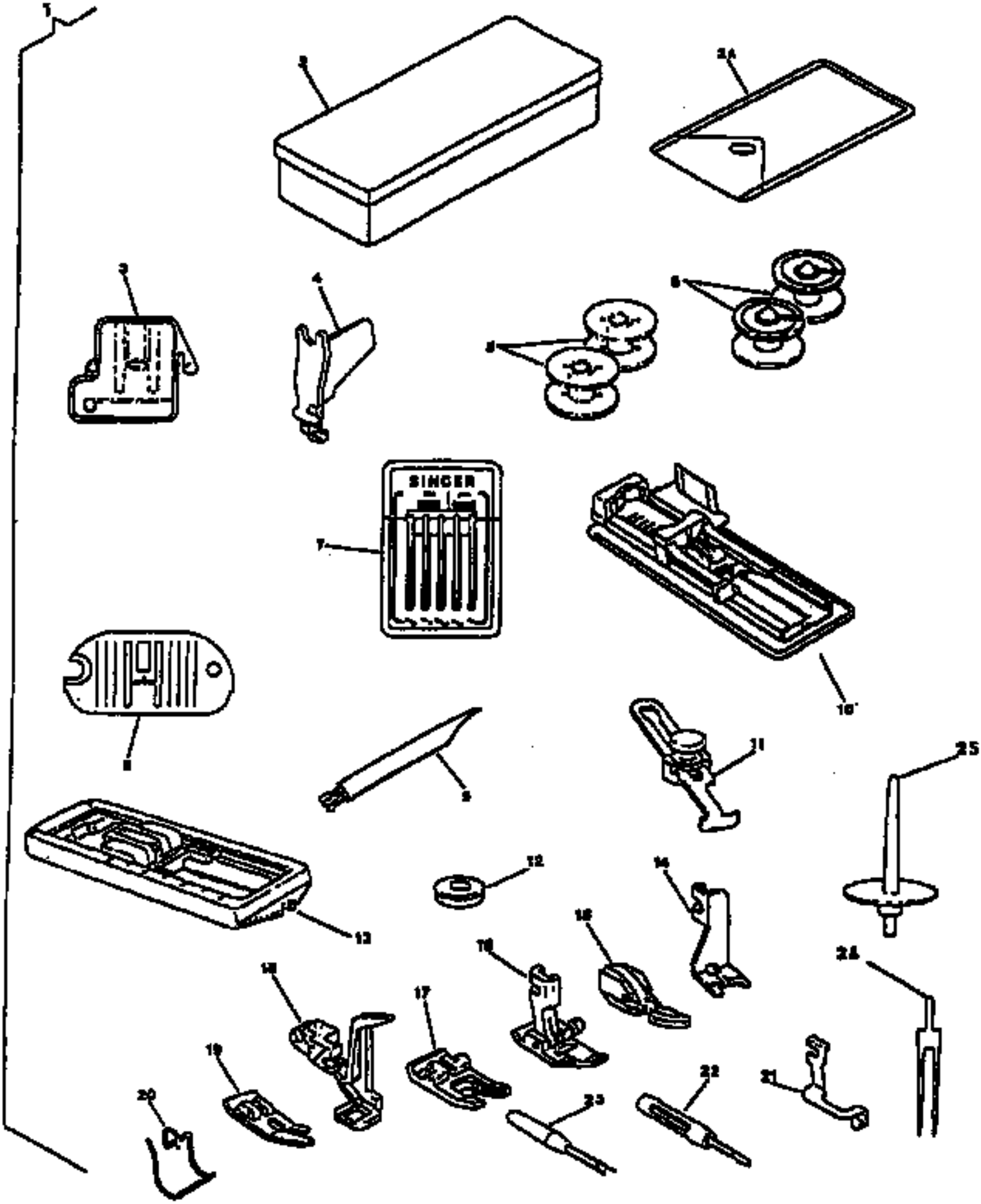
Singer Sewing Machine

Model 9020

Exploded view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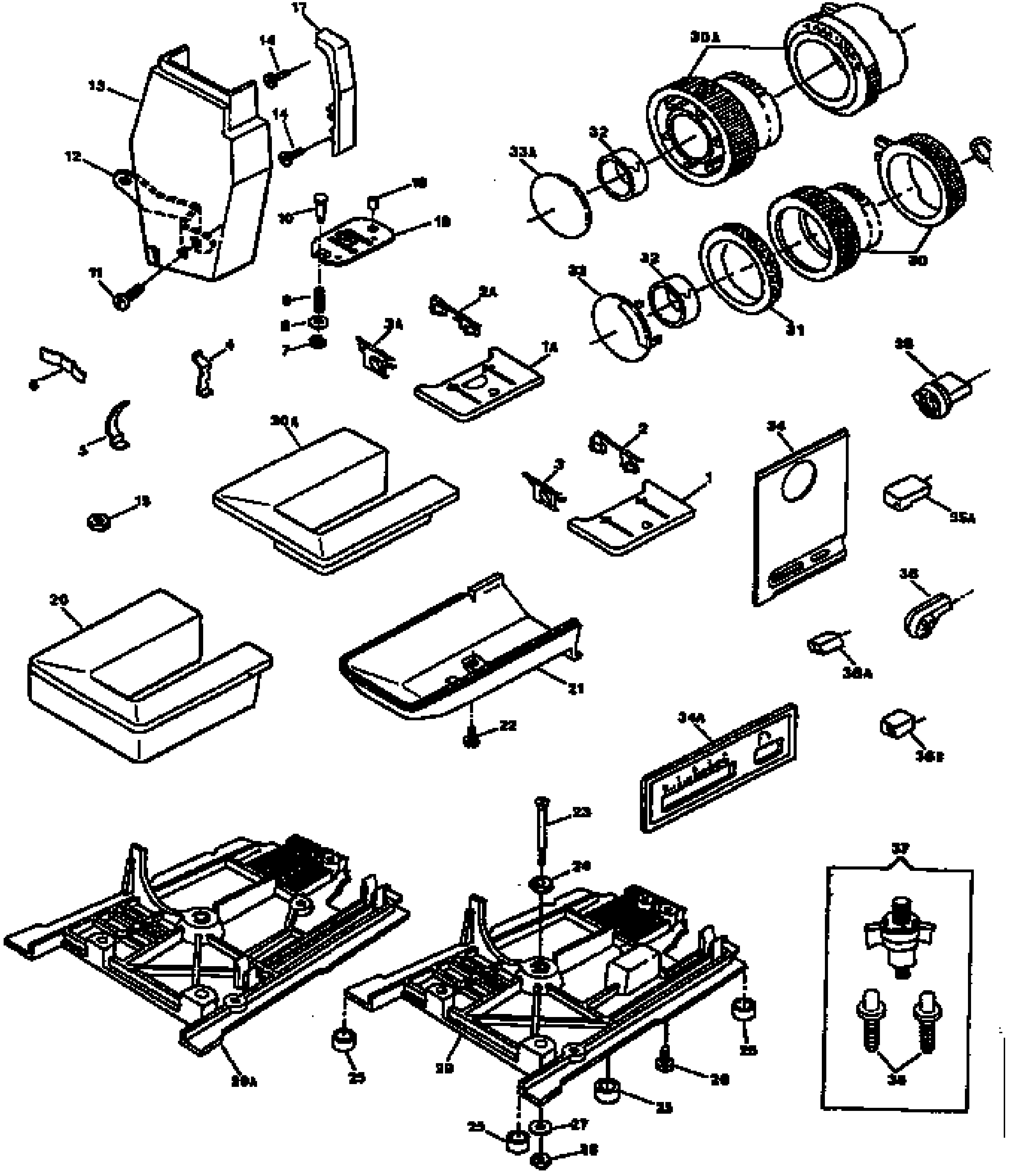

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