

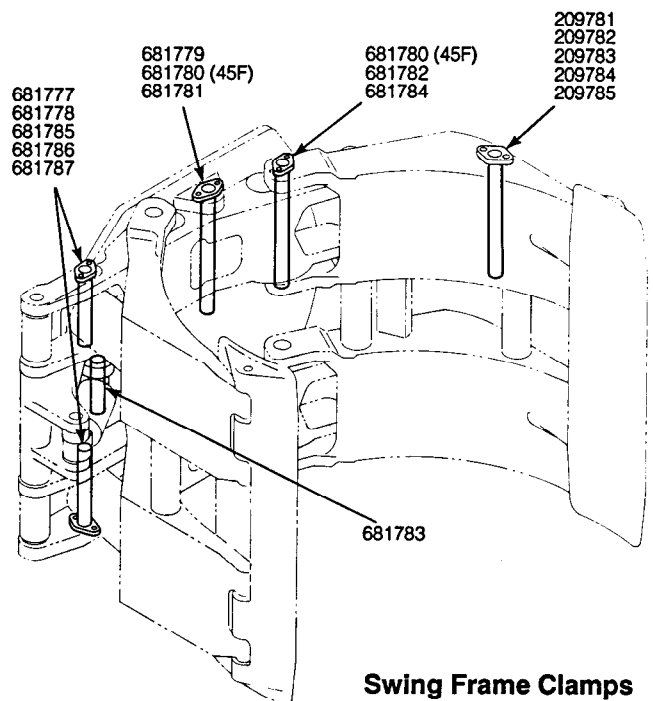
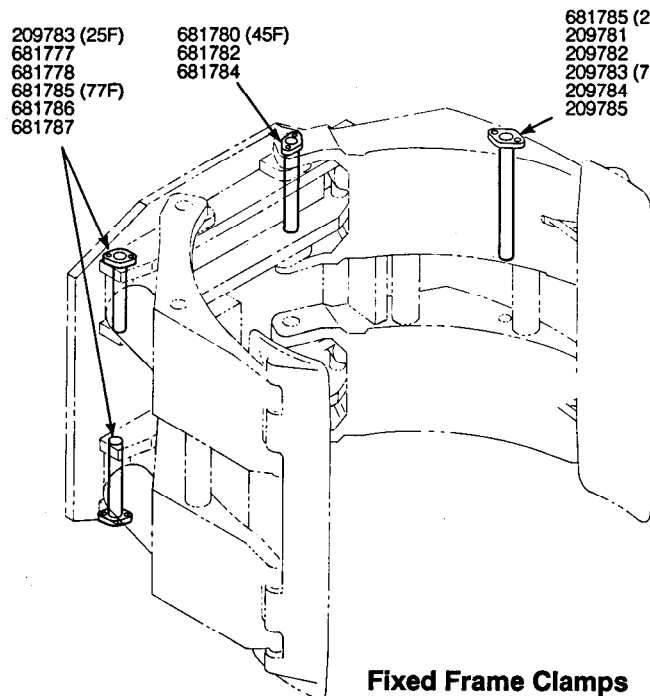


Technical Bulletin

F-Series Paper Roll Clamp Replacement Pivot Pin and Bushing Service Kits

This sheet provides instructions for the F-Series Pivot Pin and Bushing Service Kits listed below. Refer to the Reference Service Section listed for specific service procedures.

