innovative features designed to allow you to set up your press brake fast.

This operator's manual is designed to provide a quick guide to using the Wilson Express Clamping System. Please read the following safety warning and follow all the instructions in the manual.

Safety Warning

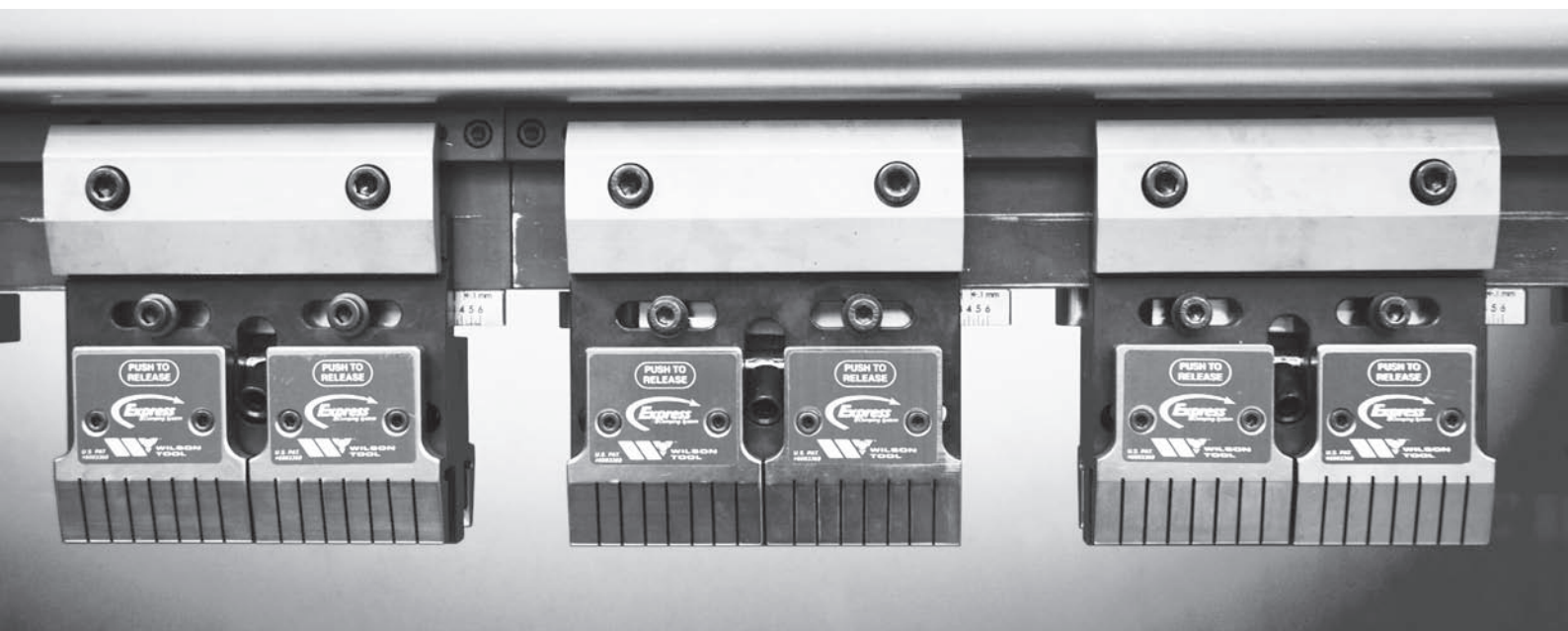
Wilson Express Clamping System™

The Wilson Express Clamping System represents a unique and innovative approach to press brake technology. The operation of this clamping system is unlike other styles of clamping systems manufactured for use in a press brake. Therefore, it is imperative that all persons involved in the operation of the press brake read and become thoroughly familiar with the entire contents of this manual prior to the installation, use or maintenance of this clamping system. Failure to do so may result in operator injury, damage to the press brake, Express Clamping System, and/or press brake tooling.