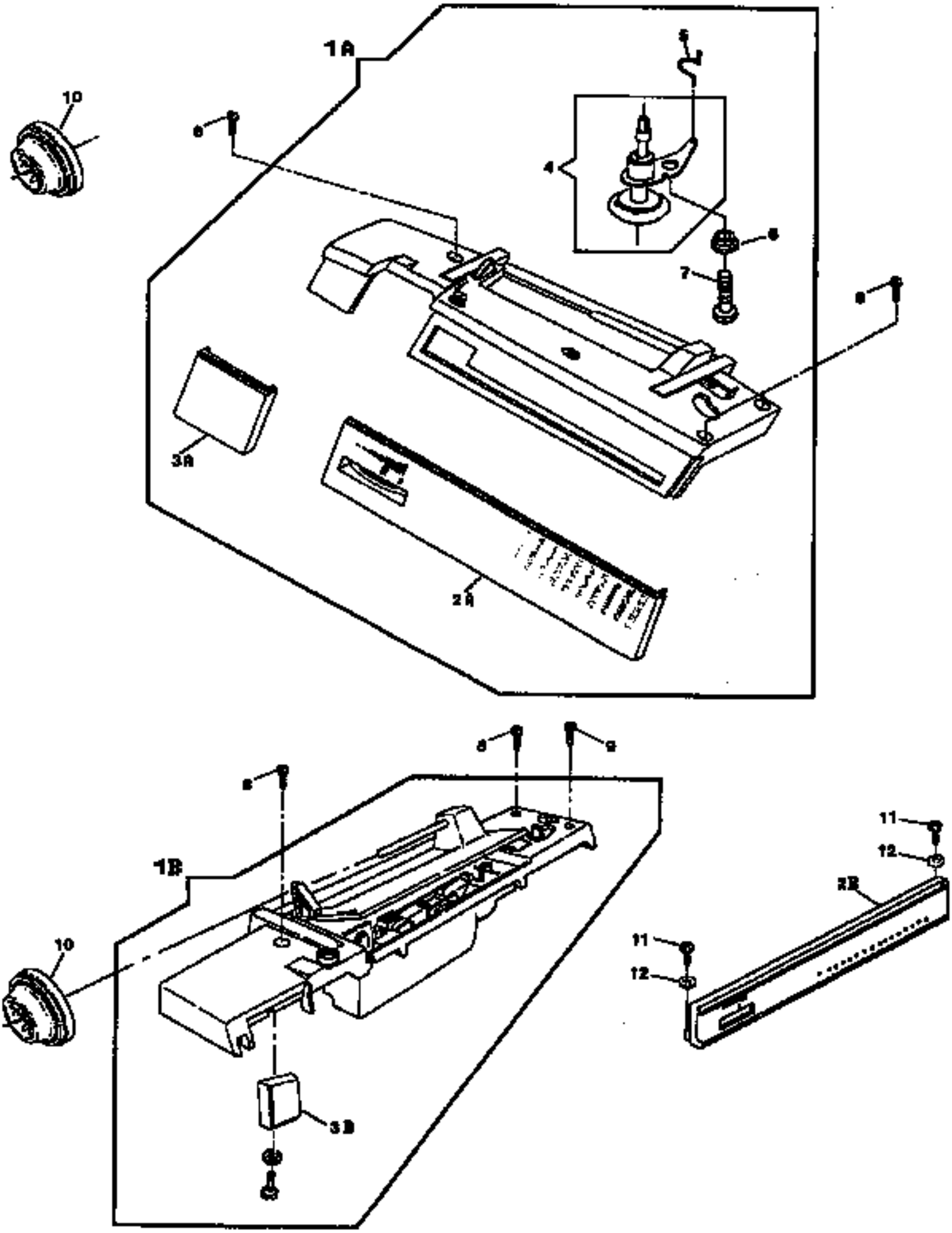
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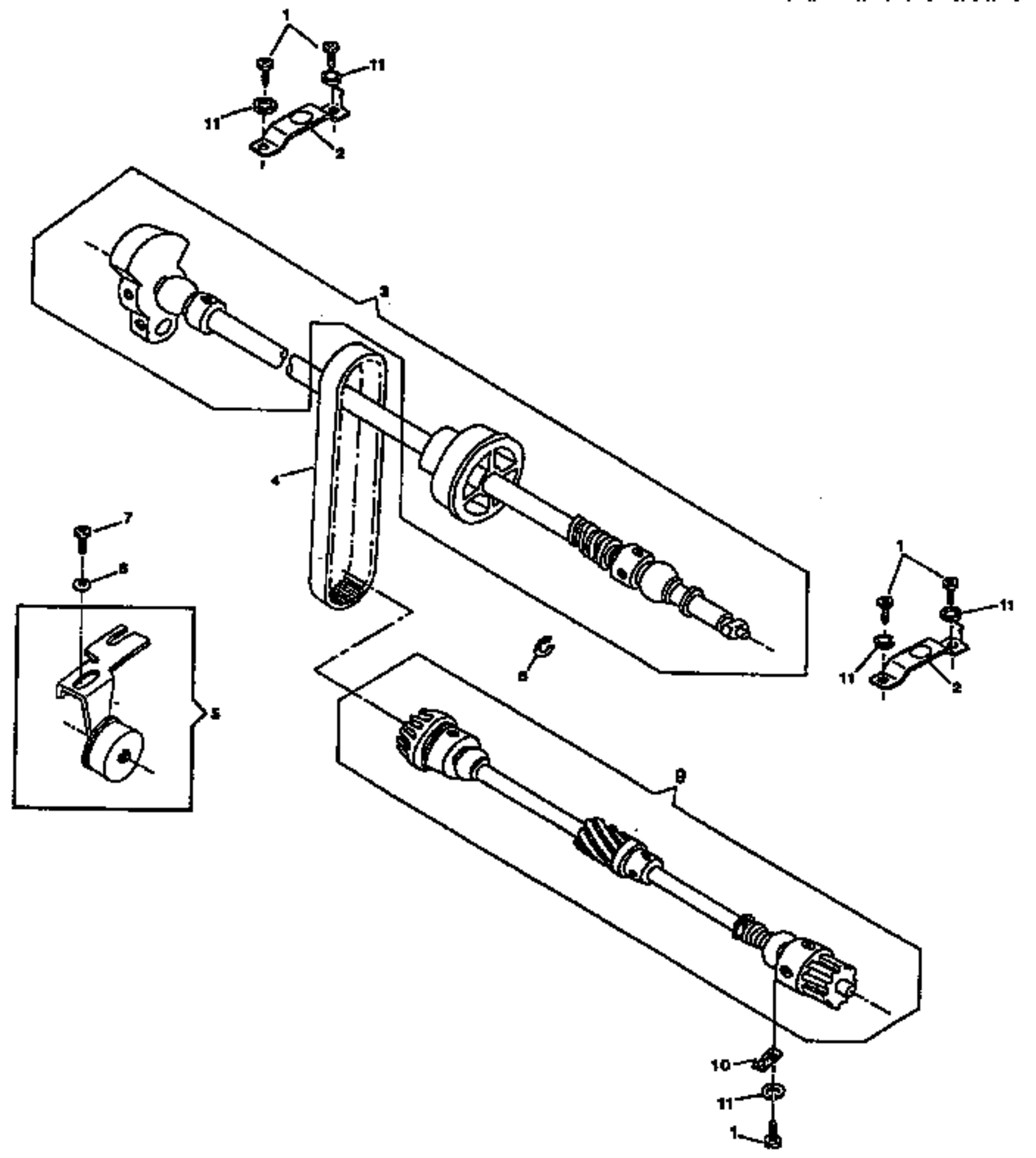
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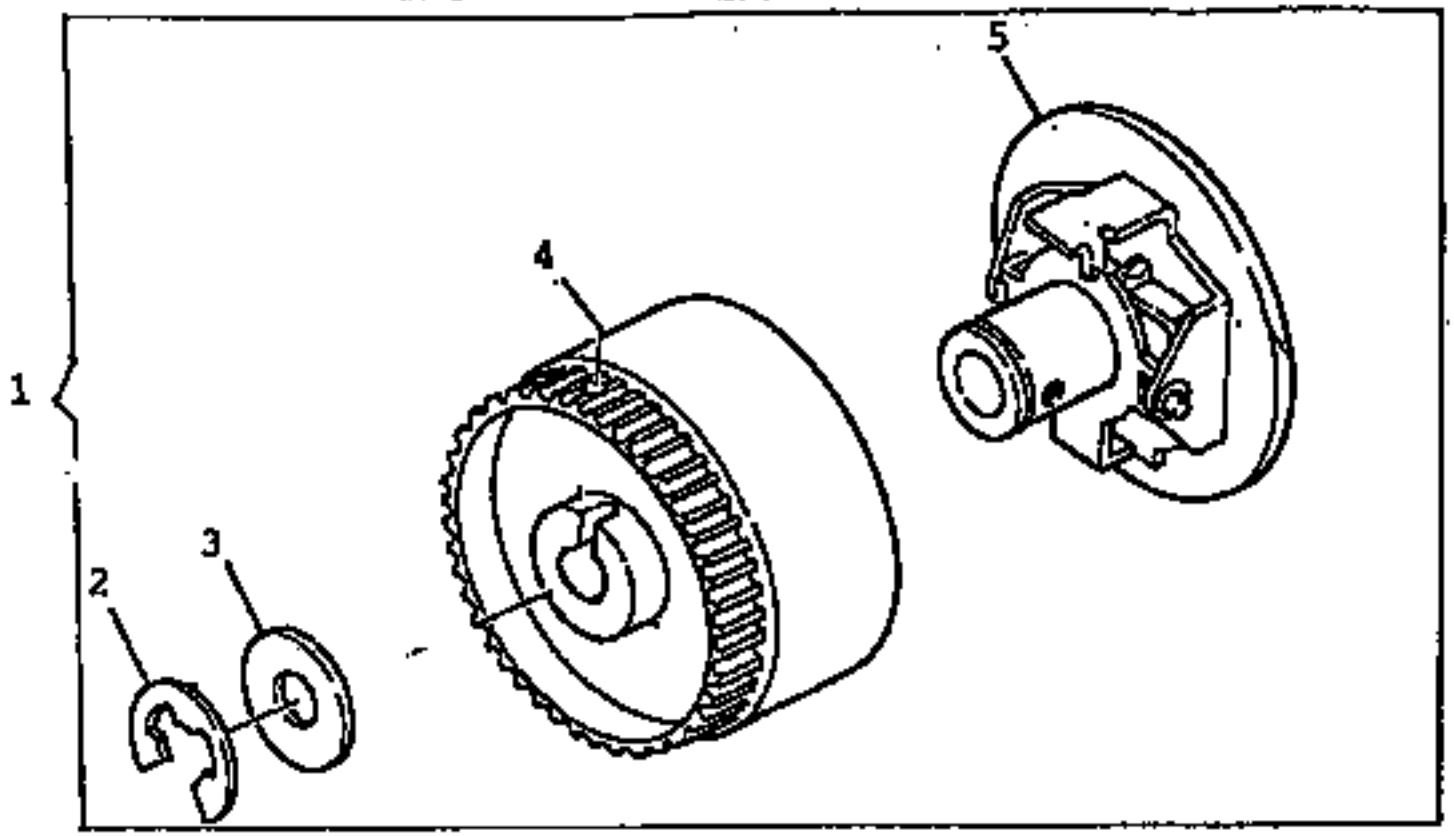
