

Supplemental Instructions

Guillotine Pipe Saw Autofeed System

NOTE: This supplement replaces the instructions on pages 16-17 of the Guillotine Pipe Saw manual (part no. 03-MAN-01, Revision 3).

The Guillotine autofeed is a hydraulic system that automatically operates the feed drive from the saw's cutting motion drive. The autofeed hydraulic system is self-contained and is separate from the saw's hydraulic power source.

The autofeed is driven by a cam wheel on the saw's rotating shaft. The cam on the wheel strikes a feed plunger on the autofeed system, driving a hydraulic cylinder that rotates the saw's feed screw. Figure 1 is a photo of the system. The components of the autofeed system are illustrated in Figure 2.



Figure 1. The photograph shows the autofeed system on the Guillotine saw. (The feed handle has been removed for autofeed operation.)

In This Chapter

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If you have the printed version of this supplement, you will find that the final page is a tabloid-sized sheet showing a larger version of Figure 2. While following the instructions, you can fold this sheet out to refer to the drawing.

AUTOFEED SYSTEM COMPONENTS

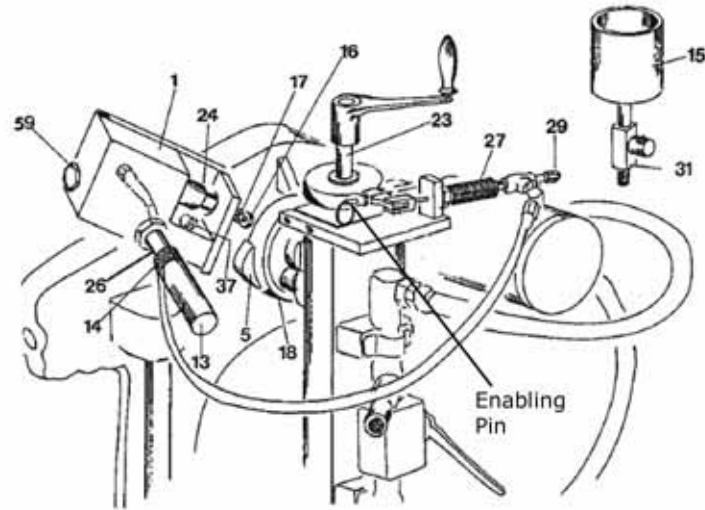


Figure 2. The drawing illustrates the components of the Guillotine autofeed system. The numbers are referenced in the instructions in this supplement.

The components are listed here by the reference numbers in Figure 2. These numbers also correspond to the bill of materials in the Guillotine user manual.



- 1 Hydraulic manifold
- 5 Cam
- 13 Accumulator nut
- 14 Accumulator jam nut
- 15 Funnel
- 16 Feed plunger
- 17 Feed plunger lock nut
- 18 Cam wheel
- 23 Feed screw
- 24 Actuating cylinder
- 26 Accumulator
- 27 Clutch drive cylinder
- 29 Bleeder valve
- 31 Needle valve
- 37 Pipe plug
- 59 Check valve

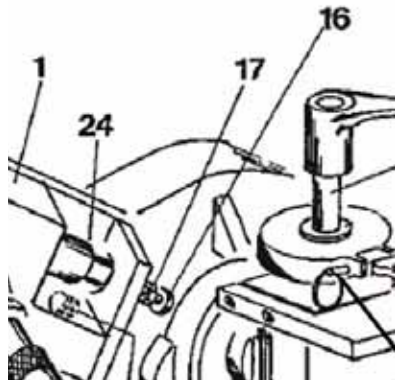
The Enabling Pin is installed to enable the autofeed. Remove the pin to operate the feed drive manually.

AUTOFEED DRIVE SPECIFICATIONS

One revolution of the feed screw moves the saw blade down 0.111 inch. The autofeed system feed rate is factory set so that 34 saw cycles are required for one rotation of the feed screw. Thus, the saw blade advances approximately 0.003 inch (3 one-thousands) per saw cycle.

Adjusting the Feed Rate

1. Loosen the feed plunger lock nut (reference 17 below).



2. The feed plunger (reference 16) is threaded into the cylinder rod. Adjust the feed rate by turning the feed plunger:
 - To INCREASE the feed rate, turn the plunger outward TOWARD the cam wheel.
 - To DECREASE the feed rate, turn the plunger inward AWAY from the cam wheel.
3. Tighten the feed plunger lock nut (reference 17).

