COLOR PRESS

FOR ABDICK 9800 SERIES

SERIAL NO.

INSTALLATION 1

OPERATION 2

PARTS 3

INSTALLATION

SECTION 1

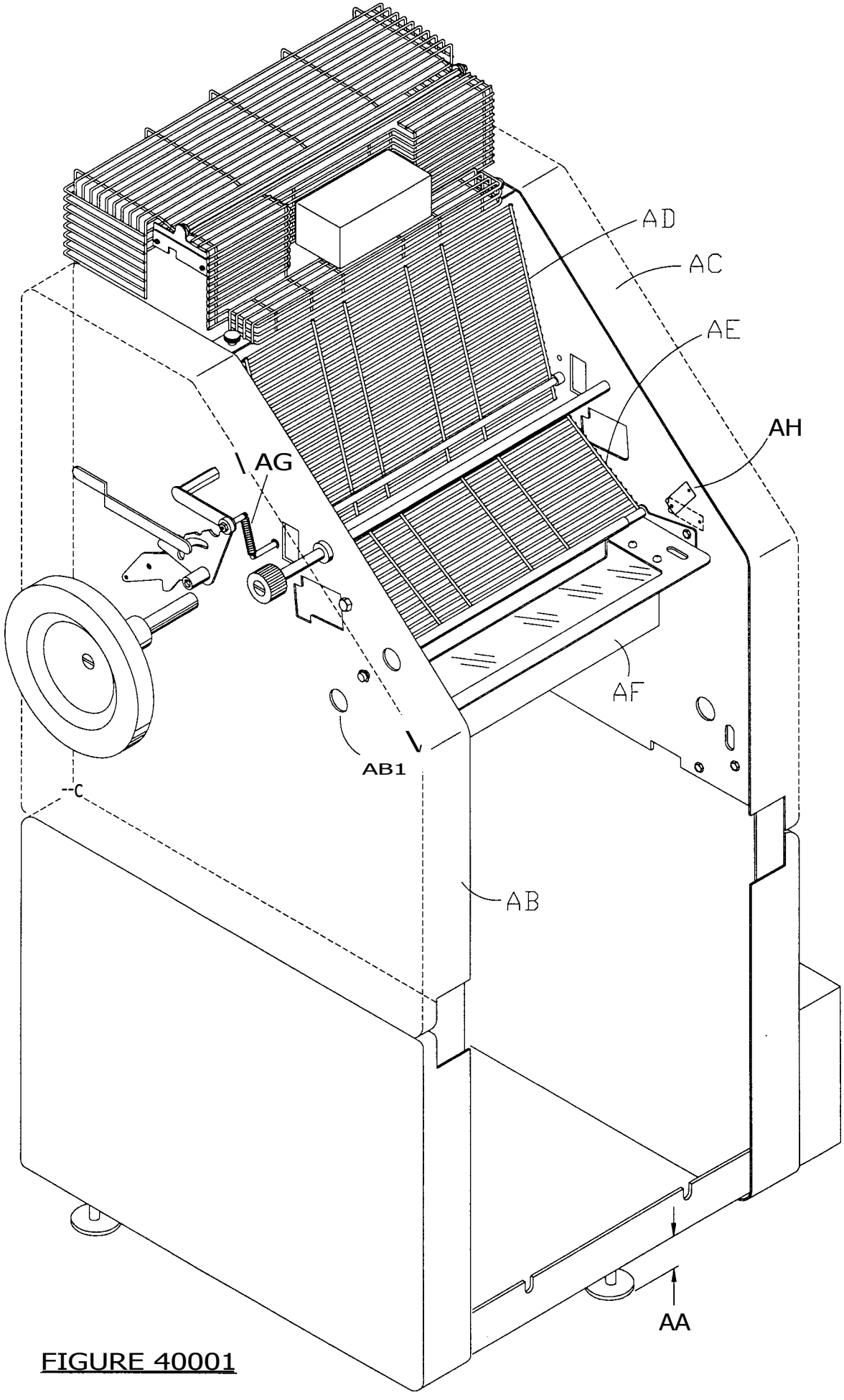

FIGURE 40001

INSTALLATION

Read through the INSTALLATION SECTION once briefly to familiarize yourself with the various parts that are required to install your T-51. Lay them out on a table, within easy reach, in the order you will be using them. Also read through the OPERATION SECTION as you will need to know the correct ON and OFF positions of the control handles. Follow the instructions carefully, one step at a time in the order listed, and the installation will be a relatively simple operation.

1. Before installing the T-51, be certain that the parent press is adjusted and set up according to the manufacturer's manual and specifications. It is vitally important that all the cylinders be parallel and that the pressures are set correctly. Always use a new blanket. After these precautions have been taken, make sure that the press feeds consistently and prints properly.

WARNING: Unplug the parent press.

2. Adjust the leveling feet so that there is 1-3/4 inches (44mm) clearance between the channel base and floor as indicated by the dimension (AA).

3. Remove the side covers (AB) and (AC) by taking off the operating controls and side cover screws. Remove the knock out plug (AB1). Replace the operating controls.

4. Take off the safety covers (AD), (AE), and (AF) as well as the straight edge plate loading guide by removing the appropriate shafts and fasteners. Some models will only have one safety cover guarding the plate and blanket cylinders. The spring (AG) will remain temporarily detached.

5. On some models, the serial number tag (AH) interferes with the attachment of the T-51 mounting bracket. Knock out the rivet and swing the tag out of the way.

WARNING: BE SURE ALL GUARDS, COVERS, AND SAFETY DEVICES ARE INSTALLED AND PROPERLY ADJUSTED BEFORE OPERATING THIS UNIT. IF THE T-51 IS REMOVED FROM THE PARENT PRESS, THE ORIGINAL GUARDING *MUSTBE* REPLACED BEFORE OPERATING THE PRESS. WHEN THE T-51 IS SWUNG OFF TO THE SIDE, THE REPLACEMENT SAFETY GUARD *MUST* BE USED BEFORE OPERATING THE PRESS.

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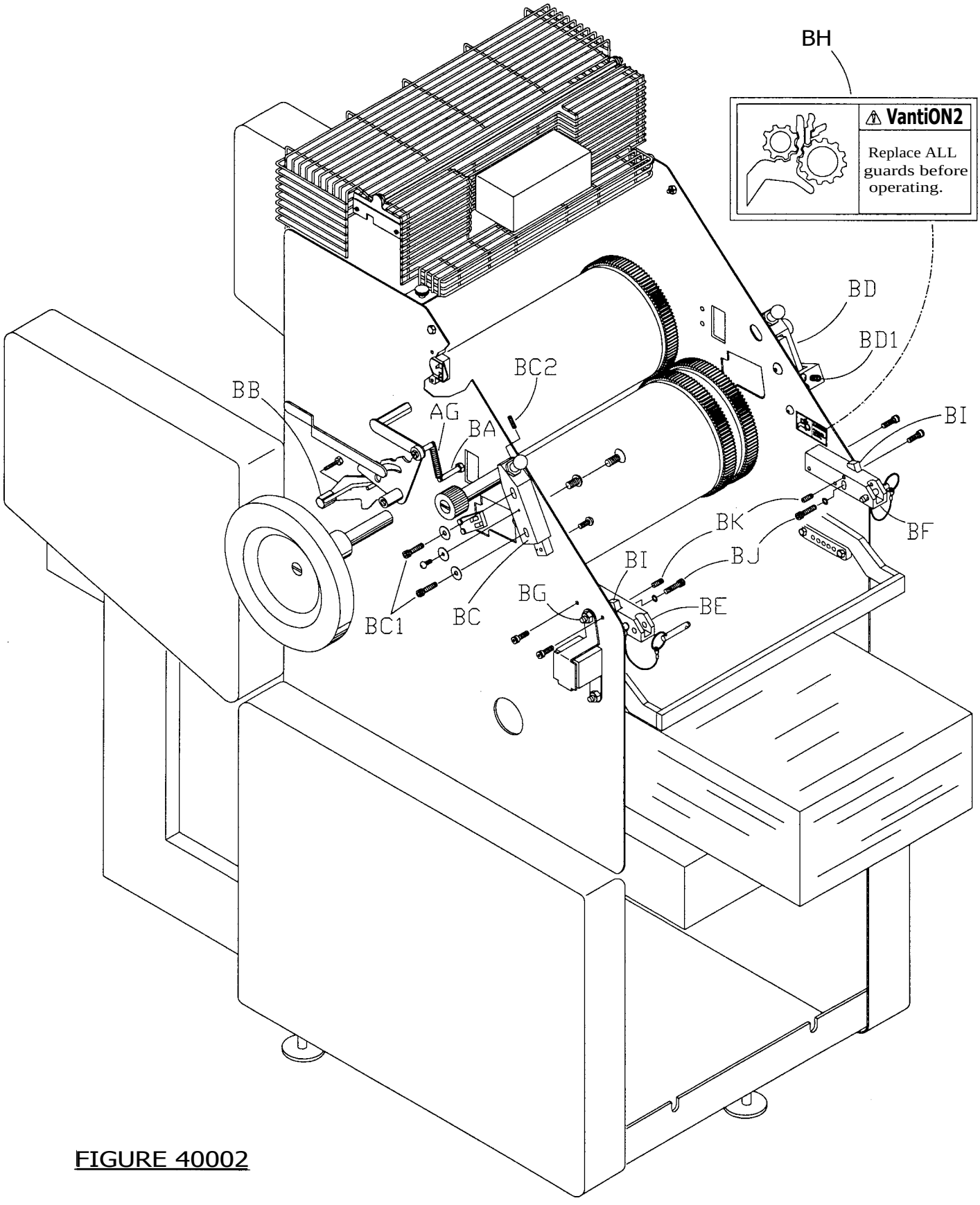

FIGURE 40002

6. Install the spring pin (BA) using a nut on each side of the side frame. Tighten the nuts securely and replace the spring (AG).

7. Plug in the parent press. Replace the handwheel and operation control lever. Move the control lever to the NIGHT LATCH or far left position. Turn on the vacuum and feed a sheet of paper by hand. Stop when the latch has moved in position to engage the master cylinder lever. Mount and adjust the lockout (BB) so that the latch cannot engage the master cylinder lever. Move the control lever through all the other operating positions to be sure that the latch does engage and lock normally. Now, with the control lever in the NIGHT LATCH position, the plate and blanket cylinders of the parent press will not make contact when printing single-color work on your T-51.

WARNING: Unplug the parent press.

8. Remove the alternate sheet feed bracket if so equipped. Install the bracket (BC) using the provided screws. If the upper side frame hole is countersunk, use the provided flat head screw to secure the bracket. Verify that the screws (BC1) are centered in the slots of the bracket. If adjustment is required, loosen the screws and turn the leveling screw (BC2) that is recessed in the top of the bracket.

On models equipped with alternate sheet feed, mount the bracket and lever onto the bracket (BC) using the provided screw and washer. The screw diameter is significantly smaller than the bracket hole diameter to allow the bracket to be positioned so as to avoid binding the lever.

Install the bracket (BD) using the provided screws. Loosen the screws (BD1) 1/2 turn to aid in setting the T-51 on the parent press in a later step.

9. Take off the feeder guide latch stud, if so equipped, using the flat head screw (BG) in the countersunk hole to affix the solenoid bracket to the side frame.

Mount the brackets (BE) and (BF) using the provided screws. The counter bracket on some parent press models may need to be filed to prevent interference. Lower the blocks (BI) the maximum amount by accessing the adjustment screws (BJ) and (BK) on each bracket.

10. Install the safety warning label (BH) after cleaning and degreasing the mounting surface. Alcohol works well for this purpose.

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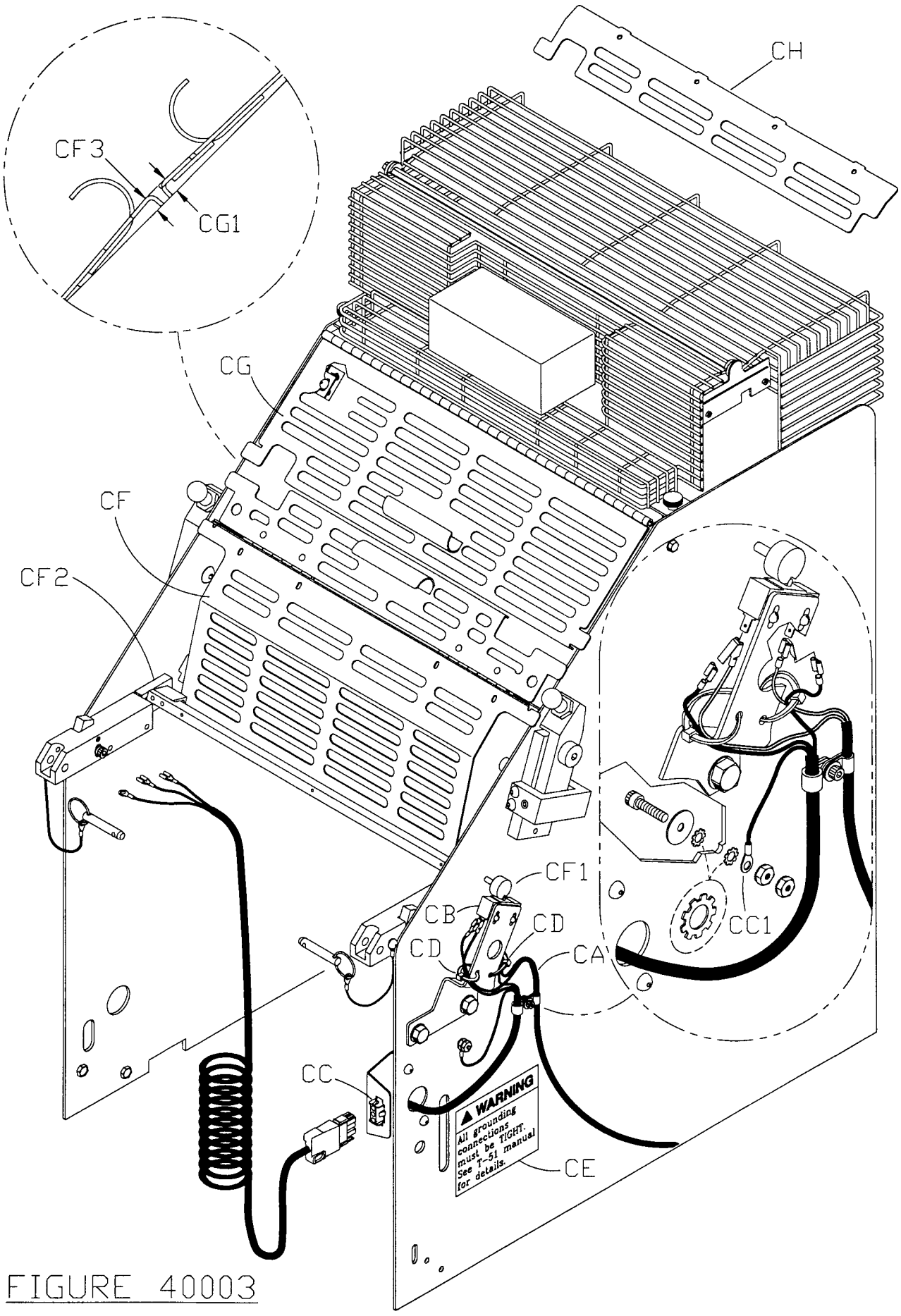

FIGURE 40003

11. Plug the wire harness (CA) onto the switch (CB). Install the switch/bracket assembly onto the side frame using the parent press paper weight bracket screws and nuts.

12. Mount the wire harness/bracket assembly (CC) onto the side frame using the provided screws. Plug the wire harness onto the wire harness (CA). Secure both wire harnesses using the provided 4-1/2 inch (114mm) cable ties (CD). Then affix the wire harness (CA) using the provided 3/16 inch clamp and wire harness (CC) using the provided 5/16 inch clamp to the side frame with the provided screw, washer, and nut. The clamp size is embossed onto each clamp.

Note the positions of the star washers that will be used to ground the ground wire (CC1). Because they must seat against bare metal surfaces, remove the paint on both sides of the side frame for an 1/8 inch (3mm) perimeter around the hole. Tightly secure the ground wire using the provided screw, washer, star washers, and nuts only in the illustrated sequence.

WARNING: Failure to install and comply with the installation instructions of the ground wire may lead to EQUIPMENT DAMAGE and/or **PERSONAL INJURY.**

13. Mount the grounding warning label (CE) after cleaning and degreasing the mounting surface. Alcohol works well for this purpose.

14. Lower the switch (CB) the maximum amount by accessing the adjustment screws. Remove the cam (CF1) from the guard (CF) by taking out the upper locking screw and then loosening the bottom screw in the block. Slide the block (CF2) onto the guard pin being sure that the side of the block with the stamped "X" will be against the side frame. Install the guard using the provided screws and washers to hold the block in position. Secure the other side of the guard with the cam. Note the position of the cam when the guard is closed before tightening the screw on the flat of the cam shaft and then replace the upper locking screw.

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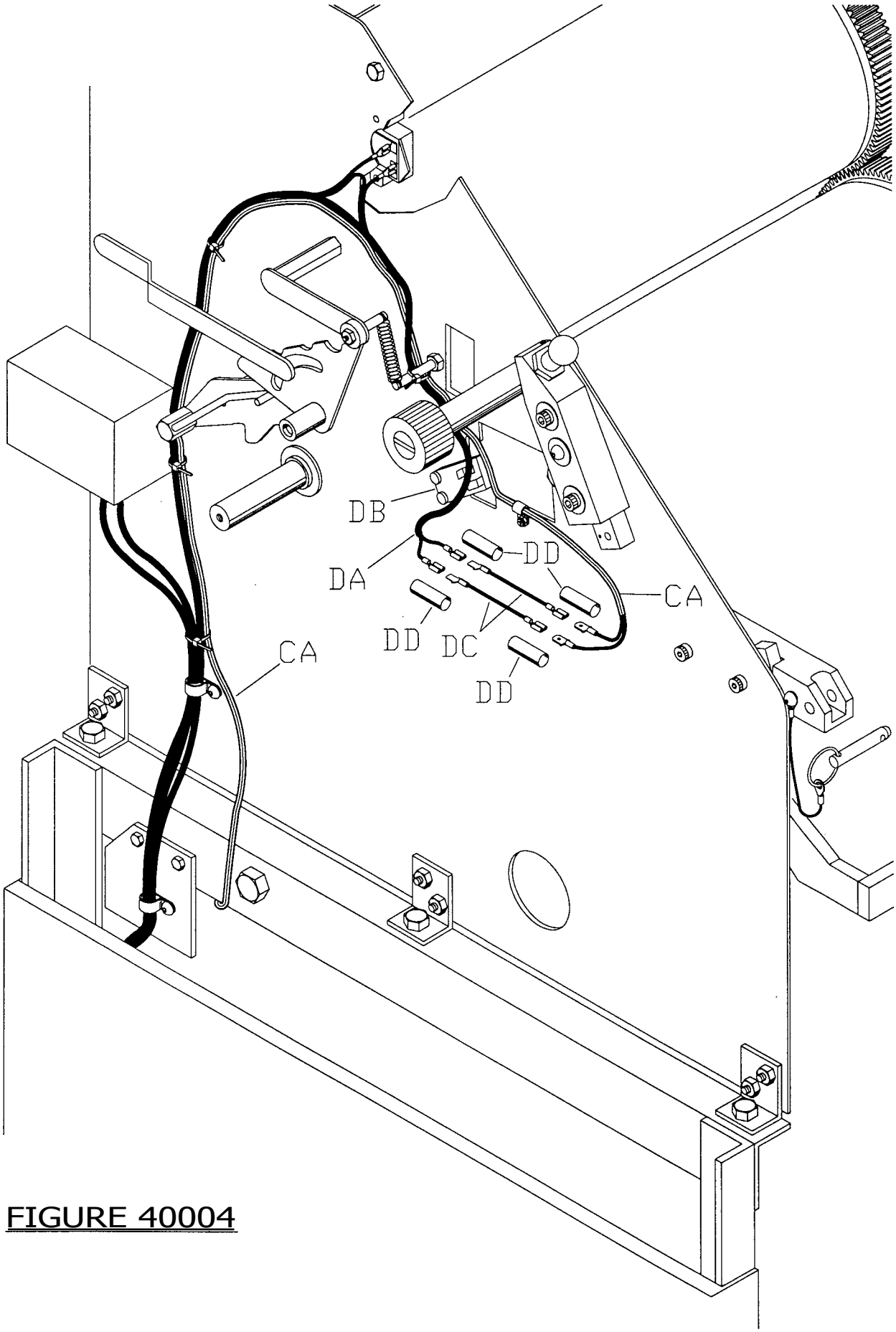

FIGURE 40004

15. Being careful to avoid any moving parts, route the wire harness (CA) along the parent press drive motor support shaft to the operator side of the unit. Then route the wire harness along the parent press wire harness as is illustrated. The wire harness (CA) will be secured to the parent press at a later time.

To complete this step, follow the appropriate instructions after determining the parent press model as is listed on this page and the following pages.

A B DICK 9800 MODELS EXCLUDING 9810XC-2 & 9870 MODELS

Remove the parent press wire harness (DA) from the switch (DB). This switch will no longer be used. Plug the wire harness (CA) and parent press wire harness together. If necessary, use the adapter wires (DC) to connect the wire harnesses. Be sure to use the heat shrink insulators (DD) to insulate the terminals.

Secure the wire harness (CA) to the side frame using the provided 3/16 inch clamp, screw, and nut. The clamp size is embossed onto the clamp. Then affix the wire harness to the parent press drive motor shaft and wire harness using the provided 4-1/2 inch (114mm) and 6 inch (152mm) cable ties.

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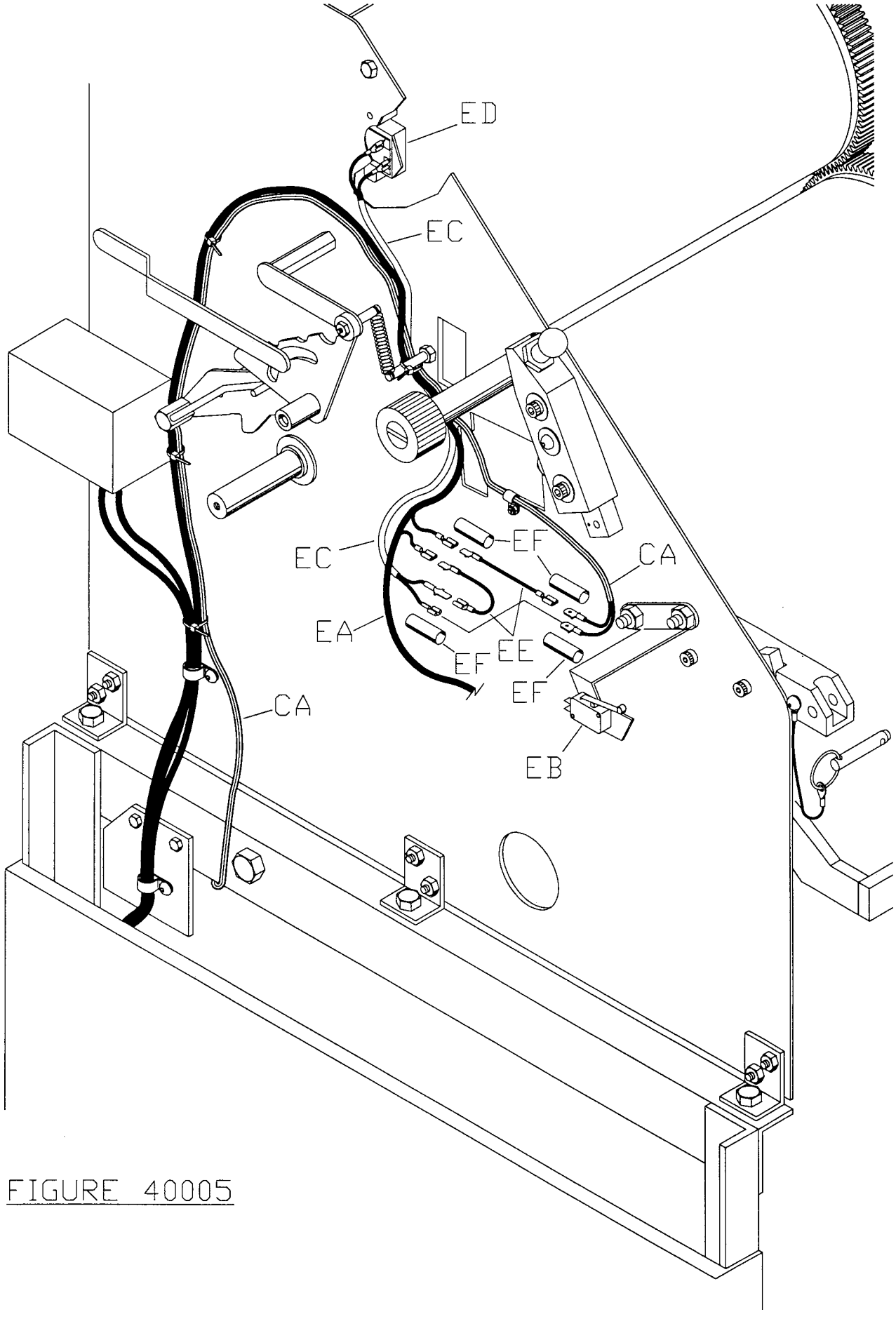

FIGURE 40005

INSTALLATION

A B DICK 9870 MODELS WITH SUPER-AQUAMATIC DAMPENING SYSTEM

Remove the parent press wire harness (EA) from the switch (EB). This switch will no longer be used. Plug the wire harness extension (EC) onto the parent press switch (ED). If the switch is not mounted on the parent press, it must be obtained from the A B Dick Company. Then connect the wire harness (CA), wire harness extension, and parent press wire harness together. If necessary, use the adapter wires (EE) to connect the wire harnesses. Be sure to use the heat shrink insulators (EF) to insulate the terminals.

Secure the wire harness (CA) to the side frame using the provided 3/16 inch clamp, screw, and nut. The clamp size is embossed onto the clamp. Then affix the wire harness to the parent press drive motor shaft and wire harness using the provided 4-1/2 inch (114mm) and 6 inch (152mm) cable ties.

WARNING: BE SURE ALL GUARDS, COVERS, AND SAFETY DEVICES ARE INSTALLED AND PROPERLY ADJUSTED BEFORE OPERATING THIS UNIT. IF THE T-51 IS REMOVED FROM THE PARENT PRESS, THE ORIGINAL GUARDING *MUSTBE* REPLACED BEFORE OPERATING THE PRESS. WHEN THE T-51 IS SWUNG OFF TO THE SIDE, THE REPLACEMENT SAFETY GUARD *MUST* BE USED BEFORE OPERATING THE PRESS.

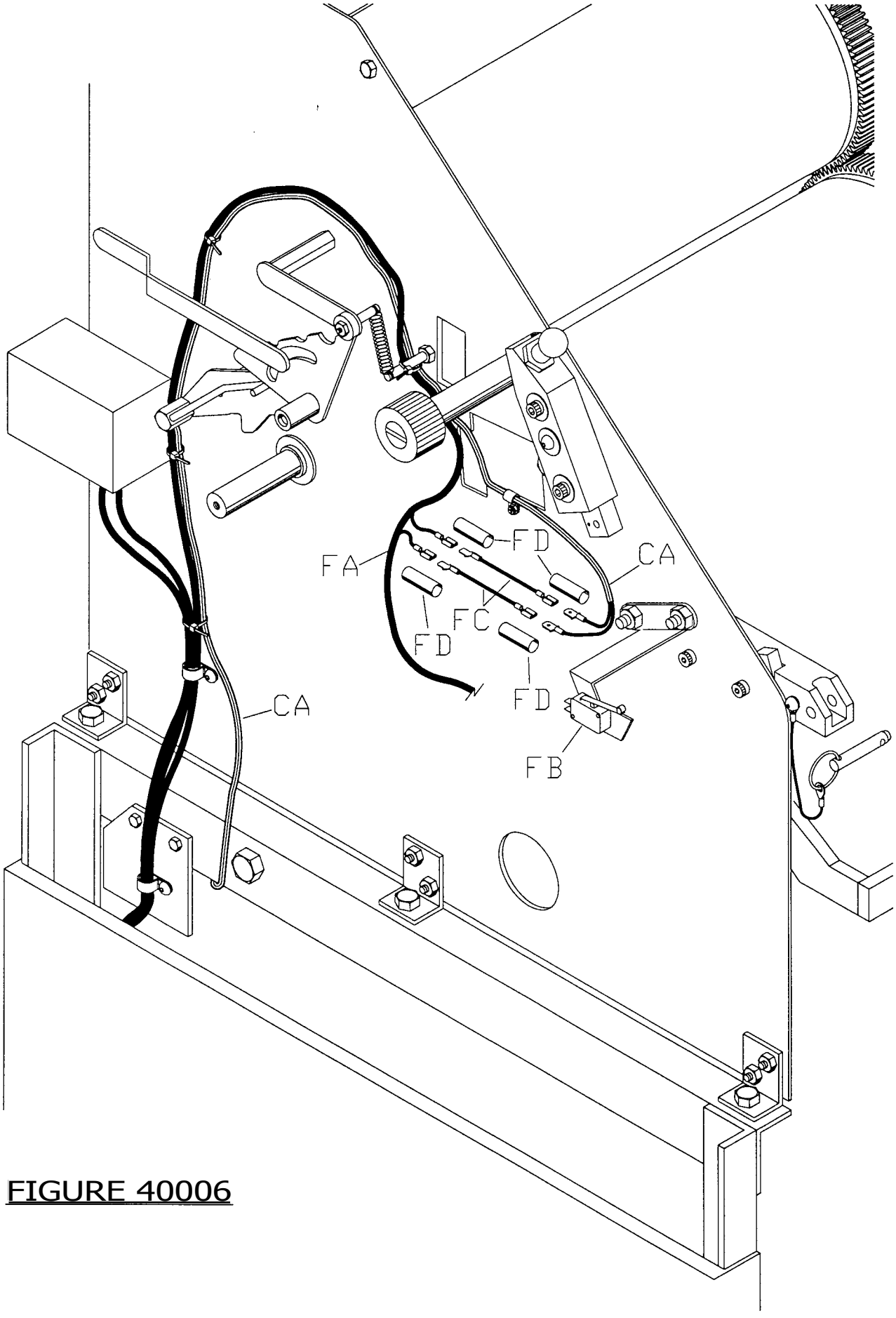

FIGURE 40006

A B DICK 9810XC-2 & 9870 MODELS WITH A B DICK CONTINUOUS DAMPENING SYSTEM

Remove the parent press wire harness (FA) from the switch (FB). This switch will no longer be used. Plug the wire harness (CA) and parent press wire harness together. If necessary, use the adapter wires (FC) to connect the wire harnesses. Be sure to use the heat shrink insulators (FD) to insulate the terminals.

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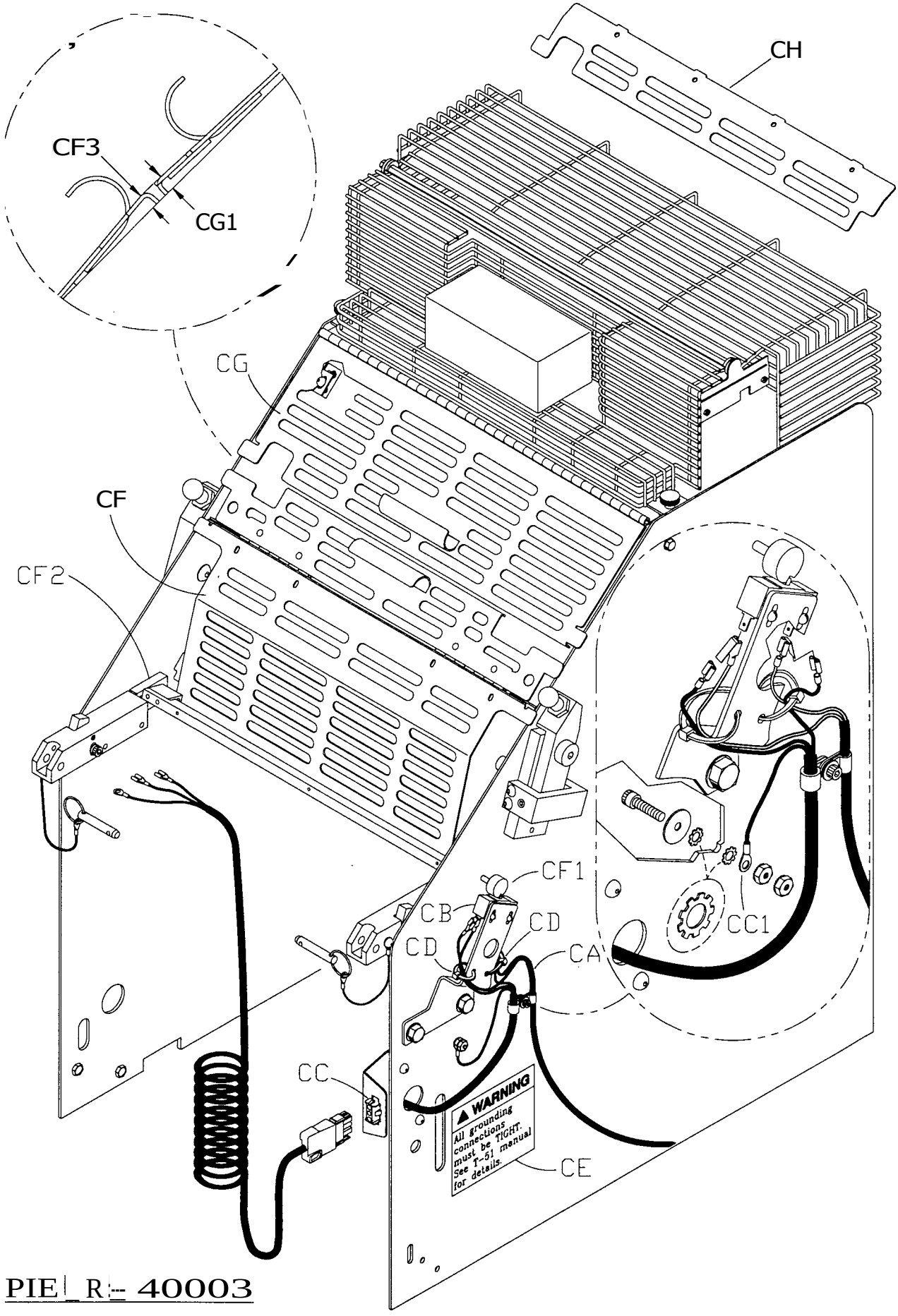
CH
CF3
CG1
CG
CF
CF2
CF1
CB
CD
CD
CA
CC1
CC
WARNING
All grounding connections must be TIGHT. See T-31 manual for details.
CE

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16. Plug in the parent press. To complete this step, follow the appropriate instructions after determining the parent press model.

A B DICK 9800 MODELS EXCLUDING 9810XC-2 & 9870 MODELS WITH A B DICK CONTINUOUS DAMPENING SYSTEM

Mount the guard (CG) using the parent press bolts and nuts. The parent press should turn off when the guard is opened slightly less than 1/2 inch (12mm). This is measured between the guard and side frames as indicated by the dimension (CG1) at the specified location. The magnet may be positioned within the switch field of operation by making use of the slots in the magnet bracket.

A B DICK 9810XC-2 & 9870 MODELS WITH A B DICK CONTINUOUS DAMPENING SYSTEM

Install the guard extension (CH) into the parent press dampening system cover using the provided nuts.

17. Position the switch (CB) using the adjustment screws so that the parent press turns off when the guard (CF) is opened slightly less than 1/2 inch (12mm). This is measured between the guard and side frames as indicated by the dimension (CF3) at the specified location. When the T-51 is mounted on the parent press, the guard will remain on the parent press in the opened position.

WARNING: Unplug the parent press.

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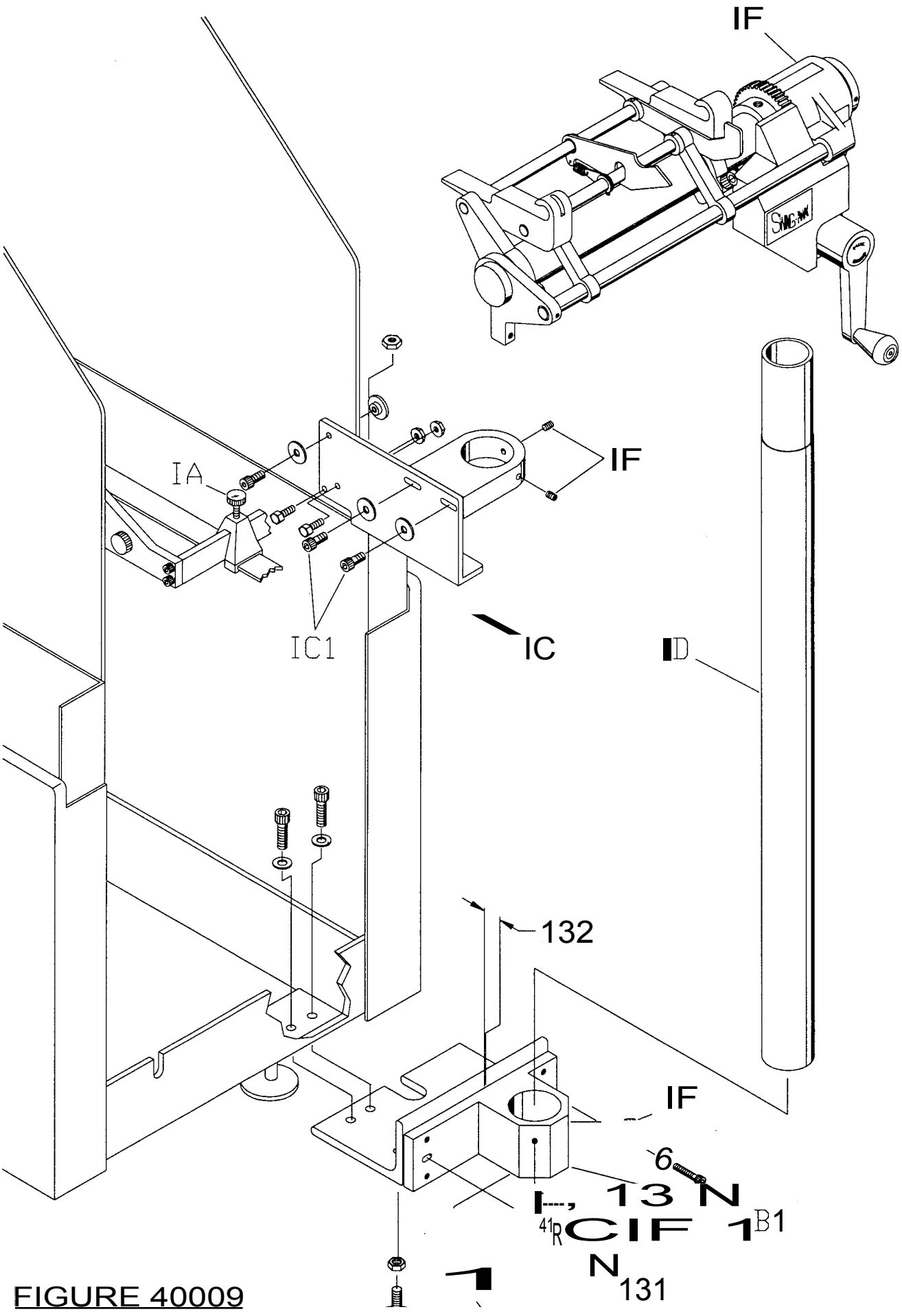

FIGURE 40009

18. Preliminarily install the T-51 Swing-Away post. Replace the paper feed mechanism thumb screws with the provided thumb screws (IA). Loosen the screws (IB1) and set a 1/8 inch (3mm) gap between the plates as indicated by the dimension (1132) with the adjustment screws. Leave the screws (161) loose. Thread the leveling feet (IG) the maximum amount into the post clamp after accessing the lock nut. Mount the post clamp (IB) using the provided screws and washers.

Remove the two parent press bolts and bracket that secures the upper frame to the base frame. Install the post clamp (IC) using the provided screw, bolts, washer, bushing, and three parent press nuts. Loosen the screws (IC1) in the slotted holes.

Insert the post (ID) into the lower and upper post clamps. Mount the Swing-Away arm (1E) onto the undercut end of the post. Leave the screws (IF) loose.