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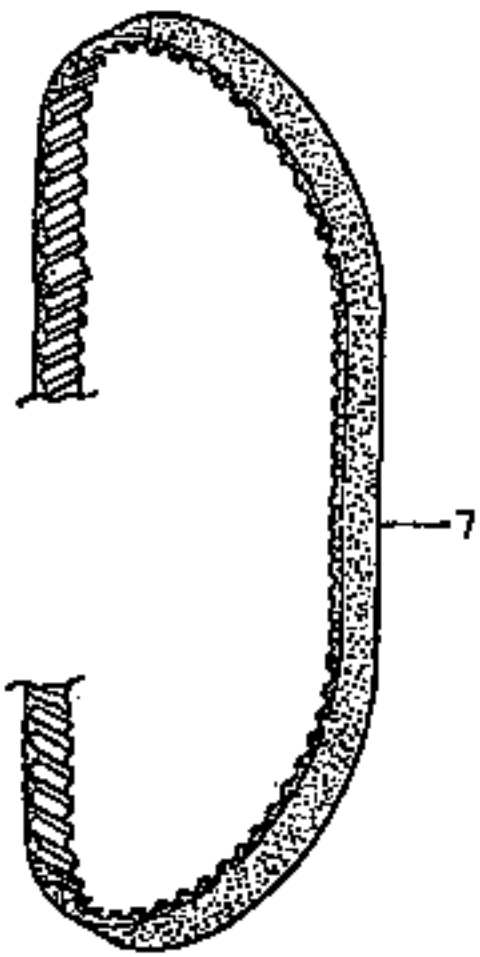
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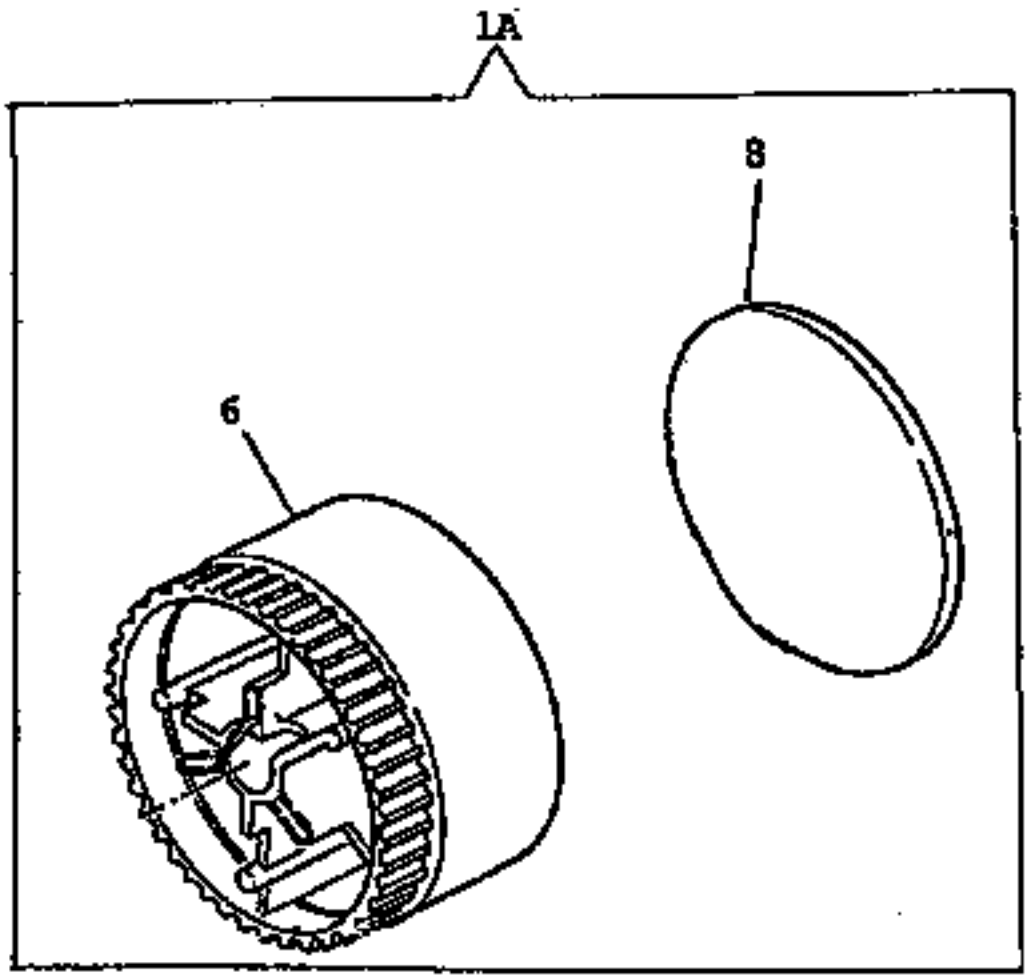