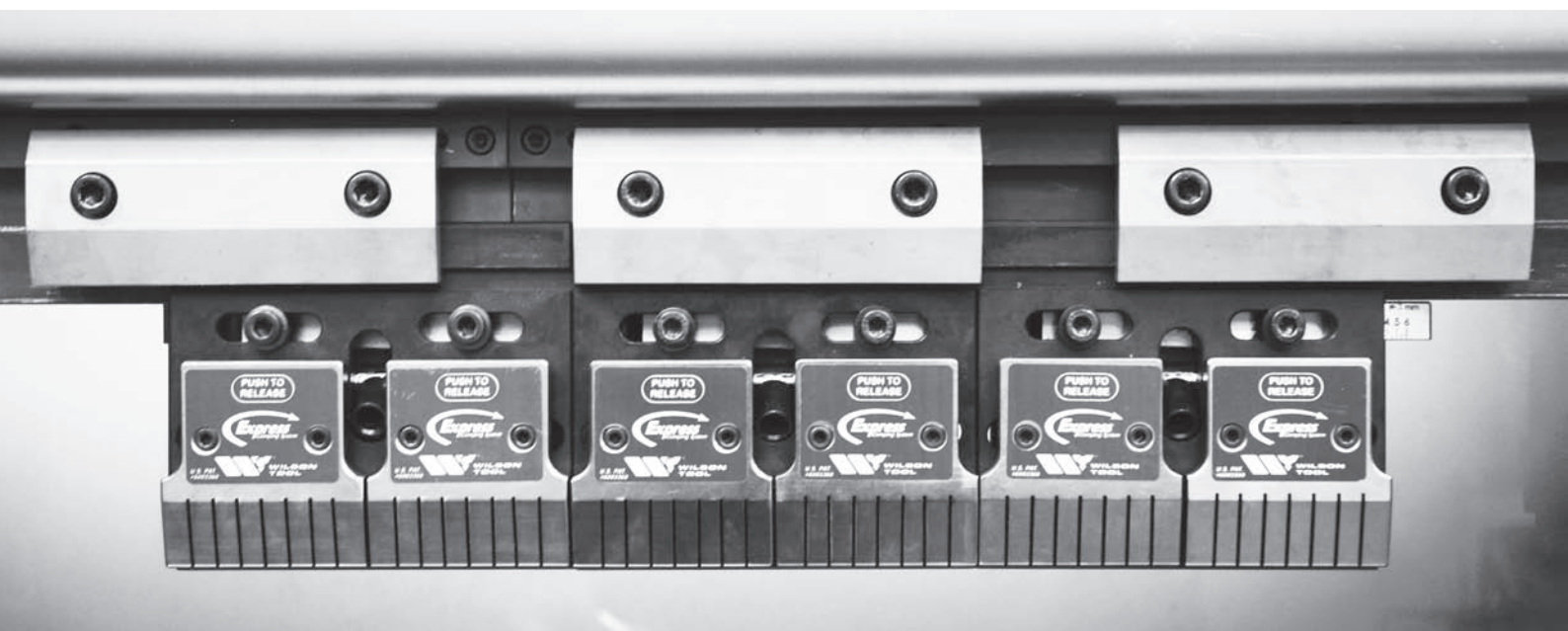
CAUTION: Please be careful to follow the instructions in the prescribed order and NEVER place your hands between the punch and the die.

For further information about the Wilson Express Clamping System, contact your local Wilson Tool Sales Engineer, or our press brake Sales Desk.

Clamps can be fitted normally.



Or they can be interlocked, as standard, to form a solid beam if required.