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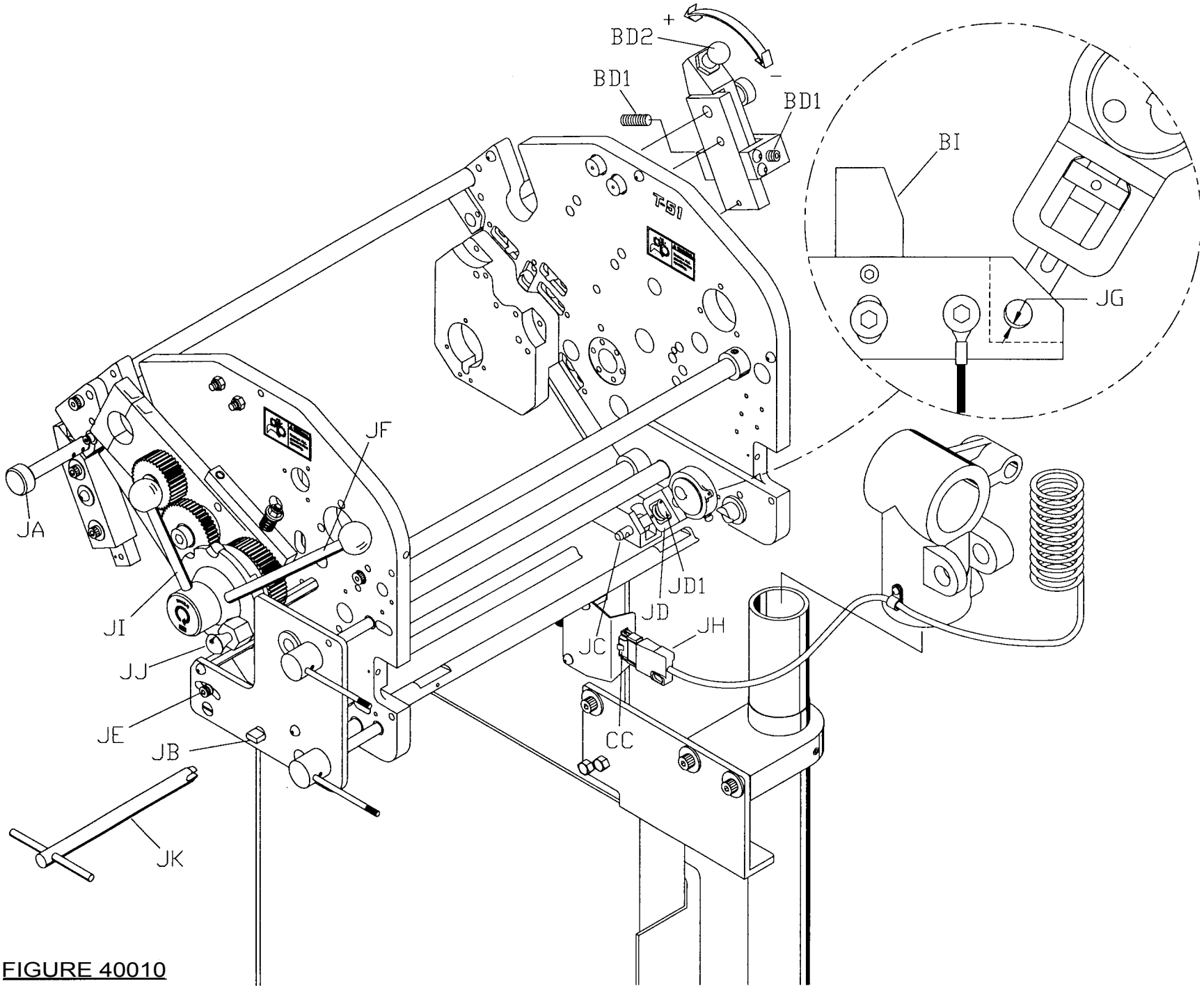

FIGURE 40010

19. Install the T-51 operating controls. Turn each lock knob (JA) counterclockwise the maximum amount to open the internal clamping devices. Using the T-wrench (JK), verify that the shaft (JB) is turned clockwise the maximum amount so that the plate cylinder ring gear will be disengaged from the blanket cylinder ring gear. Remove the pins (JC) from the brackets. Grease each pivot ball (BD2). The ink and dampening systems will be mounted in a later step.

20. **CAUTION:** Set the T-51 on the parent press by lifting on the tie rods instead of the lock knobs (JA).

Tighten the lock knobs which will clamp the unit to the upper brackets. The turnbuckles (JD) should slide into the lower brackets. The pins (JO) will be inserted in a later step. Align the lead edges of the plate and blanket cylinders. Slowly and carefully turn the shaft (JB) counterclockwise with the T-wrench to engage the plate cylinder ring gear with the blanket cylinder ring gear. Moving the handwheel slightly will assist the ring gears in meshing correctly.

NOTE: Improperly meshing the ring gears with one gear tooth on top of another gear tooth can cause plate to blanket pressure loss.

21. Plug the wire harness (JH) onto the wire harness (CC). Attach the wire harness to the Swing-Away head using the provided 5/16 inch clamp and screw. The clamp size is embossed onto the clamp.

22. Preliminarily adjust the plate to blanket pressure as follows:

- Pivot the overall plate to blanket pressure control (JE) to the far left position for maximum (+) pressure by accessing the adjustment screw. This position must be maintained for a later step.

- Verify that the control lever (J1) is in the indicated position with the spring loaded knob (JJ) fully engaged.

- Move the single lever control (JF) to the ON IMPRESSION or far left position.

- Using a strip of paper, adjust the pressure on the non-operator side to equal the pressure on the operator side. Pivoting the bracket clockwise with the screws (BD1) increases (+) the pressure and counterclockwise decreases (-) the pressure. When the pressure is correct, tighten the screws being sure that the adjustment does not change. It is normal for the pressure to be very heavy at this point in the installation.

- Move the single lever control (JF) to the OFF position.

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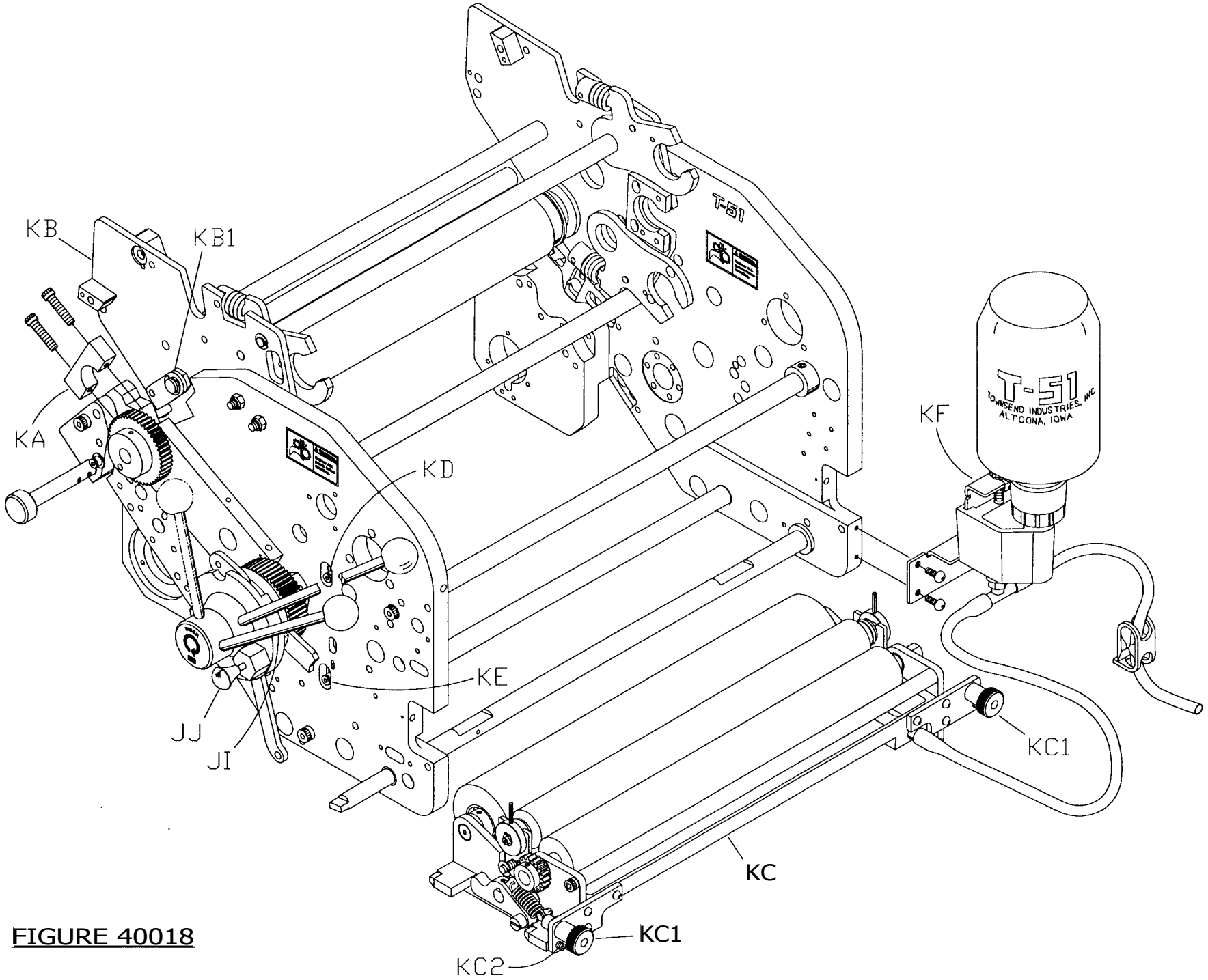

FIGURE 40018

23. Pull out on the knob (JJ) and move the control lever (J1) to the far right position. Take off the retainer blocks (KA). Mount the ink system (KB) as is illustrated being certain that the drive mechanisms on each side of the unit mesh properly. The safety latch (KB1) will automatically snap into position. Temporarily remove the parent press bottle holder if it interferes with the installation of the ink system.

NOTE: Install the operator side retainer block being careful to align the stamped "L" with the stamped "L" on the impression arm. Mount the non-operator side retainer block being sure to align the stamped "R" with the stamped **"R"** on the impression arm. These are matched parts and must never be installed in any other manner.

24. Slide the dampening system (KC) into position. Tighten the thumb screws (KC1) until the transfer roller slightly contacts the oscillator roller eliminating any light at the nip point as viewed from the top of the unit. It may be necessary to back off the screws (KC2) to accomplish this adjustment. These screws will be tightened in a later step.

25. CAUTION: Being careful to avoid pinching fingers, disengage the safety latch (KB1) and rotate the ink system (KB) clockwise until it seats into position.

Move the control lever (JI) to the left until the knob (JJ) snaps into position.

26. Verify that the adjustment screws (KD) and (KE) for ink ductor roller pressure and water ductor roller pressure are centered in each slot. If adjustment is required, loosen the screws and center them. For additional information, refer to the Operation Section.

27. Mount the bottle holder and bracket assembly (KF) using the provided screws. Press the hose onto the water fountain.

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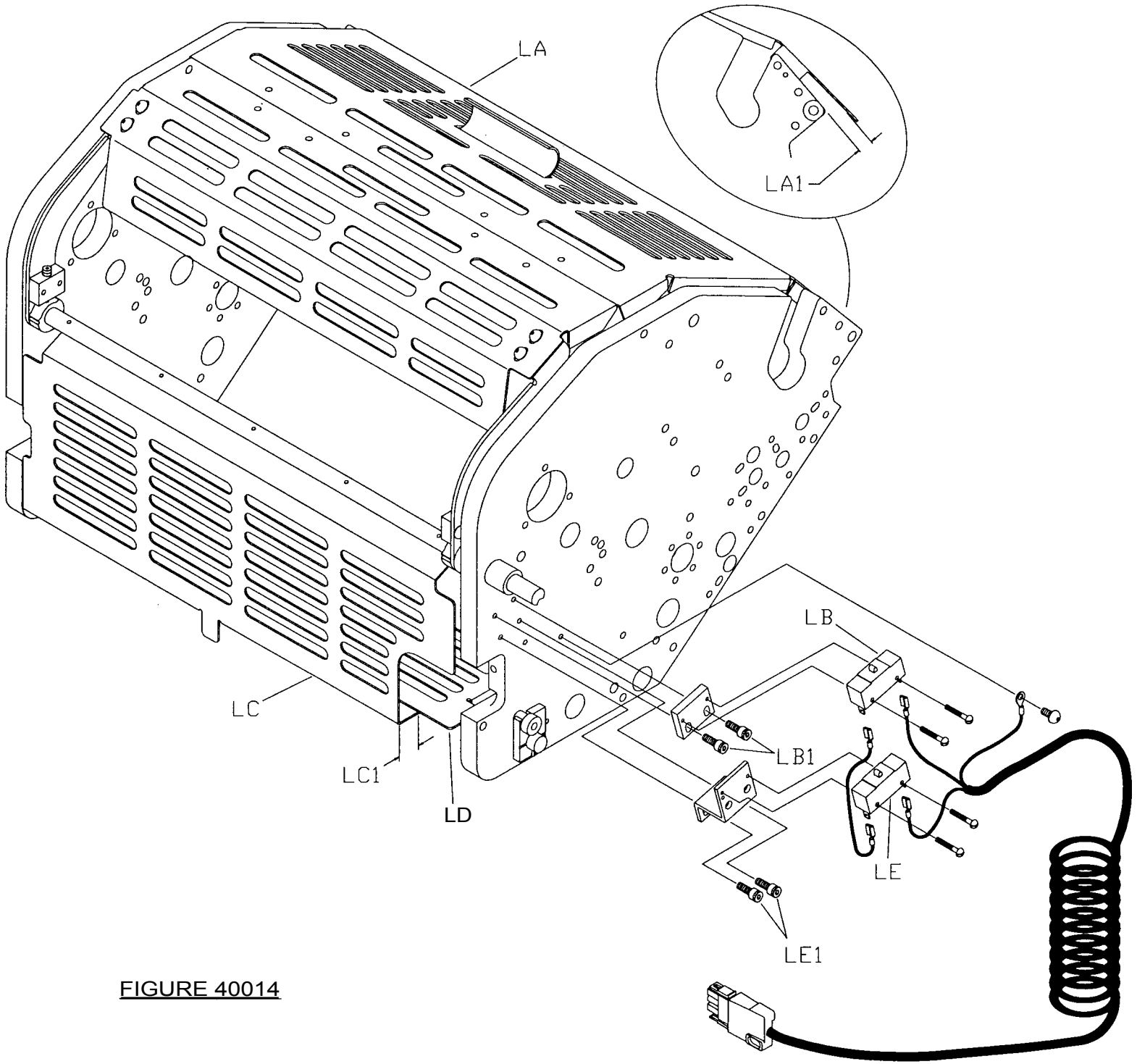

FIGURE 40014

28. Plug in the parent press. Verify that the parent press turns off when the guard (LA) is opened slightly less than 1/2 inch (12mm). This is measured between the lead edge of the guard and side frames as indicated by the dimension (LA1). The guard sensitivity can be adjusted by repositioning the switch (LB) after accessing the adjustment screws (LB1).

Verify that the parent press turns off when the guard (LC) is opened slightly less than 1/2 inch (12mm). This is measured between the lead edge of this guard and guard (LD) as indicated by the dimension (LC1). The guard sensitivity can be adjusted by repositioning the switch (LE) after accessing the adjustment screws (LE1).

29. Install the drip tray and mount a plate on the T-51. Put ink in the ink fountain and ink the rollers in the ink and dampening systems. Verify the following pressures only in the specified sequence:

- The ink and dampening system form roller to oscillator roller residual stripes from the nip points should measure 5/32 inch (4mm) across the rollers. Check the pressures by following the procedure in the section entitled FORM ROLLER TO OSCILLATOR ROLLER PRESSURES in the OPERATION SECTION.

- Image the plate with all four form rollers. Verify that the ink form rollers lay a 5/32 inch (4mm) stripe for metal plates and 1/8 inch (3.2mm) stripe for camera direct plates across the plate. The water form roller should lay a 3/32 inch (2.4mm) stripe for metal plates and 1/8 inch (3.2mm) stripe for camera direct plates across the plate. Refer to the section entitled FORM ROLLER TO PLATE PRESSURES in the OPERATION SECTION if adjustments are required.

30. Finalize the water transfer roller to oscillator roller pressure by following the procedure in the section entitled WATER TRANSFER ROLLER TO OSCILLATOR ROLLER PRESSURE in the OPERATION SECTION.

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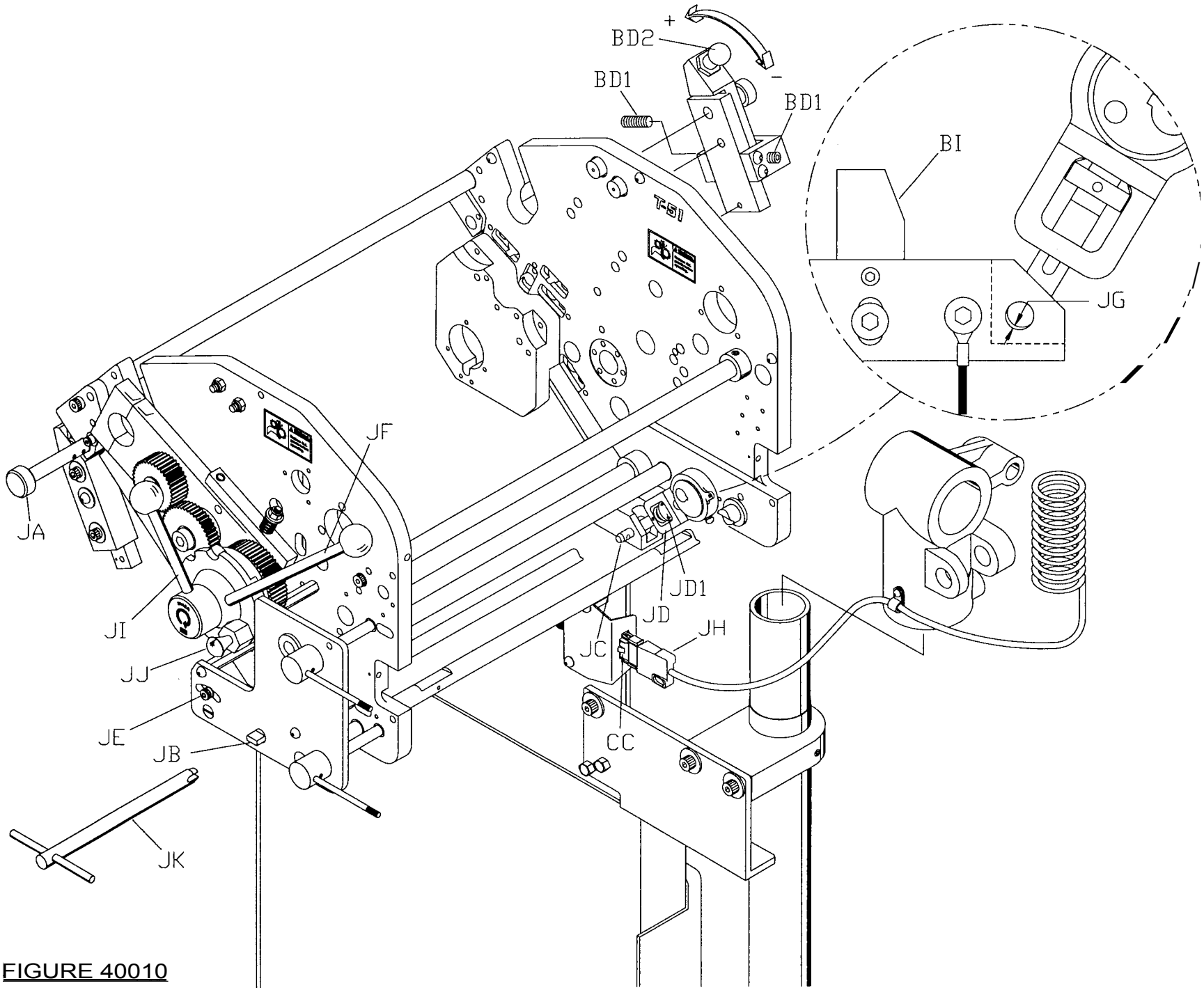

FIGURE 40010

31. Place the bottle of fountain solution in the bottle holder. Adjust the height of the bottle holder so that the fountain solution just contacts the bottom of the fountain roller.

32. With the water controls in the OFF position, move the single lever control (JF) to the WATER AND INK ON position and ink the plate solid.

NOTE: Image the blanket and verify that the plate to blanket stripe does not exceed a measured parallel 1/4 inch (6.35mm) stripe.

If the stripe is not parallel, adjust the plate to blanket pressure as follows:

- Pivot the overall plate to blanket pressure control (JE) to the far left position for maximum (+) pressure by accessing the adjustment screw.

- Adjust the pressure on the non-operator side to equal the pressure on the operator side. Pivoting the bracket clockwise with the screws (BD1) increases (+) the pressure and counter-clockwise decreases (-) the pressure. When the pressure is parallel, tighten the screws being sure that the adjustment does not change.

- With the single lever control (JF) in the ON IMPRESSION or far left position, raise the blocks (BI) until they firmly contact the eccentrics. Lock them in position with the two screws on each bracket. Move the single lever control to the OFF position.

- Image the blanket and verify that the plate to blanket stripe does not exceed a measured 1/4 inch (6.35mm) stripe. If the pressure is excessive, raise each block (BI) an equal amount with the single lever control in the OFF position. Image the blanket again to check the stripe. Keep adjusting the block height until the correct pressure is achieved.

- With the single lever control (JF) in the ON IMPRESSION position, note the alignment of each turnbuckle (JD) with each bracket hole. The dimension (JG) should be approximately 1/32 inch (.8mm) on both sides of the unit. Adjustment is made by turning each collar (JD1).

- Move the single lever control to the OFF position and insert the pins (JO).

- Reposition the overall plate to blanket pressure control (JE) so that the stripe is 5/32 inch (4mm) in width.

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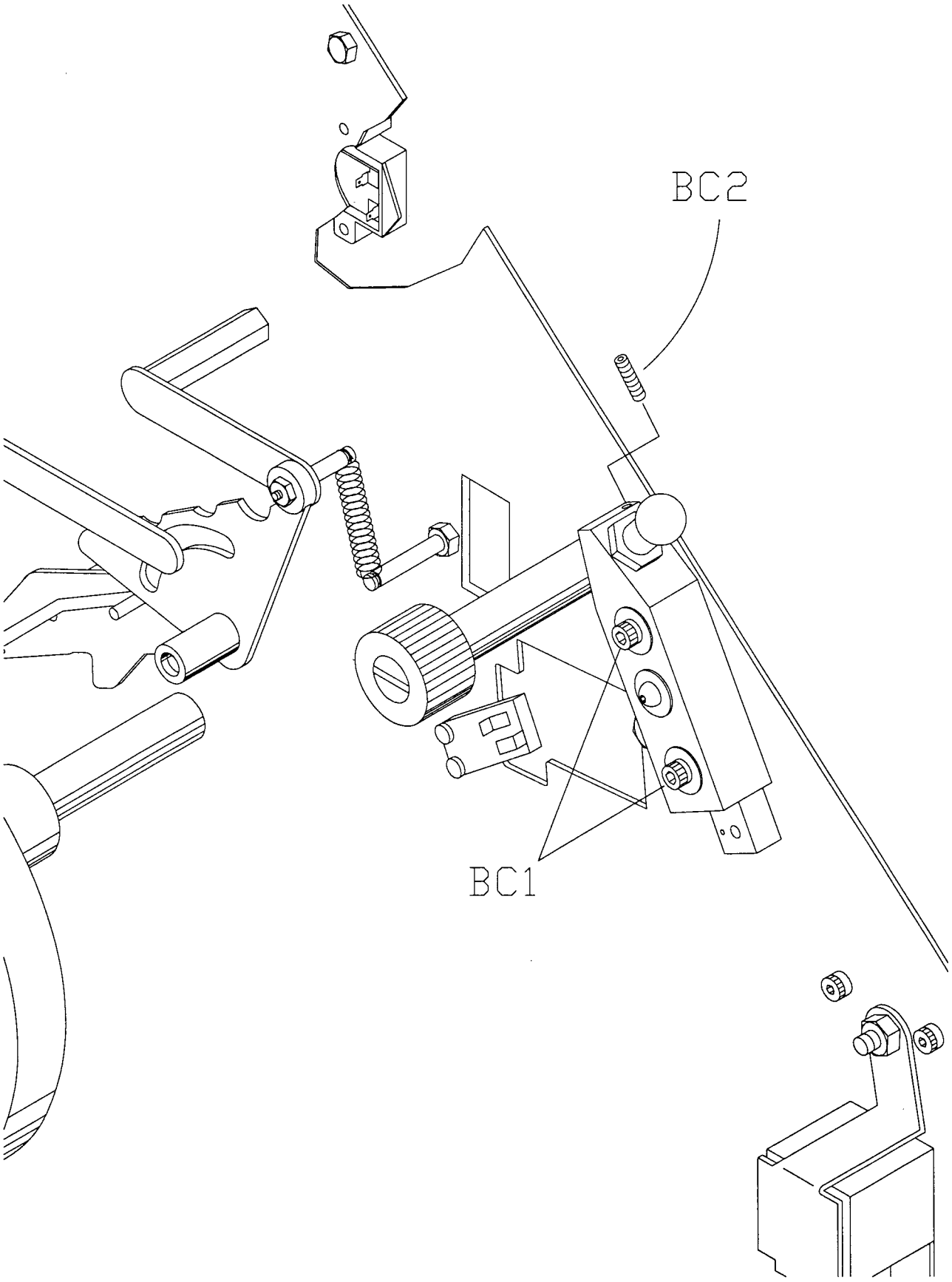

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33. Leveling of the plate cylinder to the blanket cylinder is extremely important. Make a negative with cross hairs in all four corners. Develop two plates from this negative and mount one on each press. Adjust the plates using vertical, horizontal, or twisting adjustments until the targets on the non-operator side of the plates are registered. If the targets on the operator side are not registered, the leveling screw (BC2) must be changed.

Keep in mind that you will be changing the targets on the T-51 to match those on the parent press. The leveling screw may be changed as follows with the press running and feeding sheets of paper after accessing the screws (BC1):

- If the targets on the operator side are high, turn the leveling screw (BC2) clockwise to lower the targets on the operator side.

- If the targets on the operator side are low, turn the leveling screw (BC2) counterclockwise to raise the targets on the operator side.

If after leveling, the targets are lined up at the top of sheet and yet do not fit vertically at the bottom (one plate looks as though the image is longer), it will be necessary to use packing under the plate with the long image. Usually a sheet of .001 inch (.025mm) or .002 inch (.05mm) mylar is all that is required.

WARNING: BE SURE ALL GUARDS, COVERS, AND SAFETY DEVICES ARE INSTALLED AND PROPERLY ADJUSTED BEFORE OPERATING THIS UNIT. IF THE T-51 IS REMOVED FROM THE PARENT PRESS, THE ORIGINAL GUARDING *MUSTBE* REPLACED BEFORE OPERATING THE PRESS. WHEN THE T-51 IS SWUNG OFF TO THE SIDE, THE REPLACEMENT SAFETY GUARD *MUST* BE USED BEFORE OPERATING THE PRESS.

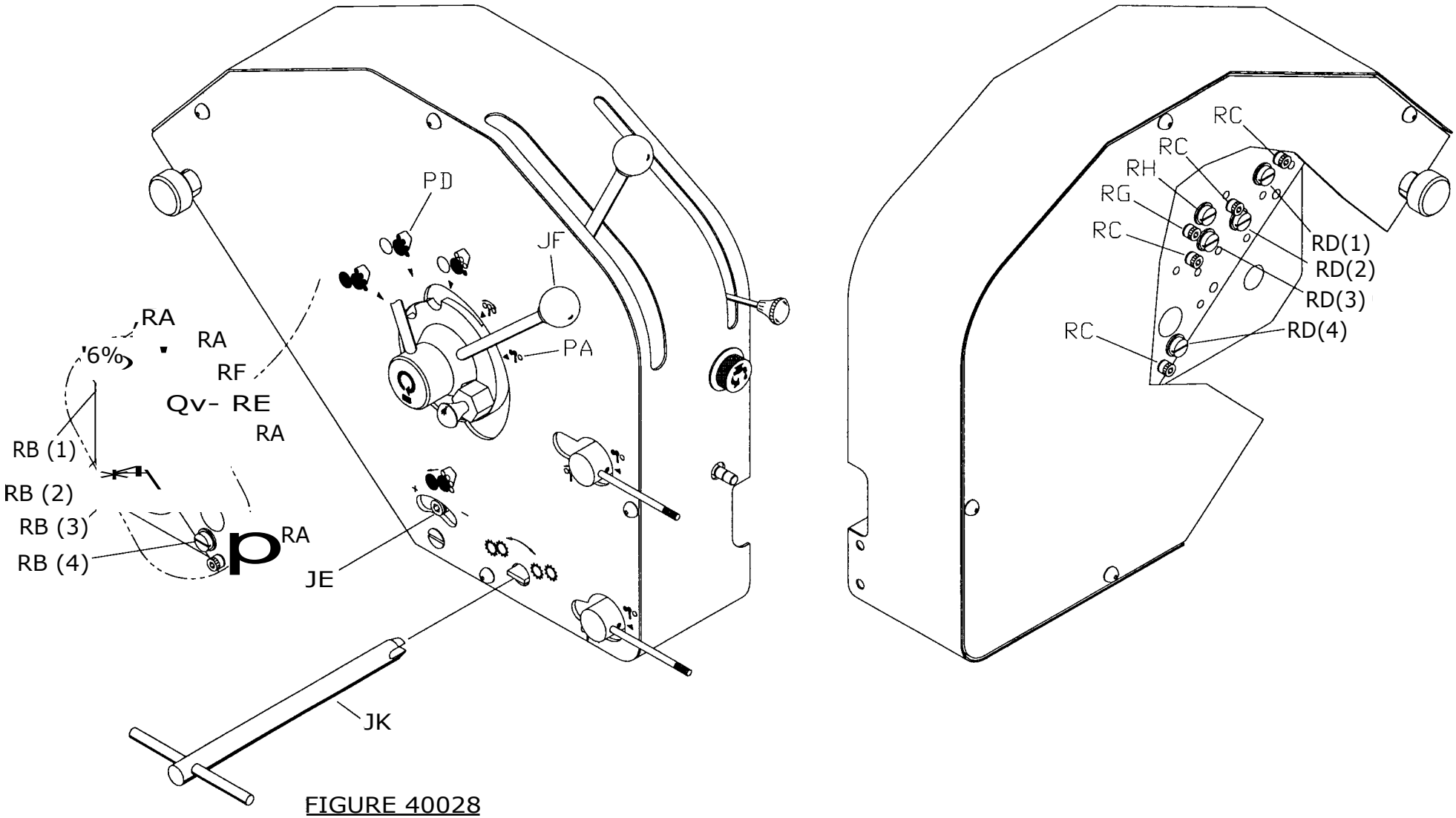


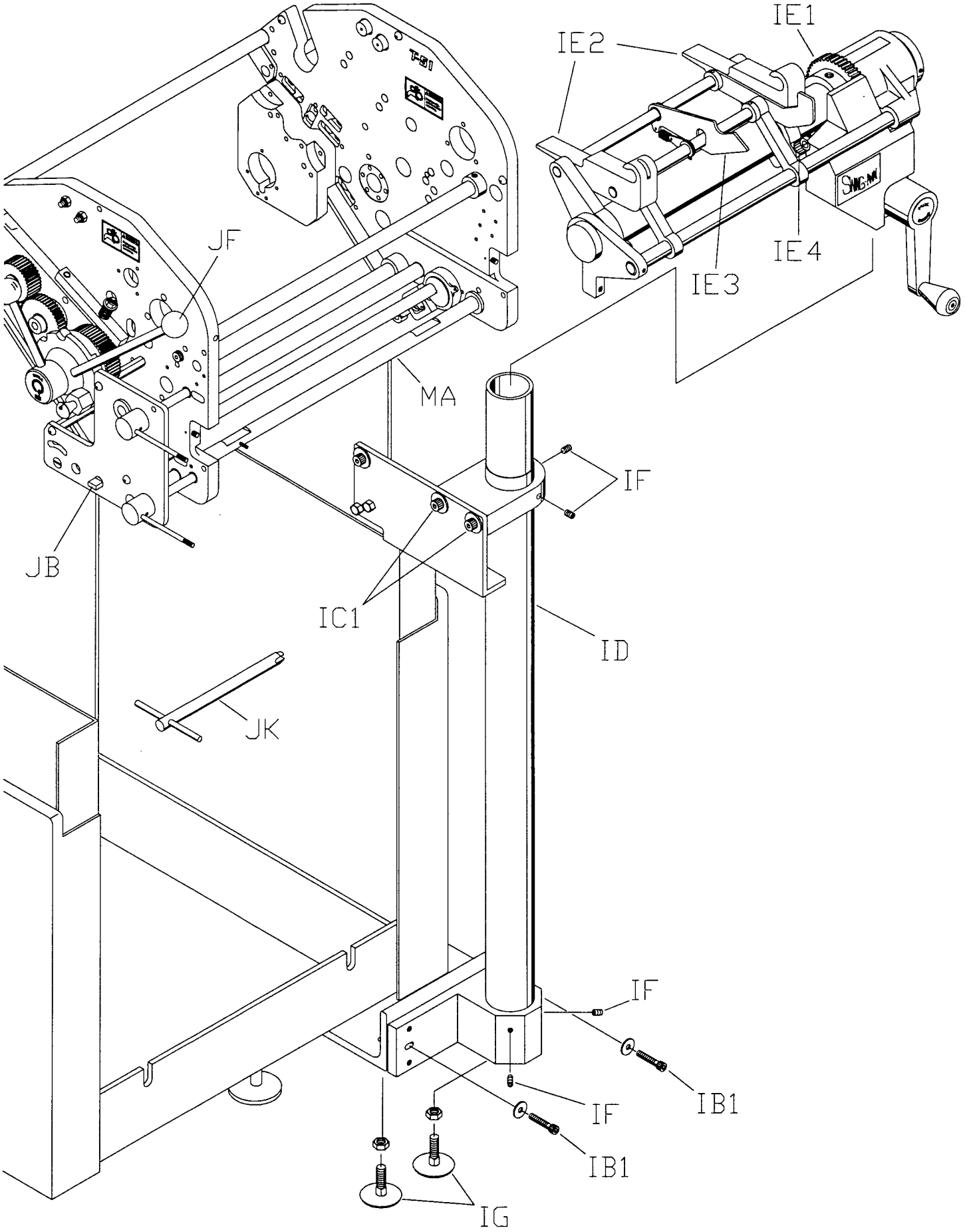
FIGURE 40028

34. Clean the 1-51 by following the procedure in the section entitled CLEANUP ATTACHMENT in the OPERATION SECTION. If the unit washs up unevenly from side to side, make the following adjustments:

- After accessing the lock screw (RE), turn the operator side eccentric (RF) clockwise to increase the rate of cleanup on that side of the 1-51.

- After accessing the lock screw (RG), turn the non-operator side eccentric (RH) counterclockwise to increase the rate of cleanup on that side of the 1-51.

WARNING: BE SURE ALL GUARDS, COVERS, AND SAFETY DEVICES ARE INSTALLED AND PROPERLY ADJUSTED BEFORE OPERATING THIS UNIT. IF THE T-51 IS REMOVED FROM THE PARENT PRESS, THE ORIGINAL GUARDING *MUSTBE* REPLACED kk BEFORE OPERATING THE PRESS. WHEN THE 1-51 IS SWUNG OFF TO THE SIDE, THE REPLACEMENT SAFETY GUARD *MUST* BE USED BEFORE OPERATING THE PRESS.



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WARNING: Unplug the parent press.

35. Finalize the T-51 Swing-Away post installation. Adjust the leveling feet (IG) so that they contact the floor and tighten the nuts. With the single lever control (JF) in the ON IMPRESSION position, lift the post (ID) and adjust a 1/16 inch (2mm) gap between the worm gear (1E1) and side frame. Tighten the screws (IF). Move the single lever control to the OFF position.

Using the T-wrench (JK), turn the shaft (JB) clockwise the maximum amount to disengage the plate cylinder ring gear from the blanket cylinder ring gear. Position the lift fingers (1E2) under the locking shaft (MA). The safety lock (1E3) will automatically snap into position. If the locking shaft pin is not centered with the lift finger hole, loosen the screws (1E4) and align the mechanism by tapping on the lift arms. Remove any end play between the lift arms and lift fingers. Turn the locking shaft counterclockwise with the T-wrench to engage the lift fingers. Position the post vertically and tighten the screws (1E4), (Id), and (IB1) in the order listed.

Read the section entitled REMOVING THE T-51 WITH THE SWING-AWAY in the OPERATION SECTION and then swing the T-51 off to the side.

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WARNING: BE SURE ALL GUARDS, COVERS, AND SAFETY DEVICES ARE INSTALLED AND PROPERLY ADJUSTED BEFORE OPERATING THIS UNIT. IF THE T-51 IS REMOVED FROM THE PARENT PRESS, THE ORIGINAL GUARDING *MUSTBE* REPLACED BEFORE OPERATING THE PRESS. WHEN THE T-51 IS SWUNG OFF TO THE SIDE, THE REPLACEMENT SAFETY GUARD *MUST* BE USED BEFORE OPERATING THE PRESS.

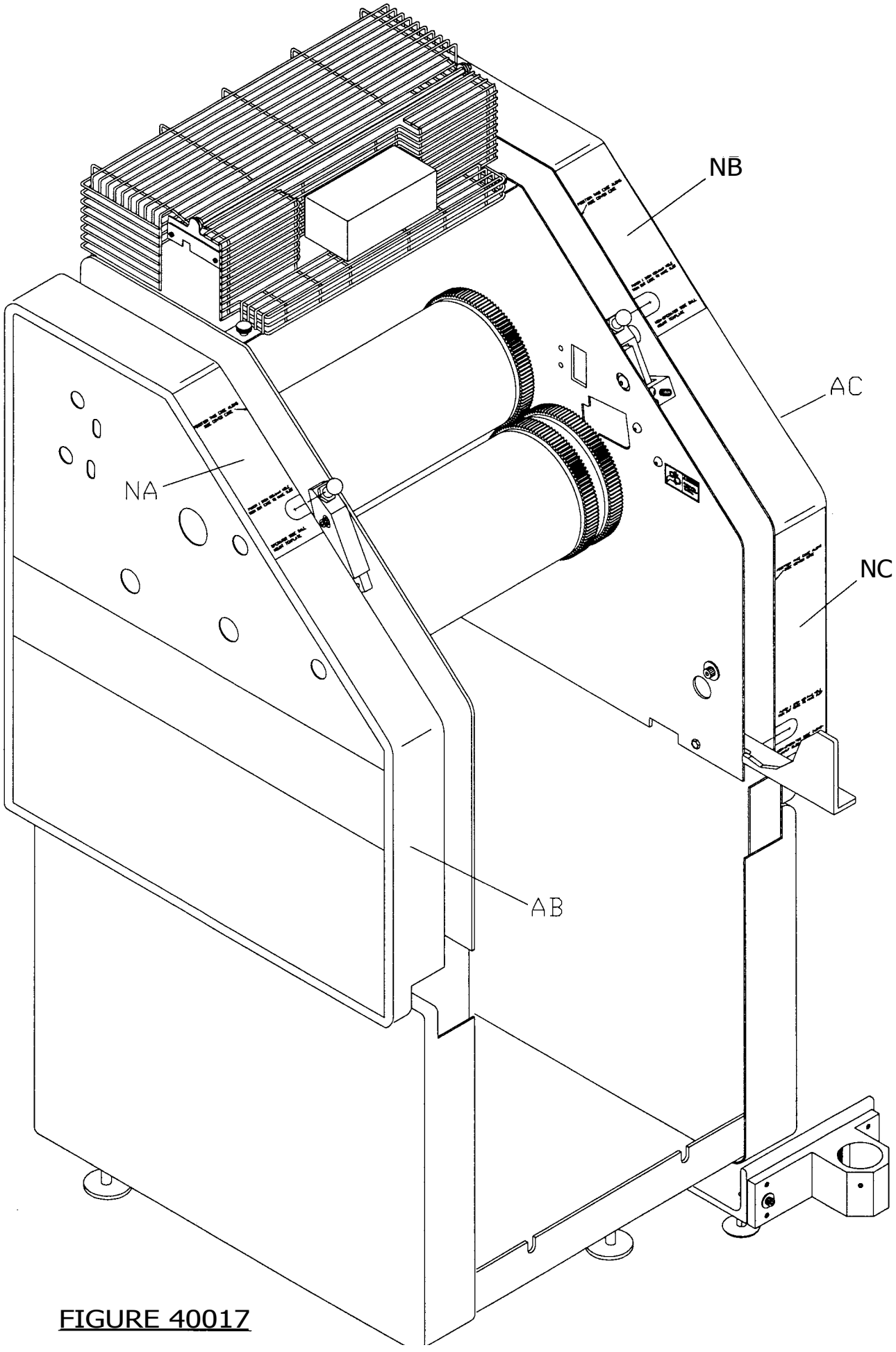

FIGURE 40017

36. Take off the parent press operating controls. If no knock outs are provided on the parent press side covers, notch them as follows:

- Position the side cover (AB) against the side frame. Apply the OPERATOR SIDE BALL MOUNT TEMPLATE (NA) to the side cover as illustrated. Then follow the instructions on the template and cut the notch in the side cover to provide clearance for the upper mounting bracket. A portion of the side cover inner flange must also be removed.