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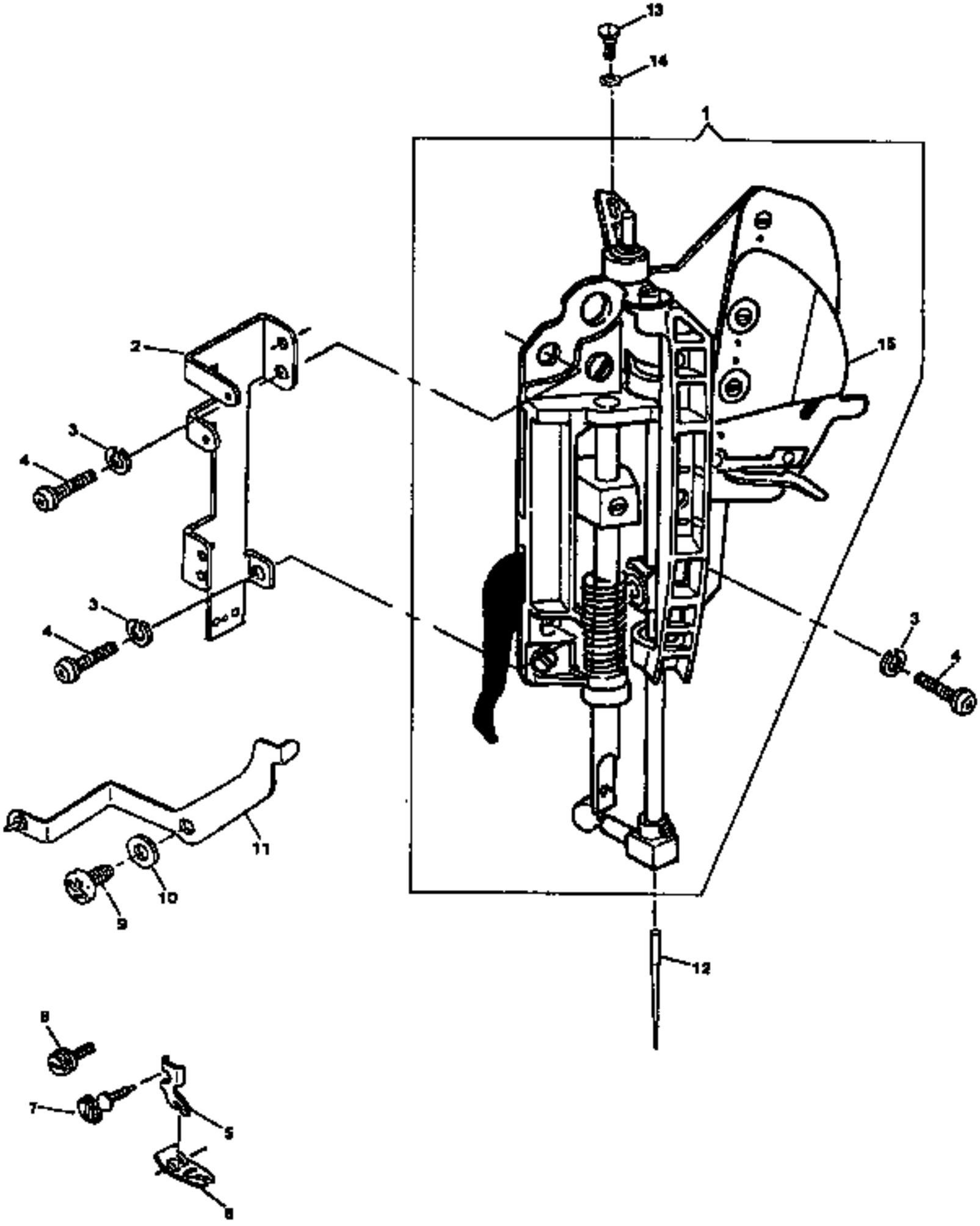
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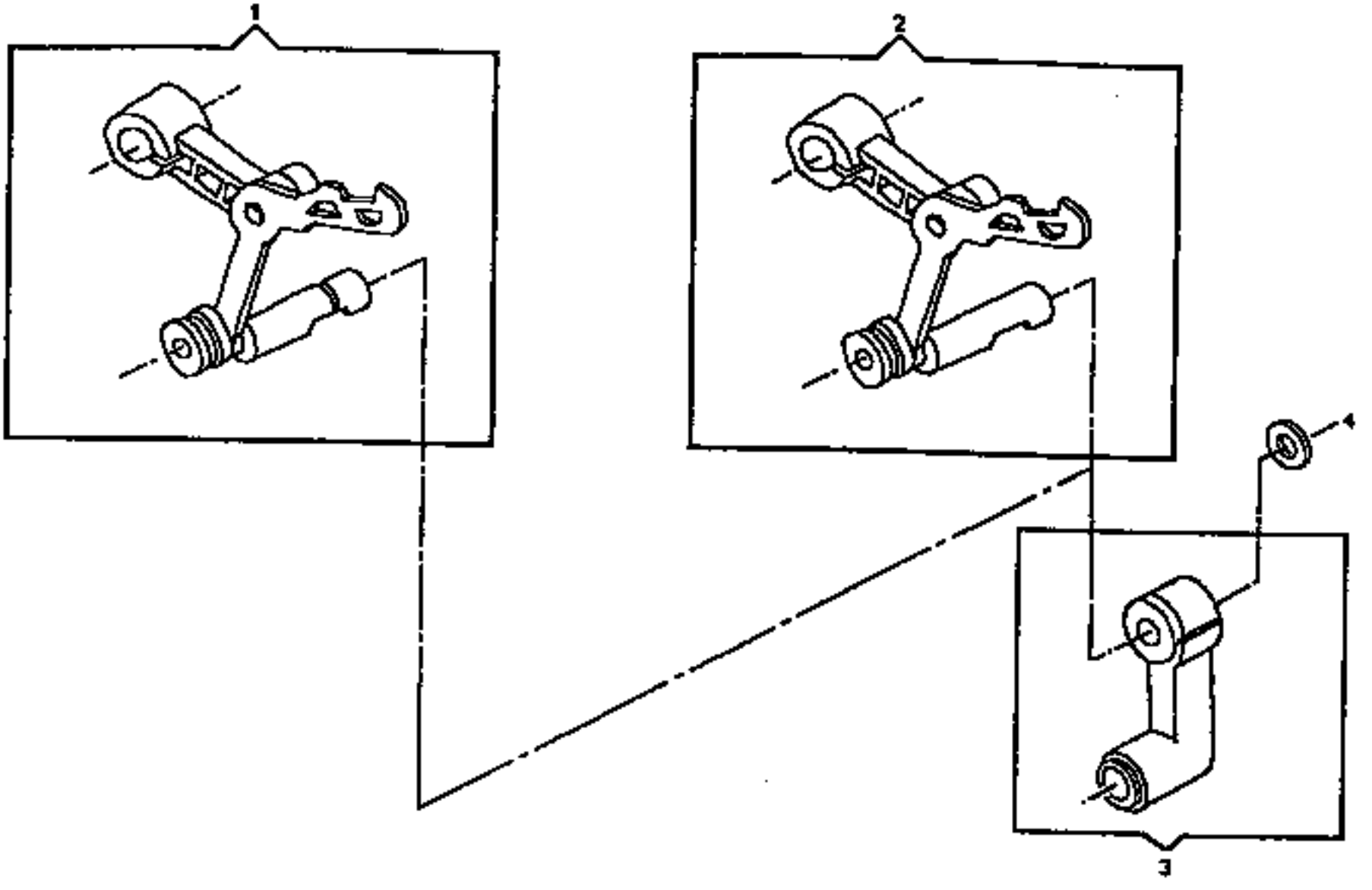
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