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# Technical Bulletin

## 77F Paper Roll Clamp Frame and Cylinder Spacer Kit 681776

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This sheet provides instructions for the installation of Spacer Kit 681776. The spacers are a product improvement designed to extend the service life of the frame and cylinder bushings and pivot pins. Included in the service kit are spacers to service either a Fixed or Swing Frame Clamp.

### FIXED FRAME CLAMPS

Six of the spacers and three bushings included in the kit are required for use on Swing Frame Clamps only. Discard the four 1.77 in. ID X 4.875 in. long spacers, two of the 1.31 in. ID X 5.00 in. long spacers and three 1.50 in. long bushings.

- ① Remove the clamp cylinders from the attachment as described in Section 1.1.
- ② Install two additional bushings to each clamp cylinder base as described in Section 1.3.
- ④ Install a spacer to each arm pivot pin as described in Section 1.5.

### SWING FRAME CLAMPS

Four of the spacers included in the kit are required for use on Fixed Frame Clamps only. Discard the four 1.77 in. ID X 5.90 in. long spacers.

- ① Remove the clamp cylinders from the attachment as described in Section 1.1.
- ② Remove the swing cylinder from the attachment as described in Section 1.2.
- ③ Install two additional bushings to each clamp cylinder base as described in Section 1.3.
- ④ Install three new bushings to the swing cylinder base as described in Section 1.4
- ⑤ Install a spacer to each arm pivot pin as described in Section 1.5.
- ⑥ Install spacers to the swing frame pins as described in Section 1.6.

**NOTE:** This information should not be interpreted as the basis for warranty claims unless so designated.  
Part No. 681772

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OR

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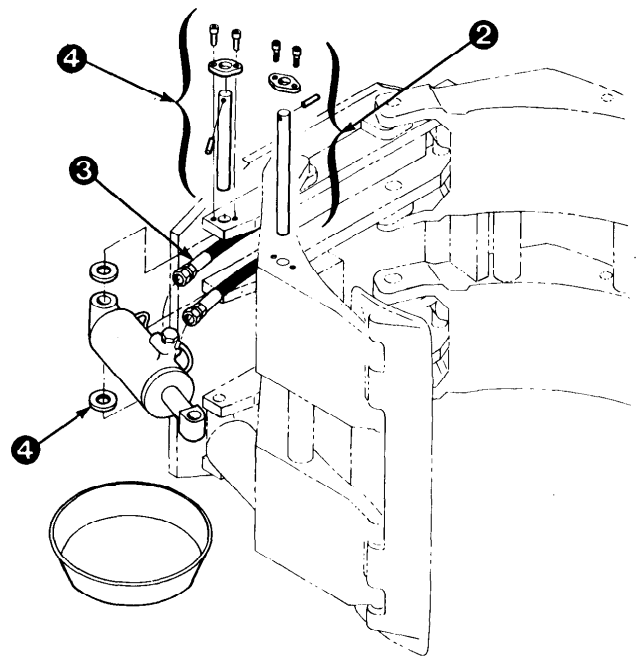
## 1.1 Clamp Cylinder Removal

- 1 Rotate the clamp to the vertical roll handling position. Close the arms.
- 2 Remove the cylinder rod anchor pins. For reassembly, tighten the pin keeper capscrews to a torque of 30-35 ft.-lbs. (40-48 Nm).



**WARNING:** Before removing any hoses, relieve pressure in the hydraulic system. Turn the truck off, then open the truck auxiliary control valve(s) several times in both directions.

- 3 Retract the cylinder rods. Place a drip pan under the cylinders. Disconnect the hoses from the cylinder ports. Plug the hose ends and tag for reassembly.
- 4 Remove the cylinder base anchor pins. Note the locations of the shims. For reassembly, tighten the pin keeper capscrews to a torque of 30-35 ft.-lbs. (40-48 Nm).



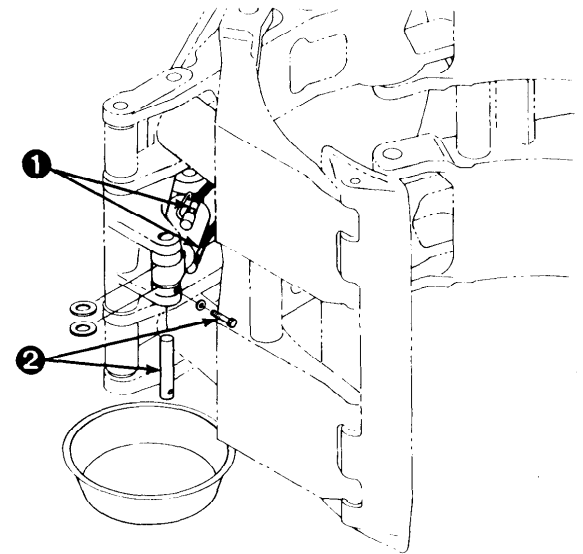
## 1.2 Swing Cylinder Removal

- 1 Place a drip pan under the cylinder. Disconnect the hoses from the cylinder ports. Plug the hose ends and tag for reassembly.