Service Kit	Description	Service Section
209781	77F Clamp Cylinder Rod End Pin (adjustable bumper option)	Section 1.1
209782	60F Clamp Cylinder Rod End Pin	Section 1.1
209783	25F Cylinder Base End, 77F Clamp Cylinder Rod End Pin (adjustable bumper option)	Section 1.1
209784	60F Clamp Cylinder Rod End Pin	Section 1.1
209785	45F Clamp Cylinder Rod End Pin (adjustable bumper option)	Section 1.1
681777	45F Clamp Cylinder Base End Pin (adjustable bumper option)	Section 1.1
681778	60F Clamp Cylinder Base End Pin, 77F Clamp Cylinder Base End Pin	Section 1.1
681779	45F Swing Frame Pin	Section 1.4
681780	45F Arm Pivot Pin	Section 1.3
681780	60F Swing Frame Pin	Section 1.4
681781	77F Swing Frame Pin	Section 1.4
681782	77F Arm Pivot Pin	Section 1.3
681783	77F Swing Cylinder Base End Pin	Section 1.2
681784	60F Arm Pivot Pin	Section 1.3
681785	25F Cylinder Rod End, 77F Clamp Cylinder Base End Pin (adjustable bumper option)	Section 1.1
681786	45F Clamp Cylinder Base End Pin	Section 1.1
681787	60F Clamp Cylinder Base End Pin	Section 1.1



NOTE: This information should not be interpreted as the basis for warranty claims unless so designated.
Part No. 681773 R-1

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Call: 1-800-CASCADE or 503-669-6300

FAX: 503-669-6338


Write: Cascade Corporation, PO Box 20187, Portland, OR 97220

1.1 Clamp Cylinder Pin and Bushing Service Kit Installation

This section describes the installation of the following Clamp Cylinder Pin and Bushing Service Kits:

Part No.	Model
209781	- 77F (with adjustable bumper option)
209782	- 60F
209783	- 25F, 77F
209784	- 60F
209785	- 45F (with adjustable bumper option)
681777	- 45F (with adjustable bumper option)
681778	- 60F (with adjustable bumper option)
681778	- 77F
681785	- 77F (with adjustable bumper option)
681786	- 45F
681787	- 60F

- 1 Rotate the clamp to the vertical roll handling position. Close the arms.
- 2 Remove the cylinder rod anchor pin. For reassembly, tighten the pin keeper capscrews to a torque of 30-35 ft.-lbs. (40-48 Nm).
- 3 Place a drip pan under the cylinder. Disconnect the hoses from the cylinder ports. Plug the hose ends and tag for reassembly.
- 4 Remove the cylinder base anchor pin. Note the locations of the shims. 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. With the truck off, open the truck auxiliary control valves several times in both directions.

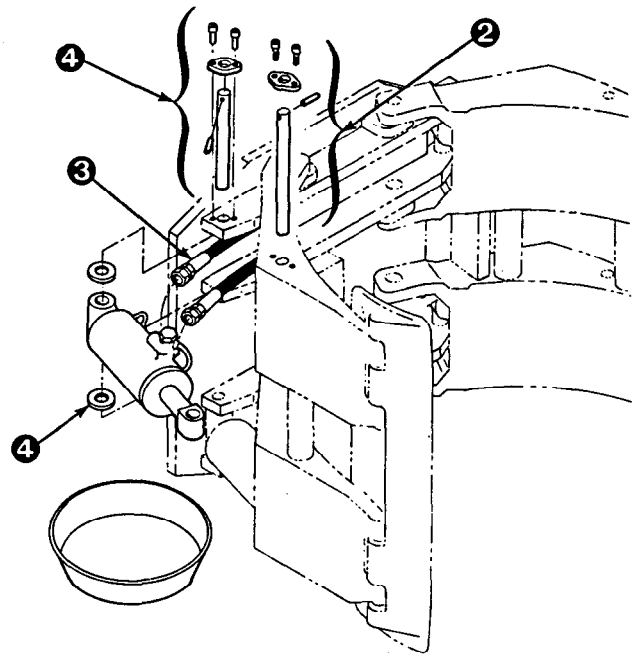
- 5 Remove the bushings from the cylinder using a bushing driver (see part no. listed below).
 - The bushing driver can be ordered from the Cascade Parts Depot (see cover page for phone and address) or can be fabricated using the dimensions shown.