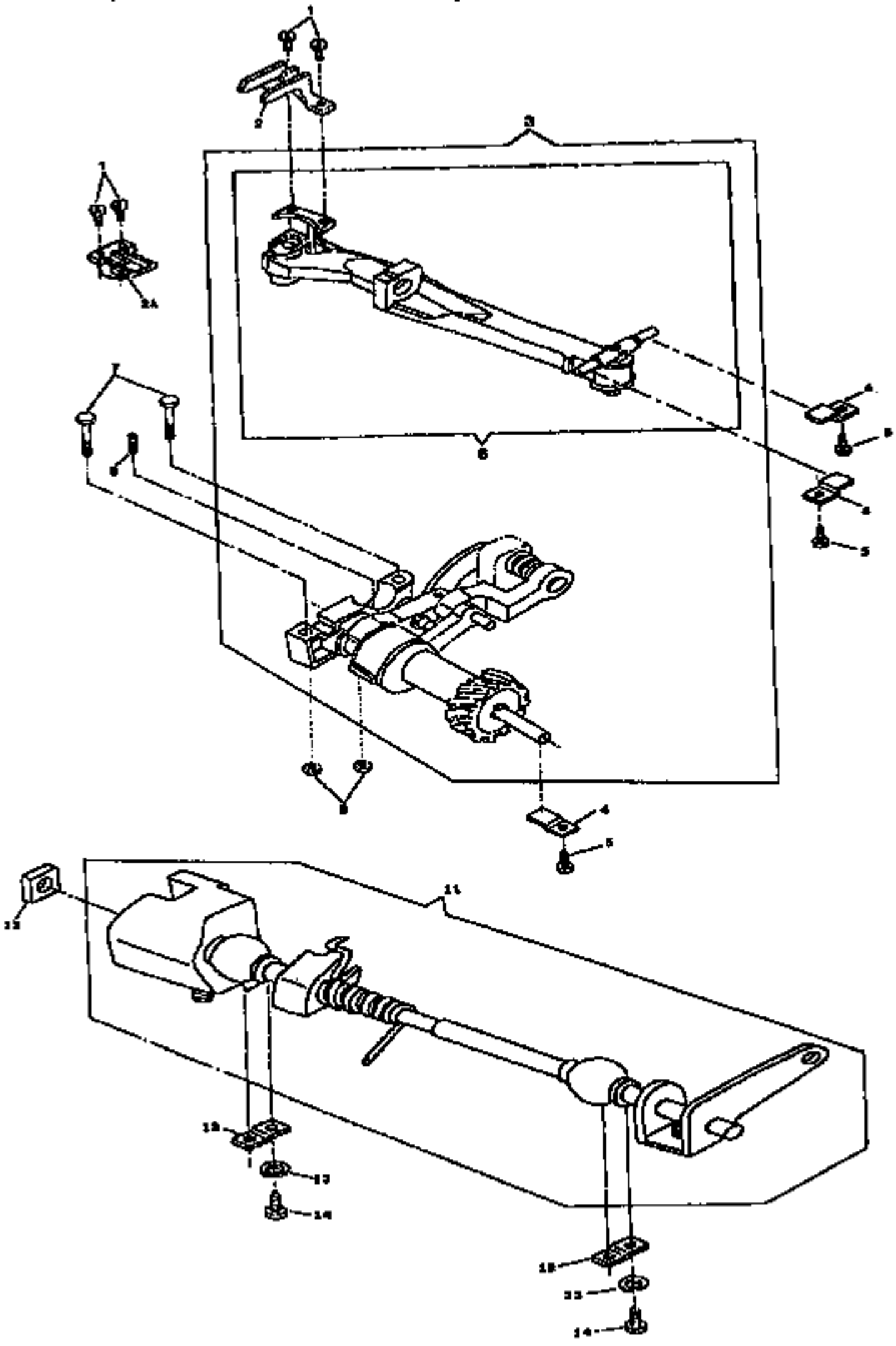

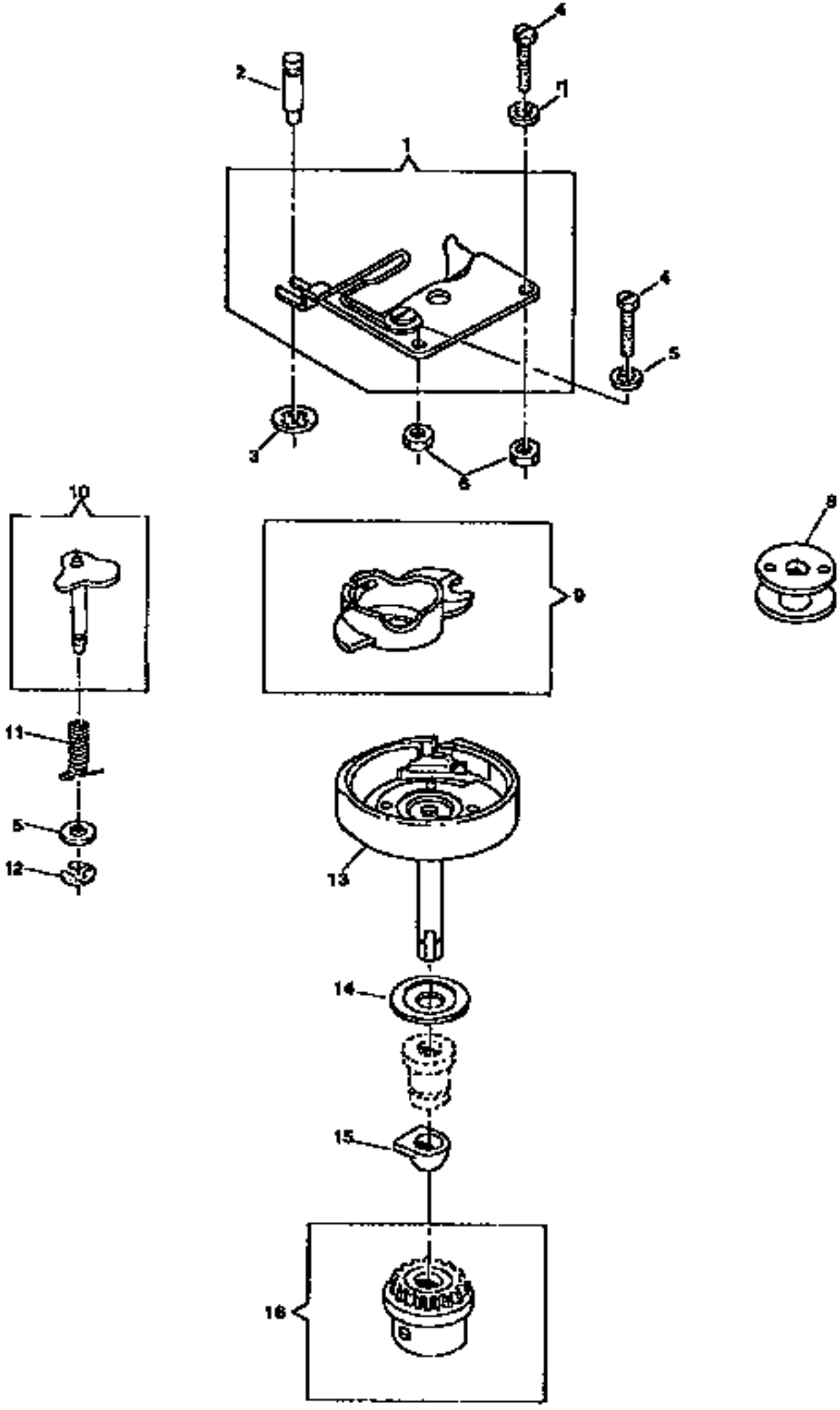
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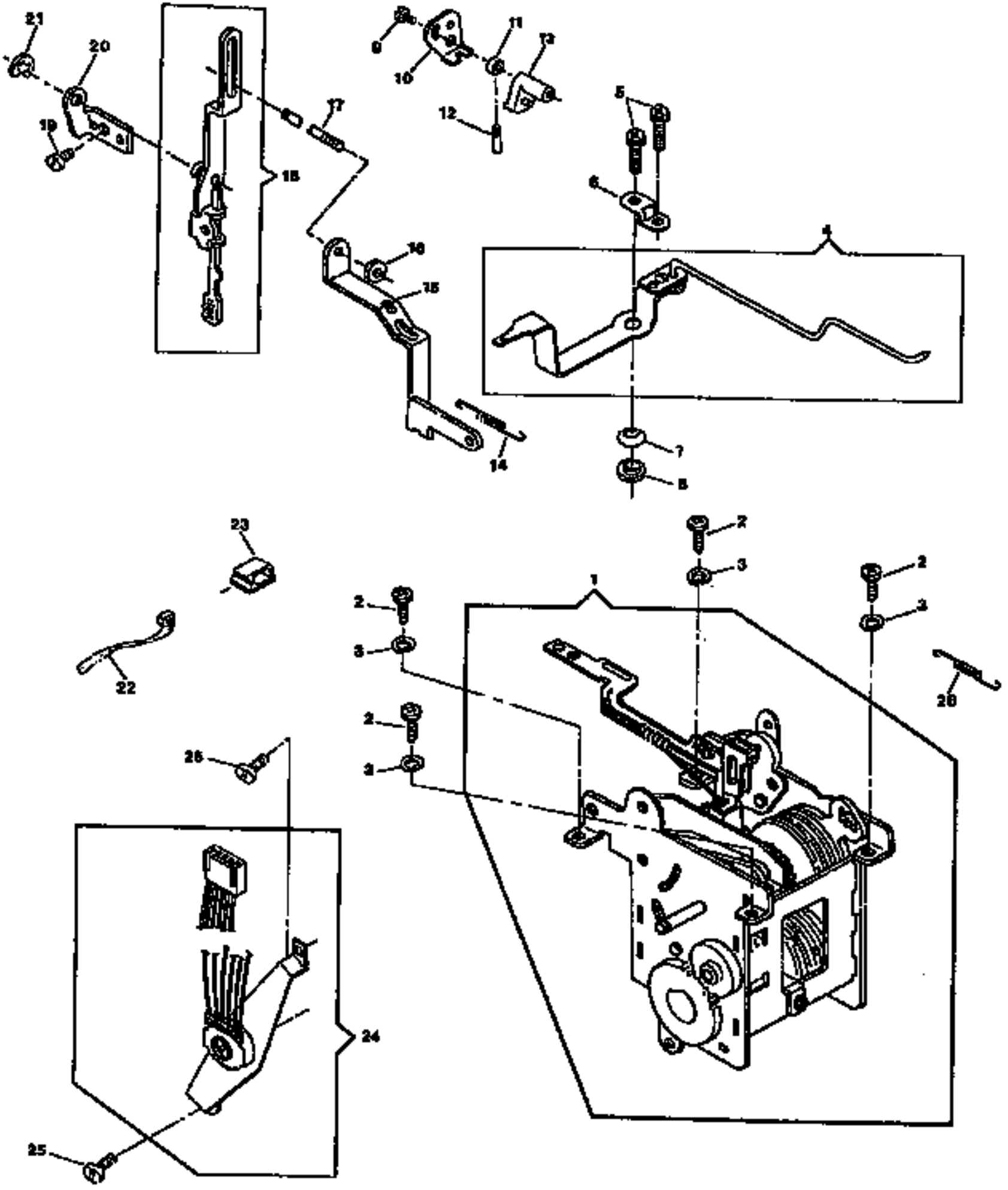
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