www.wilsontool.com

INSTALLING THE WILSON EXPRESS CLAMPING SYSTEM™ ONTO YOUR MACHINE

A. *INSTALLING YOUR EXPRESS CLAMPS*

FITTING YOUR EXPRESS CLAMPS TO A NEW MACHINE

1. Return the upper beam to the top of the stroke, or the lower beam to the bottom of the stroke (whichever applies).
2. Make sure that the back gauge has been retracted toward the rear of the machine and is out of the tool space.
3. Remove any die holders so you can sit a clock gauge on the lower bed of the machine.
4. Ensure the bed of the machine is clean.
5. Stabilise the hydraulics, but if this is not available ensure the power is on and the pumps are running.
6. Clean the working surfaces where the new Express Clamp will be mounted. Lightly oil after cleaning.
7. Fit all Express Clamps, ensuring bolts are firmly tightened.
8. Using a block of wood seat each clamp individually by applying the required seating tonnage (see machine user manual).
9. Clean the bed of the machine and sit the clock on it and run the needle along each Express Clamp, finding the lowest clamp. Set the dial at zero on the lowest clamp.
10. Loosen the wedge securing bolts, on all clamps, just enough to allow it to move with a tap.
11. Now, using the hammer and brass bar (to ensure no damage to wedge), tap the wedge in to set all the other clamps at zero on the clock, using the lowest clamp as your datum.
12. Tighten all securing screws and re-check the offset re-adjusting if necessary.
13. Test bend, using your most common material, to 90° and measure. Adjust the wedges as necessary.

Note: Some press brakes have a suggested amount of tonnage for tooling alignment. When this is the case, be sure to apply the amount of the tonnage recommended by the press brake manufacturer.

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FIXING YOUR EXPRESS CLAMPS TO AN EXISTING MACHINE

1. Remove all upper and lower tooling and return the upper beam to the top of the stroke, or the lower beam to the bottom of the stroke (whichever applies).
2. Make sure that the back gauge has been retracted toward the rear of the machine and is out of the tool space.
3. Remove any die holders so you can sit a clock gauge on the lower bed of the machine.
4. Ensure the working faces of the old clamps are clean and stone any marks off, as we are going to run the clock along these surfaces.
5. Ensure the bed of the machine is clean, scraping off any ground in dirt. Then stone to remove any marks.
6. Stabilise the hydraulics, but if this is not available ensure the power is on and the pumps are running.
7. Mark the first clamp on the left number 1 along with a number 1 on the machine, then the next one number 2, continuing this until all the clamps are marked. This is so you can return to the original set-up if necessary.
8. Sit a clock on the bed of the machine and run the needle along the lower face of the old number 1 clamp. Then set the clock dial to zero, this is going to be the datum for the other clamps.
9. Now move the clock along the machine bed to clamp number 2 and run the needle along the lower face of that clamp. Record the difference in height to your datum clamp number 1. Do this for all the clamps and you know where you have to set the new Express Clamps to ensure you have the same set-up as with the old clamps.
10. Do not remove clamp 1 yet. Remove all the other clamps by loosening the ram clamps and sliding the old clamps out of the side of the machine. Warning: do not over loosen, as this would allow the clamp to fall out causing injury and damage.
11. Clean and stone the working surfaces where the new Express Clamp will be mounted. Lightly oil after cleaning.
12. Set the wedge on your new Express Clamps to zero on the scale, by loosening the two securing screws. When at zero lightly tighten securing screws as the wedge will need to be set when in the machine.
13. Fit all Express Clamps apart from number 1, ensuring bolts are firmly tightened.
14. Using a block of wood seat each clamp individually by applying the required seating tonnage (see machine manual).
15. Ensure your clock reads zero on number 1 clamp.
16. Now we are going to set number 2 Express Clamp. Tap the wedge in with the hammer and brass bar (to ensure no damage to the wedge) until your clock shows your recorded offset from the old clamp.
17. Tighten all securing screws and re-check the offset re-adjusting if necessary.
18. Now do this for all the clamps currently fitted.
19. Now using the same procedure above fit the remaining express clamp in the number 1 position.
20. Test bend, using your most common material, to 90° and measure. Adjust the wedges as necessary.

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CLAMP ASSEMBLY/REMOVAL

A. *LOADING LEVER ASSEMBLY*

1. The locking lever is made to snap easily into place. Simply insert the locking lever into the cam socket and push until it 'clicks' into place. (Fig. 1)