- Position the side cover (AC) against the side frame. Apply the NON-OPERATOR SIDE BALL MOUNT TEMPLATE (NB) and NON-OPERATOR SIDE SWING-AWAY BRACKET TEMPLATE (NC) to the side cover as illustrated. Then follow the instructions on the templates and cut the notches in the side cover to provide clearance for the upper mounting bracket and Swing-Away post bracket. A portion of the side cover inner flange must also be removed.

Install the side covers and operating controls.

WARNING: BE SURE ALL GUARDS, COVERS, AND SAFETY DEVICES ARE INSTALLED AND PROPERLY ADJUSTED BEFORE OPERATING THIS UNIT. IF THE T-51 IS REMOVED FROM THE PARENT PRESS, THE ORIGINAL GUARDING *MUSTBE* REPLACED BEFORE OPERATING THE PRESS. WHEN THE T-51 IS SWUNG OFF TO THE SIDE, THE REPLACEMENT SAFETY GUARD *MUST* BE USED BEFORE OPERATING THE PRESS.

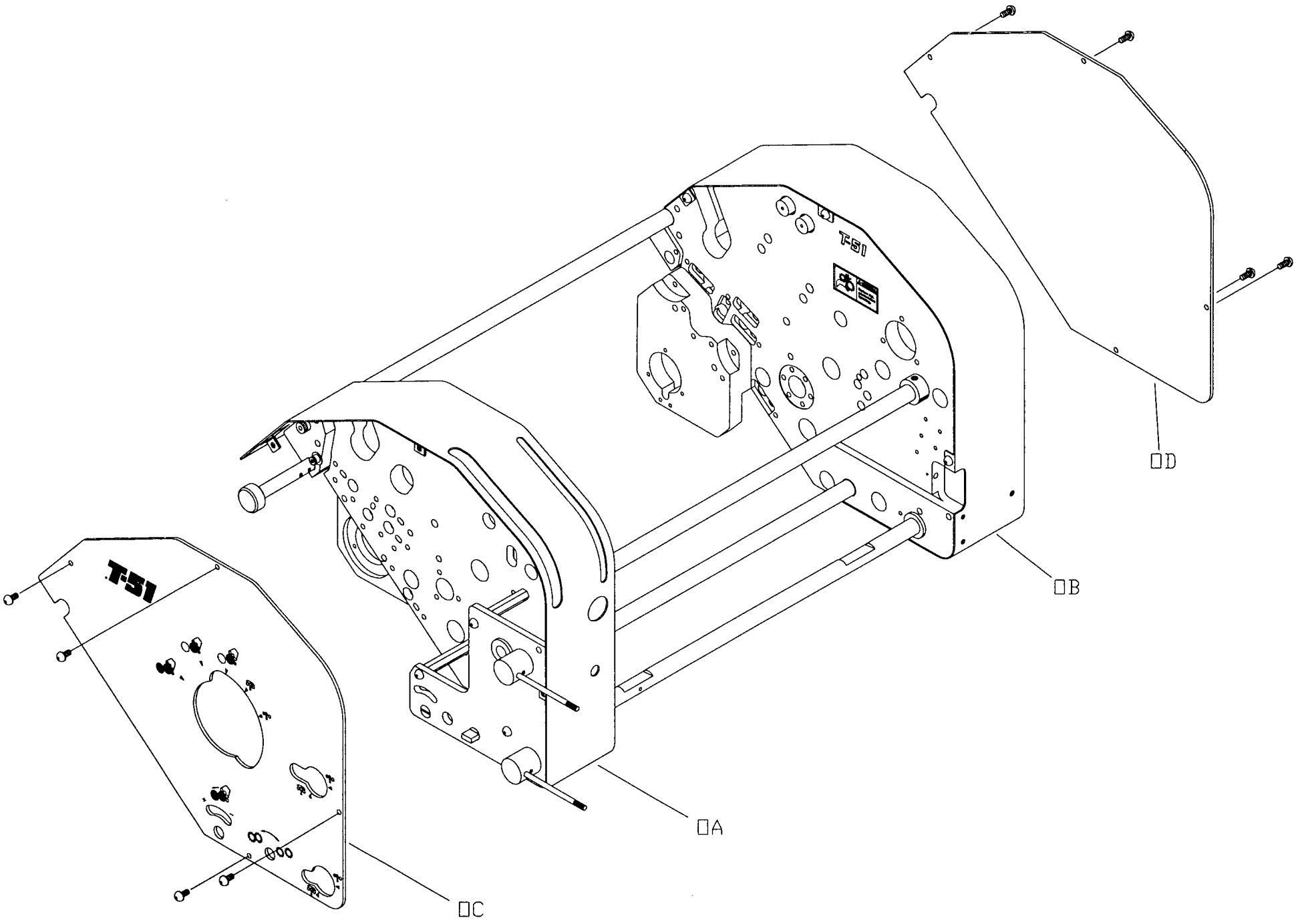

FIGURE 40019

37. Take off the T-51 operating controls and bottle holder bracket. Mount the side frame flanges (OA) and (OB) on the side frames. Install the side guards (OC) and (OD). Replace the operating controls and bottle holder bracket.

C WARNING: BE SURE ALL GUARDS, COVERS, AND SAFETY DEVICES ARE INSTALLED AND PROPERLY ADJUSTED BEFORE OPERATING THIS UNIT. IF THE T-51 IS REMOVED FROM THE PARENT PRESS, THE ORIGINAL GUARDING *MUSTBE* REPLACED BEFORE OPERATING THE PRESS. WHEN THE T-51 IS SWUNG OFF TO THE SIDE, THE REPLACEMENT SAFETY GUARD *MUST* BE USED BEFORE OPERATING THE PRESS.

SECTION

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OPERATION

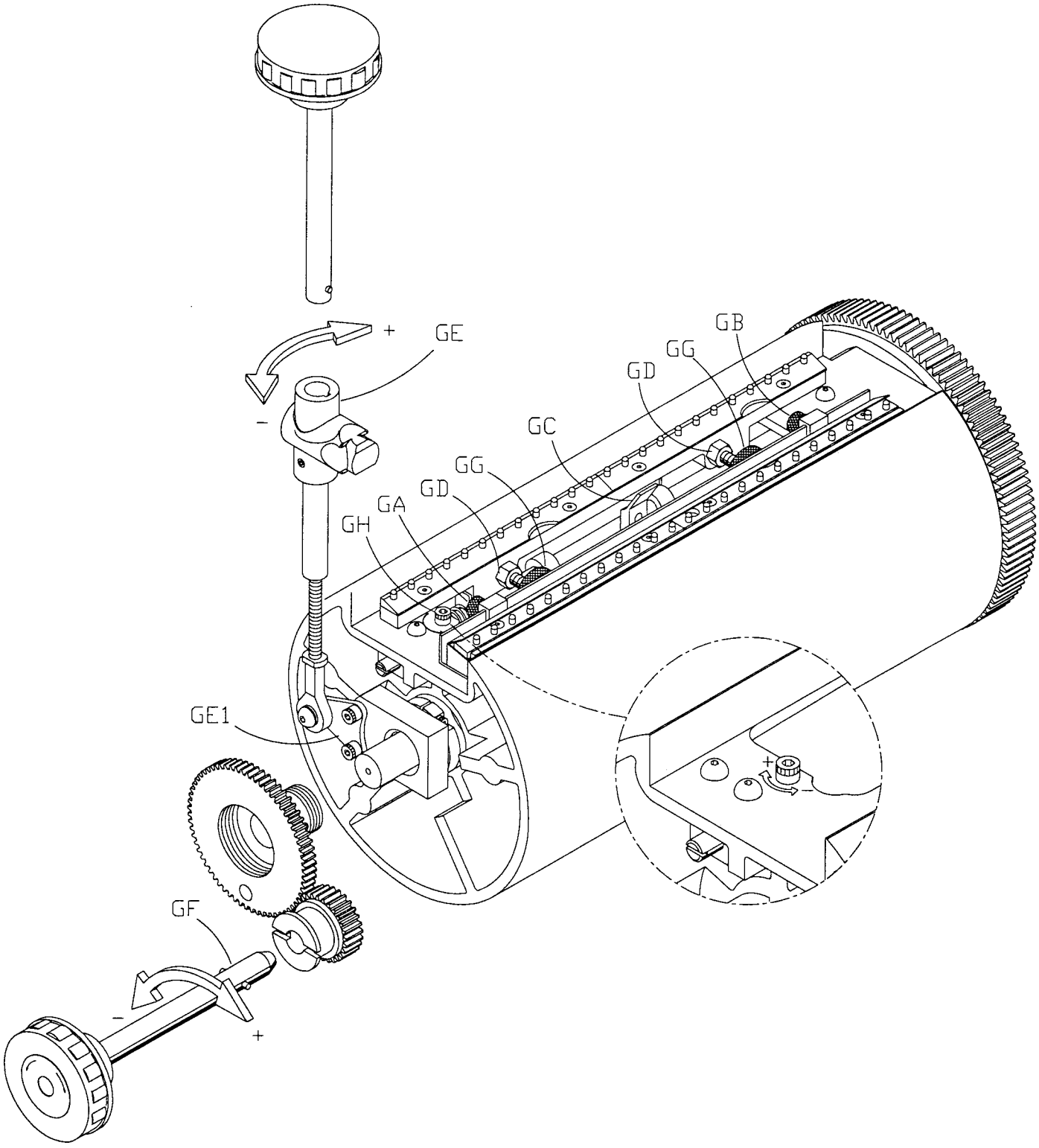


FIGURE 40007

OPERATION

If you have installed your1-51 in accordance with the INSTALLATION SECTION, you are now ready to begin printing two-color work. This section is written to supply you with the necessary information to make adjustments properly and operate your T-51 efficiently.

AFFIXING PLATE

Mount the plate on the plate cylinder as follows:

1. Grasp the trail edge of the plate with the right hand holding it vertically over the edge of the plate cylinder opening.

2. Attach the plate to the lead edge plate clamp which pivots at the center.

3. Rotate the handwheel with the left hand to turn the 1-51 plate cylinder down. The plate will feed on as you hold the trail edge. Keep the plate tight and straight.

4. Attach the plate to the trail edge plate clamp. Tighten the plate on the plate cylinder.

When attaching the plate to the parent press, do not hold the trail edge as usual. Place the right hand lightly on the surface of the plate, as it rolls around the plate cylinder, keeping it snug against the plate cylinder surface.

COMBINATION CLAMP

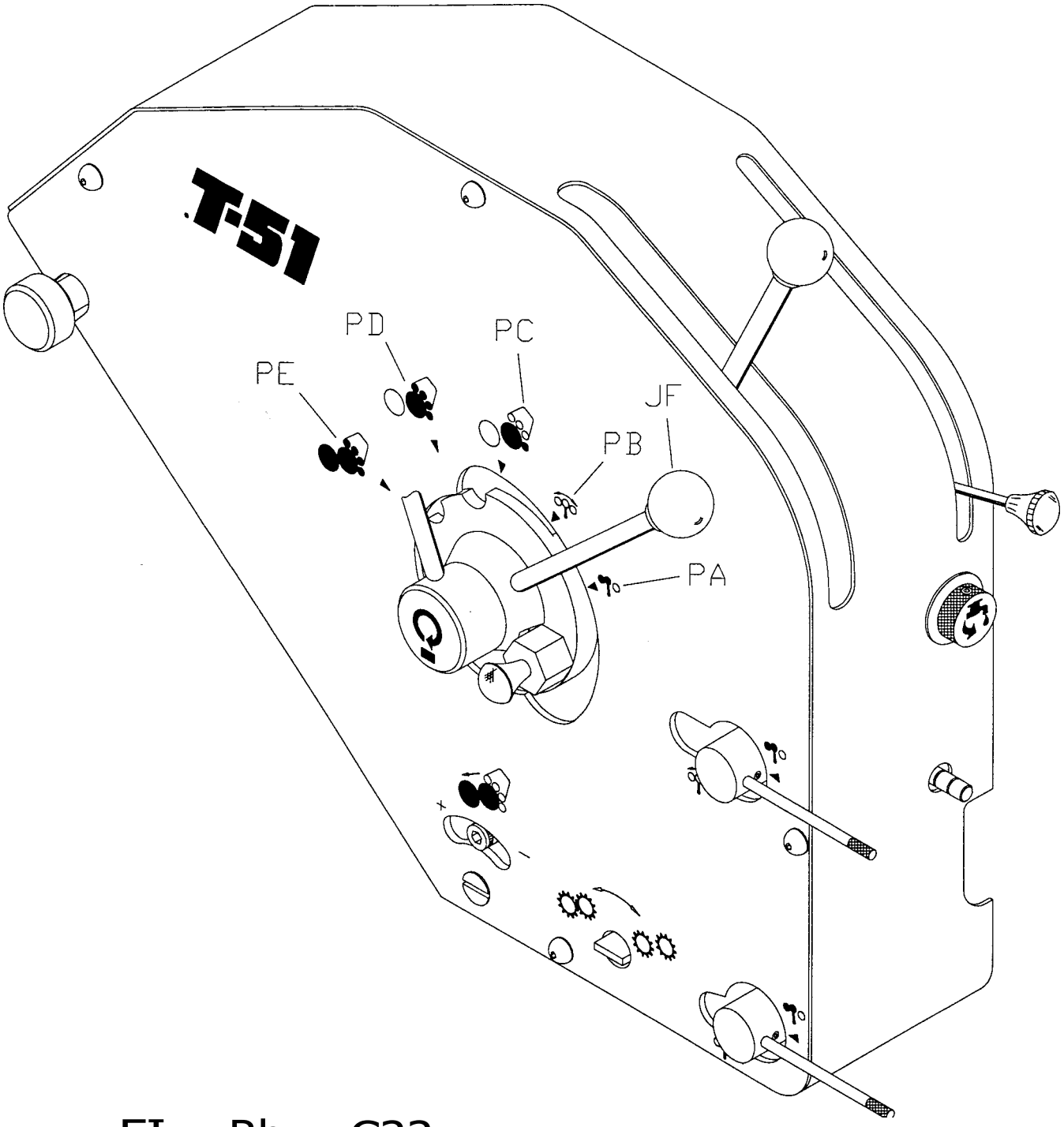
The combination clamp is built with a device to holding straight edge (unpunched) plates but also has pins to be used with punched plates.

To set the clamp for straight edge plates, the screws (GA) and (GB) must be adjusted until there is no pivoting action and the clamp is parallel with the lead edge of the plate cylinder. To open the clamp, push down on the lever (GC). The clamp will remain locked open until a plate is positioned and the lever is lifted. Always be sure the lead edge of the plate is in the clamp straight and that the plate is centered on the plate cylinder surface before closing the clamp.

When running straight edge plates that are not fastened at the trail edge, a plate twist can be accomplished by removing the plate from the plate cylinder surface. To swing the trail edge of a plate toward the operator, loosen the non-operator side pivot screw (GB) a predetermined amount. Tighten the operator side pivot screw (GA) the same amount. The clamp can be adjusted either direction to straighten a crooked image.

NOTE: Before operating the 1-51, tighten the lock nut (GD) on each trail edge plate clamp thumb screw.

WARNING: BE SURE ALL GUARDS, COVERS, AND SAFETY DEVICES ARE INSTALLED AND PROPERLY ADJUSTED BEFORE OPERATING THIS UNIT. IF THE T-51 IS REMOVED FROM THE PARENT PRESS, THE ORIGINAL GUARDING *MUSTBE* REPLACED BEFORE OPERATING THE PRESS. WHEN THE T-51 IS SWUNG OFF TO THE SIDE, THE REPLACEMENT SAFETY GUARD *MUST* BE USED BEFORE OPERATING THE PRESS.



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OPERATION

SINGLE LEVER CONTROL

To use the single lever control (JF), use the following sequence of operation:

1. Move the lever from the OFF (PA) position to the DUCTOR ROLLERS ON (PB) position. Refer to the section entitled DUCTOR ROLLER LOCKOUTS for information on how the lockouts will affect single lever control operation.

2. After 2 - 3 plate cylinder revolutions, move the lever to the WATER ON (PC) position.

3. After 2 - 3 plate cylinder revolutions, move the lever to the WATER AND INK ON (PD) position.

4. When the plate runs clean, move the lever to the ON IMPRESSION (PE) position to image the blanket.

5. Before stopping the parent press, move the lever to OFF position.

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WARNING: BE SURE ALL GUARDS, COVERS, AND SAFETY DEVICES ARE INSTALLED AND PROPERLY ADJUSTED BEFORE OPERATING THIS UNIT. IF THE 1-51 IS REMOVED FROM THE PARENT PRESS, THE ORIGINAL GUARDING *MUSTBE* REPLACED BEFORE OPERATING THE PRESS. WHEN THE T-51 IS SWUNG OFF TO THE SIDE, THE REPLACEMENT SAFETY GUARD *MUST* BE USED BEFORE OPERATING THE PRESS.
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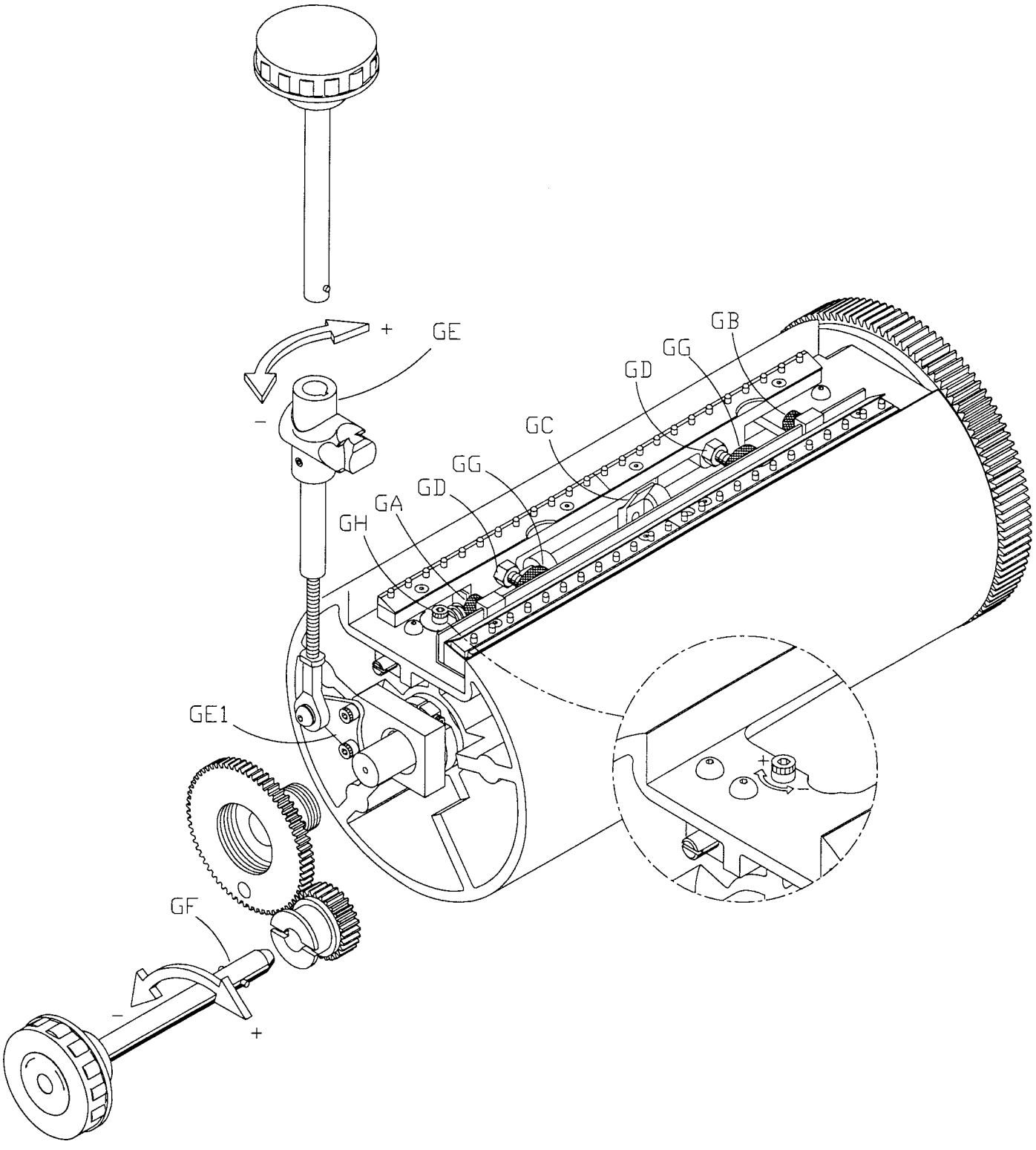

FIGURE 40007

OPERATION

REGISTRATION

VERTICAL

A vertical move of the T-51 image may be made with the parent press turned off or as it is running feeding sheets of paper. Turning the knob (GE) clockwise moves the image up or toward (+) the gripper and counterclockwise moves the image down or away (-) from the gripper.

With the plate (GE1) positioned horizontally as is indicated, the T-51 image may be moved toward the gripper 3/16 inch (4.7mm) or away from the gripper 3/16 inch (4.7mm). If a larger register move is required, follow the procedure outlined below:

1. Disengage the plate cylinder ring gear from the blanket cylinder ring gear after reading the section entitled DISENGAGING THE T-51.

2. Turning the parent press handwheel clockwise will change the relationship between the blanket cylinder and plate cylinder so as to move the T-51 image toward the gripper. Turning the handwheel counterclockwise will move the T-51 image away from the gripper.

3. When the desired register move is completed, engage the plate cylinder ring gear with the blanket cylinder ring gear after reading the section entitled DISENGAGING THE T-51.

NOTE: Improperly meshing the ring gears with one gear tooth on top of another gear tooth can cause plate to blanket pressure loss.

WARNING: BE SURE ALL GUARDS, COVERS, AND SAFETY DEVICES ARE INSTALLED AND PROPERLY ADJUSTED BEFOFIE OPERATING THIS UNIT. IF THE T-51 IS RE-MOVED FROM THE PARENT PRESS, THE ORIGINAL GUARDING *MUSTBE* REPLACED BEFORE OPERATING THE PRESS. WHEN THE T-51 IS SINUNG OFF TO THE SIDE, THE REPLACEMENT SAFETY GUARD *MUST* BE USED BEFORE OPERATING THE PRESS.

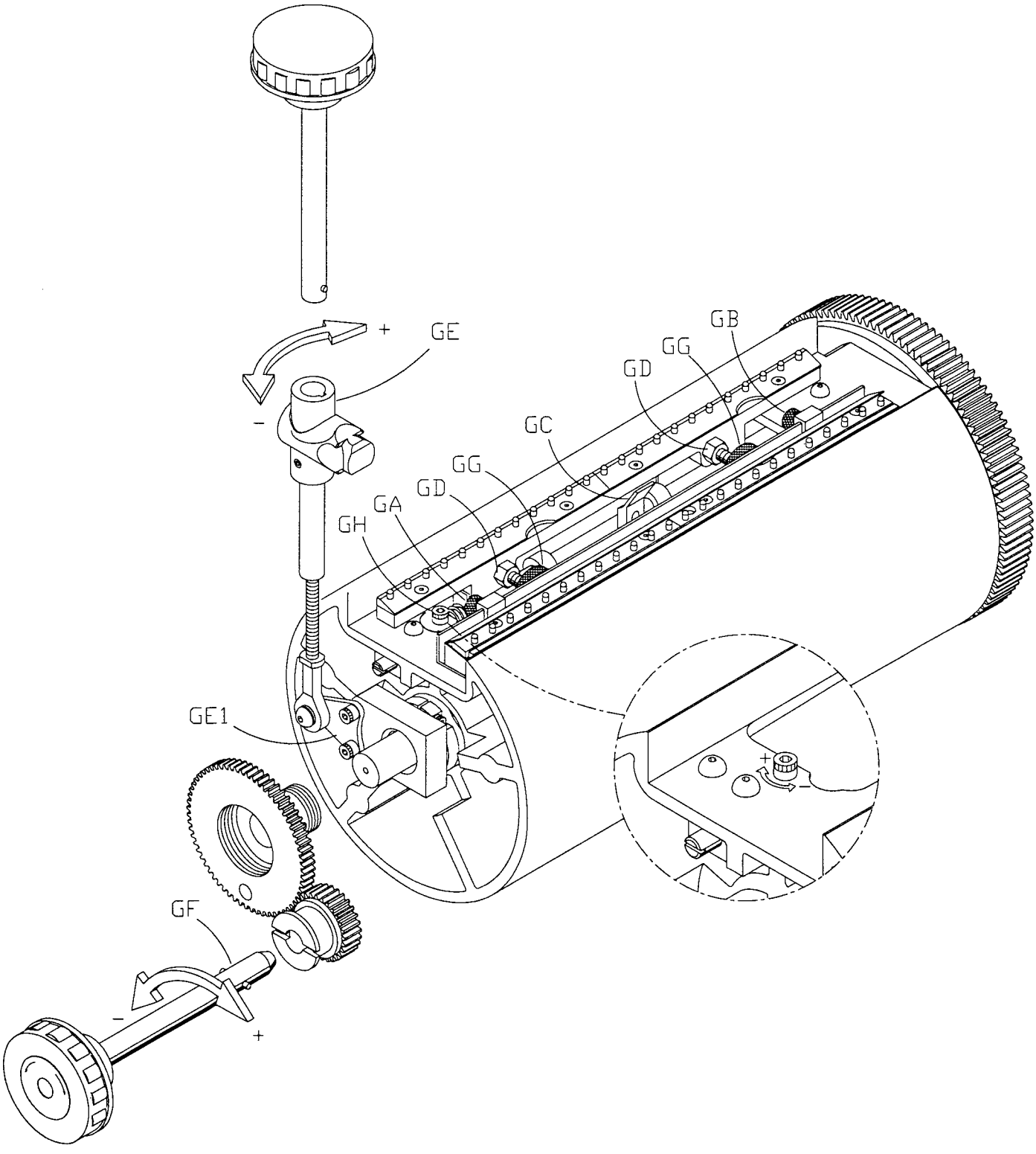

FIGURE 40007

OPERATION

REGISTRATION

HORIZONTAL

A horizontal move of the 1-51 image may be made with the parent press turned off or as it is running feeding sheets of paper. Insert the tool (GF) through the parent press side cover hole and engage the horizontal mechanism. Turning the tool clockwise moves the plate cylinder toward (+) the operator side. Turning the tool counterclockwise moves the plate cylinder away (-) from the operator side.

TWISTING

By moving the trail edge plate clamp, a plate that is fastened at both ends can be straightened without removing it from the plate cylinder. By loosening the thumb screws (GG), you can shift the plate from side to side by turning the screw (GH). Turning the screw clockwise moves the trail edge toward (+) the operator side. Turning the screw counterclockwise moves the trail edge away (-) from the operator side. The lead edge plate clamp automatically pivots when the trail edge is moved provided that the screws (GA) and (GB) are backed out the maximum amount.

NOTE: Before operating the T-51, tighten the lock nut (GD) on each trail edge plate clamp thumb screw.

WARNING: BE SURE ALL GUARDS, COVERS, AND SAFETY DEVICES ARE INSTALLED AND PROPERLY ADJUSTED BEFORE OPERATING THIS UNIT. IF THE T-51 IS REMOVED FROM THE PARENT PRESS, THE ORIGINAL GUARDING *MUSTBE* REPLACED BEFORE OPERATING THE PRESS. WHEN THE T-51 IS SWUNG OFF TO THE SIDE, THE REPLACEMENT SAFETY GUARD *MUST* BE USED BEFORE OPERATING THE PRESS.

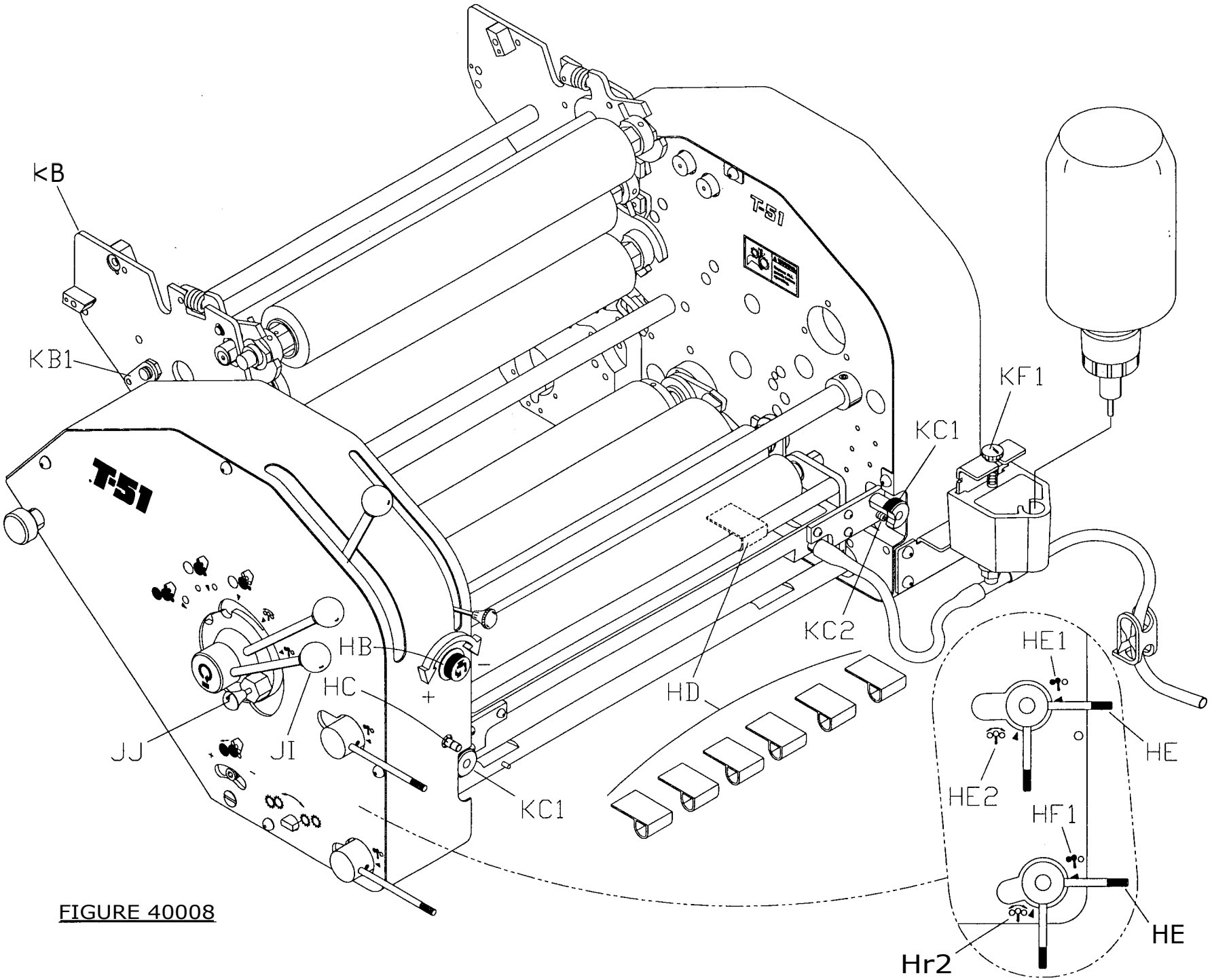

FIGURE 40008

OPERATION

AQUA-FLOW SYSTEM

In the Aqua-Flow System, all the rollers except the water fountain roller need to be inked with a fairly heavy lay of ink. With the ink rollers inked and the water ductor roller turned off, start the press and drop all four form rollers down on the plate. The plate will ink up and ink will be carried back through the dampening system rollers. As soon as the dampening system rollers are inked, turn the water ductor roller on and set the water indicator (HC) on 2 notches, or your normal setting, by turning the water knob (HB) fountain solution will be carried through the system. As soon as the plate is running clean, cut the fountain solution back as much possible consistent with quality printing.

The water fountain roller should be desensitized twice daily for the first week to keep it running clean. A B Dick Offset Chrome Cylinder Clean 4-4965, plate cleaner, and plate gum works well for this. Thereafter, clean and gum the roller daily, it works best to make this part of your nightly routine so the roller is gummed overnight. You will need to drain the fountain before gumming the roller.

WATER LEVEL IN FOUNTAIN

Make the following adjustments with the parent press turned off:

1. Use the screw (KF1) to align the top of the bottle holder with the bottom of the notch on the bracket.

NOTE: If adjusted too far below the notch, the bottle holder will be released from the bracket.

2. Place a full bottle of fountain solution in the bottle holder.

3. Raise the bottle holder with the screw (KF1) very slowly until the fountain solution just touches the bottom of the fountain roller. The fountain solution depth in the fountain will increase slightly when the press is in operation.

WARNING: BE SURE ALL GUARDS, COVERS, AND SAFETY DEVICES ARE INSTALLED AND PROPERLY ADJUSTED BEFORE OPERATING THIS UNIT. IF THE T-51 IS REMOVED FROM THE PARENT PRESS, THE ORIGINAL GUARDING *MUSTBE* REPLACED BEFORE OPERATING THE PRESS. WHEN THE T-51 IS SWUNG OFF TO THE SIDE, THE REPLACEMENT SAFETY GUARD *MUST* BE USED BEFORE OPERATING THE PRESS.

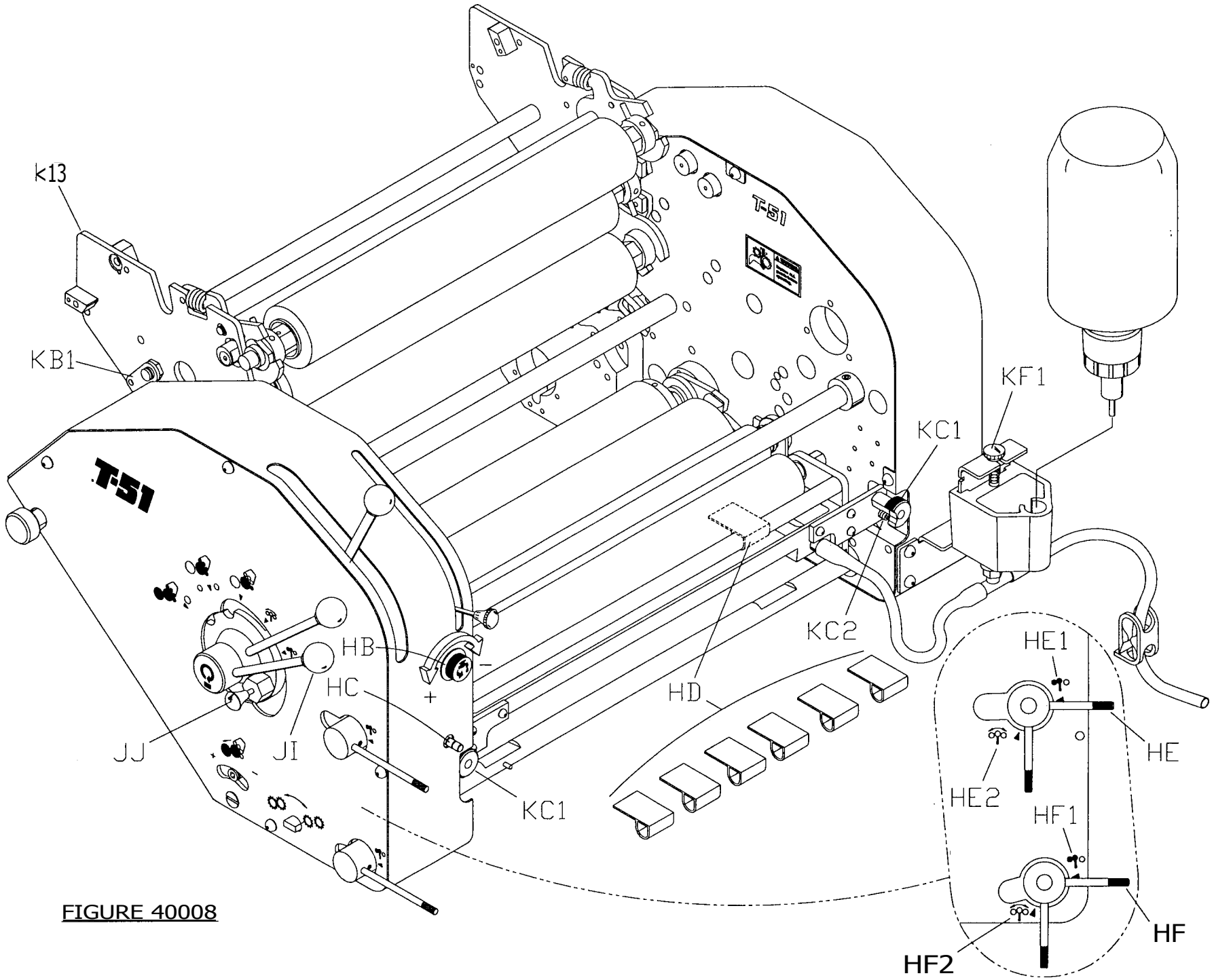

FIGURE 40008

OPERATION

INFINITE WATER CONTROL

The T-51 has an infinite water control system. Turning the water knob (HB) clockwise decreases (-) the amount of fountain solution that is delivered to the plate. A counterclockwise turn increases (+) the fountain solution delivery rate. The water indicator (HC) shows how much fountain solution is being supplied. As a starting point, set the water indicator on 2 notches. Always run the minimal amount of fountain solution consistent with quality printing.

Use the water stops (HD) to provide zone control of the fountain solution delivery rate. When affixed to the tie rod, they apply gentle wiping action on the fountain roller.

WATER TRANSFER ROLLER TO OSCILLATOR ROLLER PRESSURE

Pull out on the knob (JJ) and move the control lever (JI) to the far right position. Rotate the ink system (KB) counterclockwise the maximum amount until the safety latch (KB1) automatically snaps into position.

With the screws (KC2) backed off, use the thumb screws (KC1) to adjust the pressure so that the residual stripe from the nip point measures 5/32 inch (4mm) across the rollers as viewed from the top of the unit. When the adjustment is completed, tighten the screws (KC2) being sure that the adjustment does not change. The screws (KC2) do not need to be adjusted each time the dampening system is removed and installed.

CAUTION: Being careful to avoid pinching fingers, disengage the safety latch (KB1) and rotate the ink system (KB) clockwise until it seats into position.

Move the control lever (JI) to the left until the knob (JJ) snaps into position.

DUCTOR ROLLER LOCKOUTS

To stop the ink ductor roller from ducting to the fountain roller, move the stem (HE) to the position (HE1). Moving the stem to the position (HE2) will allow the ductor roller to duct normally.

To stop the water ductor roller from ducting to the fountain roller, move the stem (HF) to the position (HF1). Moving the stem to the position (HF2) will allow the ductor roller to duct normally.

WARNING: BE SURE ALL GUARDS, COVERS, AND SAFETY DEVICES ARE INSTALLED AND PROPERLY ADJUSTED BEFORE OPERATING THIS UNIT. IF THE T-51 IS REMOVED FROM THE PARENT PRESS, THE ORIGINAL GUARDING *MUSTBE* REPLACED BEFORE OPERATING THE PRESS. WHEN THE T-51 IS SWUNG OFF TO THE SIDE, THE REPLACEMENT SAFETY GUARD *MUST* BE USED BEFORE OPERATING THE PRESS.