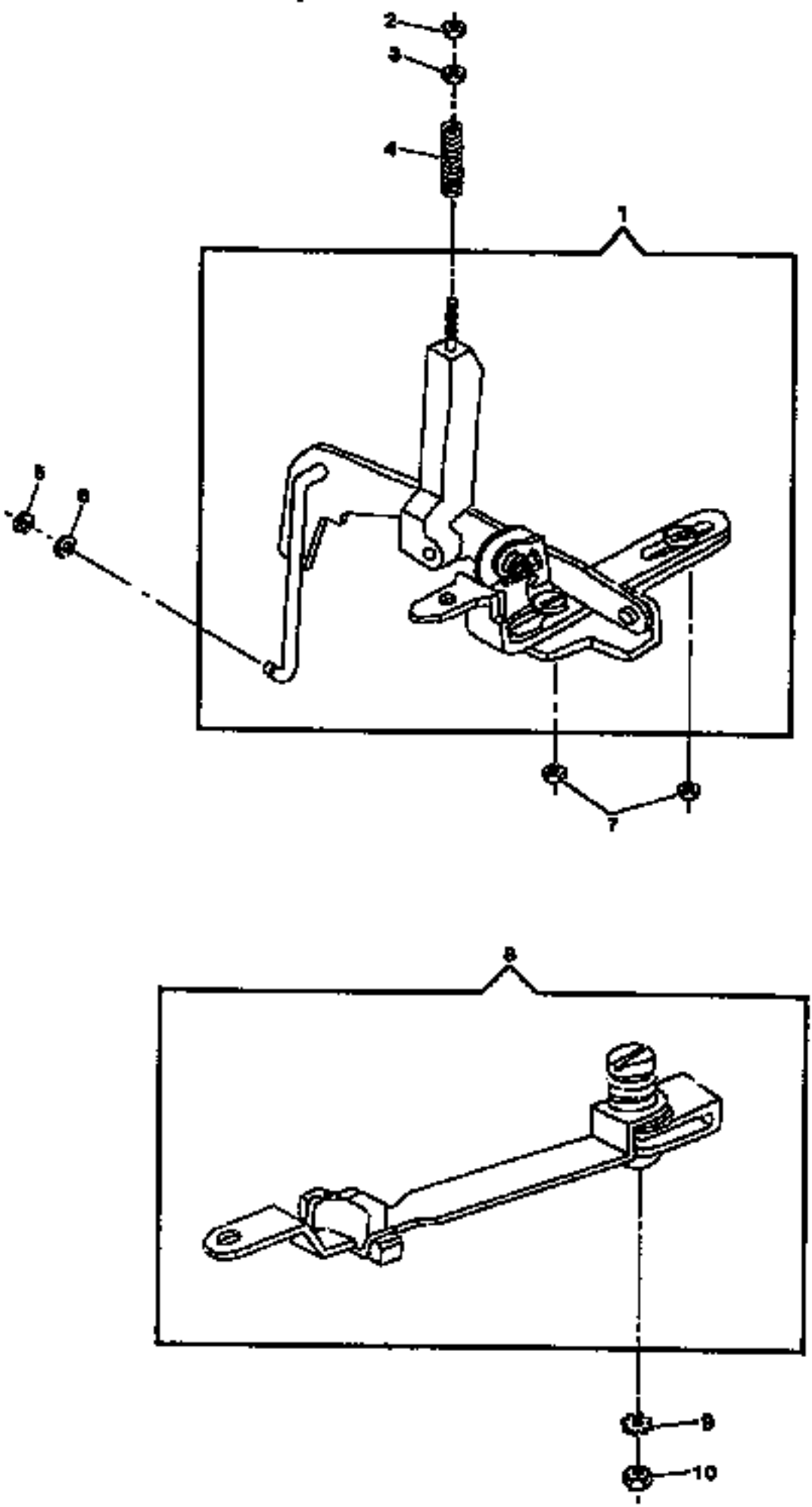
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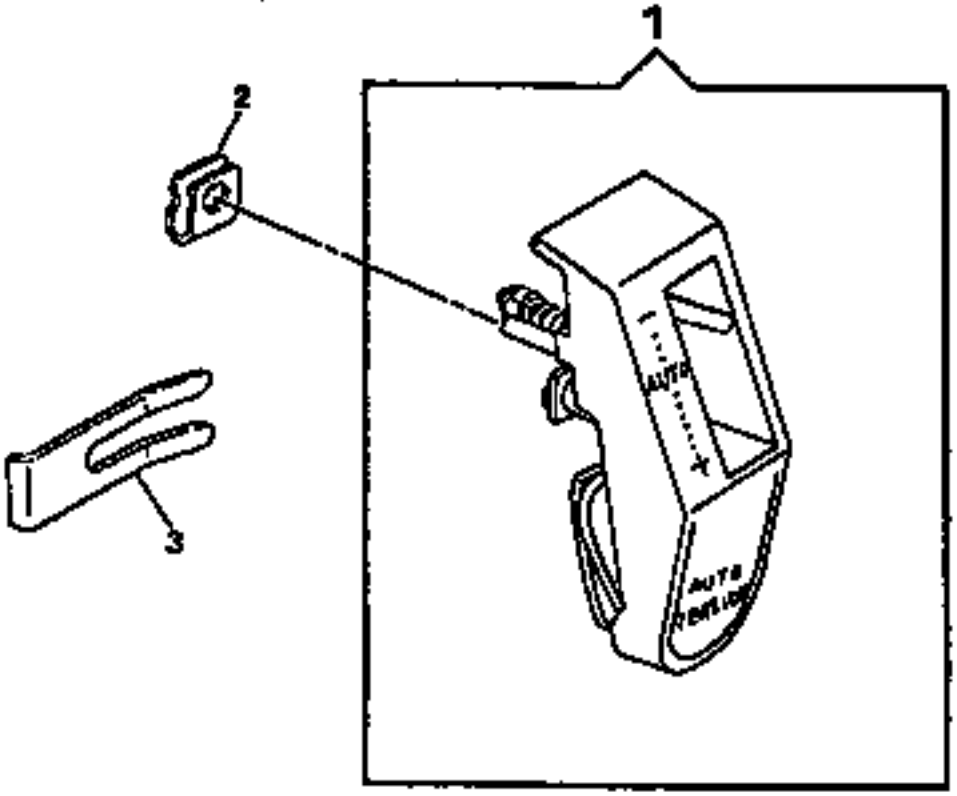
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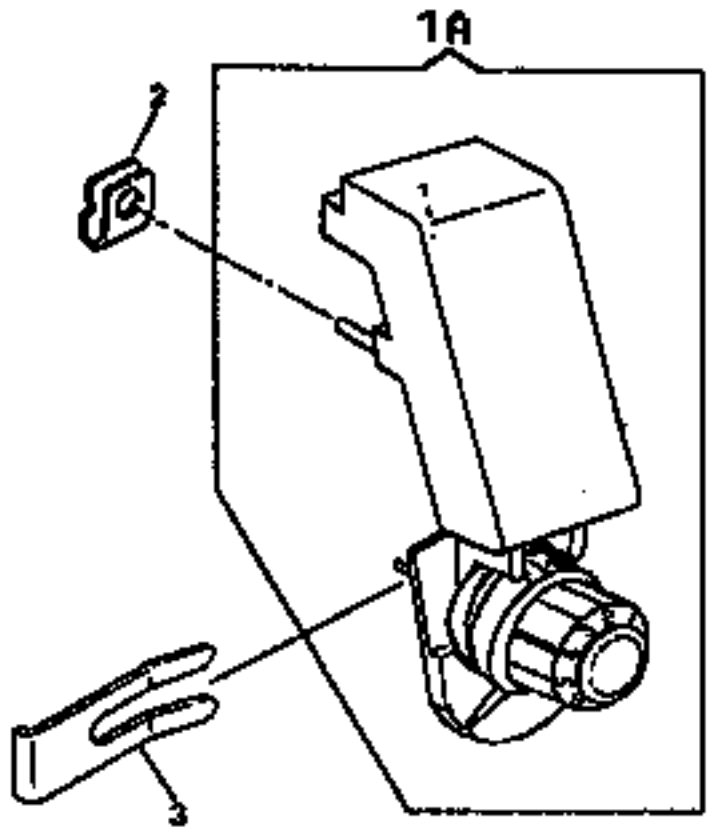