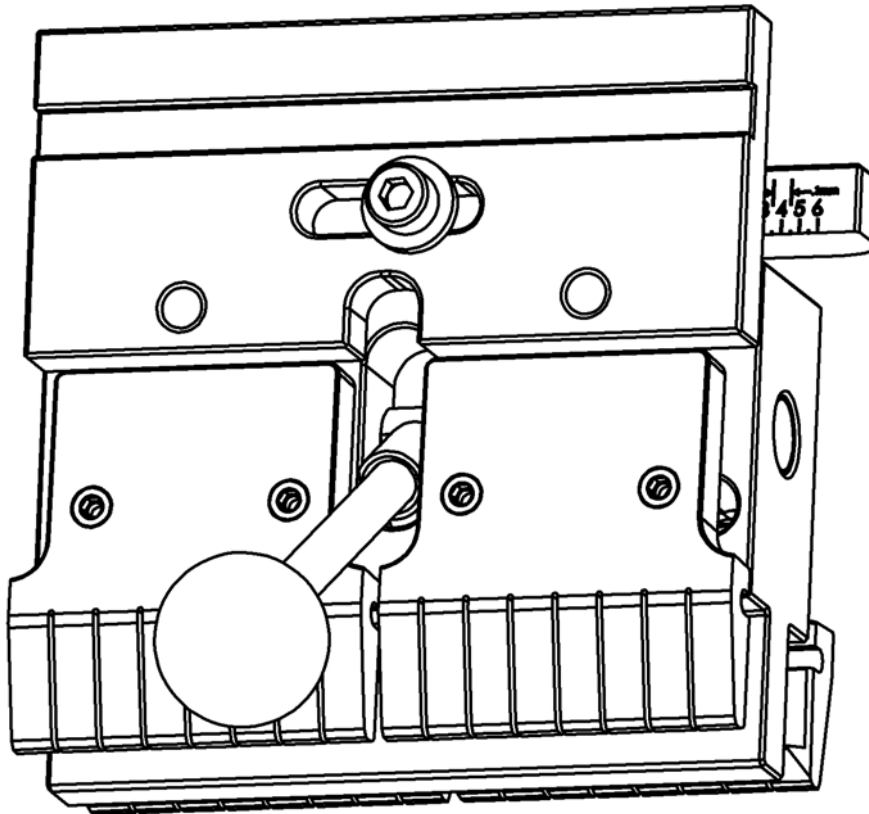


Fig. 1

2. To remove simply pull lever out.
3. Lever operates both front and rear clamp plates.

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B. REMOVING CLAMP PLATES

1. To remove clamps, to create more clearance, or for the maintenance, pull the locking lever into the down position. Lever must be down and tooling must be removed. (Fig. 2)