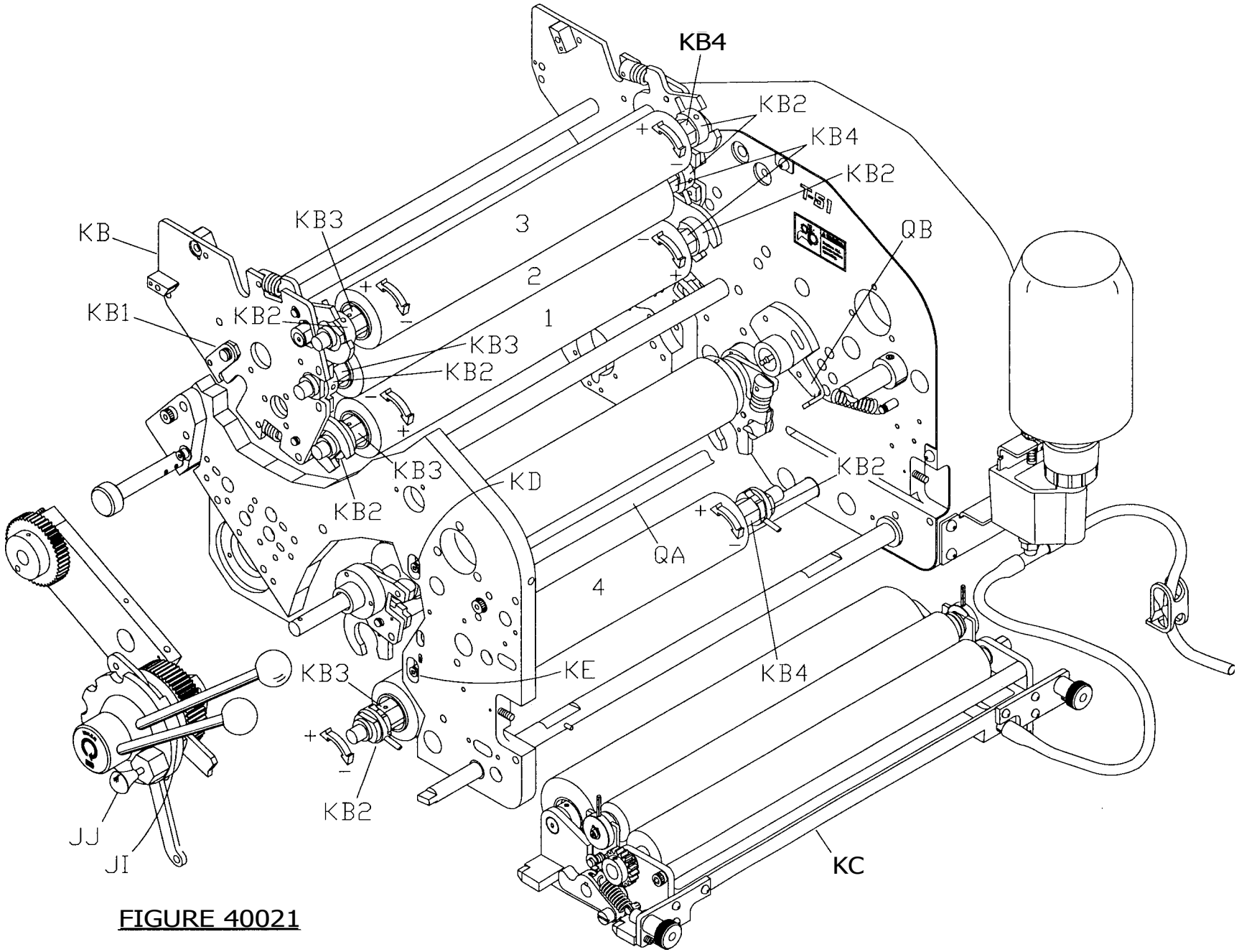

FIGURE 40021

DUCTOR ROLLER ADJUSTMENTS

INK DUCTOR ROLLER PRESSURE

To change the ductor roller pressure, remove the side guard. Position,the adjustment screw (KD) in the center of the slot. Depending upon the requirements of the particular ink being used, the pressure against the oscillator roller can be decreased by moving the screw up or increased by moving the screw down in the slot. When the adjustment is completed, replace the side guard.

WATER DUCTOR ROLLER PRESSURE

To change the ductor roller pressure, remove the side guard. Position the adjustment screw (KE) in the center of the slot. Depending upon the requirements of the particular fountain solution being used, the pressure against transfer roller can be decreased by moving the screw up or increased by moving the screw down in the slot. When the adjustment is completed, replace the side guard.

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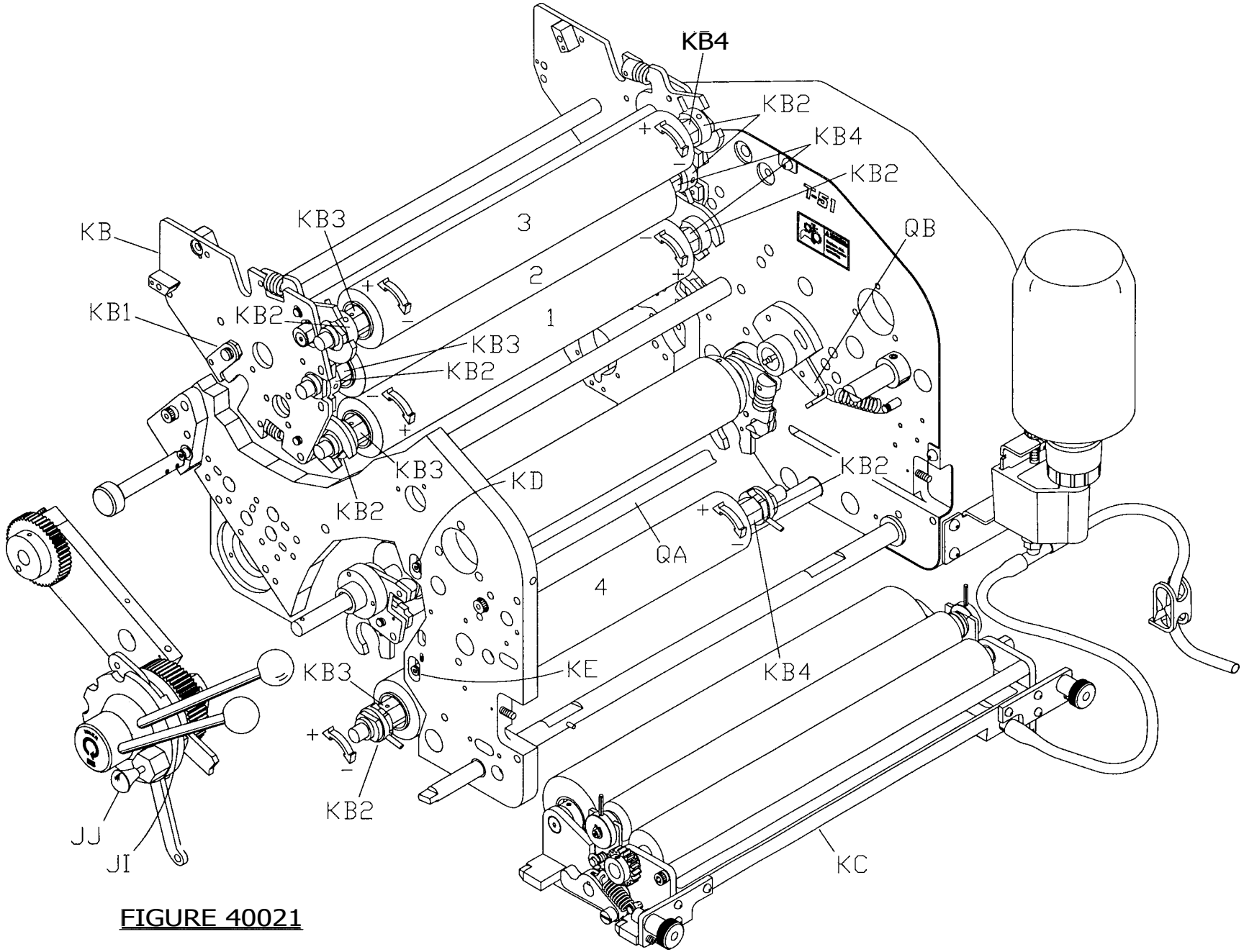

FIGURE 40021

FORM ROLLER REMOVAL

INK SYSTEM

Pull out on the knob (JJ) and move the control lever (JI) to the far right position. Rotate the ink system (KB) counterclockwise the maximum amount until the safety latch (KB1) automatically snaps into position. The three form rollers may then be removed by rotating the bushings (KB2) until the bushing flats align with the flats on the plates.

When the form rollers are reinstalled, be careful to return them to their original positions. The operator side form bushings (KB3) are stamped with the numbers "1", "2", and "3" to indicate the correct form roller positions.

CAUTION: Being careful to avoid pinching fingers, disengage the safety latch (KB1) and rotate the ink system (KB) clockwise until it seats into position.

Move the control lever (JI) to the left until the knob (JJ) snaps into position.

DAMPENING SYSTEM

Remove the bottle of fountain solution from the bottle holder. Drain the water fountain and take out the dampening system (KC). Pull out on the knob (JJ) and move the control lever (JI) to the far right position. Grasp the shaft (QA) and pivot the form roller mechanism up until it latches. The form roller may then be removed by rotating the bushings (KB2) until the bushing flats align with the flats on the plates.

When the form roller is reinstalled, be careful to return it to the original position. The operator side form bushing (KB3) is stamped with the number "4" to indicate the correct form roller position. Push down on the latches (QB) and release the form roller mechanism. Move the control lever (JI) to the left until the knob (JJ) snaps into position.

WARNING: BE SURE ALL GUARDS, COVERS, AND SAFETY DEVICES ARE INSTALLED AND PROPERLY ADJUSTED BEFORE OPERATING THIS UNIT. IF THE T-51 IS REMOVED FROM THE PARENT PRESS, THE ORIGINAL GUARDING *MUSTBE* REPLACED BEFORE OPERATING THE PRESS. WHEN THE T-51 IS SWUNG OFF TO THE SIDE, THE REPLACEMENT SAFETY GUARD *MUST* BE USED BEFORE OPERATING THE PRESS.

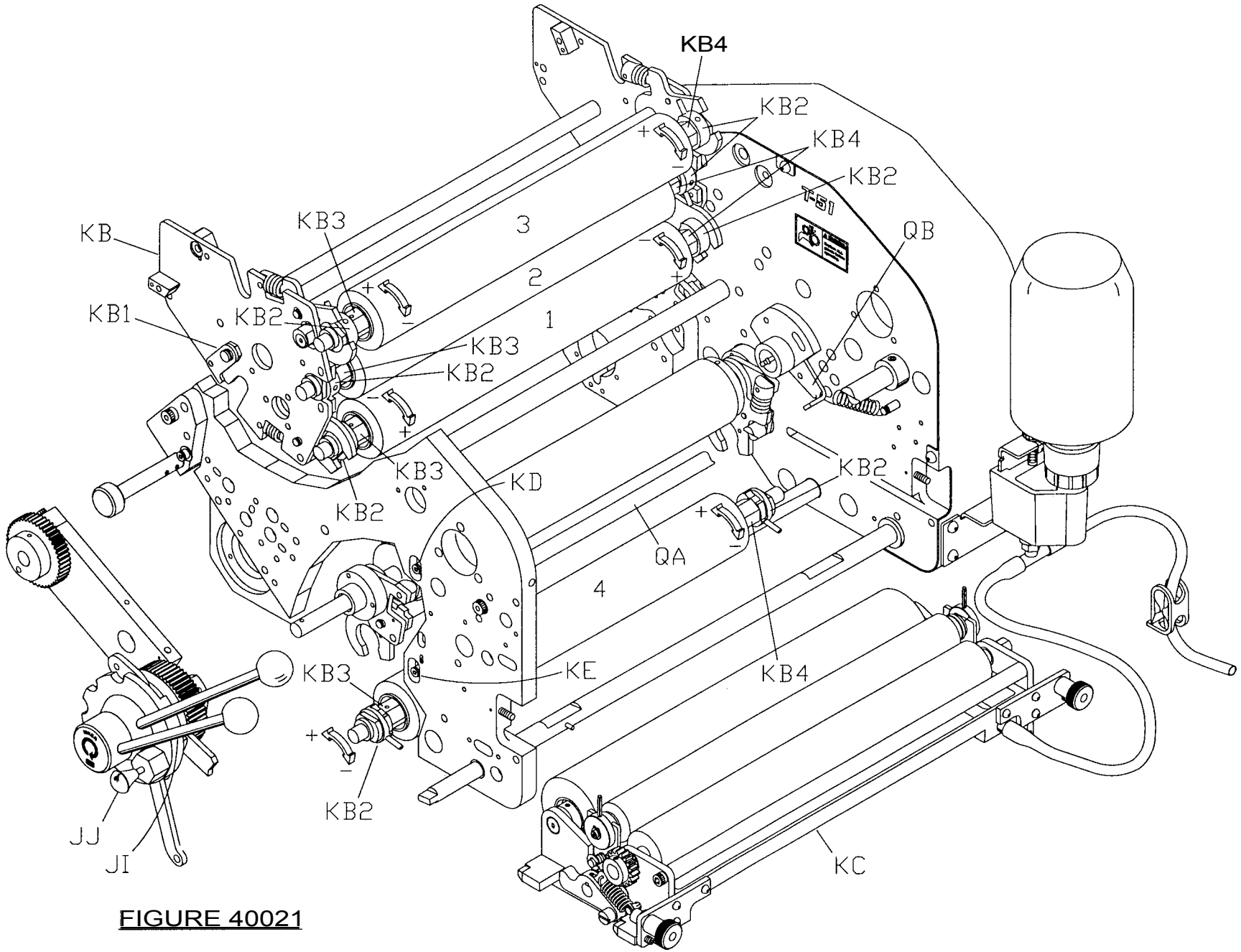

FIGURE 40021

OPERATION

FORM ROLLER TO OSCILLATOR ROLLER PRESSURES

The pressures in the ink and dampening systems should be adjusted so that the residual stripe from each nip point measures 5/32 inch (4mm) across the rollers. In preparation for setting the pressures, remove the dampening system (KC) after taking the bottle of fountain solution out of the bottle holder and draining the fountain. Pull out on the knob (JJ) and move the control lever (JI) to the far right position. Rotate the ink system (KB) counterclockwise the maximum amount until the safety latch (KB1) automatically snaps into position. Grasp the shaft (QA) and pivot the form roller mechanism up until it latches. The eccentrics for adjusting the pressures are now easily accessible.

The adjustments are done as follows for the roller positions 1, 3, and 4:

1. After accessing the lock screw in each bushing (KB2), rotate the form bushings (KB3) and (KB4) in the (-) direction to decrease the pressure on each oscillator roller end.

2. After accessing the lock screw in each bushing (KB2), rotate the form bushings (KB3) and (KB4) in the (+) direction to increase the pressure on each oscillator roller end.

The adjustments are done as follows for the roller position 2:

1. After accessing the lock screw in each bushing (KB2), rotate the form bushings (KB3) and (KB4) so that the pressure is balanced and equal on both ends of each oscillator roller.

When the adjustments are completed, replace the dampening system and bottle of fountain solution.

CAUTION: Being careful to avoid pinching fingers, disengage the safety latch (KB1) and rotate the ink system (KB) clockwise until it seats into position.

Push down on the latches (QB) and release the form roller mechanism. Move the control lever (JI) to the left until the knob (JJ) snaps into position.

WARNING: BE SURE ALL GUARDS, COVERS, AND SAFETY DEVICES ARE INSTA AND PROPERLY ADJUSTED BEFORE OPERATING THIS UNIT. IF THE T-51 IS RE MOVED FROM THE PARENT PRESS, THE ORIGINAL GUARDING *MUSTBE* REPLACED BEFORE OPERATING THE PRESS. WHEN THE T-51 IS SWUNG OFF TO THE SIDE, THE REPLACEMENT SAFETY GUARD *MUST* BE USED BEFORE OPERATING THE PRESS.

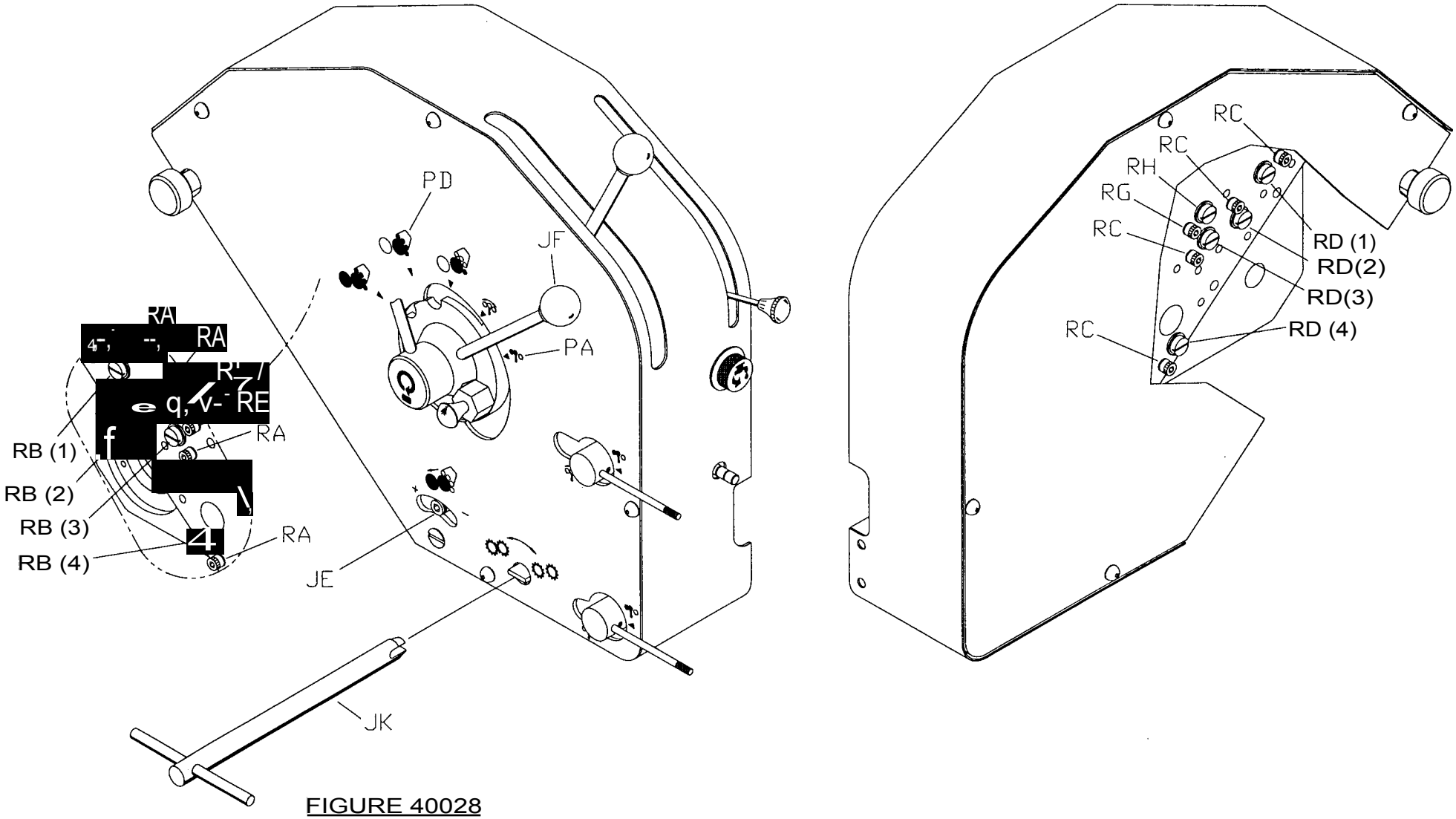

FIGURE 40028

FORM ROLLER TO PLATE PRESSURES

Before adjusting the form roller to plate pressures, verify the following:

1. The form roller to oscillator roller pressures should be set correctly. Refer to the section entitled FORM ROLLER TO OSCILLATOR ROLLER PRESSURES if adjustments are required.

2. Each form roller must already lay a minimum of 3/32 inch (2.4mm) and a maximum of 3/16 (4.7mm) stripe on the plate.

Once the above criteria has been met, set the ink form rollers so that they lay a 5/32 inch (4mm) stripe for metal plates and 1/8 inch (3.2mrn) stripe for camera direct plates across the plate. Adjust the water form roller so that it lays a 3/32 inch (2.4mm) stripe for metal plates and 1/8 inch (3.2mm) stripe for camera direct plates across the plate. The adjustments are done as follows:

1. Remove the side guards.

2. Image the plate with all four form rollers by moving the single lever control (JF) to the WATER AND INK ON (PD) position and then back to the OFF (PA) position.

3. After accessing the lock screws (RA), turn the operator side eccentrics (RB) counterclockwise to decrease (-) the pressure and clockwise to increase (+) the pressure on that side of the plate. The eccentrics are numbered to correspond with the form roller positions 1, 2, 3, and 4. Do not turn the lock screw (RE) and eccentric (RF) since they are used to adjust the cleanup attachment.

4. After accessing the lock screws (RC), turn the non-operator side eccentrics (RD) clockwise to decrease (-) the pressure and counterclockwise to increase (+) the pressure on that side of the plate. The eccentrics are numbered to correspond with the form roller positions 1, 2, 3, and 4. Do not turn the lock screw (RG) and eccentric (RH) since they are used to adjust the cleanup attachment.

5. When the adjustments are completed, replace the side guards.

WARNING: BE SURE ALL GUARDS, COVERS, AND SAFETY DEVICES ARE INSTALLED AND PROPERLY ADJUSTED BEFORE OPERATING THIS UNIT. IF THE T-51 IS RE-MOVED FROM THE PARENT PRESS, THE ORIGINAL GUARDING *MUSTBE* REPLACED Ik BEFORE OPERATING THE PRESS. WHEN THE T-51 IS SWUNG OFF TO THE SIDE, THE REPLACEMENT SAFETY GUARD *MUST* BE USED BEFORE OPERATING THE PRESS.

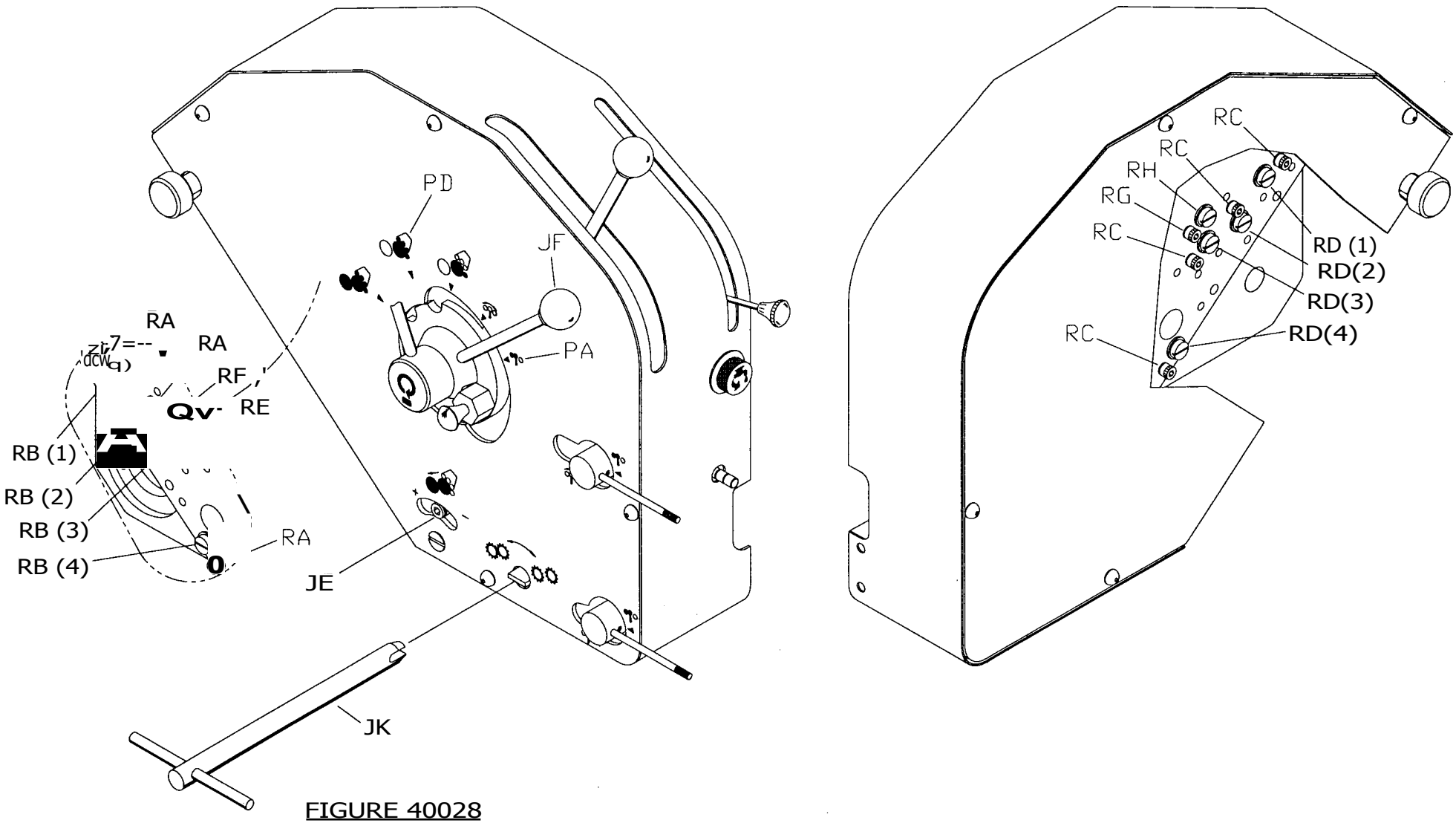

FIGURE 40028

PLATE TO BLANKET PRESSURE

Be sure that the single lever control (JF) is in the OFF (PA) position. Pivot the pressure control (JE) to the right to decrease (-) the pressure and to the left to increase (+) the pressure after accessing the adjustment screws. When the pressure is correct, the stripe should be 1/8 inch (3.2mm) - 1/4 inch (6.35mm) wide or as light as possible consistent with good printing.

DISENGAGING THE T-51

NOTE: The T-51 should always be disengaged whenever it is desired to use the parent press for single-color operating.

Using the T-wrench (JK), turn the shaft clockwise the maximum amount to disengage the plate cylinder ring gear from the blanket cylinder ring gear.

When it is desired to use the T-51 again, align the lead edges of the plate and blanket cylinders. Slowly and carefully turn the shaft counterclockwise to engage the ring gears. Moving the handwheel slightly will assist the ring gears in meshing correctly.

NOTE: Improperly meshing the ring gears with one gear tooth on top of another gear tooth can cause plate to blanket pressure loss.

WARNING: BE SURE ALL GUARDS, COVERS, AND SAFETY DEVICES ARE INSTALLED AND PROPERLY ADJUSTED BEFORE OPERATING THIS UNIT. IF THE 1-51 IS REMOVED FROM THE PARENT PRESS, THE ORIGINAL GUARDING *MUSTBE* REPLACED BEFORE OPERATING THE PRESS. WHEN THE T-51 IS SWUNG OFF TO THE SIDE, THE REPLACEMENT SAFETY GUARD *MUST* BE USED BEFORE OPERATING THE PRESS.

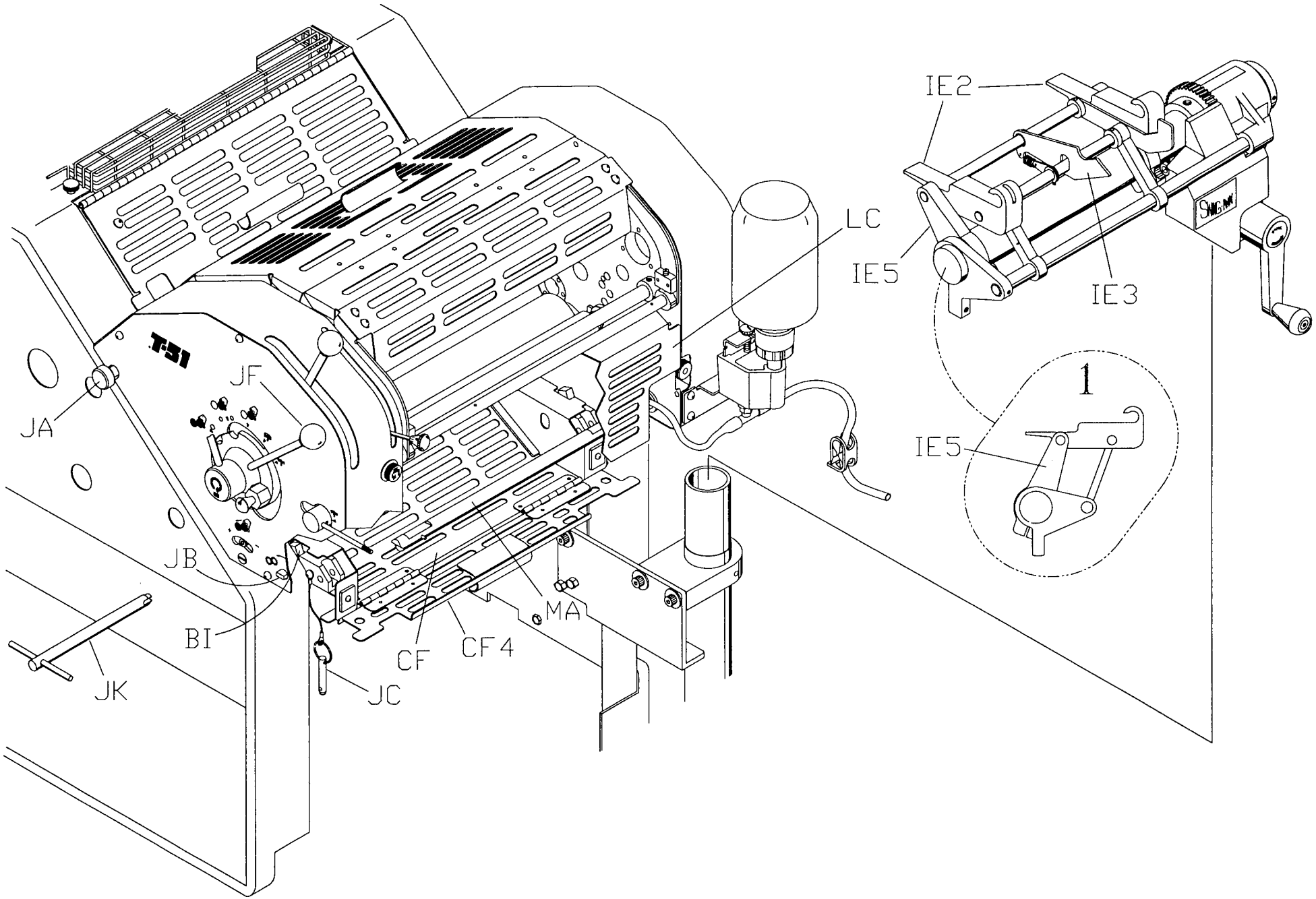

FIGURE 40029

REMOVING THE T-51 WITH THE SWING-AWAY

1. Remove the bottle of fountain solution from the bottle holder. Drain the fountain.

2. Using the T-wrench (JK), turn the shaft (JB) clockwise the maximum amount to disengage the plate cylinder ring gear from the blanket cylinder ring gear. Open the guard (LC) and guard extension (CF4).

3. Engage the locking shaft (MA) with the lift fingers (1E2). The safety lock (1E3) will automatically snap into position. Using the T-wrench, turn the locking shaft counterclockwise to engage the lift fingers.

4. Pull out the pins (JC). Loosen the lock knobs (JA) the maximum amount.

5. NOTE: To prevent the plate cylinder from being damaged on the block (B1) as the unit is swung off to the side, lift the T-51 until the lift arms (1E5) are in the illustrated position in View 1. Swing the T-51 slowly and carefully off to the side watching for any interference. Adjust the height as needed with the crank.

6. Close the guard (CF).

WARNING: BE SURE ALL GUARDS, COVERS, AND SAFETY DEVICES ARE INSTALLED AND PROPERLY ADJUSTED BEFORE OPERATING THIS UNIT. IF THE T-51 IS REMOVED FROM THE PARENT PRESS, THE ORIGINAL GUARDING *MUSTBE* REPLACED BEFORE OPERATING THE PRESS. WHEN THE T-51 IS SWUNG OFF TO THE SIDE, THE REPLACEMENT SAFETY GUARD *MUST* BE USED BEFORE OPERATING THE PRESS.

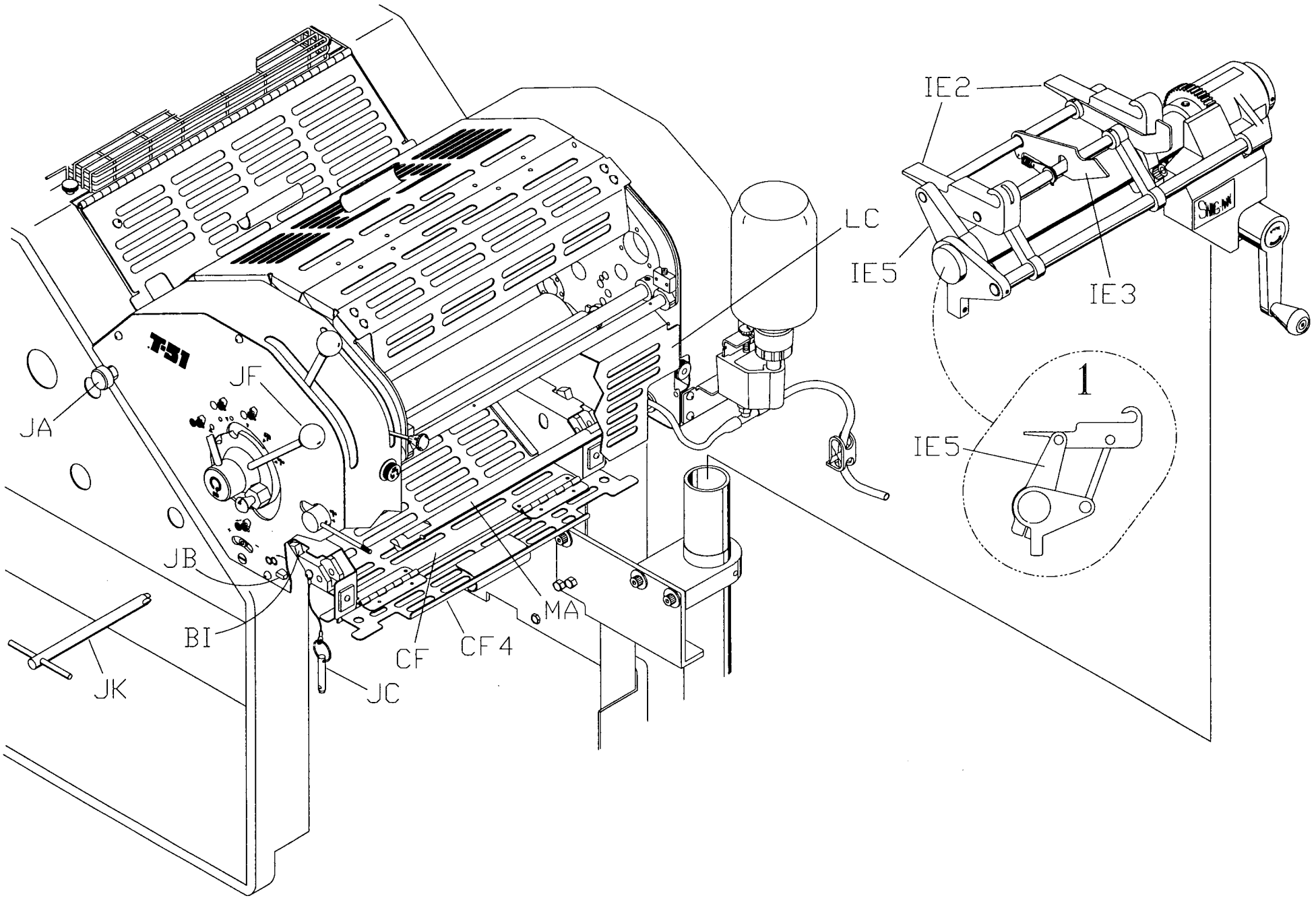

FIGURE 40029

REINSTALLING THE T-51 WITH THE SWING-AWAY

1. Open the guard (CF) and leave the guard extension (CF4) open.

2. NOTE: To prevent the plate cylinder from being damaged on the block **(BD,** verify that the lift arms (1E5) are in the illustrated position in View 1. Swing the T-51 slowly and carefully into position watching for any interference. Adjust the height as needed with the crank.

3. Lower the 1-51 onto the parent press. Tighten the lock knobs (JA) and insert the pins (JO).

4. Using the 1-wrench (JK), turn the locking shaft (MA) clockwise to disengage from the liftfingers (1E2). Push down on the safety lock (1E3) and swing the Swing-Away arm off to the side. Close the guard extension (CF4).

5. Align the lead edges of the plate and blanket cylinders. Slowly and carefully turn the shaft (JB) counterclockwise to engage the plate cylinder ring gear with the blanket cylinder ring gear. Moving the handwheel slightly will assist the ring gears in meshing correctly.

NOTE: Improperly meshing the ring gears with one gear tooth on top of another gear tooth can cause plate to blanket pressure loss.

6. Place the bottle of fountain solution in the bottle holder.

WARNING: BE SURE ALL GUARDS, COVERS, AND SAFETY DEVICES ARE INSTALLED AND PROPERLY ADJUSTED BEFORE OPERATING THIS UNIT. IF THE T-51 IS REMOVED FROM THE PARENT PRESS, THE ORIGINAL GUARDING *MUSTBE* REPLACED BEFORE OPERATING THE PRESS. WHEN THE 1-51 IS SWUNG OFF TO THE SIDE, THE REPLACEMENT SAFETY GUARD *MUST BE* USED BEFORE OPERATING THE PRESS.

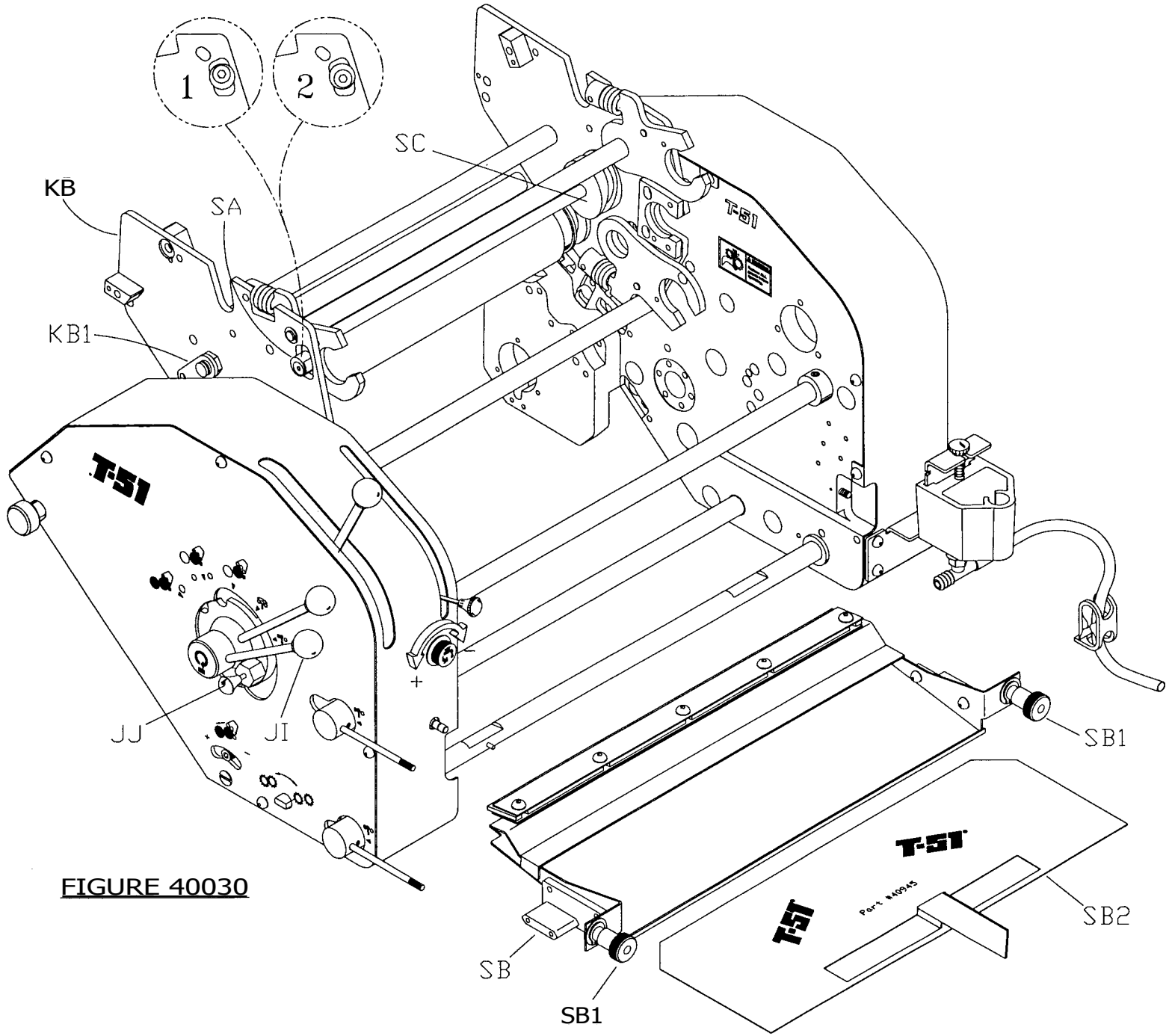

FIGURE 40030

OPERATION

CLEANUP ATTACHMENT

Cleaning the T-51 is accomplished by using the cleanup attachment.Pull out on the knob (JJ) and move the control lever (JI) to the far right position. Rotate the ink system (KB) counterclockwise the maximum amount until the safety latch (KB1) automatically snaps into position. Rotate the eccentric (SA) on each side as is illustrated in View 1.