Clamp Model	Bushing Driver Part No.	Dimension A	Dimension B
45F	678585	1.11 in. (28.2 mm)	1.36 in. (34.5 mm)
60F/77F	678588	1.23 in. (31.2 mm)	1.48 in. (37.6 mm)

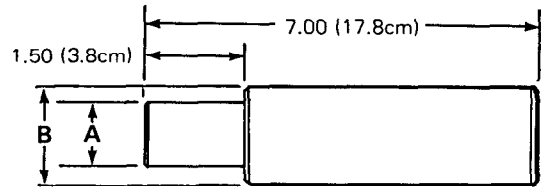
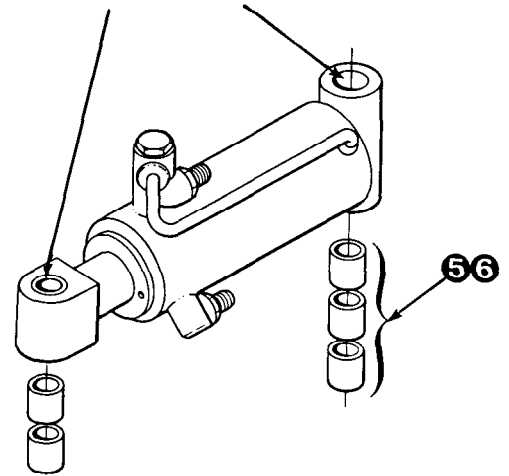
- 6 Install the new bushings to the cylinder using the bushing driver. The outer bushings must be flush with the outer surface.

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

- 7 Reverse the above procedures for reassembly.



Inspect bores for damage due to excessively worn bushings. Replace components if worn.



Bushing Driver

1.2 77F Swing Cylinder Base End Pin and Bushing Service Kit Installation

This section describes the installation of Swing Cylinder Pin and Bushing Service Kit 681783.

- 1 Rotate the clamp to the vertical roll handling position.



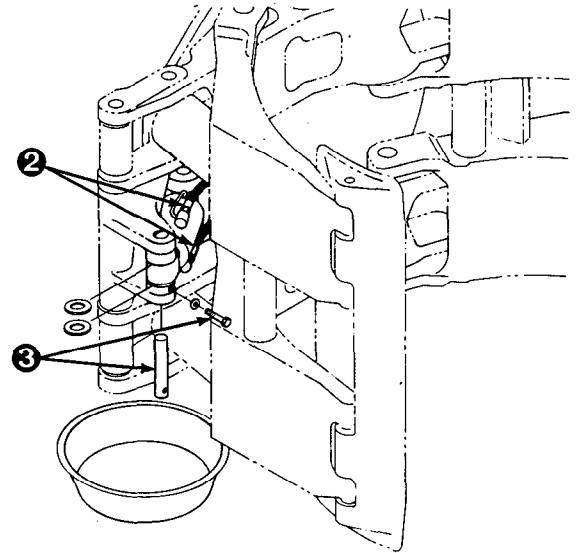
WARNING: Before removing any hoses, relieve pressure in the hydraulic system. With the truck off, open the truck auxiliary control valves several times in both directions.

- 2 Place a drip pan under the swing cylinder. Disconnect the hoses from the cylinder ports. Plug the hose ends and tag for reassembly.
- 3 Remove the cylinder anchor pins. For reassembly, tighten the pin capscrews to a torque of 7-10 ft.-lbs. (10-13 Nm).
- 4 Remove the bushings from the cylinder base end using a bushing driver (Cascade part no. 678588).

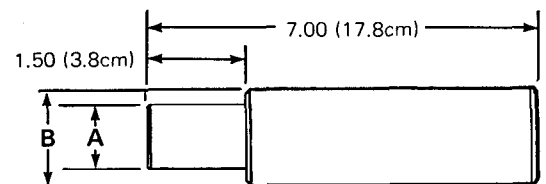
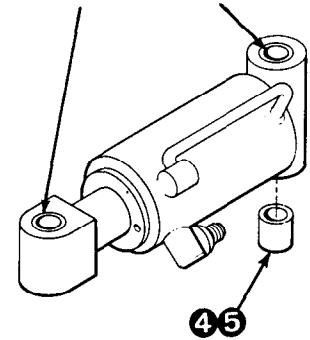
Dimension A	Dimension B
1.23 in. (31.2 mm)	1.48 in. (37.6 mm)

- The bushing driver can be ordered from the Cascade Parts Depot (see cover page for phone and address) or can be fabricated using the dimensions shown.
- 5 Install the new bushings to the cylinder base end using a bushing driver. Both outer bushings must be flush with the outer surface.