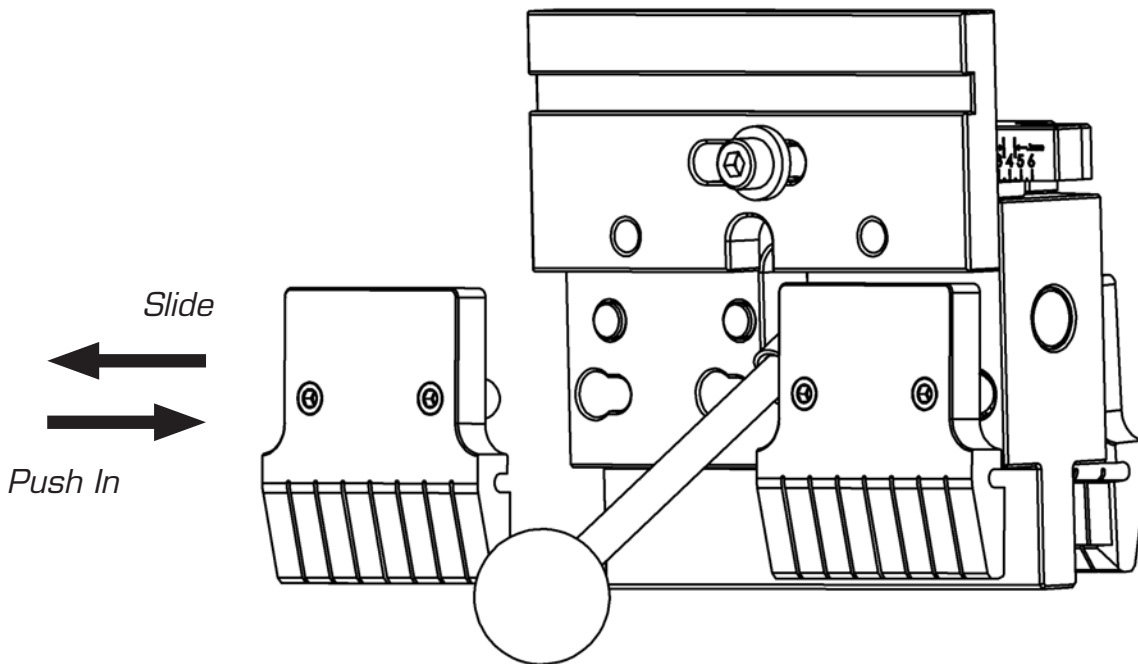


Fig. 2

2. Push firmly against the centre of the clamp to compress the clamp springs and slide to the outside. (Fig. 2)
3. To reattach, push firmly against the centre of the clamp and slide to the centre.
4. Use same procedure for rear clamps.

Note: Clamps can be operated with some clamp plates removed. If punch is located in front clamp, then rear clamp plate can be removed and vice versa.

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LOADING/UNLOADING PUNCHES

A. PUNCH LOADING

1. 415mm short punches and individual pieces of sectionalised punches are located by simply placing them under the clamps and pushing them upward or sliding them in from the end of the clamp. (Fig. 3)

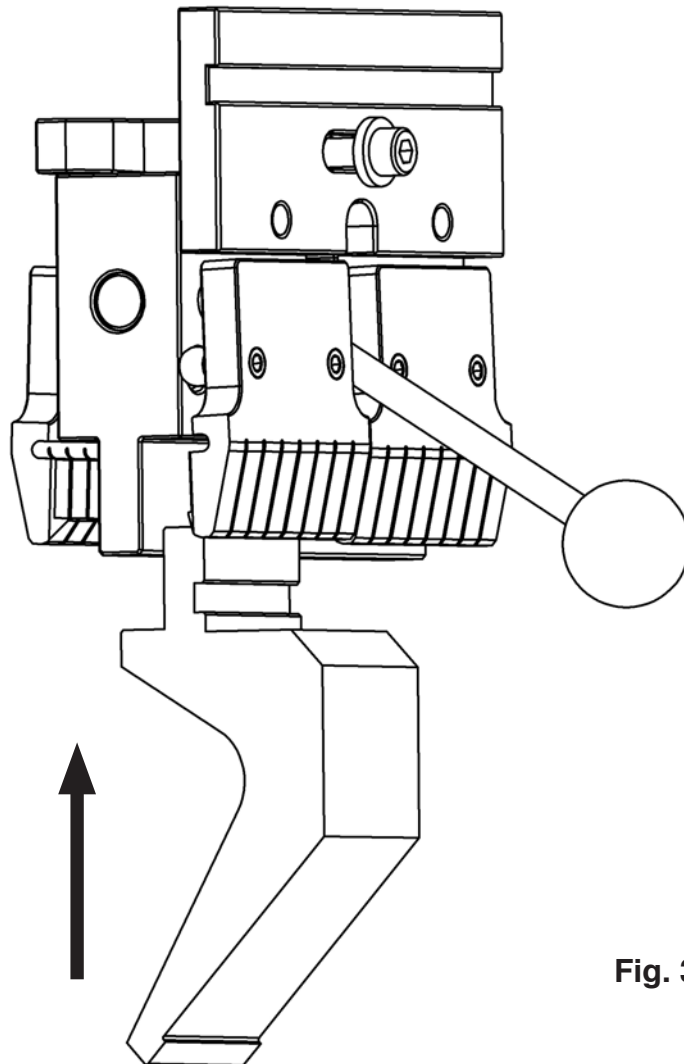


Fig. 3

CAUTION: Please be careful to follow the steps in the prescribed order and NEVER place your hands between the punch and the die.

2. Slide all long punches [over 415mm] in from the end of the machine.
3. To lock the clamps, simply push the locking lever up until it stops.
4. Once the tooling has been loaded and the locking lever has been placed in the locked position, seat tools by applying the recommended set up pressure (see machine manual).