CAUTION: Being careful to avoid pinching fingers, disengage the saftey latch (KB1) and rotate the ink system (KB) clockwise unit it seats into position.

Move the control lever (JI) to the left until the knob (JJ) snaps into position.

Remove the dampening system and hand clean the ductor and transfer rollers. Install the cleanup attachment (SB) and completely tighten the thumb screws (SB1). Place the card insert (SB2) in the cleanup attachment.

Turn on the parent press and apply a small amount of blanket wash to the T-51 rollers. Periodically push the card insert forward the maximum amount to clean the bottom of the rubber blade. When the washup is completed, take out the cleanup attachment and replace the dampening system. Be sure that the eccentrics (SA) are rotated to their original positions as is illustrated in View 2 before printing the next job.

NOTE: All the rollers should be thoroughly cleaned by hand at regular intervals to prevent the buildup of glaze. However, the use of certain blanket washes, glase removers, and abrasive cleaners can cause permanent damage to the transperant rollers. They should always be tested on a small portition of the rollers before being used. A B Dick Ink Roller Conditioner 4-4976, Glase Remover 4-4968 and 4-4978, and Ink Roller Desentizer 4-4970 can be used on the rollers.

LUBRICATION

Refer to the last page of this manual for an explantion of lubrication and frequency sysmbols. Turn to the Parts Section to locate the various areas that require lubrication.

NOTE: Replace any grease or oil that is wiped off during cleanup. Be sure to grease the worm (SC) daily.

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WARNING: BE SURE ALL GUARDS, COVERS, AND SAFETY DEVICES ARE INSTALLED AND PROPERLY ADJUSTED BEFORE OPERATING THIS UNIT. IF THE T-51 IS REMOVED FROM THE PARENT PRESS, THE ORIGINAL GUARDING *MUSTBE* REPLACED BEFORE OPERATING THE PRESS. WHEN THE T-51 IS SWUNG OFF TO THE SIDE, THE REPLACEMENT SAFETY GUARD *MUST* BE USED BEFORE OPERATING THE PRESS.

OPERATION

OPERATOR TIPS

For smooth, trouble free, two-color printing, learn to use the following sequence of operation when starting the press:

1. Turn the handwheel 1/2 turn in the normal direction of rotati on.
2. Turn on the main switch.
3. After 2 - 3 revolutions, turn on the T-51 water form roller.
4. Turn on the parent press form rollers.
5. Turn on the T-51 ink form rollers.
6. Look at both plates to be sure they are running clean.
7. Turn on the paper feed.

NOTE: Do not let the press idle with the paper feed off for more that a few revolutions while the ink and water are turned on. This will cause the ink to emulsify

8. After at least 2 - 3 sheets have fed through the press, move the T-51 single lever control to the ON IMPRESSION position.

When stopping the press, reverse steps 2 through 8. Be sure at least 2 sheets feed through the press after you turn off the T-51 single lever control.

As you are well aware, there are a myriad of colors and copy variations that can be achieved using only two colors. You may have a job containing areas of overprinting (direct color on color). When you do, there are certain rules that must be followed:

1. Run the dark color of ink in the T-51 and the light color of ink in the parent press.
2. Use a fully transparent color. Do not try to use a semi-transparent or opaque ink. They will not trap properly.
3. The dark color of ink should have less tack than the light color of ink. If necessary, reduce the dark color with a paste compound type of tack reducer.

If you anticipate a problem because of the amount of overlay involved, drop out the background of the underlying color by reversing it and fitting the other one in. This eliminates the overlay. Because of the single blanket principle, a perfect fit presents no problem.

When no overprinting is involved, the overprinting rules 1, 2, and 3 do not need to be followed.

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OPERATOR TIPS

Always be sure both plates are free of superfluous marks such as punch holes or a corner that may not have been covered when the plate was burned. These marks, if left on the plate, will build a heavy ink deposit on the blanket while you are running and may cause color contamination.

When printing a two-color job using camera direct or metal plates, use the maximum recommended plate size listed in the parent press specifications. Color contamination may occur if the plate cylinders carry ink beyond the edges of the plates. To correct this situation, the plate cylinders must be desensitized. Treat the plate cylinders the same as the water fountain roller. If the image area of the form will allow it, you can also use a blanket that is slightly narrower than the plate.

Control the ink flow by using more notches of the ratchet control and a finer setting of the fountain keys. This will insure a constant flow of ink toward the plate and promote more even ink distribution. Always run a minimum amount of ink consistent with quality printing.

Your T-51 should always be run with a minimum of water to assure best results. You must also remember, however, that moisture on the plate during the printing operation is the condition that allows the single blanket principle its high degree of success. Consequently, if either plate becomes dry, it will pick up any color of ink it comes in contact with. You must not let either plate work itself into a dry condition. The T-51 will pick up and use excess moisture from the blanket while you are running. This allows you to run the T-51 with a lower setting on the water control for two-color printing than would be required if you were running single-color on the T-51. Since the water is cut back for two-color printing, you may experience difficulty starting up after being idle for a period unless you add some moisture. For this reason, we recommend that you wipe the plates down with fountain solution before starting. This will provide "start up" moisture until you are running and the plate is in contact with the blanket again.

Set the parent press water control by decreasing slowly until you experience toning and then increase just enough to eliminate the tone. This should be set each time you switch sizes or grades of stock. The different grades of paper do have different degrees of absorbency.

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OPERATION

OPERATOR TIPS

A B Dick Fountain Concentrate 4-1114 and 4-1115 mixed in a 30 to 1 ratio for rubber base inks work very well in the T-51 regardless of what is being used in the parent press. This mixture should produce a pH of approximately 6. Certain oil base inks may require a stronger fountain solution mixed in a 15 to 1 ratio which will produce a pH reading in the 5.5 range.

Generally speaking, alcohol is not required in the T-51. However, to maintain good copy quality if it is used, never add more than 10 percent by volume to the fountain solution.

When running silver emulsion plate material on a T-51 equipped with the Aqua-Flow System, mix the fountain solution in a 30 to 1 ratio even though the instructions on the bottle of concentrate may indicate otherwise. The lower mixing ratio will improve T-51 performance and help prevent emulsification.

Use a good blanket that is free of glaze. Also use a hard rather than a soft blanket for quality of reproduction.

The parent press impression cylinder pressure must be kept at a minimum consistent with good copy. This is most important for maximum T-51 performance.

When attaching the plate to the parent press, place the right hand lightly on the surface of the plate as it rolls around the plate cylinder. Do not hold the trail edge as usual. Rest your hand on the plate keeping it snug against the plate cylinder.

WARNING: BE SURE ALL GUARDS, COVERS, AND SAFETY DEVICES ARE INSTALLED ikND PROPERLY ADJUSTED BEFORE OPEFIATING THIS UNIT. IF THE T-51 IS FIE-MOVED FROM THE PARENT PRESS, THE ORIGINAL GUARDING *MUSTBE* REPLACED BEFORE OPERikTING THE PRESS. WHEN THE T-51 IS S'IVUNG OFF TO THE SIDE, THE REPLACEMENT SAFETY GUARD *MUST* BE USED BEFORE OPERATING THE PRESS.

PARIS

SECTION E

TOWNSEND INDUSTRIES

ORDERING INSTRUCTIONS

ALWAYS ORDER PARTS FROM YOUR DEALER AND GIVE THE FOLLOWING:

Company name
Name of Person Parts should be sent to or attention of:
Street
City, State, Zip Code

T-51 SERIAL NUMBER

The Serial number is located on a name plate under side cover.

HOW TO SHIP

United Parcel Service, Parcel Post, Best Way, etc.

HOW TO ORDER

Give quantity first - then part number.
Example: Quantity (2) Part Number (1132)
2 - 1132

RETURNED MERCHANDISE:

NO MERCHANDISE WILL BE ACCEPTED FOR CREDIT WITHOUT PRIOR AUTHORIZATION FROM TOWNSEND INDUSTRIES. ALL returned merchandise must have a Townsend packing list or invoice and is subject to our inspection. On any credit for returned merchandise that was not shipped through error, a 15% service handling charge will be deducted from the credit.

DEALER INFORMATION

WHEN ORDERING PARTS BY PHONE, ASK FOR PARTS DEPARTMENT.
MARK MAIL ORDERS, ATTENTION PARTS DEPARTMENT.
PRICES SUBJECT TO CHANGE WITHOUT NOTICE.

PARTS

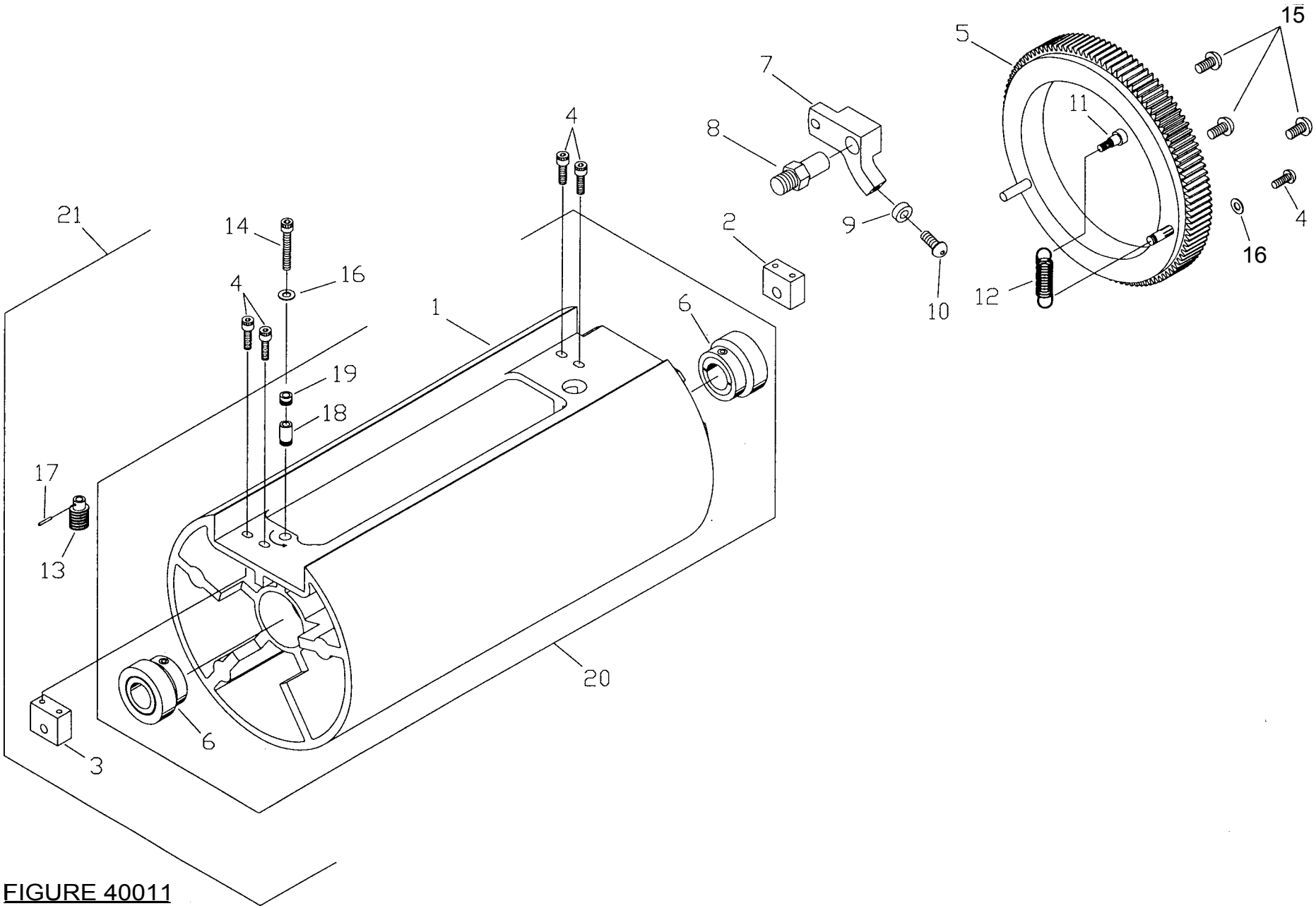

FIGURE 40011

INDEX NO.	PART NUMBER	DESCRIPTION 7-93
1	40190	CYLINDER
2	40191	ROCKER BAR BLOCK
3	40192	ROCKER BAR BLOCK
4	910154	SCREW
5	40115	RING GEAR & PINS
6	900031	CLAMP BEARING
7	40255	VERTICAL MICRO LEVER
8	40256	STUD
9	900016	BEARING
10	910054	SCREW
11	910604	SCREW
12	965012	SPRING VERTICAL MICRO
13	40230	TWIST WORM
14	40251	TWIST SCREW
15	910004	SCREW
16	950033	WASHER
17	920042	PIN
18	40237	BUSHING
19	40238	BUSHING
20	40198	CYLINDER & BEARING ASY
21	40197	CYL\RING GEAR\BEAR ASY

CIRCLED NUMBERS IN FIGURE INDICATE PARTS FITTED INTO FRAME.
ALWAYS GIVE SERIAL NUMBER OF T-51 WHEN ORDERING PARTS.

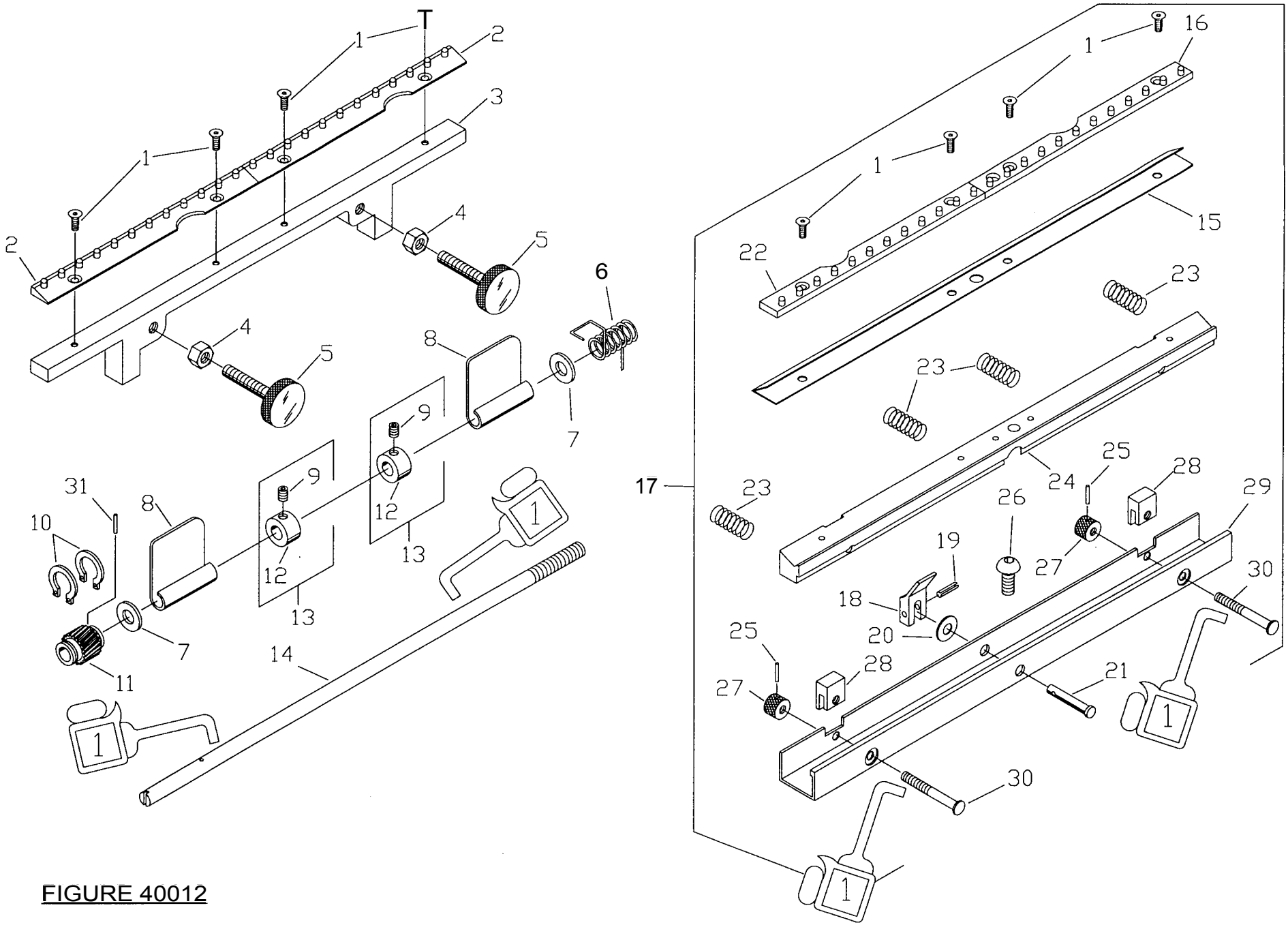

FIGURE 40012

INDEX NO.	PART NUMBER	DESCRIPTION 7-93
1	910018	SCREW
2	18132	PINBAR PLATE CLAMP
3	19141	ROCKER BAR
4	940003	NUT
5	1113	THUMB SCREW
6	1110	RETAINING SPRING
7	950007	WASHER
8	4112	MAR STOP
9	910019	SCREW
10	930026	RETAINING RING
11	40253	TWIST WORM GEAR
12	1910	SET COLLAR
13	1911	SET COLLAR ASY
14	40194	RETAINING ROD
15	18135	PLATE RETAINER
16	19136	PINBAR PLATE CLAMP
17	18170	CLAMP ASY
18	8168	CLAMP LEVER
19	920042	PIN
20	950032	WASHER
21	8166	RETRACTION PIN
22	18132	PINBAR PLATE CLAMP
23	9944	SPRING
24	18172	PLATE HOLDER
25	920041	PIN
26	910069	SCREW
27	8169	ADJUSTMENT SCREW KNOB
28	10135	THREAD BLOCK
29	18173	CLAMP PIVOT
30	8167	ADJUSTMENT SCREW
31	920042	PIN

CIRCLED NUMBERS IN FIGURE INDICATE PARTS FITTED INTO FRAME.
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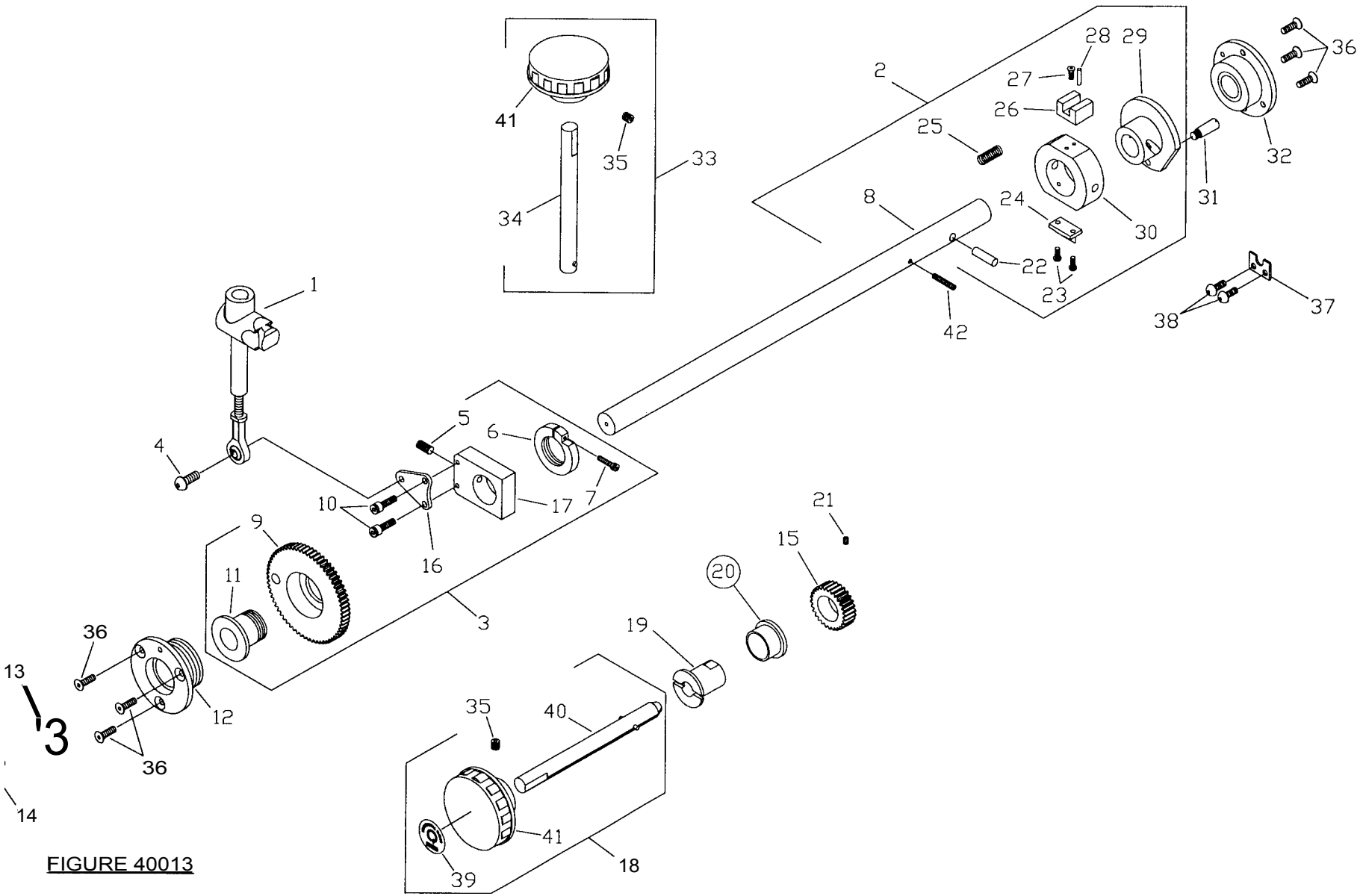

FIGURE 40013

INDEX NO.	PART NUMBER	DESCRIPTION 7-93
1	40228	VERT MICRO CTL BLOCK ASY
2	40202	MAIN SHAFT ASY
3	40229	HORIZ MICRO GEAR ASY
4	910010	SCREW
5	910112	SCREW
6	40244	NUT
7	910012	SCREW
8	40201	MAIN SHAFT
9	40240	HORIZONTAL MICRO GEAR
10	910154	SCREW
11	40243	MICRO GEAR HUB
12	40213	MAIN SHAFT BUSHING ASY
13	40215	STOP WASHER
14	910123	SCREW
15	40241	HORIZONTAL MICRO PINION
16	40246	PLATE
17	40245	VERTICAL MICRO HUB
18	40133	HORIZ MICRO DRIVER ASY
19	40242	PINION HUB
20	900032	BUSHING
21	910116	SCREW
22	921010	PIN
23	910309	SCREW
24	40248	RAMP VERTICAL MICRO
25	6944	SPRING
26	40250	RAMP GUIDE
27	910018	SCREW
28	920020	PIN
29	40252	HELIX SLEEVE
30	40249	RING
31	40254	HELIX GUIDE PIN
32	40214	MAIN SHAFT BUSHING ASY
33	40134	VERTICAL MICRO HANDL ASY
34	40132	VERTICAL MICRO ASY
35	910021	SCREW
36	910064	SCREW
37	40247	GUIDE PLATE
38	910308	SCREW
39	960113	HORIZONTAL MICRO DECAL
40	19132	HORIZ MICRO DRIVER ASY
41	22612	KNOB
42	910091	SCREW

CIRCLED NUMBERS IN FIGURE INDICATE PARTS FITTED INTO FRAME.
ALWAYS GIVE SERIAL NUMBER OF T-51 WHEN ORDERING PARTS.

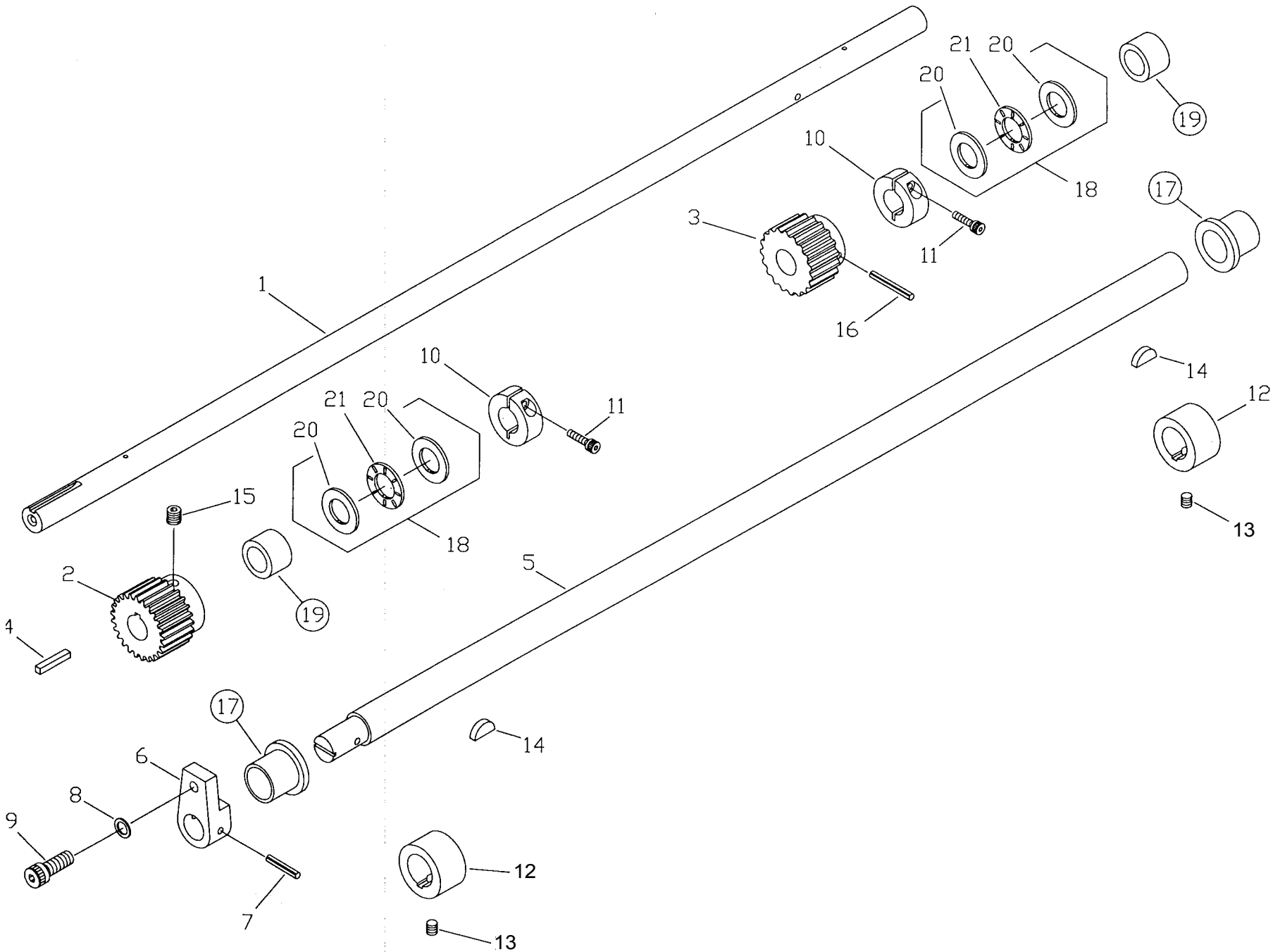

FIGURE 40041

INDEX NO.	PART NUMBER	DESCRIPTION 7-93
1	40364	DRIVE SHAFT
2	40411	DRIVE GEAR
3	40410	PINION GEAR
4	40561	KEY
5	40366	OVERALL SHAFT
6	40368	OVERALL ADJUSTER
7	920009	PIN .
8	950002	WASHER
9	910040	SCREW
10	40365	LOCKING COLLAR
11	910157	SCREW
12	40367	OVERALL ECCENTRIC
13	910507	SCREW
14	961023	WOODRUFF KEY
15	910021	SCREW
16	920010	PIN
17	901011	BUSHING
18	900030	THRUST BEARING
19	900034	BEARING
20	959955	THRUST WASHER
21	900042	THRUST BEARING

CIRCLED NUMBERS IN FIGURE INDICATE PARTS FITTED INTO FRAME.
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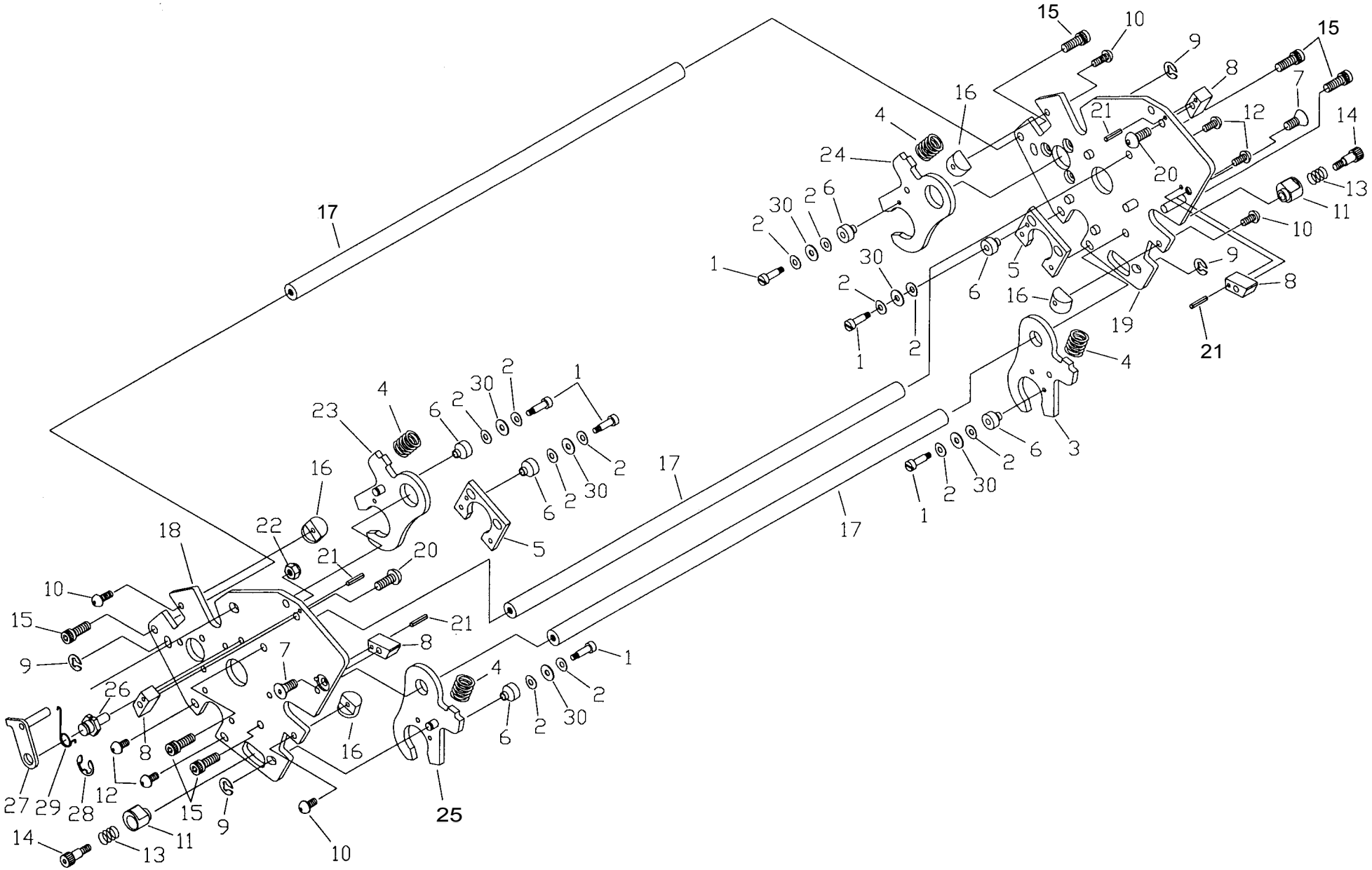

FIGURE 40023

INDEX NO.	PART NUMBER	DESCRIPTION 7-93
1	910107	SCREW
2	950039	WASHER
3	40558	GUIDE PLATE #3
4	965014	SPRING
5	40523	GUIDE PLATE #2
6	40544	DETENT FORM LOCK
7	910066	SCREW
8	40528	GUIDE BLOCK
9	930003	RETAINING RING
10	910308	SCREW
11	40563	CLEANUP BUSHING
12	910027	SCREW
13	965011	SPRING
14	910602	SHOULDER SCREW
15	910040	SCREW
16	40527	SPRING PERCH
17	40526	INKER TIE ROD
18	40539	INKER FRAME
19	40538	INKER FRAME
20	910069	SCREW
21	920028	PIN
22	940034	NUT
23	40555	GUIDE PLATE #1
24	40556	GUIDE PLATE #1
25	40557	GUIDE PLATE #3
26	40567	INKER CATCH STUD
27	40560	INK CATCHER
28	930006	RETAINING RING
29	1572	SPRING
30	950025	WASHER

CIRCLED NUMBERS IN FIGURE INDICATE PARTS FITTED INTO FRAME.
ALWAYS GIVE SERIAL NUMBER OF T-51 WHEN ORDERING PARTS.

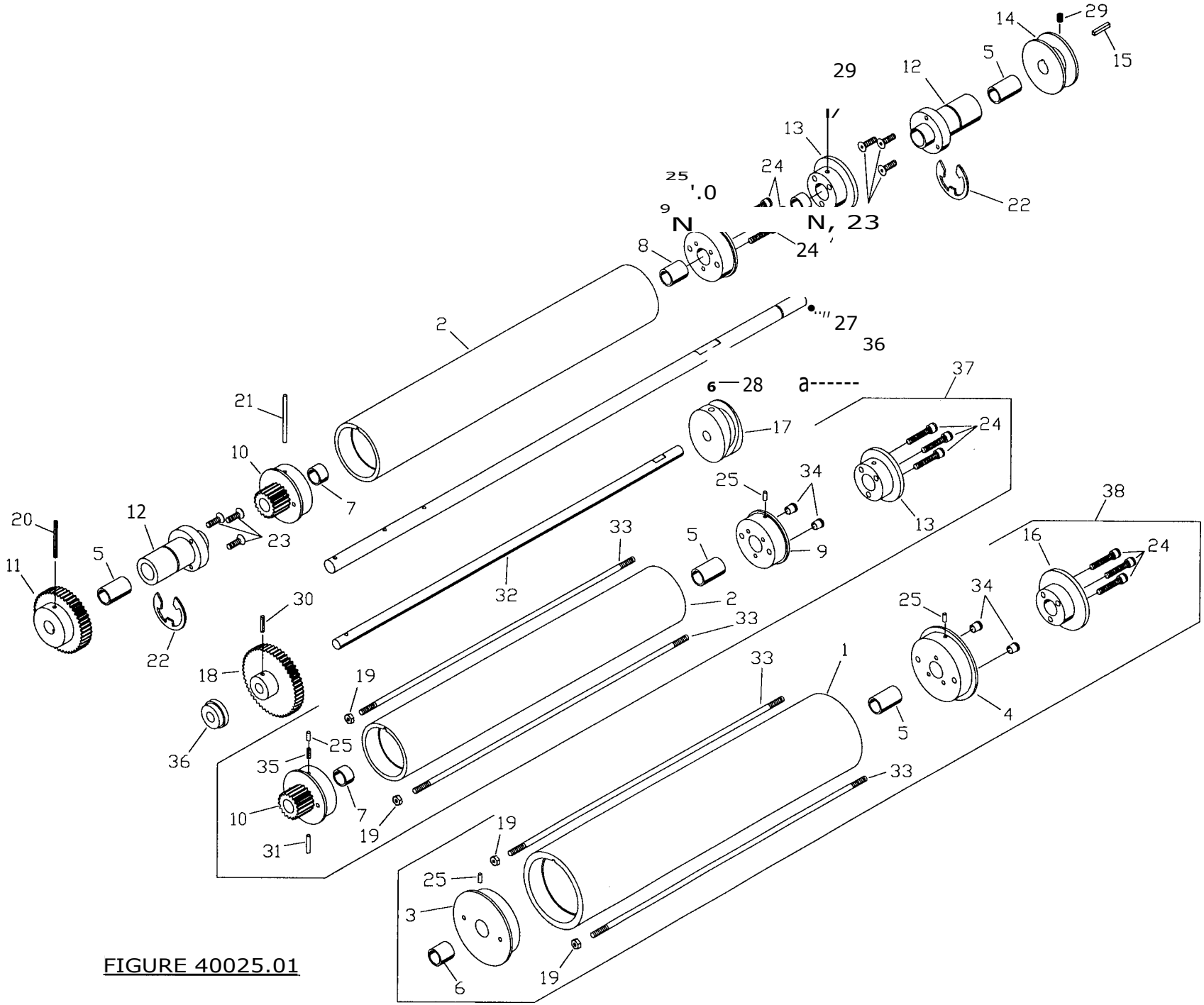

FIGURE 40025.01

INDEX NO.	PART NUMBER	DESCRIPTION 7-93
1	40812	LARGE OSCILLATOR TUBE
2	40811	SMALL OSCILLATOR TUBE
3	40810	LARGE END BELL
4	40809	LARGE END BELL
5	901016	BUSHING
6	901015	BUSHING
7	901020	BEARING
8	901004	BEARING
9	40806	SMALL END BELL
10	40829	END BELL / GEAR ASY
11	40416	OSCILLATOR DRIVE GEAR
12	40540	INKER HUB
13	40803	WORM FOLLOWER
14	40850	OSCILLATOR DRIVER
15	40561	KEY
16	40804	WORM FOLLOWER
17	40802	OSCILLATOR WORM
18	40413	WORM DRIVE GEAR
19	940019	NUT
20	924001	PIN
21	40808	OSCILLATOR DRIVER PIN
22	930035	RETAINING RING
23	910064	SCREW
24	910080	SCREW
25	920008	PIN
26	930026	RETAINING RING
27	40801	OSCILLATOR SHAFT
28	910021	SCREW
29	910019	SCREW
30	920028	PIN
31	921012	PIN
32	40552	WORM SHAFT
33	14885	OSC TIE ROD
34	940006	NUT
35	924005	PIN
36	40553	WORM SHAT BUSHING
37	40834	SMALL OSC TUBE ASY
38	40833	LARGE OSC TUBE ASY

CIRCLED NUMBERS IN FIGURE INDICATE PARTS FITTED INTO FRAME.
ALWAYS GIVE SERIAL NUMBER OF T-51 WHEN ORDERING PARTS.