CAUTION: The bushings may be damaged if installed without a bushing driver.
 - 6 Reverse the above procedures for reassembly.



Inspect bores for damage due to excessively worn bushings. Replace components if worn.



Bushing Driver

1.3 Arm Pivot Pin and Frame Bushing Service Kit Installation

This section describes the installation of the following Arm Pin Service Kits:

Part No.	Model
681780	45F
681782	77F
681784	60F

NOTE: Each kit includes one pin, and bushings and spacers to service either a fixed or swing frame arm pin. Listed below are the bushings and spacer required for each particular model:

45F Fixed Frame Clamps - (2) 2.00 in. long bushings
(1) 5.00 in. long spacer

45F Swing Frame Clamps - (2) 2.50 in. long bushings
(1) 4.11 in. long spacer

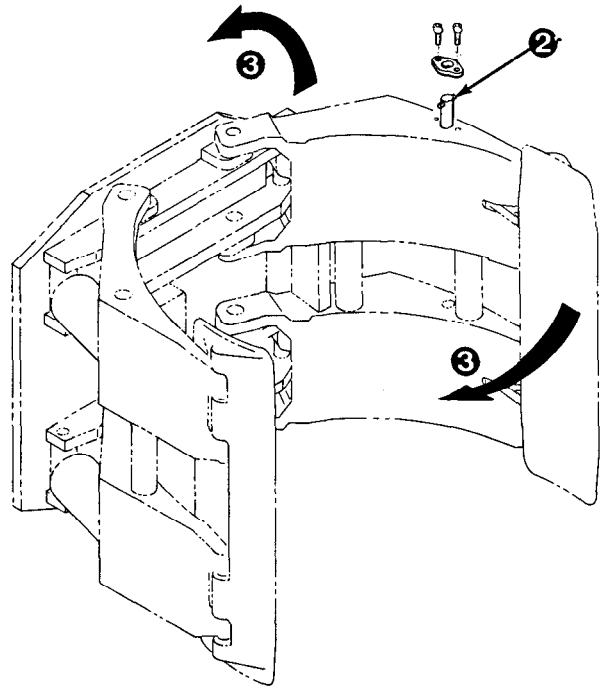
60F Fixed Frame Clamps - (2) 1.75 in. long bushings
(1) 5.85 in. long spacer

60F Swing Frame Clamps - (2) 2.50 in. long bushings
(1) 4.60 in. long spacer

77F Fixed Frame Clamps - (2) 3.00 in. long bushings
(1) 5.90 in. long spacer

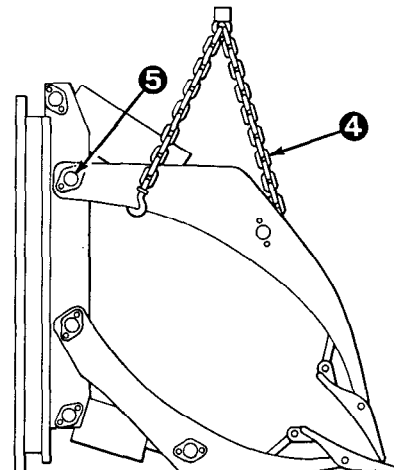
77F Swing Frame Clamps - (2) 2.50 in. long bushings
(1) 4.87 in. long spacer

- ❶ Fully open the arm to be removed. Rotate the clamp to the vertical roll handling position.
- ❷ Remove the cylinder rod anchor pins. For reassembly, tighten the anchor capscrews to a torque of 30-35 ft.-lbs. (40-48 Nm).
- ❸ Swing the arm being removed inward to contact the other arm. Rotate the attachment 90° to position the arm being removed in the upper position.