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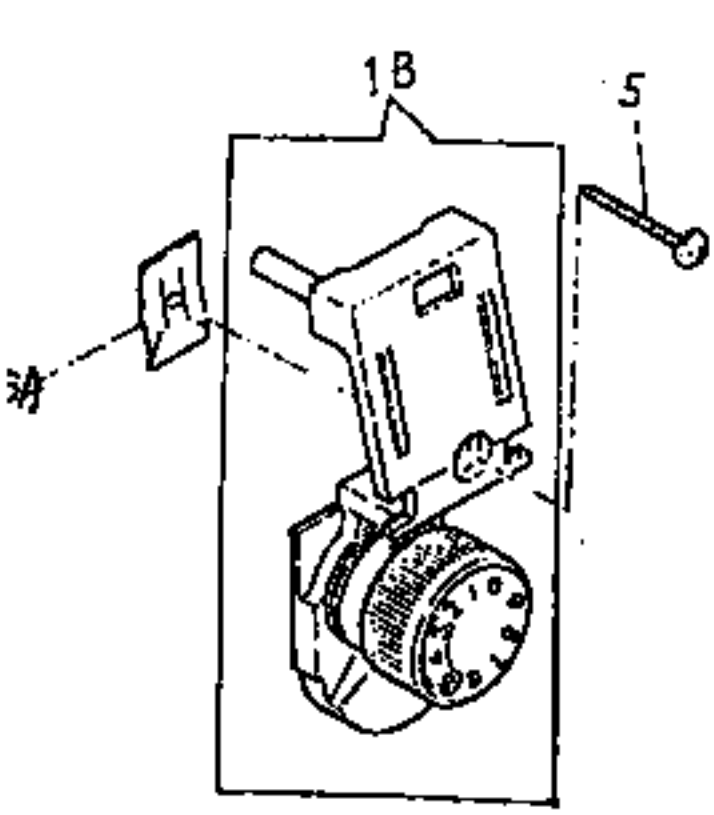
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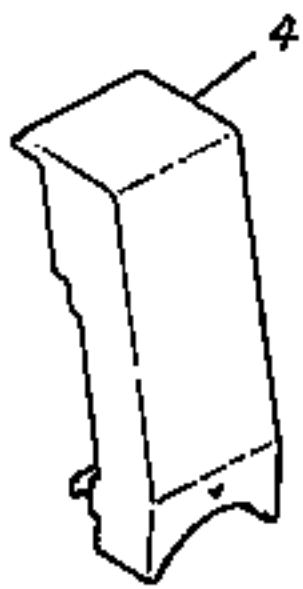
