

M-10: Repair/Rebuild Hose Reel

SAFETY FIRST

- Follow all Caterpillar facility safety standards when performing this task.
- The sheave assembly guard has sharp edges and can cut you during operation.
- The spring is loaded and can unload causing serious injury.

EQUIPMENT

- basic Maintenance Mechanic hand tools
- hose cutter and assembler

RESOURCES

- manufacturer's specifications

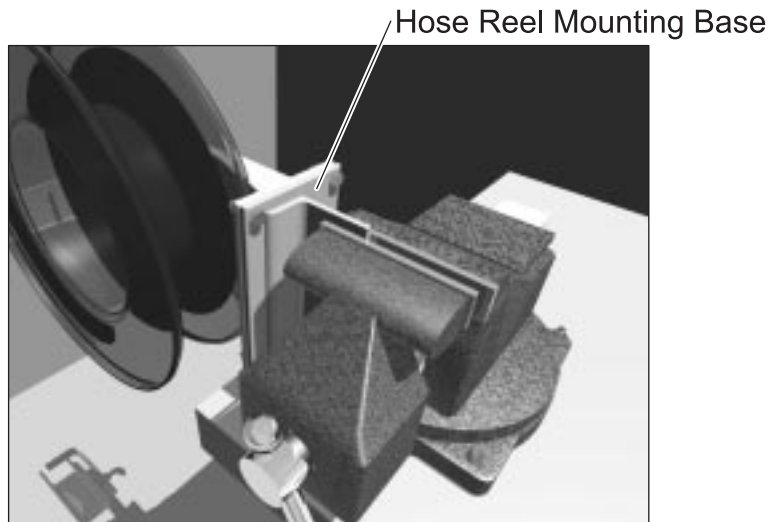


Repair/Rebuild Hose Reel

Note: Use the manufacturer's drawing and specification sheet for part number and identification.

1. Set up a vise to secure the hose reel.

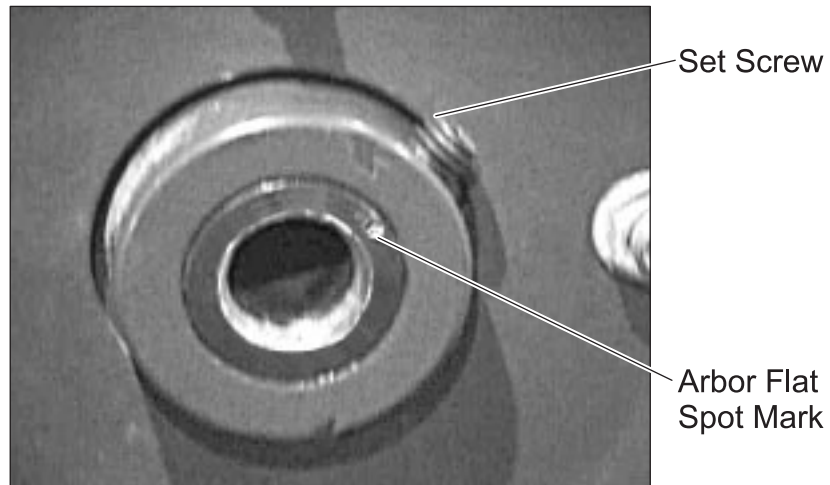
- Secure the hose reel base plate in the vise.



2. Attach the hose reel to the base plate.

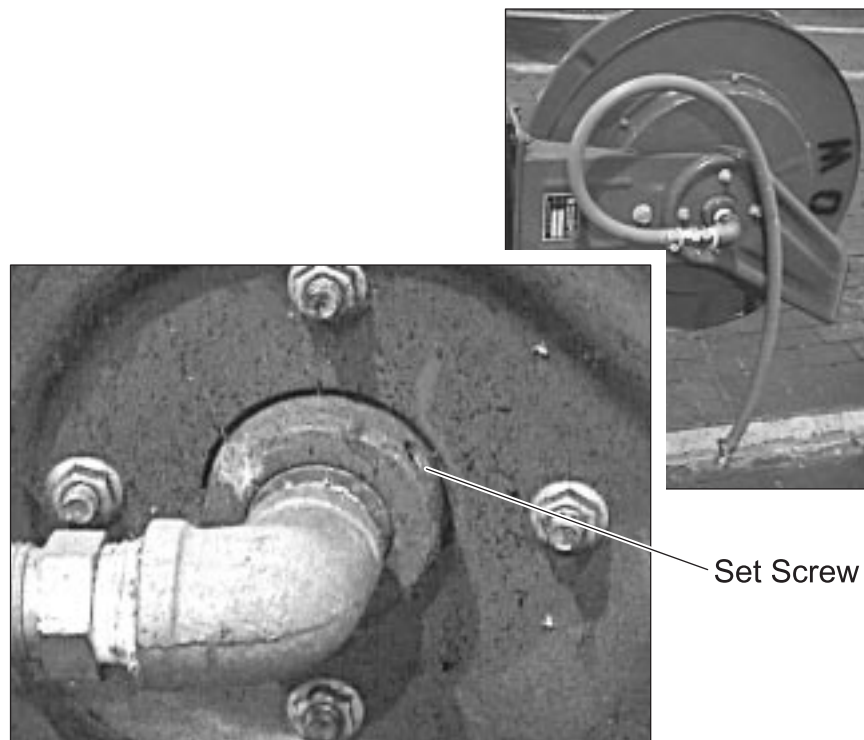
- Rig the hose reel to a jib hoist.
- Move the hose reel to the vise.
- Place studs through the base assembly footing, into the hose reel base plate, to secure the hose reel to the vise.