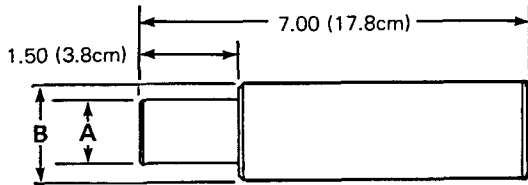
WARNING: Make sure your overhead hoist has a rated capacity of at least 1000 lbs. (450 kg).

- ❹ Attach an overhead hoist to the arm and take up slack in the chain.
- ❺ Remove the arm anchor pins. Note the location of the shims. Lift away the arm assembly. For reassembly, tighten the anchor capscrews to a torque of 30-35 ft.-lbs. (40-48 Nm).



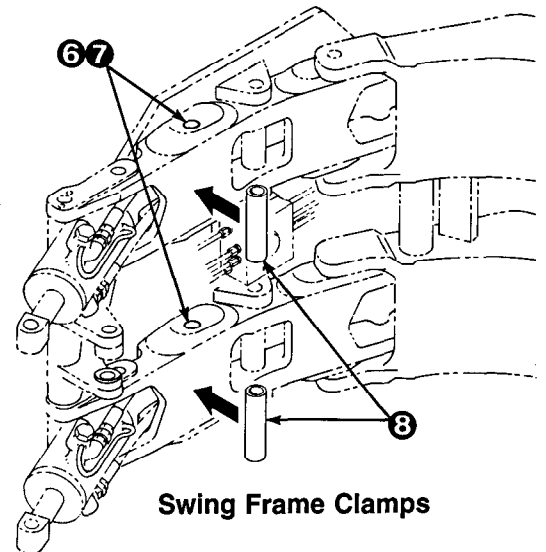
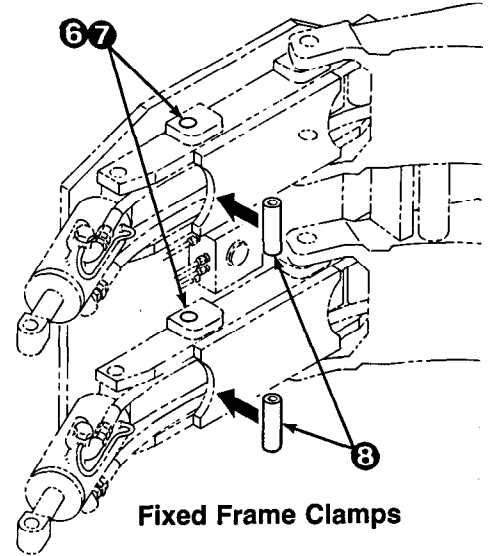
- ⑥ Remove the bushings from the frame using a bushing driver (see part no. listed below).

Clamp Model	Bushing Driver Part No.	Dimension A	Dimension B
45F	678588	1.23 in. (31.2 mm)	1.48 in. (37.6 mm)
60F	678587	1.48 in. (37.6 mm)	1.73 in. (43.9 mm)
77F	678584	1.73 in. (43.9 mm)	1.98 in. (50.3 mm)