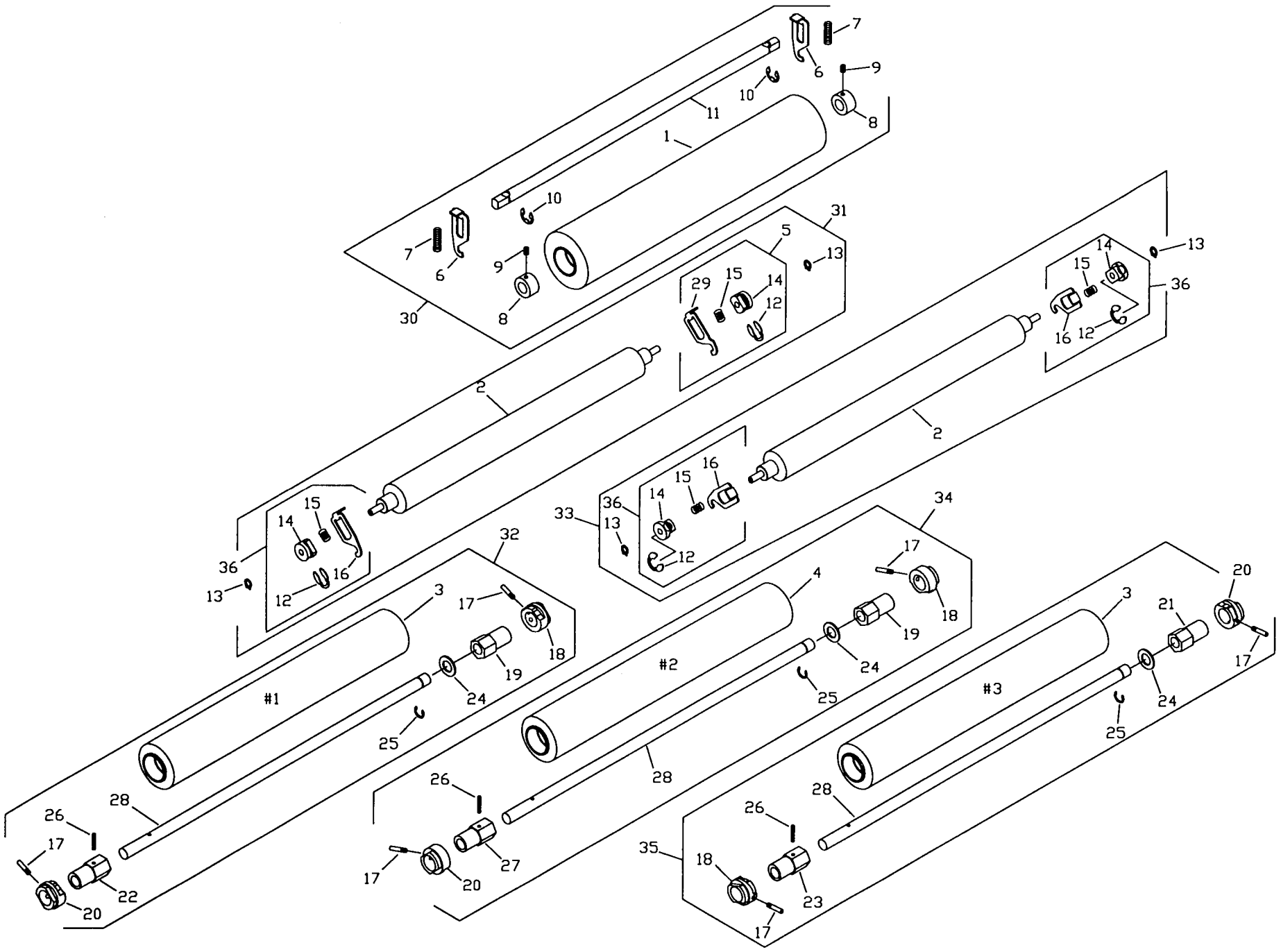

FIGURE 40024

INDEX NO.	PART NUMBER	DESCRIPTION 7-93
1	40815	TRANSFER ROLLER
2	40817	TRANSFER ROLLER
3	40813	FORM ROLLER / 1 & 3
4	40814	FORM ROLLER / 2 & 4
5	40844	TRANSFER ROLL CATCH ASY
6	40827	TRANSFER ROLL CATCH
7	1945	SPRING
8	40607	CENTERING COLLAR
9	910019	SCREW
10	930023	RETAINING RING
11	40824	BRIDGE ROLL SHAFT
12	930037	RING
13	930013	RETAINING RING
14	40828	TRANSFER ROLL BUSHING
15	965011	SPRING
16	40825	TRANSFER ROLL CATCH
17	40525	FORM DETENT PIN
18	40537	FORM DETENT BUSHING
19	40529	FORM BUSHING 1&2
20	40536	FORM DETENT BUSHING
21	40530	FORM BUSHING 3&4
22	40531	FORM BUSHING #1
23	40533	FORM BUSHING #3
24	959955	THRUST WASHER
25	930031	C-RING
26	920009	PIN
27	40532	FORM BUSHING #2
28	40535	FORM SHAFT
29	40826	TRANSFER ROLL CATCH
30	40835	TRANSFER ROLLER ASY
31	40836	TRANSFER ROLLER ASY
32	40837	FORM ROLLER ASY #1
33	40838	TRANSFER ROLLER ASY
34	40839	FORM ROLLER ASY #2
35	40840	FORM ROLLER ASY #3
36	40843	TRANSFER ROLL CATCH ASY

CIRCLED NUMBERS IN FIGURE INDICATE PARTS FITTED INTO FRAME.
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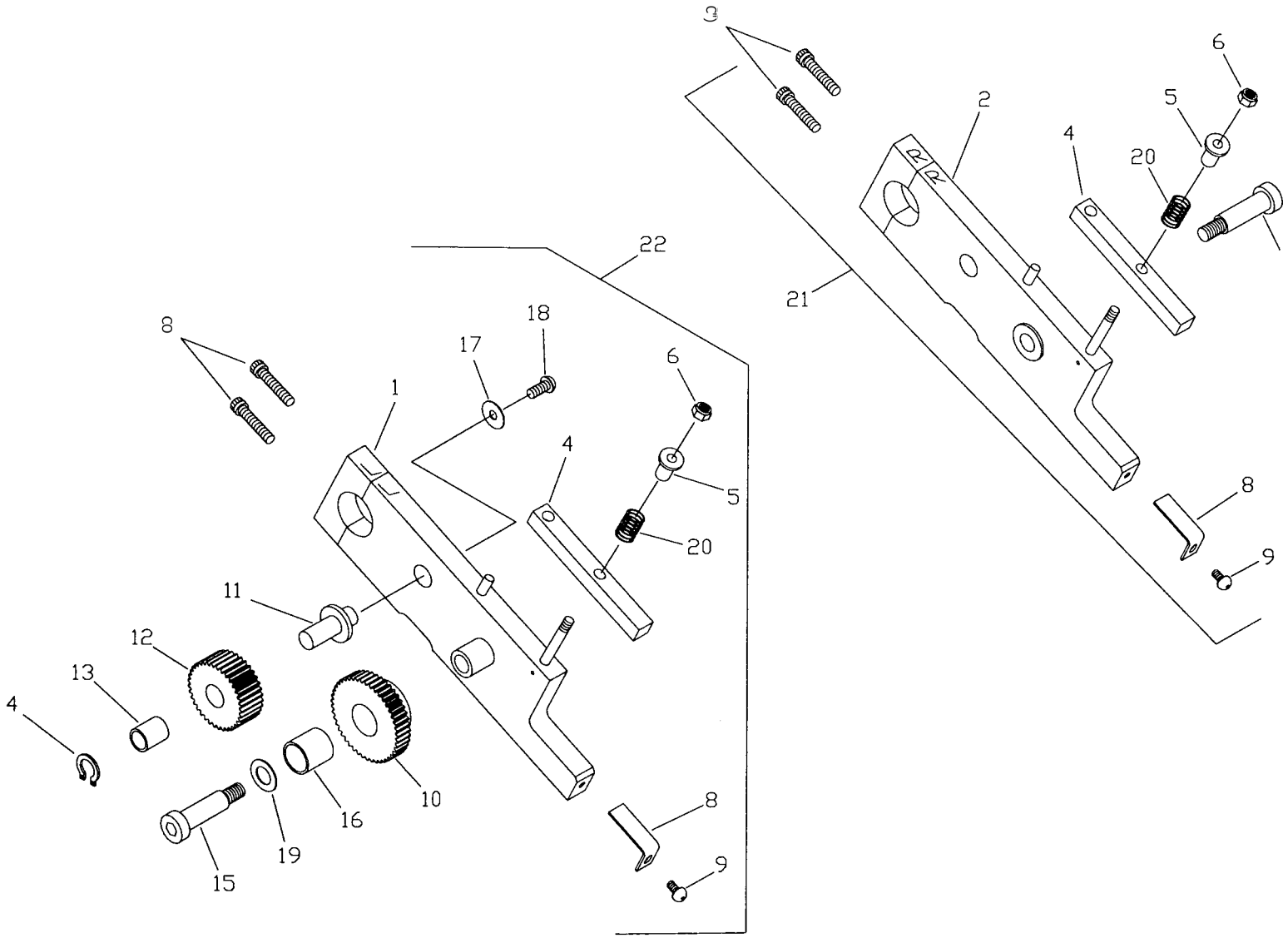

FIGURE 40026

INDEX NO.	PART NUMBER	DESCRIPTION 7-93
1	40565	IMPRESSION ARM ASY
2	40566	IMPRESSION ARM ASY
3	910001	SCREW
4	40546	IMPRESSION ARM FINGER
5	40550	SPRING BUSHING
6	940034	NUT
7	910605	SCREW
8	40551	WEAR PLATE
9	910027	SCREW
10	40420	IDLER GEAR
11	40562	GEAR STUD
12	40414	IDLER GEAR
13	901004	BEARING
14	930026	RETAINING RING
15	910605	SCREW
16	900033	BUSHING
17	950046	WASHER
18	910010	SCREW
19	950006	WASHER
20	965015	SPRING IMPRESSION ARM
21	40570	IMPRESSION ARM ASY
22	40571	IMPRESSION ARM ASY

CIRCLED NUMBERS IN FIGURE INDICATE PARTS FITTED INTO FRAME.
ALWAYS GIVE SERIAL NUMBER OF T-51 WHEN ORDERING PARTS.

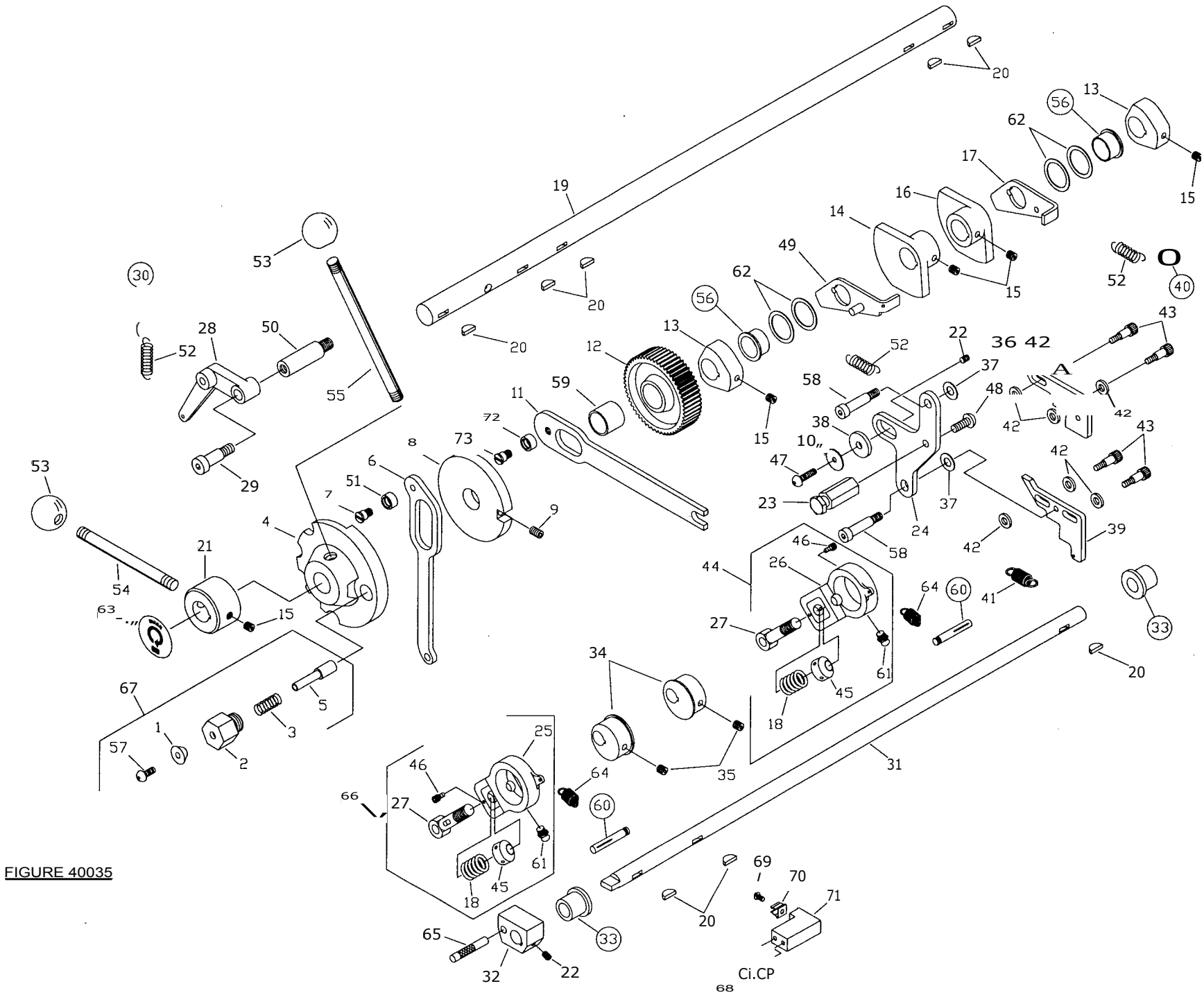
FIGURE 40035
Ci.CP

INDEX NO.	PART NUMBER	DESCRIPTION 7-93
1	40459	DETENT KNOB
2	40454	DETENT BUSHING
3	20945	SPRING
4	40452	SINGLE LEVER CAM
5	40453	RELEASE PIN
6	40455	SINGLE LEVER LINK
7	40311	SHOULDER SCREW
8	40576	DUCTOR SHUTOFF CAM
9	910082	SCREW
10	950034	WASHER
11	40578	SHUTOFF LINK
12	40415	IDLER GEAR
13	40362	INK CONTROL CAM
14	40361	WATER CONTROL CAM
15	910021	SCREW
16	40360	WATER CONTROL CAM
17	40674	WATER FORM CATCH ASY
18	965010	SPRING
19	40363	CONTROL SHAFT
20	961023	WOODRUFF KEY
21	40456	DISENGAGE HUB
22	910019	SCREW
23	40581	STANDOFF
24	40577	SLIDING LINK
25	40325	YOKE SPRING HOUSING
26	40326	YOKE SPRING HOUSING
27	40322	PULL STEM
28	40466	DETENT ASY
29	910077	SCREW
30	40467	DETENT SPRING PIN
31	40355	YOKE SHAFT
32	40358	YOKE DRIVE BLOCK
33	40359	YOKE BUSHING
34	40356	YOKE ECCENTRIC
35	910528	SCREW
36	40580	DUCTOR SHUTOFF-INK
37	959956	WASHER
38	40582	WASHER
39	40579	DUCTOR SHUTOFF-WATER
40	920012	PIN

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CIRCLED NUMBERS IN FIGURE INDICATE PARTS FITTED INTO FRAME.
ALWAYS GIVE SERIAL NUMBER OF T-51 WHEN ORDERING PARTS.

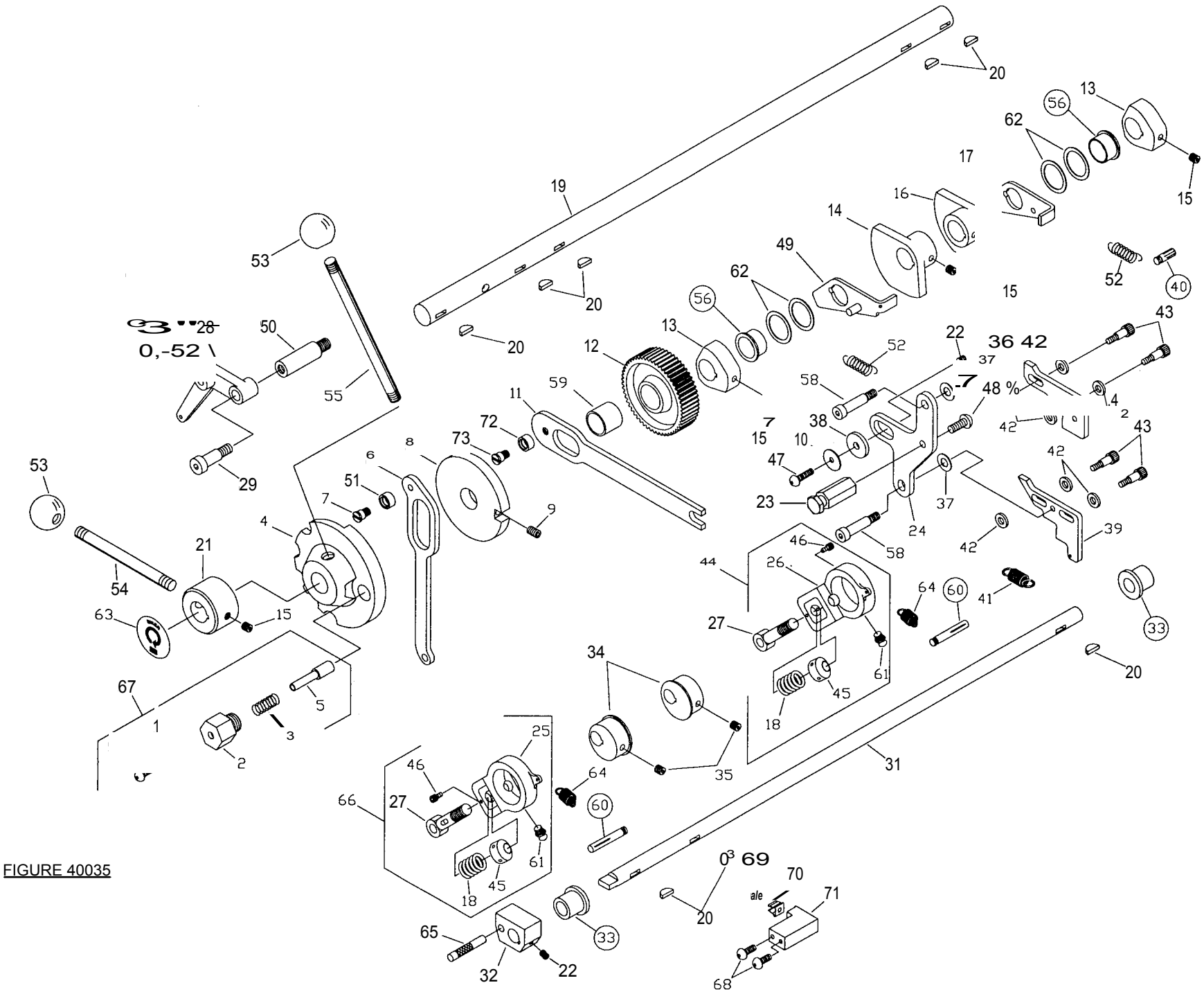

FIGURE 40035

INDEX NO.	PART NUMBER	DESCRIPTION 7-93
41	11942	SPRING
42	40584	WASHER
43	910602	SHOULDER SCREW
44	40328	YOKE SPRING HOUSING ASY
45	40357	TURNBUCKLE JAM NUT
46	910016	SCREW
47	910313	SCREW
48	910069	SCREW
49	40673	WATER FORM CATCH ASY
50	40457	DETENT STUD
51	35312	SOLID BEARING
52	6938	SPRING
53	960025	KNOB
54	20647	INK CRANK SHAFT
55	20453	SHAFT
56	901037	BEARING
57	910127	SCREW
58	910115	SCREW
59	900033	BUSHING
60	920027	PIN
61	961069	GREASE FITTING
62	950016	WASHER
63	960112	INKER UP DECAL
64	965022	YOKE PULL SPRING
65	40330	PIN
66	40327	YOKE SPRING HOUSING ASY
67	40458	DETENT BUSHING ASY
68	910308	SCREW
69	910305	SCREW
70	964036	SPRING CLIP
71	40329	STOP BLOCK
72	40315	BUSHING
73	40316	SCREW

CIRCLED NUMBERS IN FIGURE INDICATE PARTS FITTED INTO FRAME.
ALWAYS GIVE SERIAL NUMBER OF T-51 WHEN ORDERING PARTS.

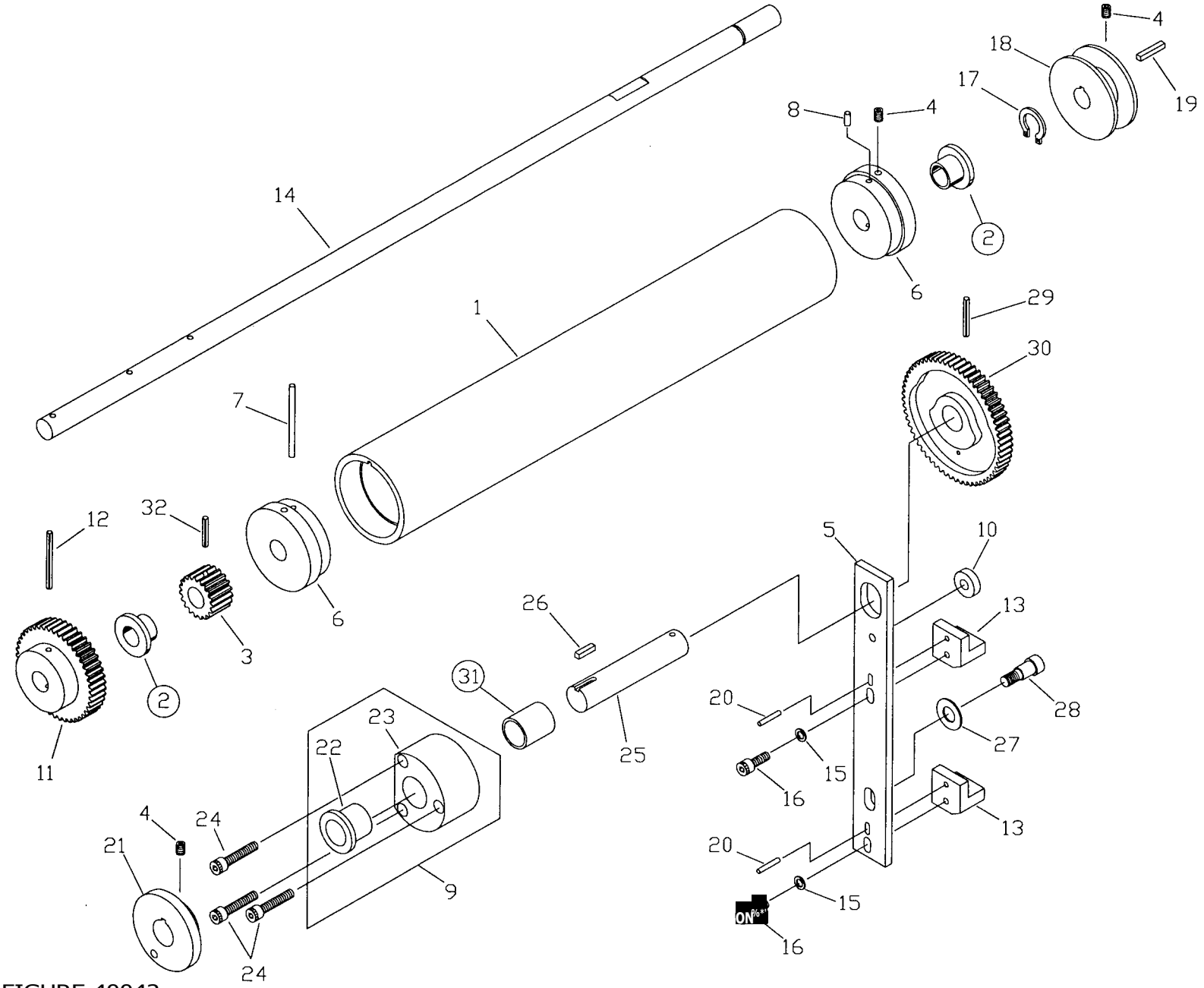

FIGURE 40042

INDEX NO.	PART NUMBER	DESCRIPTION 7-93
1	40811	SMALL OSCILLATOR TUBE
2	901042	BUSHING
3	40417	PINION GEAR
4	910019	SCREW
5	40597	DUCTOR SLIDE
6	40807	SMALL END BELL
7	40808	OSCILLATOR DRIVER PIN
8	920008	PIN
9	40598	DUCTOR CAN HUB ASY
10	900002	BEARING
11	40416	OSCILLATOR DRIVE GEAR
12	924001	PIN
13	40594	DUCTOR BLOCK
14	40801	OSCILLATOR SHAFT
15	950020	WASHER
16	910070	SCREW
17	930026	RETAINING RING
18	40850	OSCILLATOR DRIVER
19	40561	KEY
20	920008	PIN
21	40634	INK WATER DRIVE HUB
22	900017	BUSHING
23	40591	DUCTOR CAM HUB
24	910080	SCREW
25	40592	DUCTOR CAN SHAFT
26	40564	KEY
27	950005	WASHER
28	910118	SCREW
29	920010	PIN
30	40418	DUCTOR CAN
31	901023	BEARING
32	920009	PIN

CIRCLED NUMBERS IN FIGURE INDICATE PARTS FITTED INTO FRAME.
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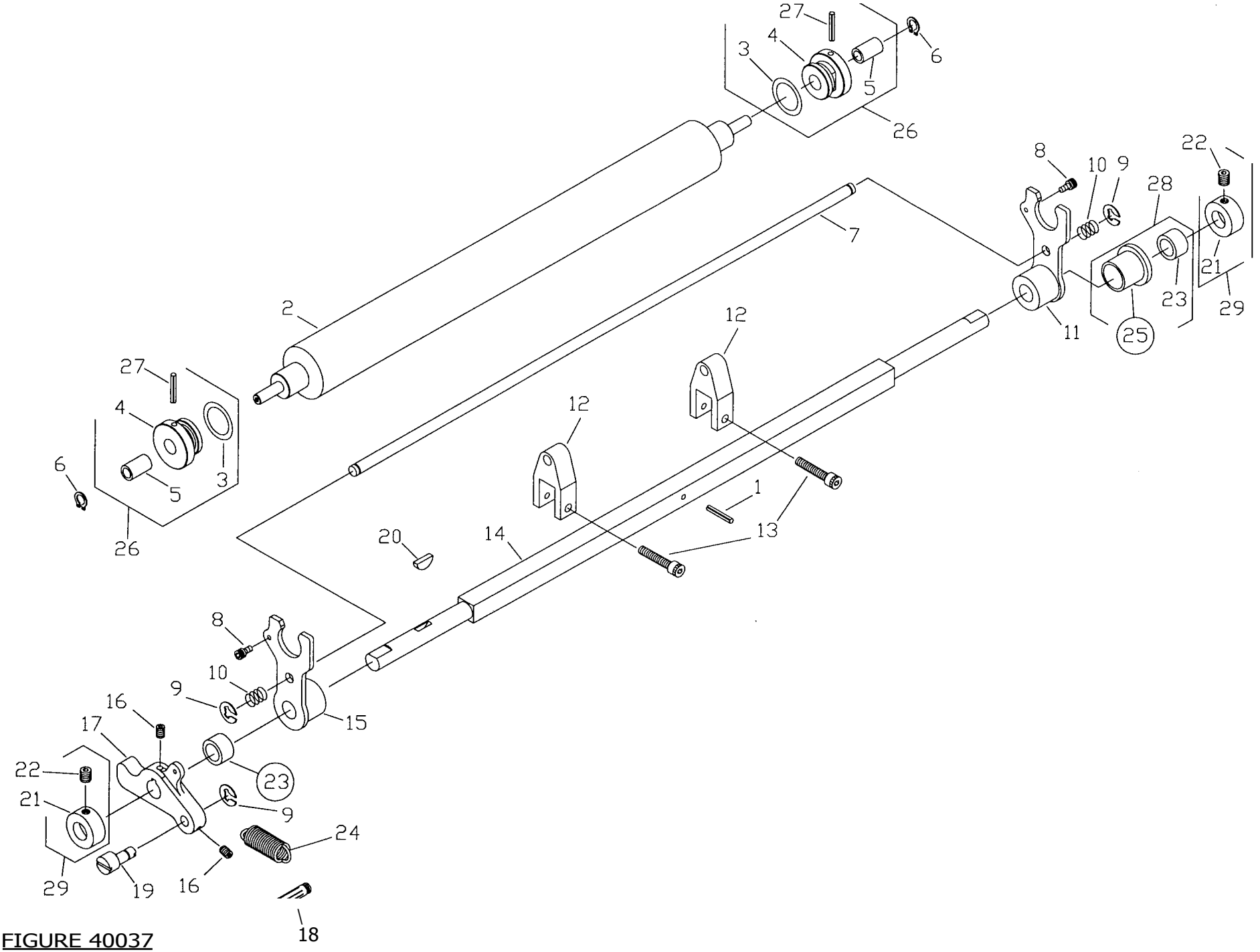

FIGURE 40037

INDEX NO.	PART NUMBER	DESCRIPTION 7-93
1	920009	PIN
2	40819	INK DUCTOR ROLLER
3	960347	0-RING
4	40502	DUCTOR ROLLER BUSHING
5	900025	BUSHING
6	930013	RETAINING RING
7	40589	DUCTOR EQUALIZER BAR
8	910016	SCREW
9	930003	RETAINING RING
10	965011	SPRING
11	40508	DUCTOR ARM
12	40510	DUCTOR DRIVER ASY
13	910080	SCREW
14	40586	INK DUCTOR SHAFT
15	40507	DUCTOR ARM
16	910019	SCREW
17	40583	DUCTOR PUSHER **ARM**
18	920001	**PIN**
19	40585	**DUCTOR ADJUSTER**
20	961023	**WOODRUFF KEY**
21	40511	**SET COLLAR**
22	910021	**SCREW**
23	901001	**BEARING**
24	965019	**INK DUCTOR SPRING**
25	901011	**BUSHING**
26	40512	**DUCTOR ROLL BUSHING ASY**
27	920010	**PIN**
28	40111	**BUSHING ASY**
29	40513	**SET COLLAR ASY**

CIRCLED NUMBERS IN FIGURE INDICATE PARTS FITTED INTO FRAME.
ALWAYS GIVE SERIAL NUMBER OF T-51 WHEN ORDERING PARTS.

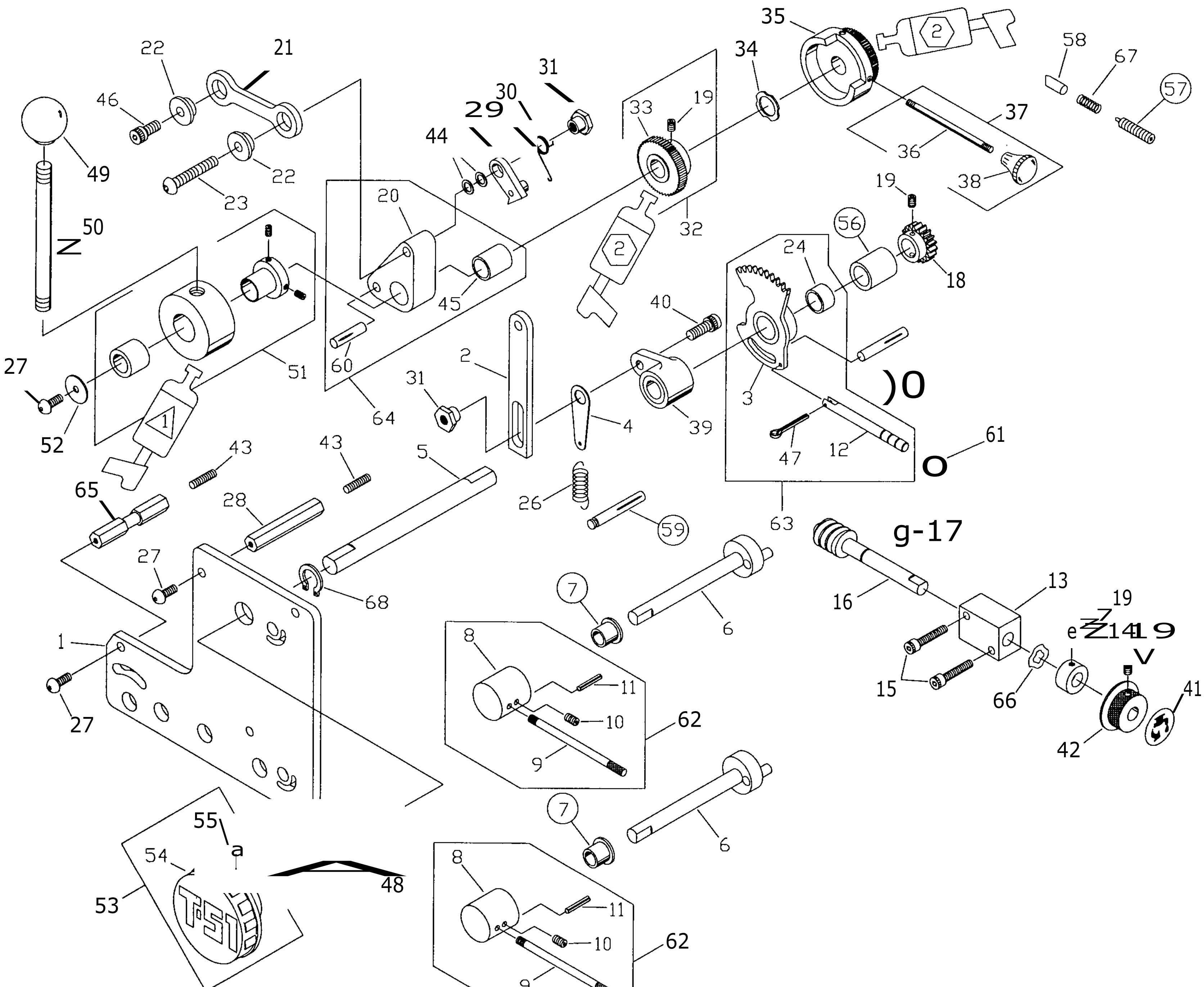

FIGURE 40039.01

INDEX NO.	PART NUMBER	DESCRIPTION 7-93
1	40704	OUTBOARD SIDE PLATE
2	40614	WATER SLIDE LINK
3	40669	WATER STOP ASY
4	40615	SPRING LINK
5	40612	WATER DRIVE SHAFT
6	40590	DUCTOR SHUTOFF STEM ASY
7	901003	BEARING
8	40574	DUCTOR SHUTOFF KNOB
9	1576	STEM
10	910501	SCREW
11	920009	PIN
12	40668	WATER INDICATOR
13	40618	WATER WORM BLOCK
14	1907	SET COLLAR
15	910080	SCREW
16	40639	WATER WORM SHAFT
17	930003	RETAINING RING
18	40421	WATER DRIVE GEAR
19	910019	SCREW
20	40635	INK/WATER DRIVE ARM
21	40633	INK DRIVE LINK
22	40636	INK LINK BUSHING
23	910122	SCREW
24	901020	BEARING
25	920003	PIN
26	6938	SPRING
27	910308	SCREW
28	20741	GUARD POST
29	1571	PAWL
30	1573	SPRING
31	6559	PAWL SPRING ADJUST NUT
32	6564	INK RATCHET ASY
33	6558	RATCHET
34	950003	WASHER
35	1585	FEED SELECTOR
36	22848	STEM
37	22588	KNOB & STEM ASY
38	12914	KNOB
39	20652	DRIVER
40	910040	SCREW

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CIRCLED NUMBERS IN FIGURE INDICATE PARTS FITTED INTO FRAME.
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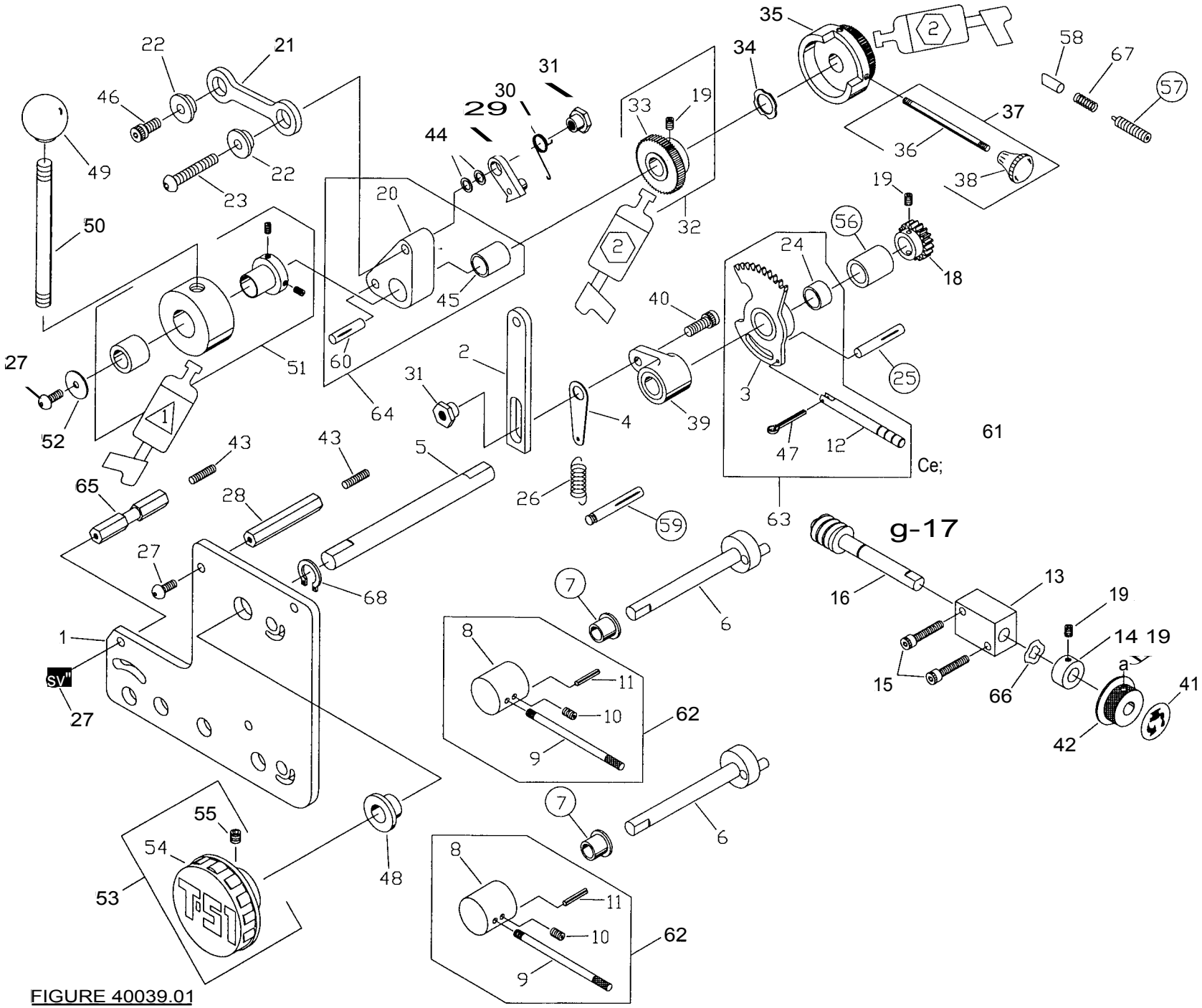

FIGURE 40039.01

INDEX NO.	PART NUMBER	DESCRIPTION 7-93
41	960115	WATER CONTROL DECAL
42	20675	KNOB
43	910094	SCREW
44	950002	WASHER
45	901004	BEARING
46	910059	SCREW
47	920006	PIN
48	901042	BUSHING
49	960025	KNOB
50	20647	INK CRANK SHAFT
51	20639	CRANK DRIVER
52	950034	WASHER
53	18611	T-51 KNOB ASY
54	18612	T-51 KNOB
55	910021	SCREW
56	900111	BEARING
57	910180	SCREW
58	8746	CONTROL PIN
59	920023	PIN
60	920013	PIN
61	961070	RUBBER GROMMET
62	40548	DUCTOR SHUTOFF KNOB ASY
63	40667	WATER STOP ASY
64	40626	INK/WATER DRIVE ARM ASY
65	40740	GUARD POST
66	950036	WASHER
67	965008	COMPRESSION SPRING
68	930026	RETAINING RING