- Mark the orientation of the flat spot of the arbor with the set screw.



3. Unload the spring.

- Using an Allen wrench, loosen the set screw until you hear and feel the spring disengage.



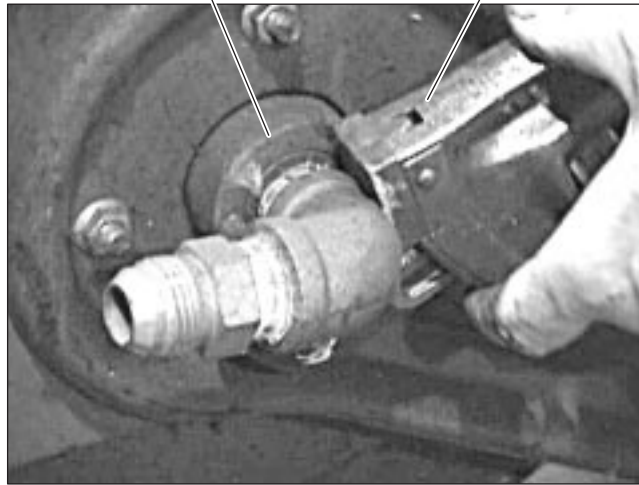
- Retighten the set screw.

Warning: Do not unreel the output hose after disengaging the spring. The reel will reload the spring resulting in possible injury when the spring is removed.

4. Remove the input hose and 90 degree ell assembly from the reel.

- Remove the input hose.
- Remove the ell assembly.

90° Ell Assembly Pipe Wrench



5. Remove the output hose from the reel.

- Cut the end of the output hose with the hand held hose cutter.
- Cut the other end of the output hose leaving approximately 12 inches from the u-bolts.
- Dispose of the old hose according to plant procedures.
- Remove the u-bolts, and retain the hardware for hose replacement.

Note: Verify that there are two u-bolts installed. Replace any missing u-bolts for a safely operating hose reel.

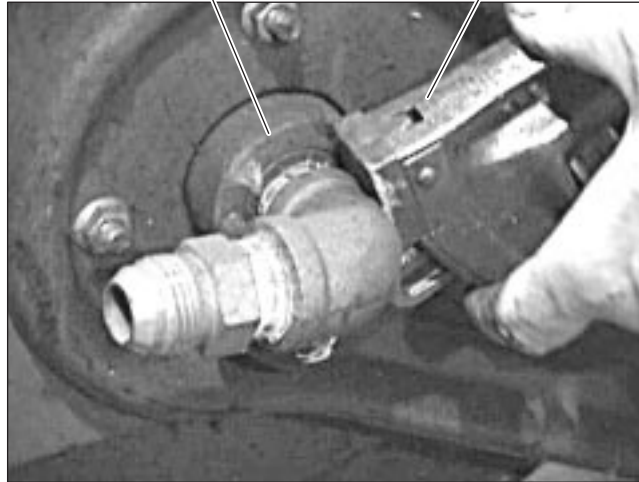
- Remove the output hose end from the 90 degree ell.

6. Remove the swivel assembly.

- Loosen bolt from the swivel assembly with a 1 1/8" wrench as shown below.