B. RELEASING PUNCHES

1. Pull locking lever down.
2. Hold onto the punch, press the area of the clamp marked “push to release.” Sectionalised punches may then be removed from the bottom of the holder. (Fig. 4)

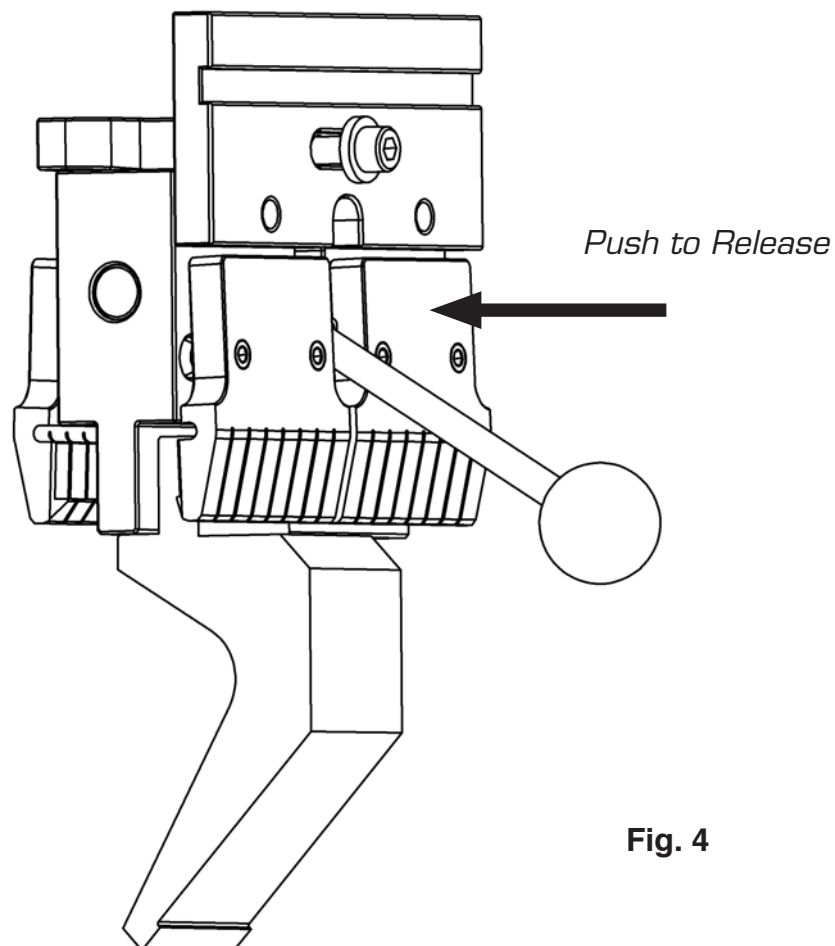


Fig. 4

3. All other sections should be slid out the end of the punch holders.

Note: Clamps on front and back may be removed to aid in loading and unloading tooling.

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FINE TUNING ADJUSTMENT

A. INSTRUCTIONS FOR CLAMP PLATE ADJUSTMENT

1. The clamp plates comes pre-adjusted from the factory, so you shouldn't need to adjust your Wilson Express Clamps initially. However, if the need for adjustment does arise, follow these instructions.
 - a. Load tooling into the punch holders.
 - b. Loosen all clamp pivots until the locking lever can go all the way up with no resistance.
(Fig. 5)