CHARGING THE HYDRAULIC SYSTEM

Unless otherwise noted, all reference numbers refer to the drawing in Figure 2 (also shown on the fold-out drawing in the printed version of this supplement).

Setting up the Manifold for Charging

1. Remove hydraulic manifold assembly (Ref.1) and place on a workbench with the feed plunger on top.
2. Remove the actuator lever (Figure 3, Ref. 4), actuator support (Figure 3, Ref. 2), and the manifold endplate (Figure 3, Ref. 1) from the hydraulic manifold.

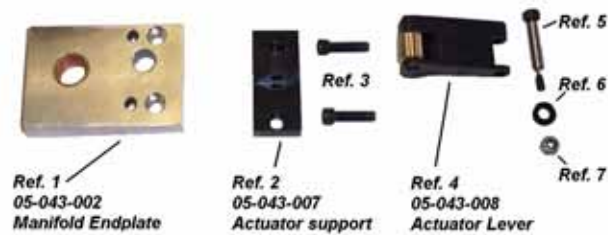


Figure 3. Removable components of the hydraulic manifold.

3. Remove pipe plug (Ref. 37) using a 3/16" Allen wrench.
4. Install the funnel/needle valve assembly (Ref. 15 & 31) as shown in Figure 4. Open the needle valve (Ref. 31).



Figure 4. Insert the funnel with the needle valve into the manifold.

5. Fill the funnel with Mobil DTE-24 hydraulic fluid or equivalent. Let the oil stand a few minutes until air bubbles have dissipated.

Filling and Purging the Hydraulic System

1. Loosen the accumulator jam nut (Ref. 14).
2. Screw the accumulator nut (Ref. 13) IN and then OUT again. Looking into the funnel, watch for air bubbles in the hydraulic fluid as you screw the accumulator nut IN. Repeat this operation until no air bubbles are visible for at least two cycles. Leave the accumulator nut in the OUT position.
3. Close the needle valve (Ref. 31).
4. Screw the accumulator nut (Ref. 13) IN until the feed plunger of the actuating cylinder (Ref. 24) is forced out.
5. Open the bleeder valve (Ref. 29).
6. Press in the feed plunger (Ref. 24). Just before the cylinder rod bottoms out, close the bleeder valve.
7. Open the needle valve (Ref. 31). Screw the accumulator nut OUT to refill the accumulator. Close the needle valve.
8. Repeat steps 4-7 several times to ensure that all the air is expelled from the actuating cylinder. Finish with the accumulator nut screwed OUT, and the feed plunger pressed all the way in.
9. Using a clamp or wire, fix the feed plunger in place so that it remains pushed in.
10. Screw the accumulator nut (Ref. 13) IN until the rod of the clutch drive cylinder (Ref. 27) is fully extended.
11. Open the bleeder valve (Ref. 29).
12. Depress and hold in the rod of the clutch drive cylinder (Ref. 27). Just before the cylinder rod bottoms out, close the bleeder valve.
13. Open the needle valve (Ref. 31). Screw the accumulator nut OUT to refill the accumulator. Close the needle valve.
14. Repeat steps 10-13 several times to ensure that all the air is expelled from the clutch drive cylinder. Finish



Make sure that the needle valve (Ref. 31) is OPEN, and the bleeder valve (Ref. 29) is CLOSED before starting this procedure.



Make sure that both the needle valve (Ref. 31) and bleeder valve (Ref. 29) are CLOSED before starting step 4.



Make sure that both the needle valve (Ref. 31) and bleeder valve (Ref. 29) are CLOSED before starting step 10.



The clutch drive cylinder is spring loaded. The spring will assist you in bleeding this cylinder.

This step will prevent air from going back into the system, which is increasingly important as you continue the charging procedure.



Make sure that both the needle valve (Ref. 31) and bleeder valve (Ref. 29) are CLOSED before performing step 25.



- with the accumulator nut screwed OUT, and the clutch drive cylinder rod pressed all the way in.
15. Using a clamp or wire, fix the clutch drive cylinder rod in place so that it remains pushed in.
 16. Open the bleeder valve (Ref. 29).
 17. Screw the accumulator nut (Ref. 13) all the way IN to force hydraulic fluid past the check valve (Ref. 59) and into the system. Just before the accumulator nut stops, close the bleeder valve (Ref. 29).
 18. With the bleeder valve (Ref. 29) closed, open the needle valve (Ref. 31) and screw the accumulator nut (Ref. 13) OUT.
 19. Close the needle valve (Ref. 31) and open the bleeder valve (Ref. 29).
 20. Screw the accumulator nut (Ref. 13) IN.
 21. Repeat steps 18-20 until hydraulic fluid is forced out of the bleeder valve (Ref. 29) and no air is expelled.
 22. Close the bleeder valve (Ref. 29).
 23. Open the needle valve and screw the accumulator nut out to refill the accumulator (Ref. 26). Close the needle valve.
 24. Remove the clamps/wires holding the feed plunger and the clutch drive rod.
 25. Screw the accumulator nut (Ref. 13) IN until the rod of the actuating cylinder (Ref. 24) and the clutch drive rod are extended once more.