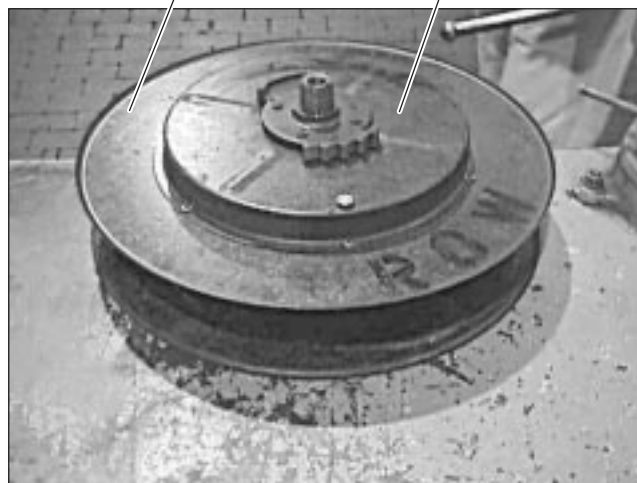
90° Ell Assembly Pipe Wrench

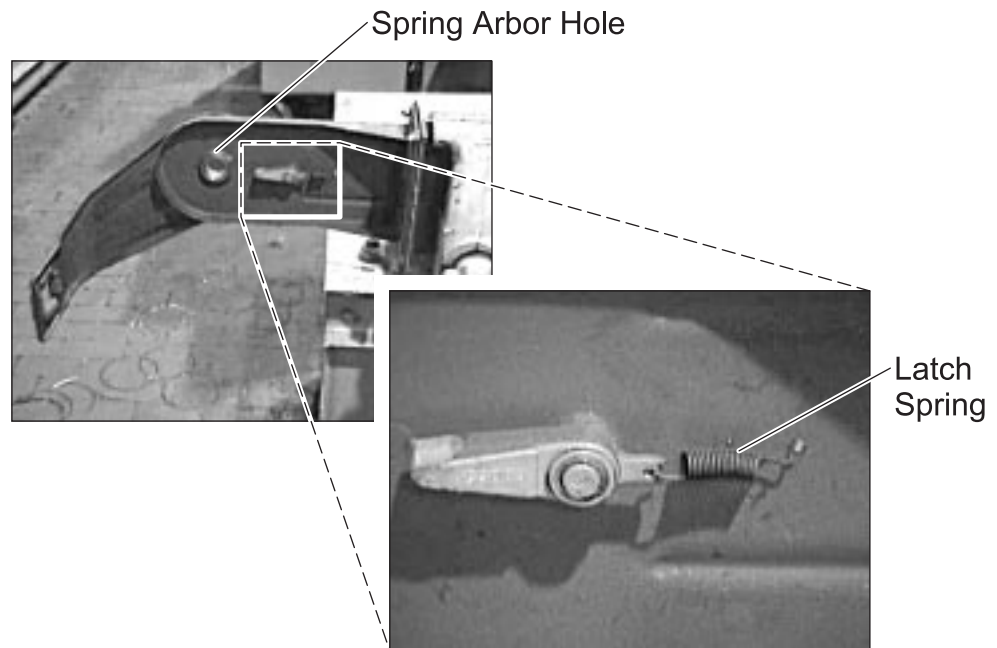
**7. Loosen the spring set screw.****8. Remove the sheave assembly with the spring case assembly attached.**

- Place the assembly flat on the workbench with the spring case assembly on top.

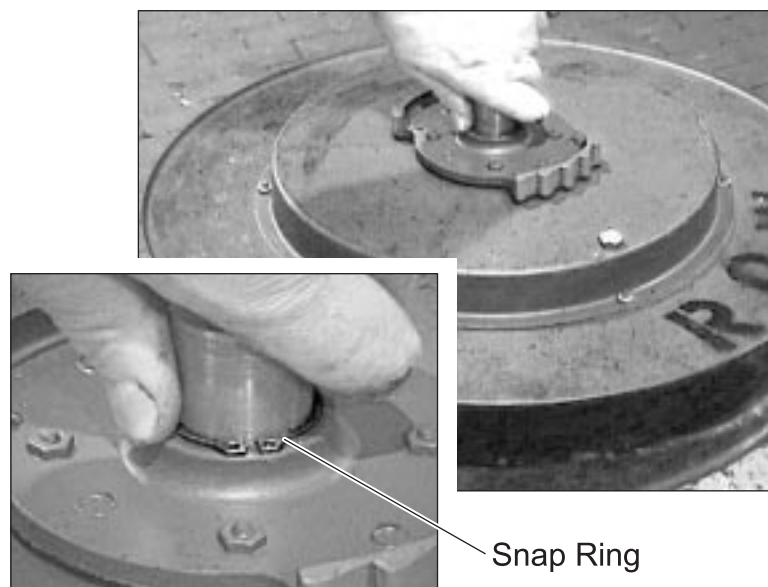
Sheave Assembly

Spring Case Assembly



9. Replace the latch spring, if necessary.**10. Disassemble the sheave assembly.**

- Remove the snap ring with the snap ring pliers and a screwdriver.



Warning: The next step involves removing the spring, which can disengage and cause serious injury to personnel.