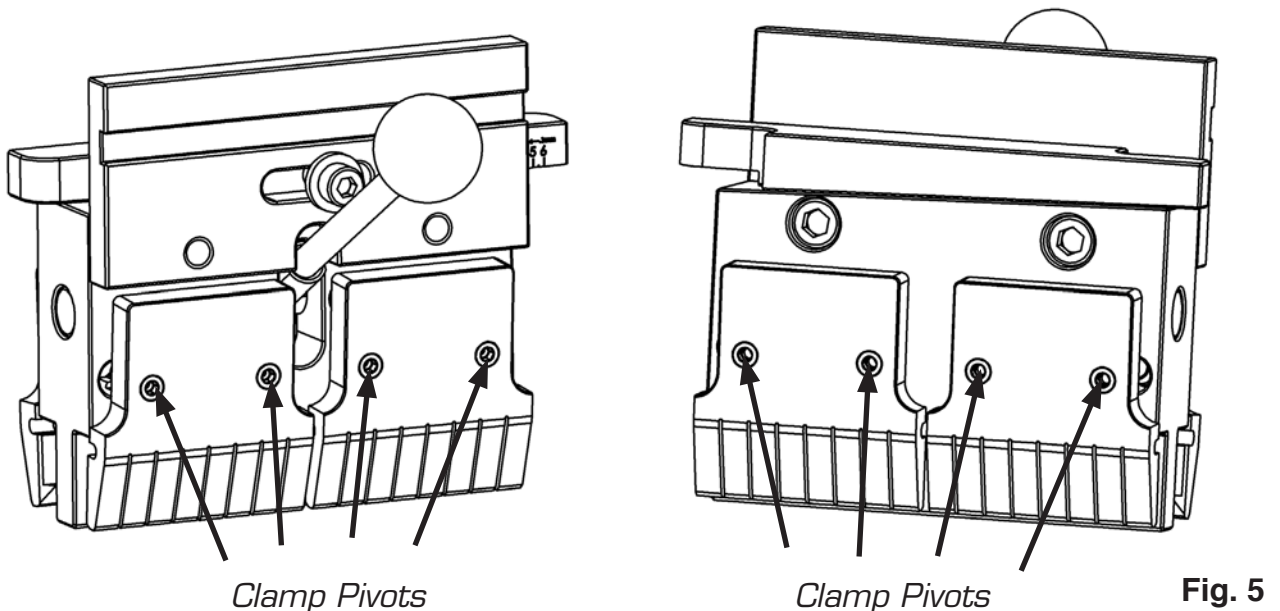
Note: No more than one rotation of pivot should be needed. Over-loosening will cause punch to release, which can result in injury and damage of the tooling.

- c. With the locking lever in the upright position, tighten pivots to a torque of 7.3 – 9.0 Newton-meters.
Never tighten to more than the suggested amount of pressure to avoid the snapping of the pivots.
- d. Repeat as needed.

Note: It is very important that all pivots on the front and rear clamps are adjusted at the same pressure or they will be damaged in use.

- e. Return lever to unlocked position, remove punches, and the fine-tuning adjustment is complete.

Note: Instructions are the same for both the front and back clamps.



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TOOL MAINTENANCE AND TROUBLESHOOTING

A. CLEANING AND MAINTENANCE

1. It is important to visually inspect all moving parts to ensure they are properly lubricated and free of dirt. The pushpins should be periodically removed and the holes should be packed with grease, then replace the pushpins. This will provide the necessary lubrication for the cam and pushpins. It is also important to lubricate the O-ring on the locking lever.

Note: CMD Extreme Pressure Lube #3 lube grease is recommended.

2. The O-ring on the locking lever should also be replaced periodically.
3. The clamps should be adjusted back to factory settings occasionally, using fine tune adjustment instructions (p. 8), to prevent any problems caused by misalignment.

B. TROUBLESHOOTING

Problem	Cause	Solution
Clamp does not tighten evenly across smaller pieces.	Clamp adjustment is incorrect.	See clamp adjustment instructions (p. 10).
Locking lever is too tight or will not go into locked position.	Clamp adjustment is incorrect.	See clamp adjustment instructions (p. 10).
Locking lever will not stay in cam socket.	O-ring is worn out.	Remove and replace O-ring.
Clamps will not slide off the holder.	Locking lever is in the locked position, punch is still in holder, or pivots are adjusted too tight.	Remove all punches. Place locking lever in the unlock (down) position and retry. If this does not work, readjust pivots using clamp adjustment instructions (p. 10).
Pivot fails or breaks.	Clamp adjustment is incorrect or excessive load was applied to clamp.	Replace pivot and readjust clamp using clamp adjustment instructions (p. 10).
Punch will not snap into place.	Locking lever is in the locked position or pivots are adjusted too tight.	Place locking lever in the unlock (down) position and retry. If this does not work, readjust pivots using clamp adjustment instructions (p. 10).

Note: For further information, please contact your local Wilson Tool sales representative or the Press Brake Tooling Division.

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