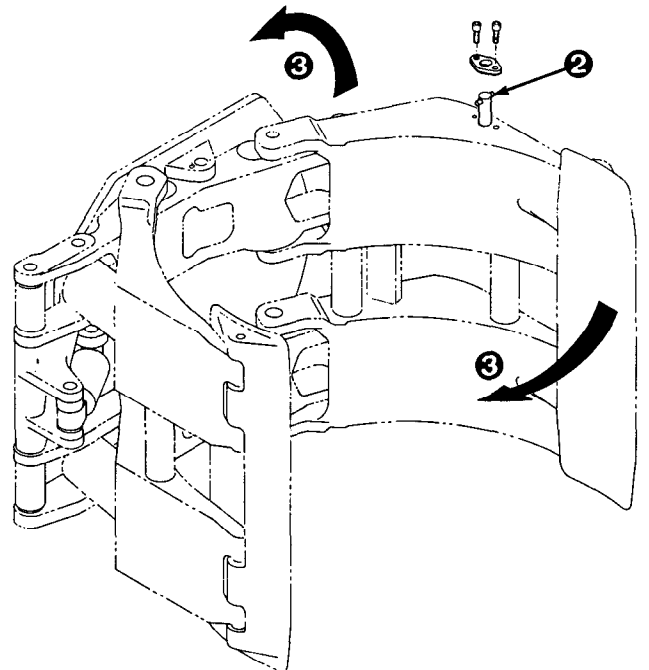
Bushing Driver

- The bushing driver can be ordered from the Cascade Parts Depot (see cover page for phone and address) or can be fabricated using the dimensions shown.
- ⑦ Install the new bushings to the frame using the bushing driver. Both bushings must be flush with the outer surfaces of the frame.
- CAUTION:** The bushings may be damaged if installed without a bushing driver.
- ⑧ For reassembly, reverse the above procedures except as follows:
- Place a spacer between the frame members when installing the arm pivot pin. The spacer will prevent bushing movement.



1.4 Swing Frame Pin and Bushing Service Kit Installation

- ① Fully close the long arm. Rotate the clamp to the vertical roll handling position.
- ② Remove the long arm cylinder rod anchor pins. For reassembly, tighten the anchor capscrews to a torque of 30-35 ft.-lbs. (40-48 Nm).
- ③ Swing the long arm inward to contact the other arm. Rotate the attachment to position the long arm in the upper position.





WARNING: Make sure your overhead hoist has a rated capacity of at least 1000 lbs. (450 kg).

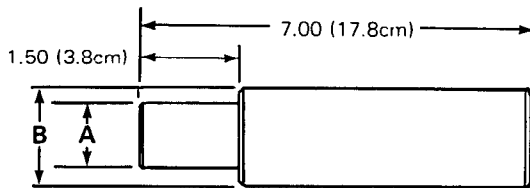
- 4 Attach an overhead hoist to the long arm and take up slack in the chain.
- 5 Remove the long arm anchor pins. Note the location of the shims. Lift away the long arm assembly. For reassembly, tighten the anchor capscrews to a torque of 30-35 ft.-lbs. (40-48 Nm).
- 6 Rotate the clamp 180° to position the short arm in the upper position. Repeat steps 2 through 5 to remove the short arm.



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.

- 7 Place a drip pan under the cylinders. Disconnect the hoses from the cylinder ports. Plug the hose ends and tag for reassembly.
- 8 Remove the clamp cylinder base anchor pins. Note the locations of the shims. For reassembly, tighten anchor capscrews to a torque of 30-35 ft.-lbs. (40-48 Nm).
- 9 Remove the swing cylinder anchor pins. For reassembly, tighten the pin capscrews to a torque of 7-10 ft.-lbs. (10-13 Nm).
- 10 Remove the pivot pin fastening the swing casting and rollers to the swing frames. For reassembly, tighten the capscrews to a torque of 30-35 ft.-lbs. (40-48 Nm).
- 11 Remove the pivot pins fastening the swing frames to the faceplate. Note the location and quantity of shims removed. For reassembly, tighten the capscrews to a torque of 30-35 ft.-lbs. (40-48 Nm).
- 12 Remove bushings from the frame using a bushing driver.

Clamp Model	Bushing Driver Part No.	Dimension A	Dimension B
45F	678585	1.11 in. (28.2 mm)	1.36 in. (34.5 mm)
60F/77F	678588	1.23 in. (31.2 mm)	1.48 in. (37.6 mm)



Bushing Driver

- The bushing driver can be ordered from the Cascade Parts Depot (see cover page for phone and address) or can be fabricated using the dimensions shown.
- 13 Install the new bushings to the frame using a bushing driver. Bushings must be flush with the outer surfaces.
- CAUTION:** The bushings may be damaged if installed without a bushing driver.
- 14 Reverse the above procedures except as follows:
 - Place a spacer between the frame members when installing the pin. The spacer will prevent bushing movement.