11. Remove the spring case assembly.

- Use a 3/8" open-end wrench to remove the spring case retainer nuts.
- Use a 9/16" open-end wrench to remove the spring case stud nut.



Spring Case Stud
Nut Removed



Spring Case
Retainer Nut
Removed

Warning: The next step requires you to remove the drive spring assembly. The spring could uncoil and cause serious injury.

12. Remove the spring.

- Without removing the cover, slowly pry the spring case cover up around the edges.
- When the cover is loose enough to slide your hand underneath, place your hand flatly on top of the spring.
- Remove the cover, keeping your hand firmly on top of the spring.

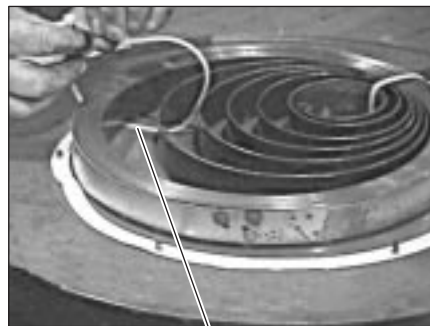


While Raising Cover...

...Hold Spring Down by Sliding Hand Under the Cover



- Carefully tie the spring with tie wraps and remove the spring, as shown below.



13. **Remove the spring case gasket.**
14. **Clean the sheave assembly, spring case assembly, and base assembly.**
15. **Replace any worn or defective mechanical components.**
 - Replace the part with the manufacturer-specified part.
16. **Perform any required maintenance or repair to the hose reel.**
 - Send the hose reel assembly for repair if it is damaged.
 - Grease the latch ratchet.
17. **Lay the sheave assembly out on the workbench to reattach the spring case assembly.**

18. Replace the spring case gasket.

19. Replace the spring arbor.

- Apply grease to the spring arbor hole (shown in step 9).
- Insert the spring arbor with the notched end up.



Spring Arbor

20. Grease the inside of the spring case assembly.

21. Reattach the spring.

- Cut the tie near the spring stud catch.
- Set the center of the spring over the installed arbor.
- Carefully place the spring inside the spring groove, aligning the spring stud catch with the spring stud opening.
- Install the spring stud with the threads up.

22. Carefully replace the spring case cover over the spring and studs.

23. Replace the snap ring.

24. Replace the main shaft and arbor.

- Verify that the mark made in step 2 realigns the set screw with the arbor flat spot.
- Tighten the set screw.

25. **Replace the spring stud nut.**
26. **Replace the sheave assembly onto the base assembly.**
 - Set the latch so that the catch on the sheave assembly is clear.
27. **Prepare the new hose swivel.**
 - Apply Teflon tape to the swivel.

Note: Remember to wind the tape over the top with the threads facing to the right. Never apply tape over the swivel opening.



Proper Tape Application

28. Reassemble the union swivel and 90 degree ell.

- Face the ell out of the cover opening.
- Attach the supply side 90 degree ell assembly facing to the foot of the base assembly.



Base Assembly Foot



90° Ell Assembly Facing the Base Assembly Foot

29. Attach a new hose to the supply side.**30. Attach the new output hose.**

- Verify the hose length.
- Stretch the length of the hose out in the aisle.
- Assemble the hose to the reel with the u-bolts, allowing enough play to connect the hose to the 90 degree ell connection.

U-bolt

Hose

Sheave Assembly



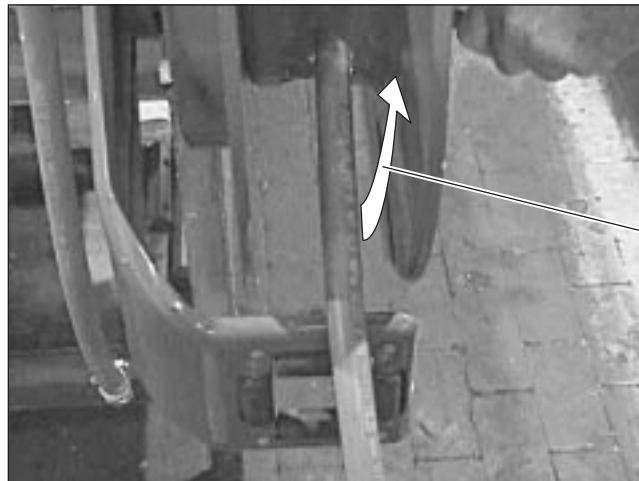
- Thread the output valve into the ell connection.

31. Attach the hose bumper stop to the end of the output hose.

Bumper Stop

32. Manually wrap the hose onto the reel.

- Add wraps of hose onto the reel to adjust the tension of the reel.

Manually
Wrap the Hose