Checking the Charging Procedure

The charging procedure is complete only after the following requirements are met.

- There must not be any air visible while bleeding the system.
- Screw the accumulator nut (Ref. 13) in until the rod of the clutch cylinder (Ref. 27) moves approximately 1/8". Now depress the rod of the actuating cylinder (Ref. 24).

The rod of the clutch cylinder (Ref. 27) should instantly be extended.

If either of the above requirements is not met, the system will not perform correctly. Repeat steps 4-25 in the previous section until these requirements are met.

Reassembling the Autofeed System

After the system is charged, reassemble it using the following procedure.

1. Lightly tighten the bleeder valve nut (Ref. 29) and close the needle valve (Ref. 31).
2. Remove the funnel/needle valve assembly (Ref. 15 & 31) and replace the pipe plug (Ref. 37).
3. Re-tighten the accumulator jam nut (Ref. 14).
4. Reinstall the actuator lever (Figure 5, Ref. 4), actuator support (Figure 5, Ref. 2), and the manifold endplate (Figure 5, Ref. 1) to the hydraulic manifold.

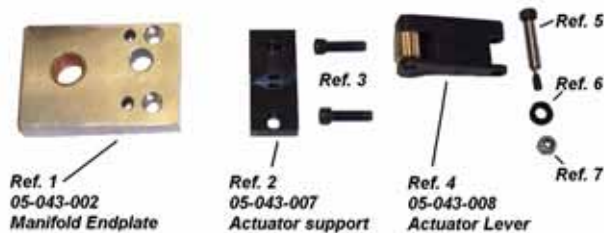


Figure 5. Removable components of the hydraulic manifold.

5. Reattach the hydraulic manifold. The system is now ready for operation.

OPERATION

1. Set up the saw according to the instructions in the user's manual.
2. Make sure the feed drive is all the way at the top (starting) position.

3. To enable autofeed, insert the Enabling Pin, as shown in Figure 6. The feed drive will advance automatically while the saw is operating.

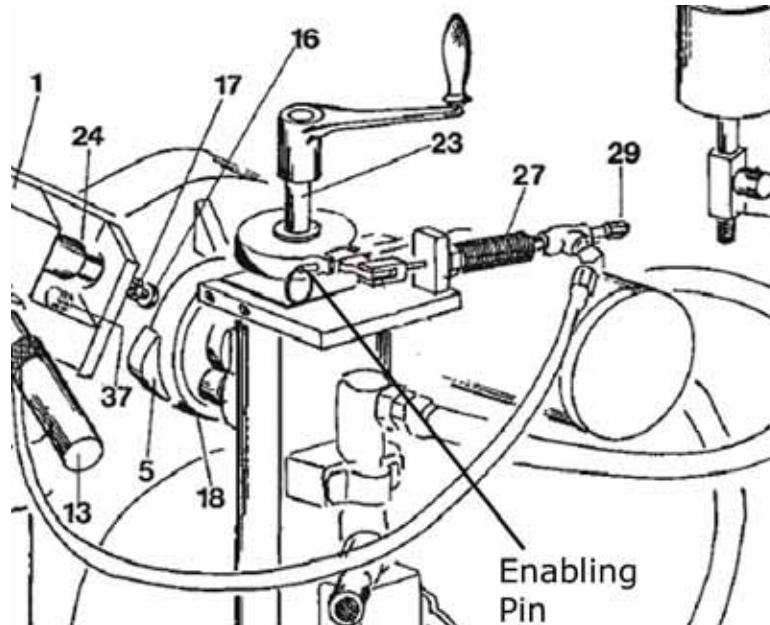


Figure 6. Insert the Enabling Pin to activate autofeed. Remove the pin to operate the feed drive manually, and to turn the drive back to the top (starting) position.

If you need to reverse the feed drive for any reason, stop the saw and remove the enabling pin, then operate the drive manually.



4. When the cut is complete, stop the saw and remove the enabling pin. Use the handle to manually reverse the feed drive.