CIRCLED NUMBERS IN FIGURE INDICATE PARTS FITTED INTO FRAME.
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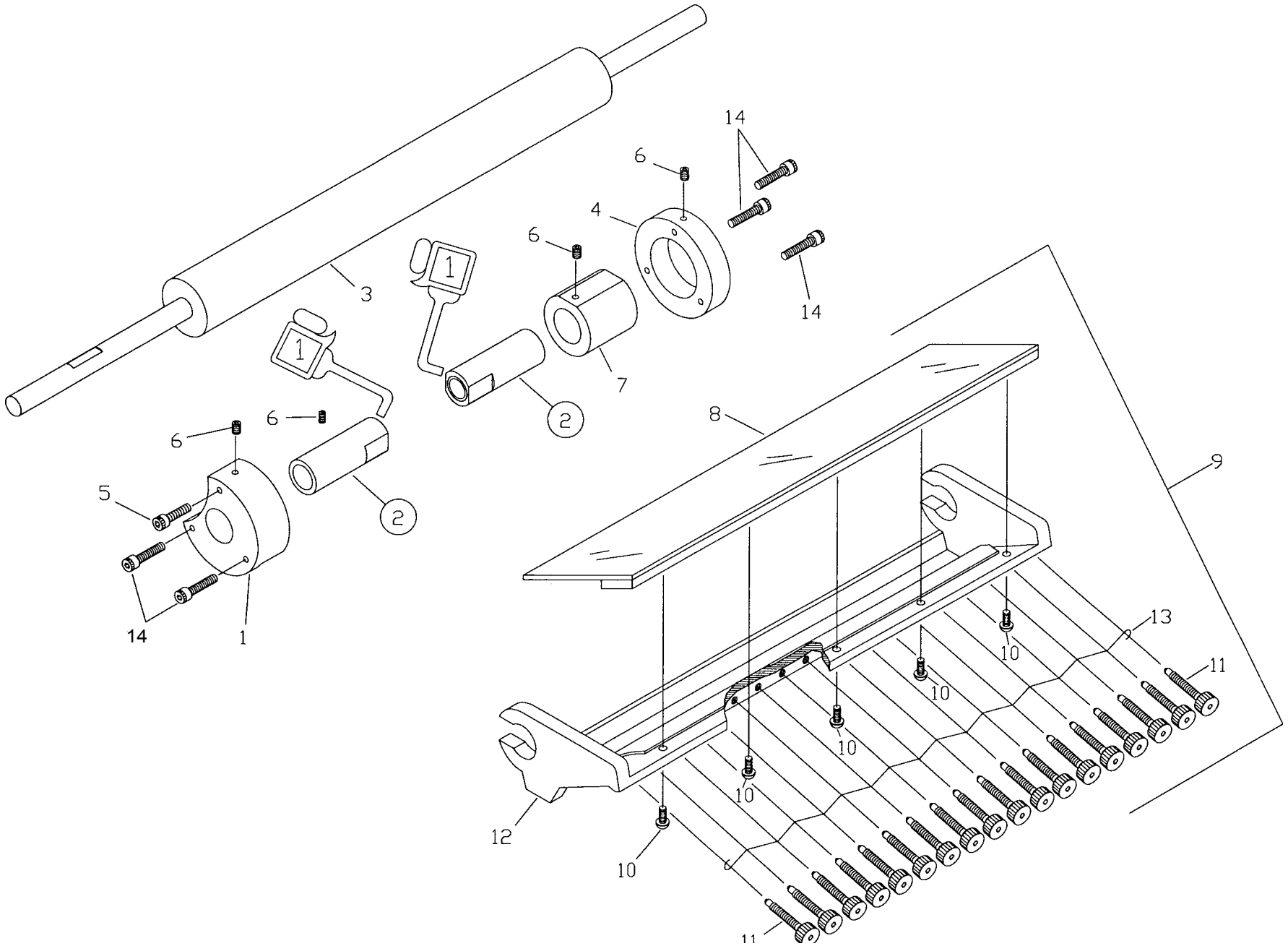

FIGURE 40045.01

INDEX NO.	PART NUMBER	DESCRIPTION 7-93
1	40627	INK BOSS
2	40632	INK BUSHING ASY
3	40630	INK FOUNTAIN ROLLER
4	40628	INK BOSS
5	910028	SCREW
6	910019	SCREW
7	40629	BUSHING
8	40638	INK FOUNTAIN BLADE
9	40641	INK FOUNTAIN ASY
10	910300	SCREW
11	1630	FOUNTAIN SCREW
12	20626	INK FOUNTAIN
13	18631	TENSION SPRING
14	910103	SCREW

CIRCLED NUMBERS IN FIGURE INDICATE PARTS FITTED INTO FRAME.
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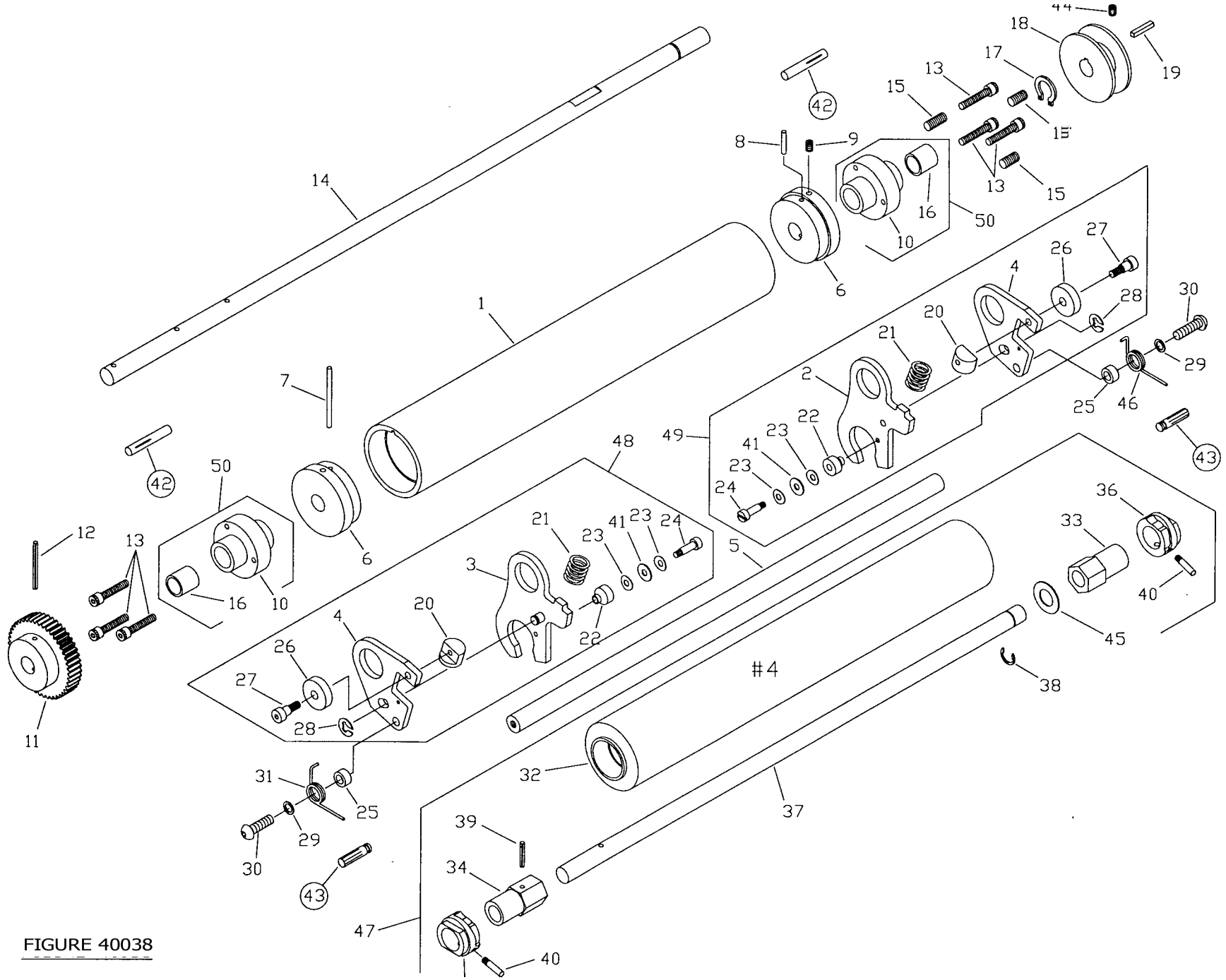

FIGURE 40038

INDEX NO.	PART NUMBER	DESCRIPTION 7-93
1	40811	SMALL OSCILLATOR TUBE
2	40624	GUIDE PLATE #4
3	40625	GUIDE PLATE #4
4	40620	WATER SIDE PLATE
5	40526	INKER TIE ROD
6	40807	SMALL END BELL
7	40808	OSCILLATOR DRIVER PIN
8	921012	PIN
9	910019	SCREW
10	40613	WATER OSCILLATOR HUB
11	40416	OSCILLATOR DRIVE GEAR
12	924001	PIN
13	910080	SCREW
14	40801	OSCILLATOR SHAFT
15	910045	SCREW
16	901016	BUSHING
17	930026	RETAINING RING
18	40850	OSCILLATOR DRIVER
19	40561	KEY
20	40527	SPRING PERCH
21	965014	SPRING
22	40544	DETENT FORM LOCK
23	950039	WASHER
24	910107	SCREW
25	40619	SPRING SPACER
26	40623	ROLLER
27	910604	SCREW
28	930003	RETAINING RING
29	950002	WASHER
30	910008	SCREW
31	965013	WATER RETURN SPRING
32	40814	FORM ROLLER / 2 & 4
33	40530	FORM BUSHING 3&4
34	40534	FORM BUSHING #4
35	40537	FORM DETENT BUSHING
36	40536	FORM DETENT BUSHING
37	40535	FORM SHAFT
38	930031	C-RING
39	920009	PIN
40	40525	FORM DETENT PIN
41	950025	WASHER
42	920003	PIN
43	920012	PIN
44	910019	SCREW
45	959955	THRUST WASHER
46	965016	WATER RETURN SPRING
47	40823	FORM ROLLER ASY #4
48	40642	GUIDE PLATE ASY
49	40643	GUIDE PLATE ASY
50	40621	WATER OSCILLATOR HUB ASY

CIRCLED NUMBERS IN FIGURE INDICATE PARTS FITTED INTO FRAME.
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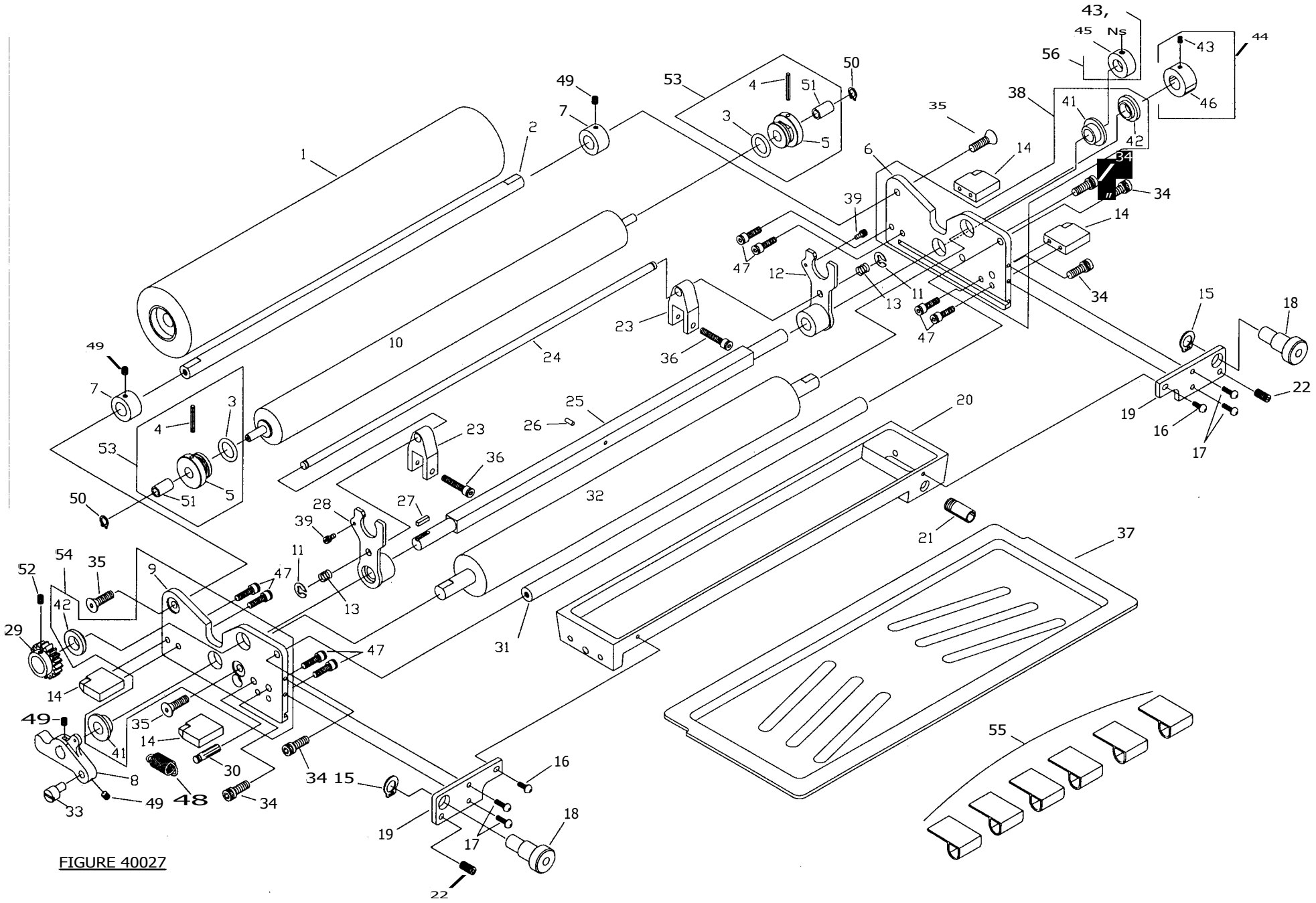

FIGURE 40027

INDEX NO.	PART NUMBER	DESCRIPTION 7-93
1	40816	WATER TRANSFER ROLLER
2	40606	WATER ROLLER SHAFT
3	960347	0-RING
4	920010	PIN
5	40502	DUCTOR ROLLER BUSHING
6	40602	WATER SIDE PLATE
7	40607	CENTERING COLLAR
8	40583	DUCTOR PUSHER ARM
9	40601	WATER SIDE PLATE
10	40818	WATER DUCTOR ROLLER
11	930003	RETAINING RING
12	40508	DUCTOR ARM
13	965011	SPRING
14	40603	GUIDE BLOCK
15	930039	RETAINING RING
16	910300	SCREW
17	910303	SCREW
18	40605	CLAMPING KNOB
19	40604	CLAMPING PLATE
20	40645	WATER FOUNTAIN
21	13655	FITTING WATER FOUNTAIN
22	910112	SCREW
23	40510	DUCTOR DRIVER ASY
24	40589	DUCTOR EQUALIZER BAR
25	40587	WATER DUCTOR SHAFT
26	920008	PIN
27	40564	KEY
28	40507	DUCTOR ARM
29	40421	WATER DRIVE GEAR
30	920012	PIN
31	40608	WATER TIE ROD
32	40609	WATER FOUNTAIN ROLLER
33	40596	DUCTOR ADJUSTER
34	910040	SCREW
35	910073	SCREW
36	910080	SCREW
37	40768	DRIP TRAY
38	40648	WATER SIDE PLATE ASY
39	910016	SCREW
40	910069	SCREW

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CIRCLED NUMBERS IN FIGURE INDICATE PARTS FITTED INTO FRAME.
ALWAYS GIVE SERIAL NUMBER OF T-51 WHEN ORDERING PARTS.

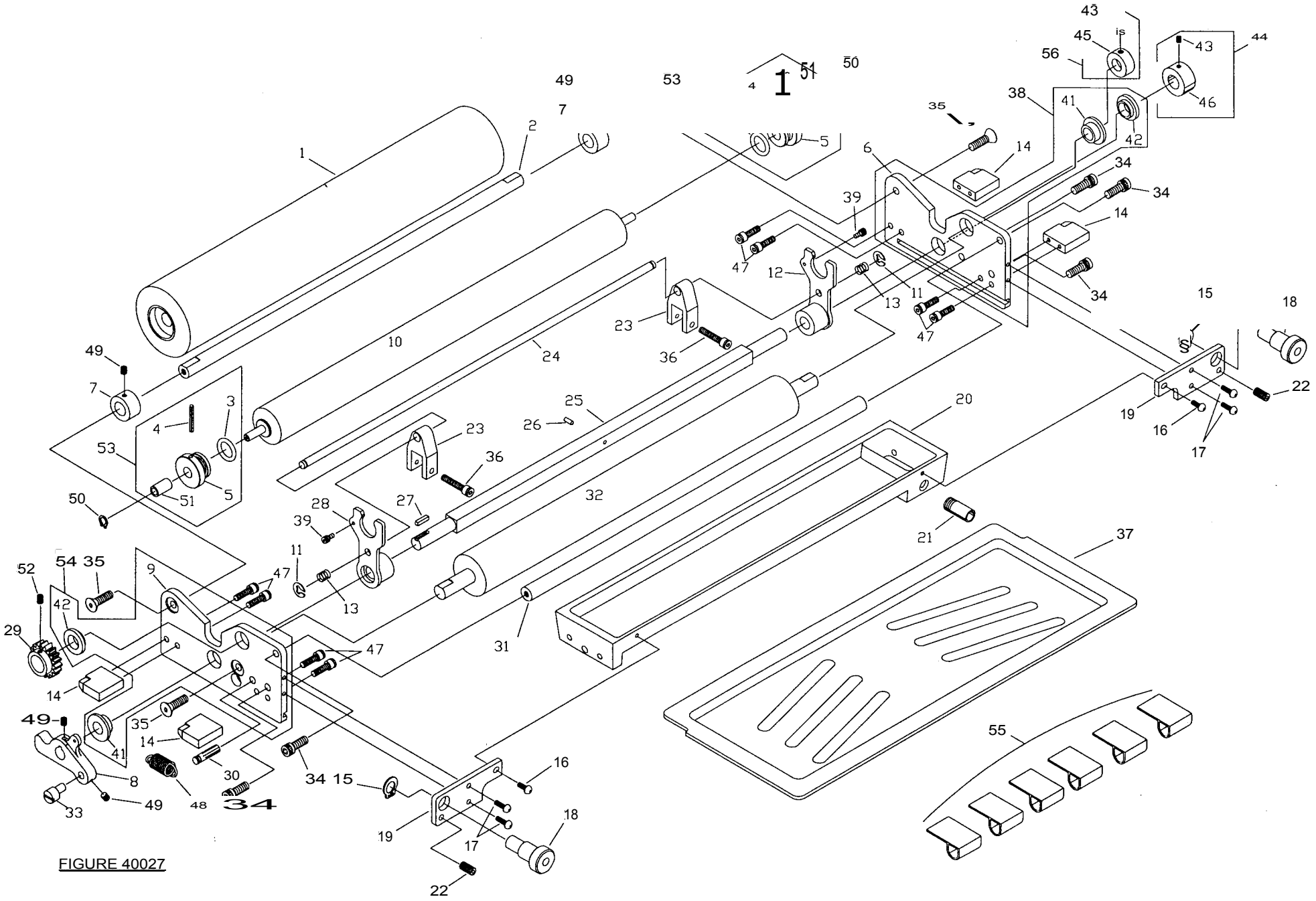


FIGURE 40027

INDEX NO.	PART NUMBER	DESCRIPTION 7-93
41	900041	BUSHING
42	900036	BUSHING
43	910021	SCREW
44	1905	SET COLLAR ASY
45	40511	SET COLLAR
46	1904	SET COLLAR
47	910154	SCREW
48	965020	WATER DUCTOR SPRING
49	910507	SCREW
50	930013	RETAINING RING
51	900025	BUSHING
52	910019	SCREW
53	40512	DUCTOR ROLL BUSHING ASY
54	40647	WATER SIDE PLATE ASY
55	20612	WATER STOP
56	40513	SET COLLAR ASY

CIRCLED NUMBERS IN FIGURE INDICATE PARTS FITTED INTO FRAME.
ALWAYS GIVE SERIAL NUMBER OF T-51 WHEN ORDERING PARTS.

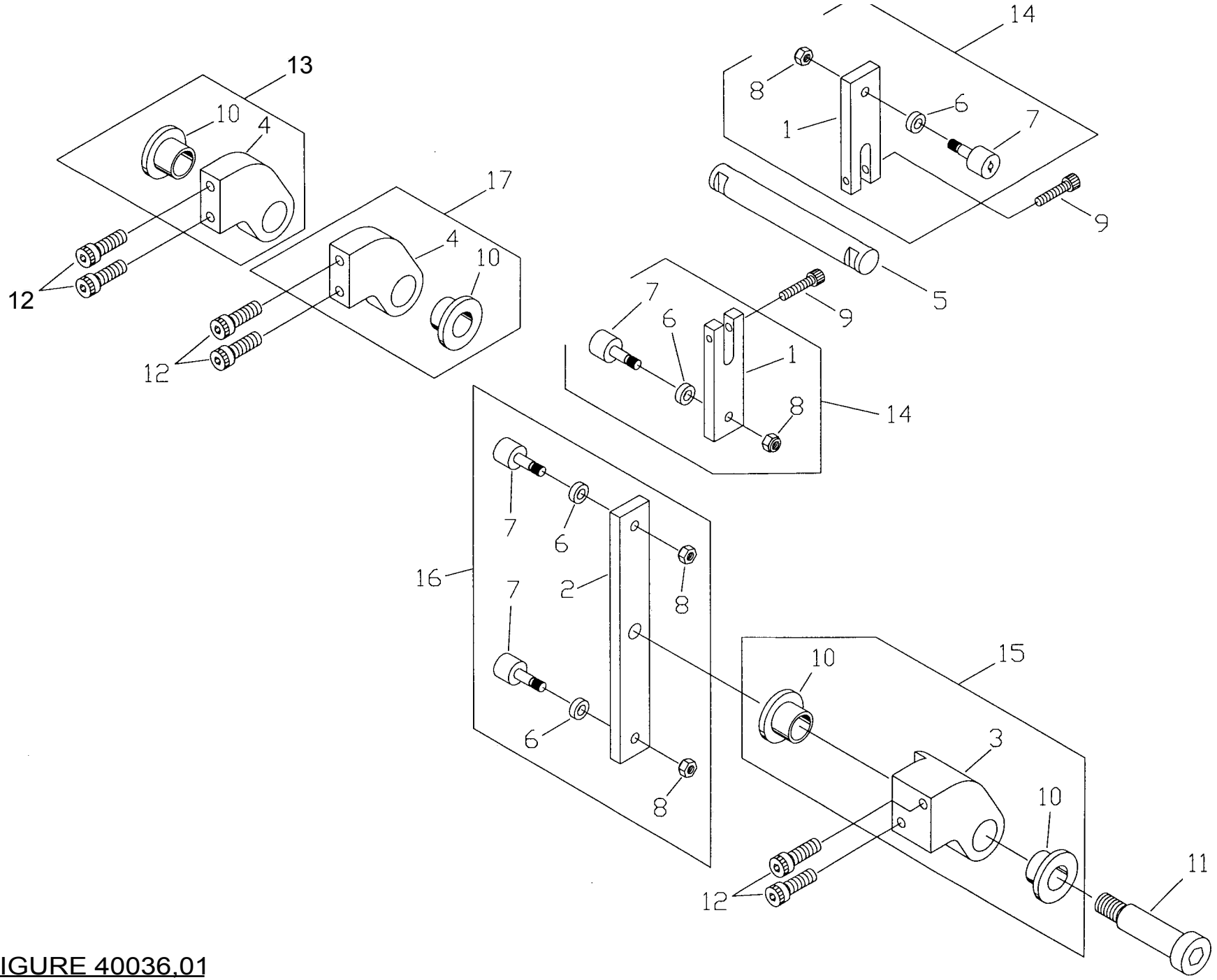


FIGURE 40036.01

INDEX NO.	PART NUMBER	DESCRIPTION 7-93
1	40851	OSCILLATOR DRIVE ARM
2	40852	WATER DRIVE ARM
3	40853	STANDOFF-WATER
4	40854	STANDOFF-INK
5	40855	OSCILLATOR DRIVE SHAFT
6	40856	SPACER
7	900040	CAM FOLLOWER
8	940009	NUT
9	910007	SCREW
10	901042	BUSHING
11	910605	SCREW
12	910042	SCREW
13	40857	STANDOFF INK ASY
14	40858	OSCILLATOR DRIVE ARM ASY
15	40859	STANDOFF WATER ASY
16	40860	WATER DRIVE ARM ASY
17	40861	STANDOFF INK ASY

CIRCLED NUMBERS IN FIGURE INDICATE PARTS FITTED INTO FRAME.
ALWAYS GIVE SERIAL NUMBER OF T-51 WHEN ORDERING PARTS.

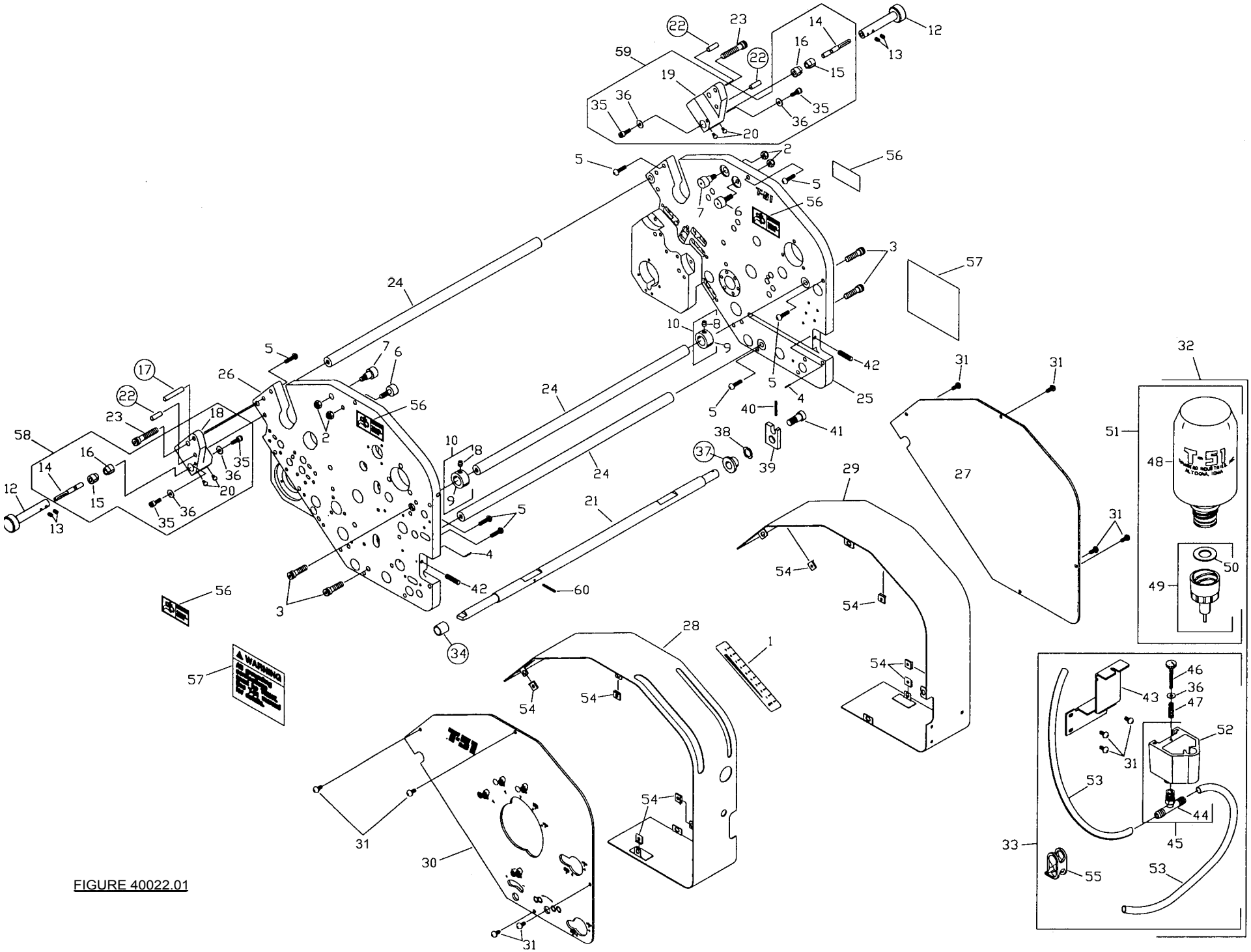


FIGURE 40022.01

INDEX NO.	PART NUMBER	DESCRIPTION 7-93
1	960116	INK FEED DECAL
2	940034	NUT
3	910221	SCREW
4	910019	SCREW
5	910313	SCREW
6	900038	CAM FOLLOWER
7	900039	CAM FOLLOWER
8	910021	SCREW
9	1707	SET COLLAR
10	1725	SET COLLAR ASY
11	910305	SCREW
12	40720	CLAMPING ROD
13	910019	SCREW
14	40721	CLAMPING STEM
15	40705	CLAMP LEFT HAND
16	40706	RIGHT HAND CLAMP
17	920045	PIN
18	40715	BALL SOCKET BLOCK
19	40716	BALL SOCKET BLOCK
20	910305	SCREW
21	40258	LOCK BAR
22	920044	PIN
23	9/0114	SCREW
24	40703	TIE ROD
25	40702	SIDE FRAME
26	40701	SIDE FRAME
27	40728	SIDE COVER
28	40729	SIDE FLANGE ASY
29	40730	SIDE FLANGE ASY
30	40727	SIDE COVER
31	910027	SCREW
32	40644	BOTTLE/HOLDER/BRKT ASY
33	40646	BOTTLE HOLDER BRKT ASY
34	901015	BUSHING
35	910070	SCREW
36	950025	WASHER
37	901042	BUSHING
38	950003	WASHER
39	20738	DETENT
40	920010	PIN
		CONTINUED ON NEXT PAGE

CIRCLED NUMBERS IN FIGURE INDICATE PARTS FITTED INTO FRAME.
ALWAYS GIVE SERIAL NUMBER OF T-51 WHEN ORDERING PARTS.

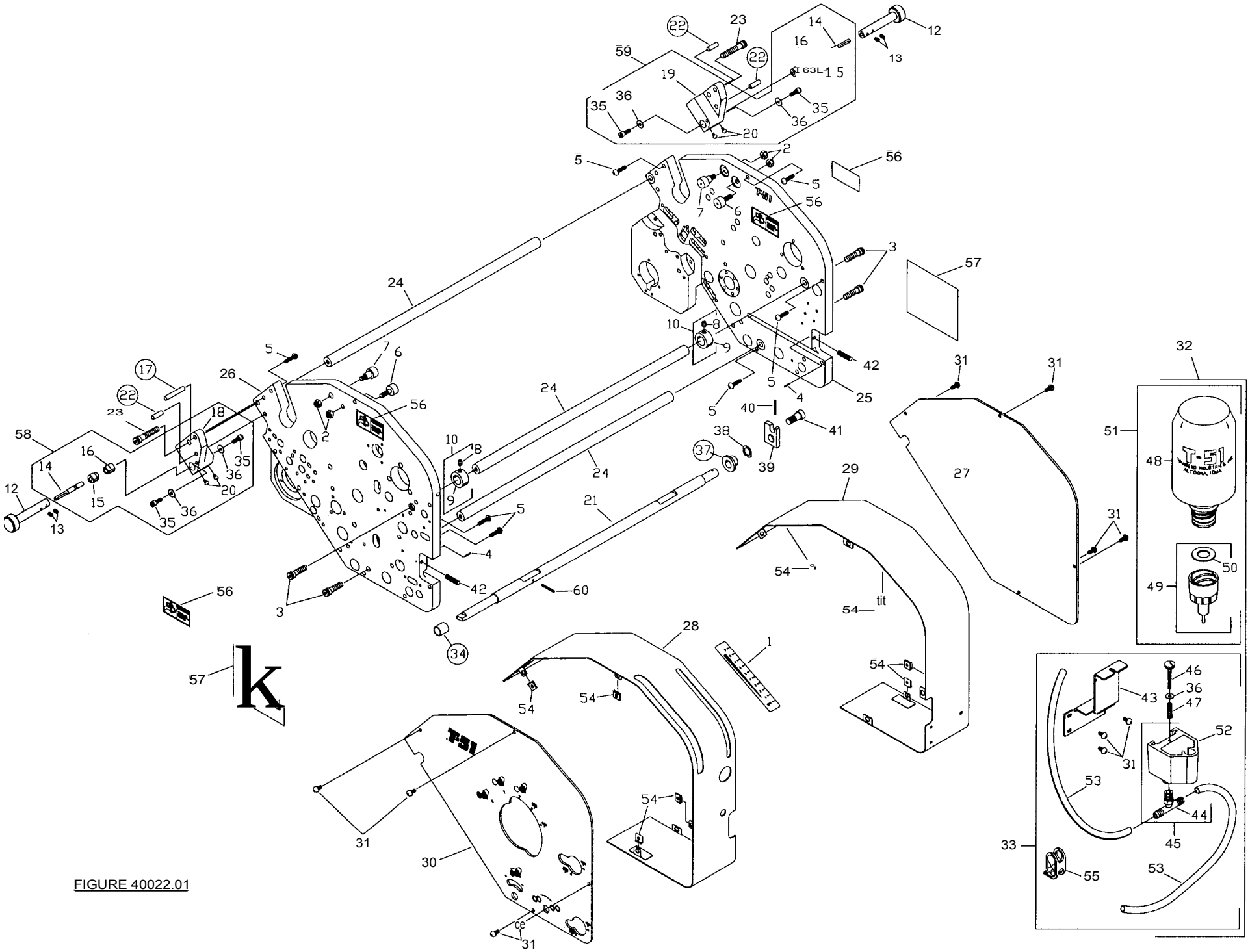


FIGURE 40022.01

INDEX NO.	PART NUMBER	DESCRIPTION 7-93
41	910090	SCREW
42	40640	STUD
43	40736	WATER SUPPORT BRACKET
44	961058	TEE FITTING
45	20649	BOTTLE HOLDER & TEE
46	22113	SCREW
47	1945	SPRING
48	961007	WATER BOTTLE
49	8641	BOTTLE CAP ASY
50	3645	BOTTLE CAP WASHER
51	3642	BOTTLE & CAP ASY
52	20648	BOTTLE HOLDER
53	4640	DRAIN HOSE
54	940036	CLIP
55	961053	TUBING CONTROL VALVE
56	6962	SAFETY LABEL
57	960082	GROUNDING WARNING LABEL
58	40763	BALL SOCKET BLOCK ASY
59	40764	BALL SOCKET BLOCK ASY
60	920009	PIN

CIRCLED NUMBERS IN FIGURE INDICATE PARTS FITTED INTO FRAME.
ALWAYS GIVE SERIAL NUMBER OF T-51 WHEN ORDERING PARTS.

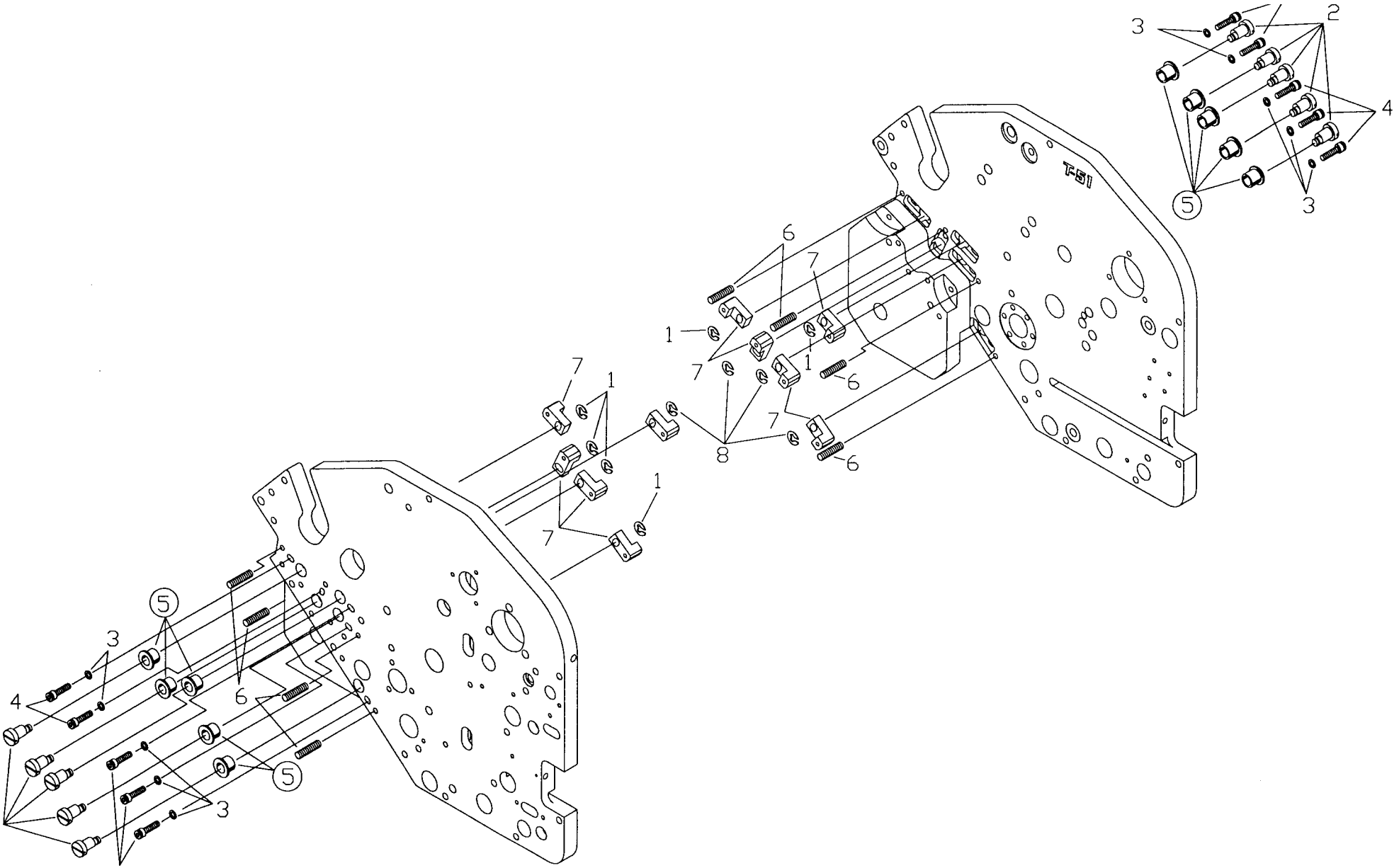


FIGURE 40043

INDEX NO.	PART NUMBER	DESCRIPTION 7-93
1	930003	RETAINING RING
2	40471	FORM ADJUSTING ECCENTRIC
3	950020	WASHER
4	910028	SCREW
5	901003	BEARING
6	910113	SCREW
7	40470	FORM ADJUSTING BLOCK

CIRCLED NUMBERS IN FIGURE INDICATE PARTS FITTED INTO FRAME.
ALWAYS GIVE SERIAL NUMBER OF T-51 WHEN ORDERING PARTS.