**WARNING:** Before removing any hoses, relieve pressure in the hydraulic system. Turn the truck off, then open the truck auxiliary control valve(s) several times in both directions.

- 2 Remove the cylinder anchor pins. For reassembly, tighten the anchor pin capscrews to a torque of 7-10 ft.-lbs. (10-13 Nm).

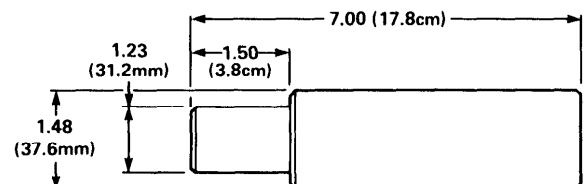
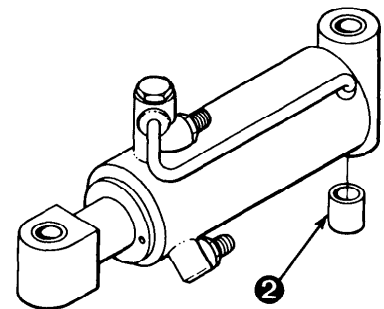


## 1.3 Clamp Cylinder Bushing Installation

- 1 Remove the clamp cylinders as described in Section 1.1.
- 2 Install a new bushing to each side of the cylinder base end using a bushing driver. Drive each outer bushing to the center, then install the new bushings. Both outer bushings must be flush with the outer surface.

- The bushing driver (part no. 678588) can be ordered from the Cascade Parts Depot (see cover page for phone and address) or can be fabricated using the dimensions shown.

**CAUTION:** The bushings may be damaged if installed without a bushing driver.

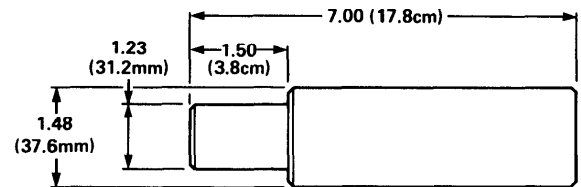
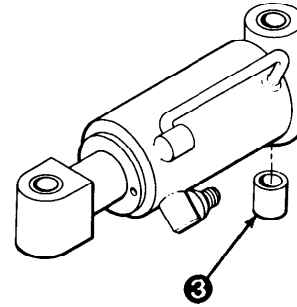


Bushing Driver

## 1.4 Swing Cylinder Bushing Installation

- ❶ Remove the swing cylinder from the clamp as described in Section 1.2.
- ❷ Drive out the bushings in the cylinder base end using a bushing driver.
  - The bushing driver (part no. 678588) can be ordered from the Cascade Parts Depot (see cover page for phone and address) or can be fabricated using the dimensions shown.
- ❸ Install new bushings to the cylinder base end using a bushing driver. Both outside bushings must be flush with the outer surface.

**CAUTION:** The bushings may be damaged if installed without a bushing driver.



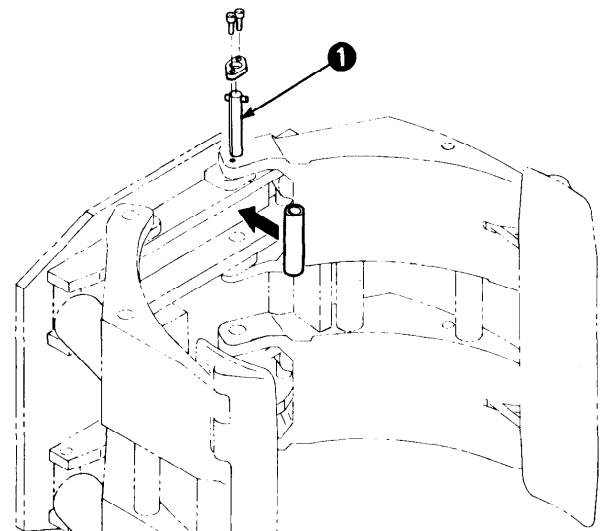
Bushing Driver

## 1.5 Arm Spacer Installation



**WARNING:** Install a spacer to one arm pin at a time only. Complete the installation before proceeding to the next pin. Do not remove any other arm pin keepers at the same time.

- ❶ Remove a pin keeper and pull the arm pivot pin out **only far enough** to install the spacer between the frame members. Reinstall the pin. Tighten the pin keeper capscrews to a torque of 30-35 ft.-lbs. (40-48 Nm).
- ❷ Repeat step ❶ for the other three arm pins.



## 1.6 Swing Frame Spacer Installation



**WARNING:** Install a spacer to one swing frame at a time only. Complete the installation before proceeding to the next pin. Do not remove the other pin at the same time.

- ❶ Lower the attachment to the floor.
- ❷ Remove a pin keeper and pull the swing frame pivot pin out **only far enough** to install the spacer between the casting members. Reinstall the pin. Tighten the pin keeper capscrews to a torque of 30-35 ft.-lbs. (40-48 Nm).
- ❷ Repeat step ❶ for the other swing frame pin.