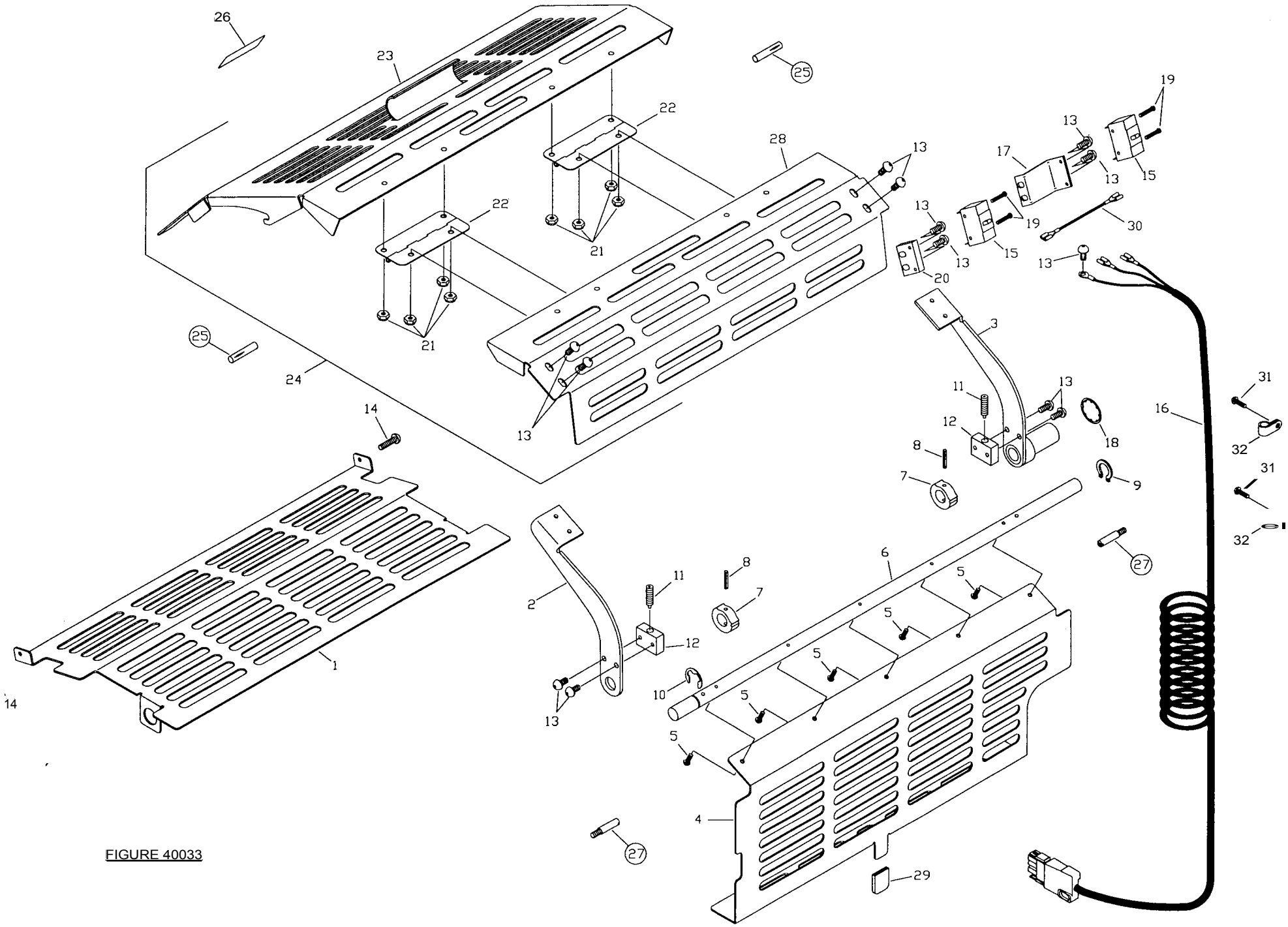


FIGURE 40033

INDEX NO.	PART NUMBER	DESCRIPTION 7-93
1	40789	LOWER GUARD
2	40791	GUARD BRACKET
3	40792	GUARD BRACKET
4	40794	BACK DOOR
5	910309	SCREW
6	40795	BACK DOOR SHAFT
7	40797	BACK DOOR CAM
8	920009	PIN
9	930026	RETAINING RING
10	930002	E-RING
11	910571	PLUNGER
12	40796	BALL PLUNGER BLOCK
13	910027	SCREW
14	910313	SCREW
15	960085	SWITCH
16	40724	T-51 WIRE HARNESS
17	16732	SWITCH BRACKET
18	930014	RETAINER
19	910070	SCREW
20	16758	SWITCH MOUNT BRACKET
21	940011	NUT
22	40779	TOP GUARD HINGE
23	40777	TOP GUARD ASY
24	40776	TOP GUARD
25	922000	PIN
26	960114	VERTICAL MICRO DECAL
27	40780	GUARD STOP PIN
28	40778	TOP GUARD ASY
29	960107	VINYL MAR STOP
30	16766	JUMPER WIRE
31	910303	SCREW
32	964024	5/16 INCH CLAMP

CIRCLED NUMBERS IN FIGURE INDICATE PARTS FITTED INTO FRAME.
ALWAYS GIVE SERIAL NUMBER OF T-51 WHEN ORDERING PARTS.

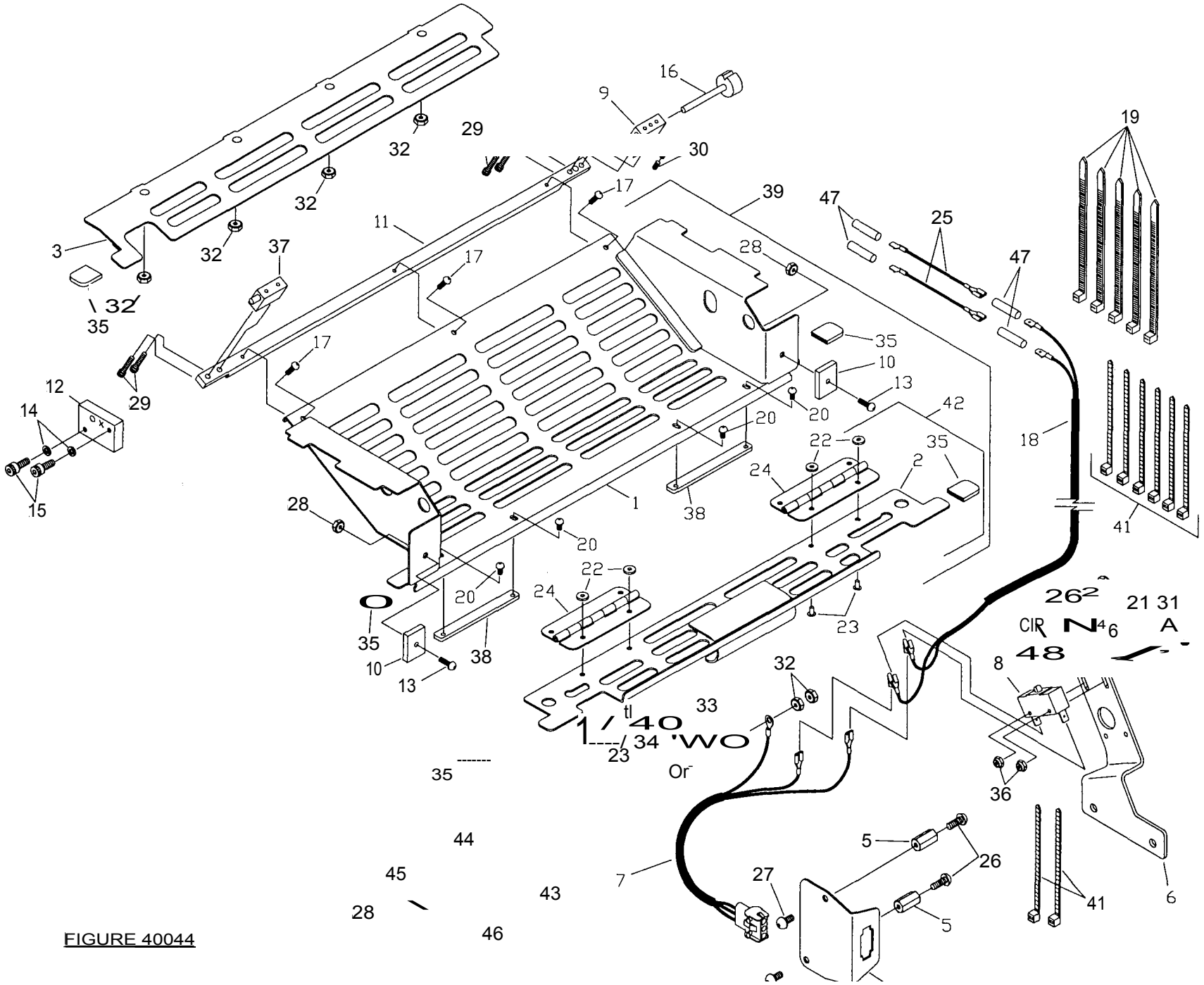


FIGURE 40044

INDEX NO.	PART NUMBER	DESCRIPTION 7-93
1	40744	REPLACEMENT GUARD
2	40751	REPL GUARD EXTENSION ASY
3	40745	GUARD EXTENSION
4	40723	CAP HOUSING BRACKET
5	7741	GUARD POST
6	40737	SWITCH BRACKET
7	40725	WIRE HARNESS
8	960085	SWITCH
9	40760	PIVOT BLOCK
10	960026	MAGNET
11	40758	GUARD PIVOT BAR
12	40756	HINGE BLOCK
13	910303	SCREW
14	950027	WASHER
15	910036	SCREW
16	40759	GUARD CAM ASY
17	910309	SCREW
18	40726	WIRE HARNESS
19	964025	CABLE TIE
20	910305	SCREW
21	940011	NUT
22	950029	WASHER
23	921005	RIVET
24	40741	GUARD HINGE,
25	26829	ADAPTER WIRE
26	910308	SCREW
27	910027	SCREW
28	940039	NUT
29	910012	SCREW
30	910502	SCREW
31	910804	SCREW
32	940040	NUT
33	950023	WASHER
34	910028	SCREW
35	960107	VINYL MAR STOP
36	940038	NUT
37	40755	PIVOT BLOCK
38	40743	GUARD NUTPLATE
39	40752	REPLACEMENT GUARD
40	950034	WASHER
41	966915	CABLE TIE
42	40753	REPL GUARD EXTENSION ASY
43	910007	SCREW
44	950033	WASHER
45	964024	5/16 INCH CLAMP
46	964027	3/16 INCH CLAMP
47	966968	HEAT SHRINK
48	910301	SCREW

CIRCLED NUMBERS IN FIGURE INDICATE PARTS FITTED INTO FRAME.
ALWAYS GIVE SERIAL NUMBER OF T-51 WHEN ORDERING PARTS.

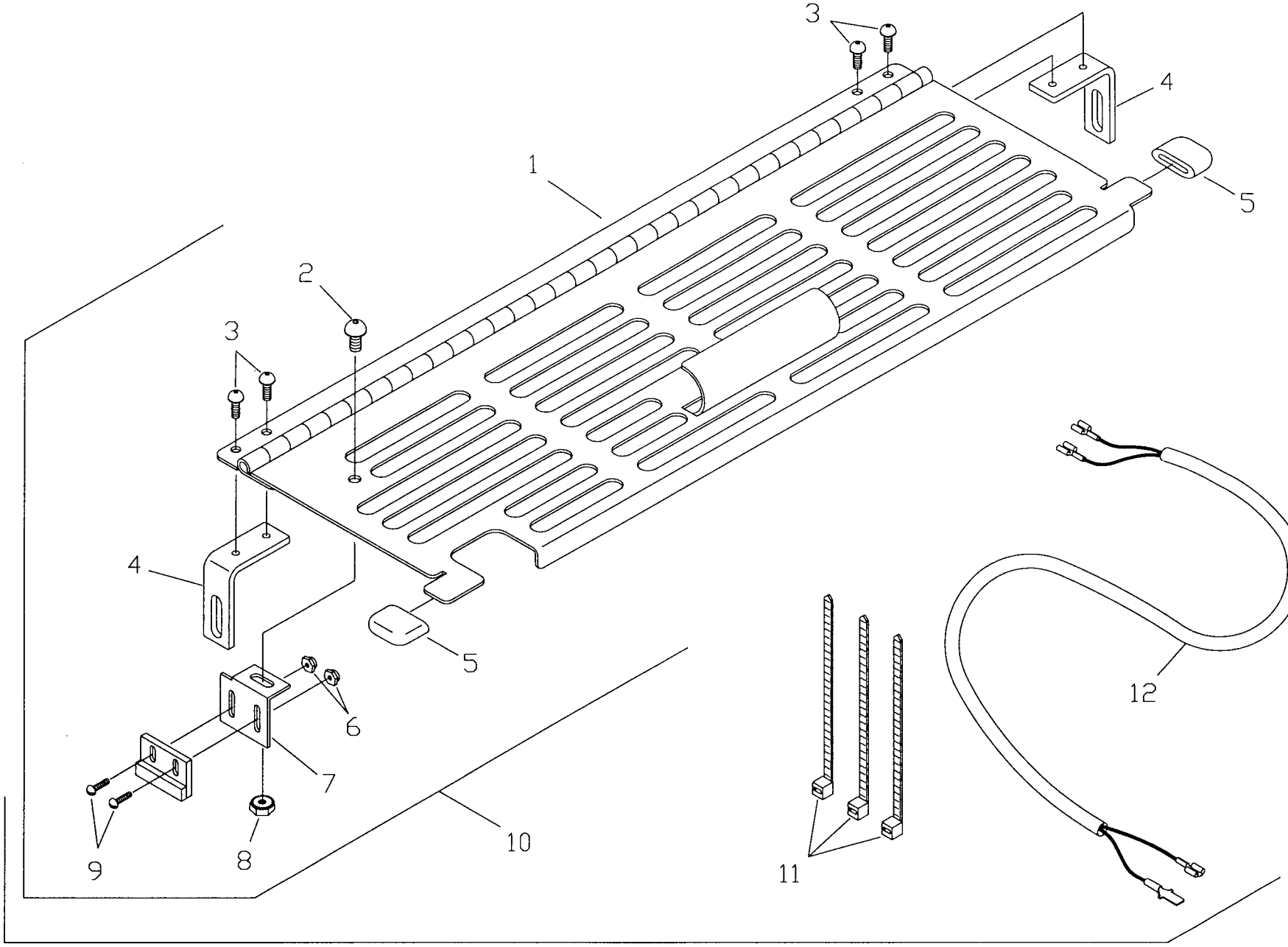
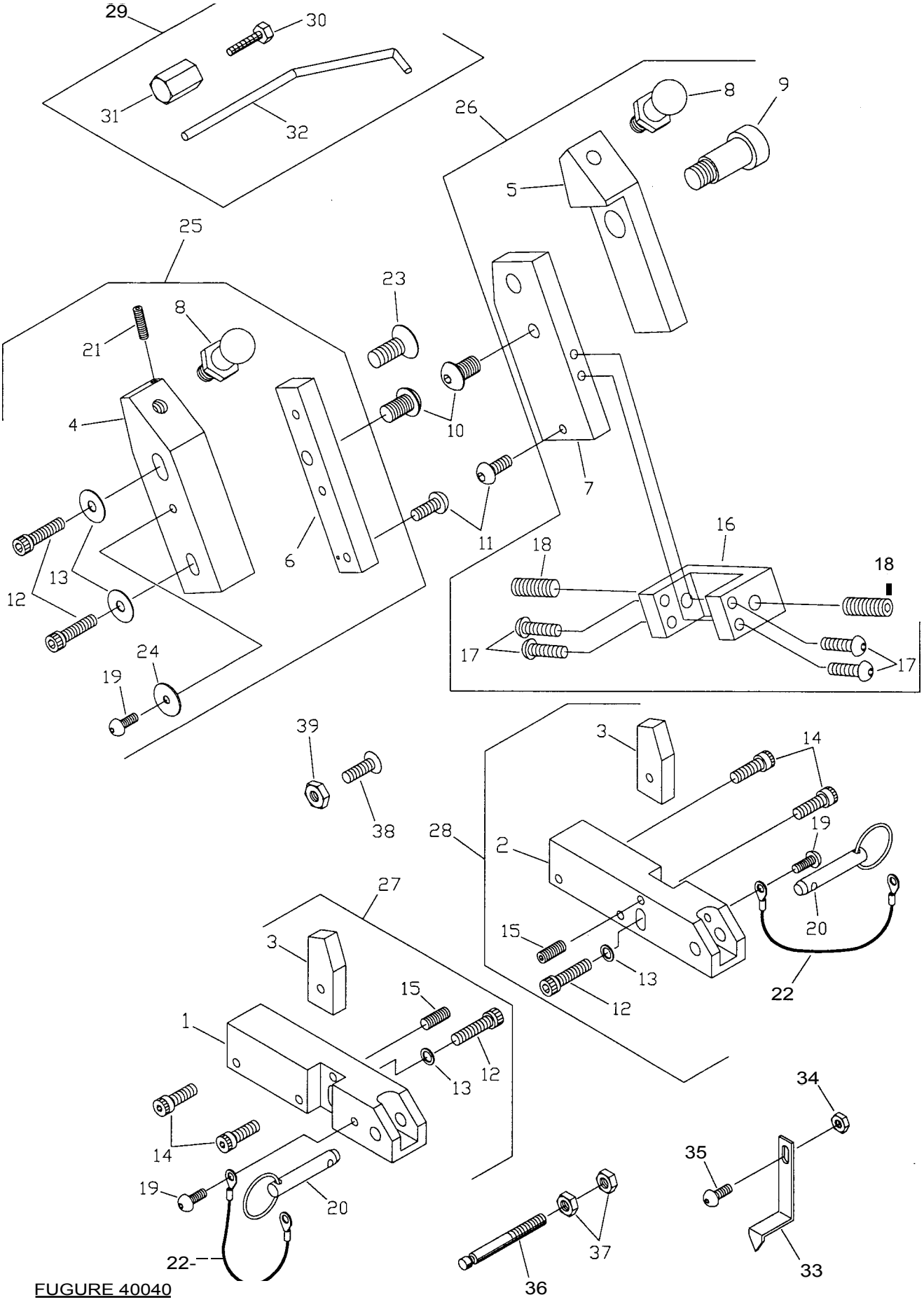


FIGURE 40047

INDEX NO.	PART NUMBER	DESCRIPTION 7-93
1	40761	GUARD EXTENSION ASY
2	910027	SCREW
3	910300	SCREW
4	40766	GUARD HINGE STRAP
5	960107	VINYL MAR STOP
6	940032	NUT
7	20827	MAGNET HOLDER
8	940040	NUT
9	910816	SCREW
10	40767	UPPER CYLINDER GUARD
11	966915	CABLE TIE
12	20750	EXTENSION WIRE
13	40769	GUARD EXTENTION KIT

CIRCLED NUMBERS IN FIGURE INDICATE PARTS FITTED INTO FRAME.
ALWAYS GIVE SERIAL NUMBER OF T-51 WHEN ORDERING PARTS.



FUGURE 40040

INDEX NO.	PART NUMBER	DESCRIPTION 7-93
1	40717	LOWER MOUNT BLOCK
2	40718	LOWER MOUNT BLOCK
3	40719	IMPRESSION STOP
4	40711	UPPER MOUNT BLOCK
5	40712	UPPER MOUNT BLOCK
6	40707	SLIDE PLATE
7	40708	MOUNTING PLATE
8	40713	MOUNTING PIVOT BALL
9	40710	SHOULDER BOLT
10	910121	SCREW
11	910069	SCREW
12	910041	SCREW
13	950002	WASHER
14	910042	SCREW
15	910045	SCREW
16	40709	MOUNTING CLAMP
17	910008	SCREW
18	910125	SCREW
19	910098	SCREW
20	921011	PIN
21	910006	SCREW
22	40738	LOWER MOUNT CABLE
23	910126	SCREW
24	950034	WASHER
25	40771	UPPER MOUNTING BLOCK ASY
26	40772	UPPER MOUNTING BLOCK ASY
27	40773	LOWER MOUNTING BLOCK ASY
28	40774	LOWER MOUNTING BLOCK ASY
29	8949	LOCKOUT ASY
30	910086	SCREW
31	8947	LOCKOUT NUT
32	8948	LOCKOUT ROD
33	20925	POINTER
34	940011	NUT
35	910301	SCREW
36	8759	SPRING PIN
37	940003	NUT
38	910073	SCREW
39	940003	NUT

CIRCLED NUMBERS IN FIGURE INDICATE PARTS FITTED INTO FRAME.
ALWAYS GIVE SERIAL NUMBER OF T-51 WHEN ORDERING PARTS.

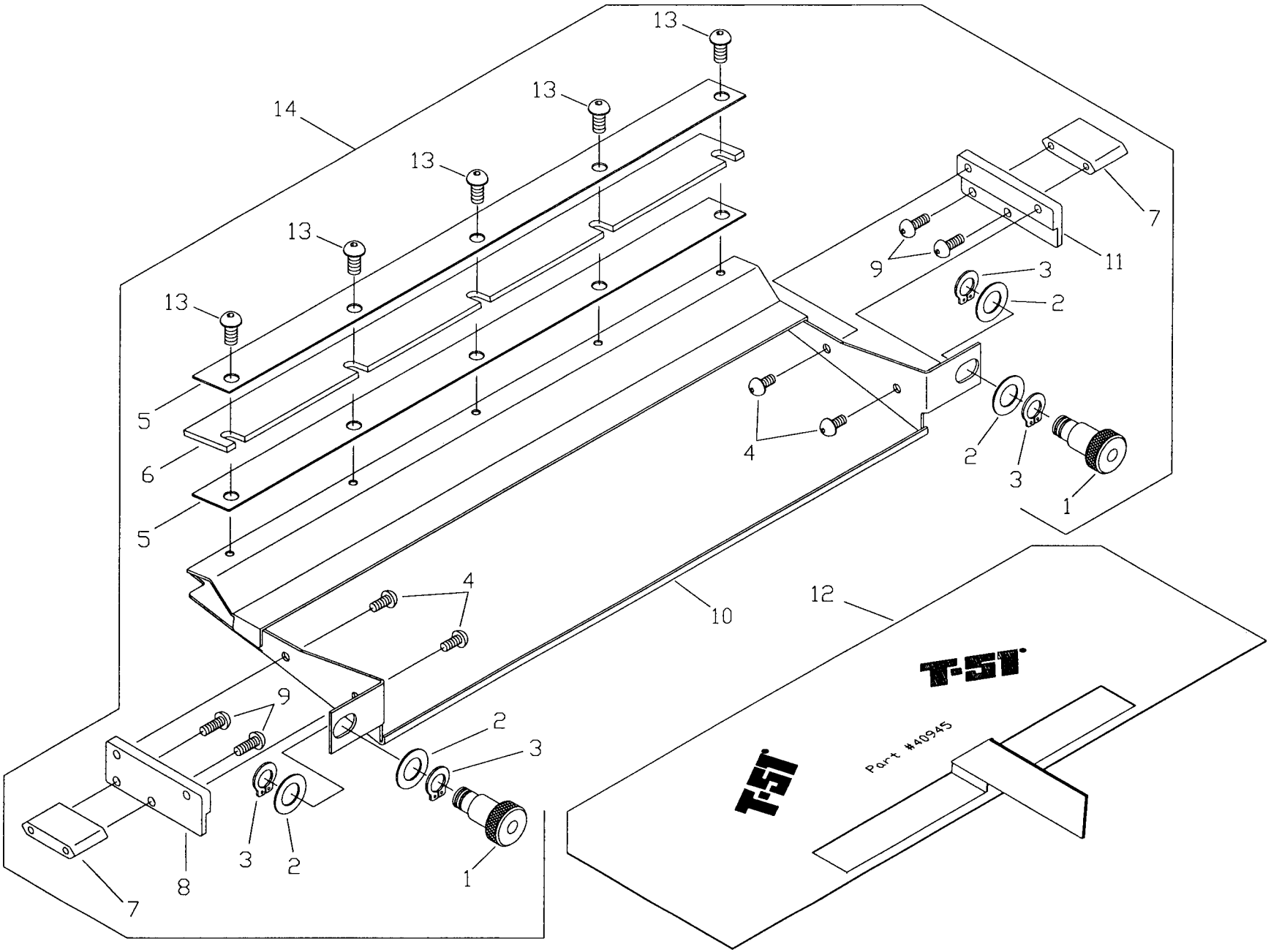


FIGURE 40046

INDEX NO.	PART NUMBER	DESCRIPTION 7-93
1	40605	CLAMPING KNOB
2	950006	WASHER
3	930039	RETAINING RING
4	910027	SCREW
5	40946	BLADE HOLDER
6	40915	CLEANUP BLADE
7	40922	CLEANUP BLOCK
8	40924	CLEANUP PLATE
9	910308	SCREW
10	40919	CLEANUP ATTACHMENT ASY
11	40947	CLEANUP PLATE
12	40945	CLEANUP TRAY
13	910311	SCREW
14	40918	CLEANUP ATTACHMENT ASY

CIRCLED NUMBERS IN FIGURE INDICATE PARTS FITTED INTO FRAME.
ALWAYS GIVE SERIAL NUMBER OF T-51 WHEN ORDERING PARTS.

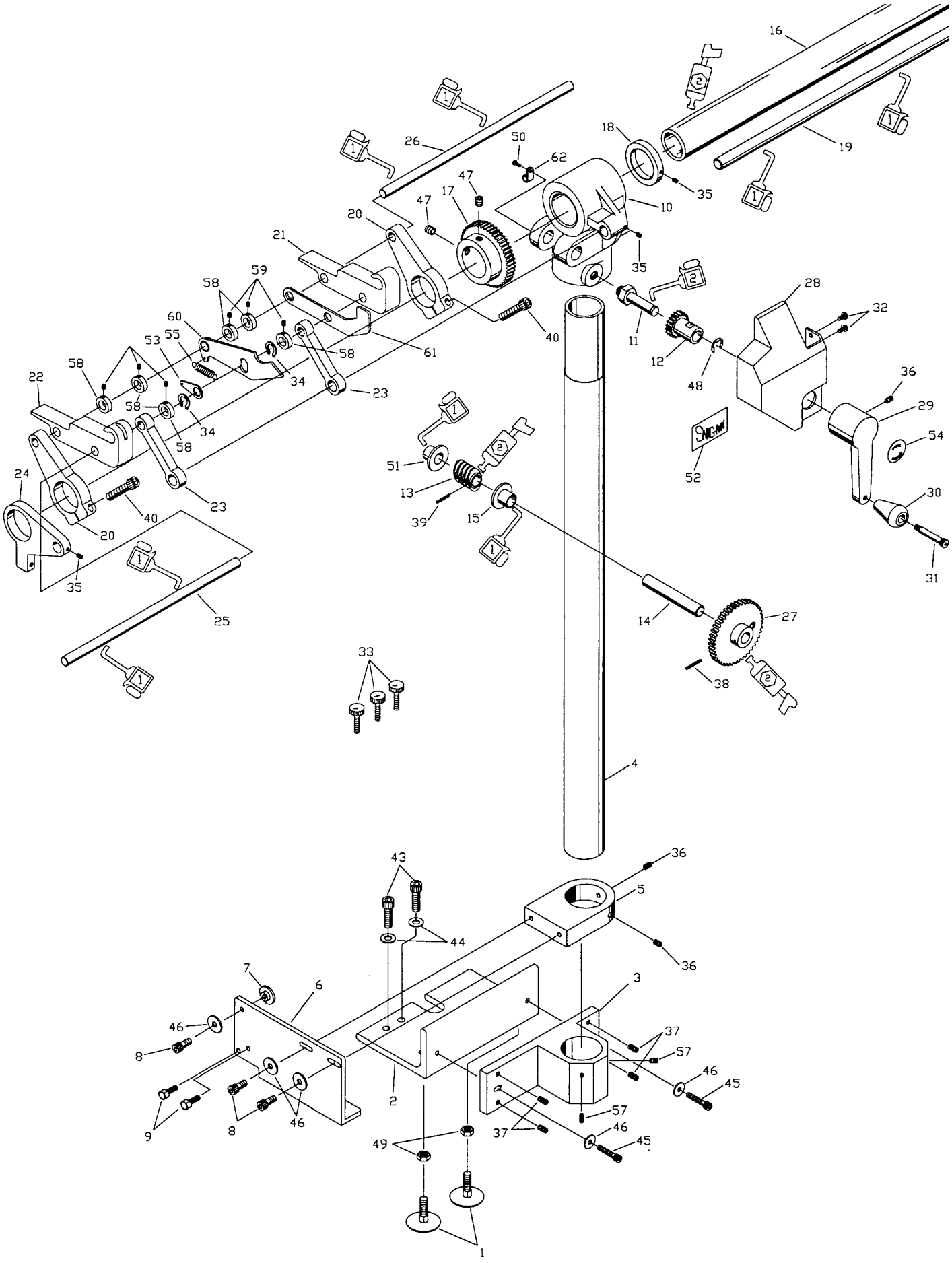


FIGURE 40032

INDEX NO.	PART NUMBER	DESCRIPTION 7-93
1	910182	LEVELING FOOT
2	40257	ADAPTOR ANGLE
3	20256	LOWER POST CLAMP
4	20257	POST
5	20258	UPPER POST CLAMP
6	40259	ADAPTOR PLATE
7	20260	BUSHING
8	910042	SCREW
9	910706	SCREW
10	40266	SWING PIVOT
11	20262	STUD
12	20314	PINION ASY
13	6877	GEAR
14	20264	WORM SHAFT
15	901011	BUSHING
16	40265	SUPPORT TUBE
17	20266	WORM GEAR
18	20267	SET COLLAR
19	40268	SUPPORT BAR
20	20269	LIFT ARM
21	40270	LIFT FINGER
22	40271	LIFT FINGER
23	20272	LINK
24	20273	SWING STOP
25	40274	PIVOT SHAFT
26	40275	PIVOT SHAFT
27	6405	GEAR
28	20254	COVER
29	20276	CRANK HANDLE
30	12916	KNOB
31	910044	SCREW
32	910027	SCREW
33	20280	THUMB SCREW
34	930026	RETAINING RING
35	910019	SCREW
36	910082	SCREW
37	910052	SCREW
38	920010	PIN
39	920019	PIN
40	910208	SCREW

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CIRCLED NUMBERS IN FIGURE INDICATE PARTS FITTED INTO FRAME.
ALWAYS GIVE SERIAL NUMBER OF T-51 WHEN ORDERING PARTS.

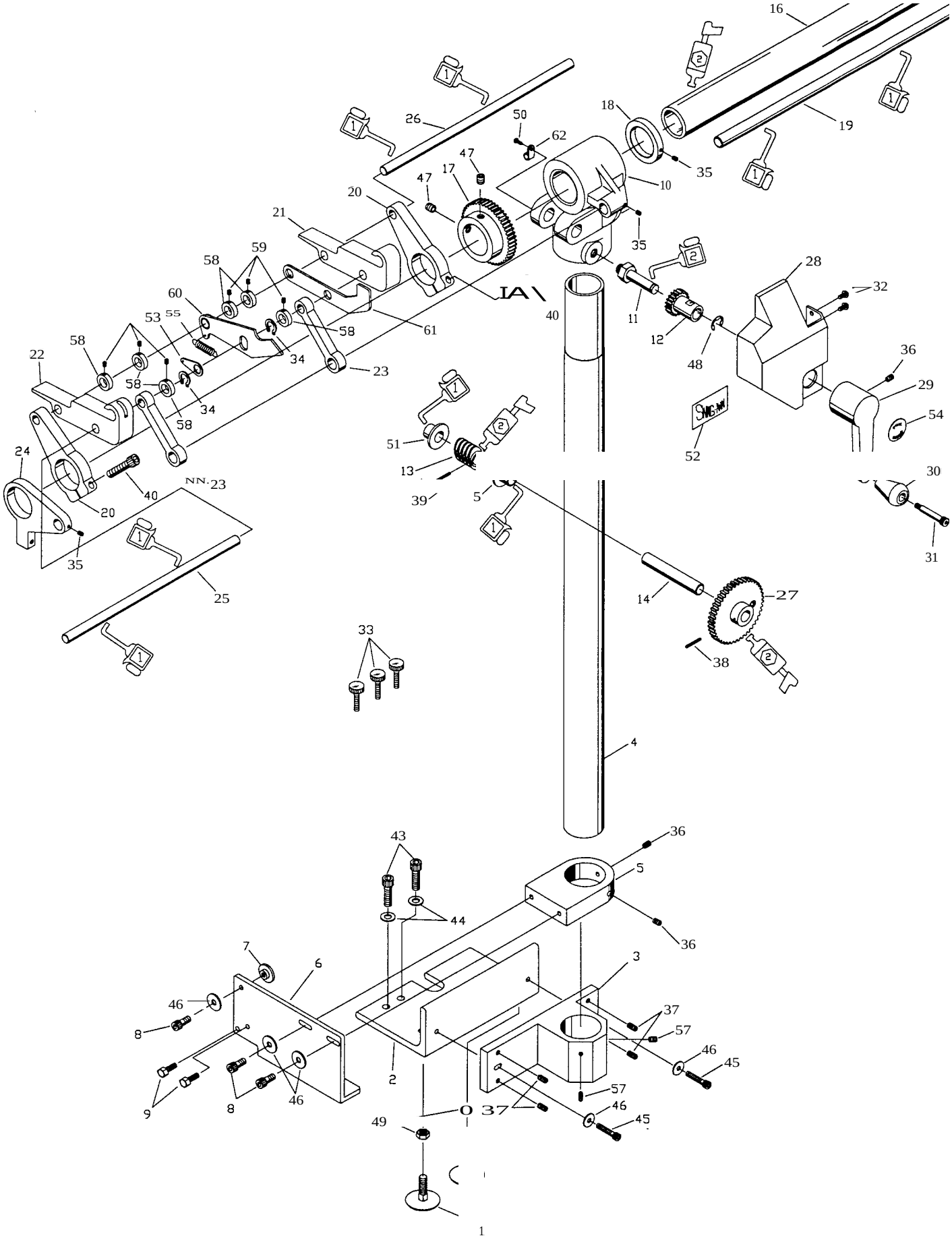


FIGURE 40032

INDEX NO.	PART NUMBER	DESCRIPTION 7-93
41	11113	THUMB SCREW
42	940003	NUT
43	910060	SCREW
44	950011	WASHER
45	910001	SCREW
46	950008	WASHER
47	910056	SCREW
48	930002	E-RING
49	940012	NUT
50	910300	SCREW
51	20281	BUSHING
52	960019	SWING-AWAY DECAL
53	20283	WASHER
54	960039	RAISE DECAL
55	6938	SPRING
56	20284	SAFETY LATCH ASY
57	910021	SCREW
58	8258	SET COLLAR
59	910507	SCREW
60	40284	SAFETY LATCH ASY
61	40285	GUARD STOP
62	964024	5/16 INCH CLAMP

CIRCLED NUMBERS IN FIGURE INDICATE PARTS FITTED INTO FRAME.
ALWAYS GIVE SERIAL NUMBER OF T-51 WHEN ORDERING PARTS.

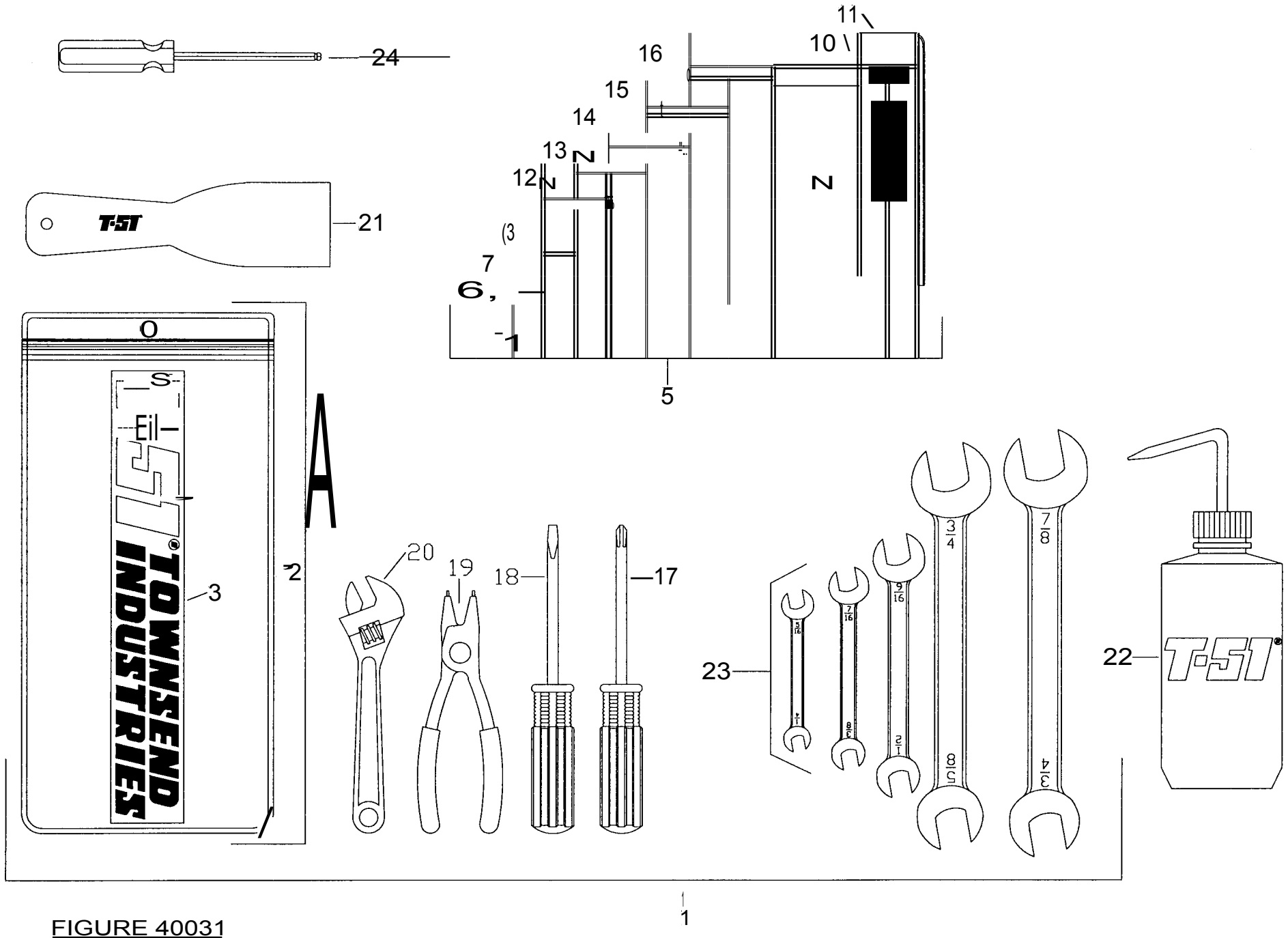


FIGURE 40031

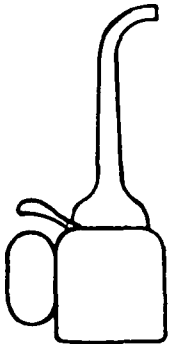
INDEX NO.	PART NUMBER	DESCRIPTION 7-93
1	40928	TOOLS AND TOOL BAG
2	961033	TOOL BAG
3	6956	T-51 LABEL
4	1927	TOOL BAG & LABEL
5	16930	SET OF HEX KEYS
6	960311	1/16 HEX KEY
7	960301	5/64 HEX KEY
8	960302	3/32 HEX KEY
9	960303	7/64 HEX KEY
10	960304	1/8 HEX KEY
11	960312	9/64 HEX KEY
12	960306	5/32 HEX KEY
13	960307	3/16 HEX KEY
14	960310	7/32 HEX KEY
15	960308	1/4 HEX KEY
16	960309	5/16 HEX KEY
17	960322	PHILLIPS SCREWDRIVER
18	960321	SCREWDRIVER
19	960341	RETAINING RING PLIERS
20	960320	ADJUSTABLE WRENCH
21	19999	T-51 INK KNIFE
22	960016	WASH BOTTLE
23	960333	OPEN END WRENCH SET
24	960328	5/32 BALLEND HEX KEY

CIRCLED NUMBERS IN FIGURE INDICATE PARTS FITTED INTO FRAME.
ALWAYS GIVE SERIAL NUMBER OF T-51 WHEN ORDERING PARTS.

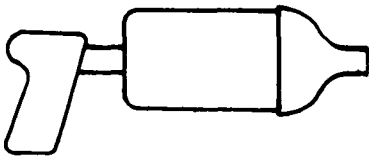
LUBRICATION REQUIREMENTS

Lubrication requirements of this unit are of a minimum. Areas that require lubrication are indicated by means of oil and grease symbols.

SYMBOLS



OIL SYMBOLS



GREASE SYMBOL

FREQUENCY OF LUBRICATION

The frequency of lubrication is designated by means of a symbol inside the oil and grease symbols. A number inside the periodic symbol specifies the number of times lubrication takes place in the period.

YEAR

MONTH

WEEK

DAY

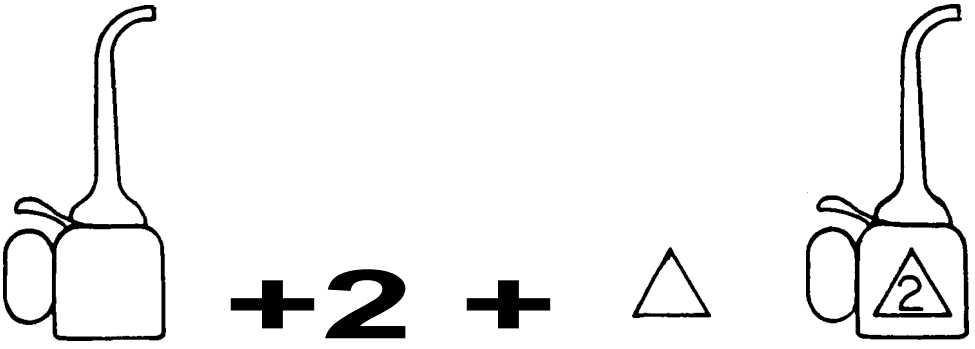
HOUR

L..

EXAMPLES:

TWICE DAILY

ONCE WEEKLY



OIL TWICE WEEKLY