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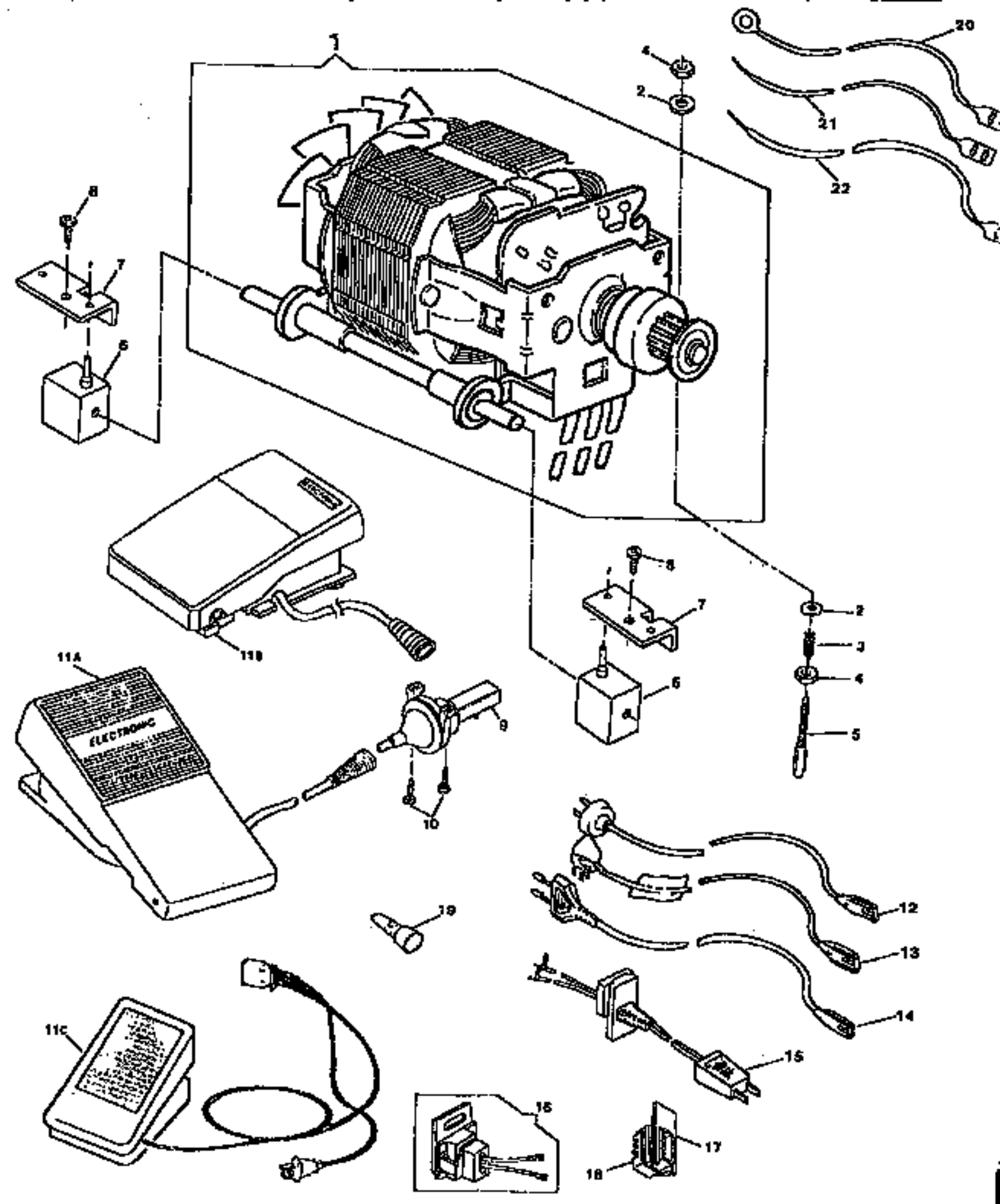
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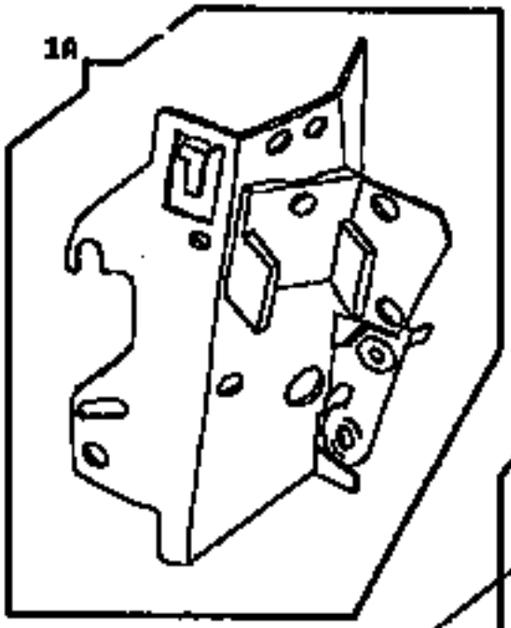
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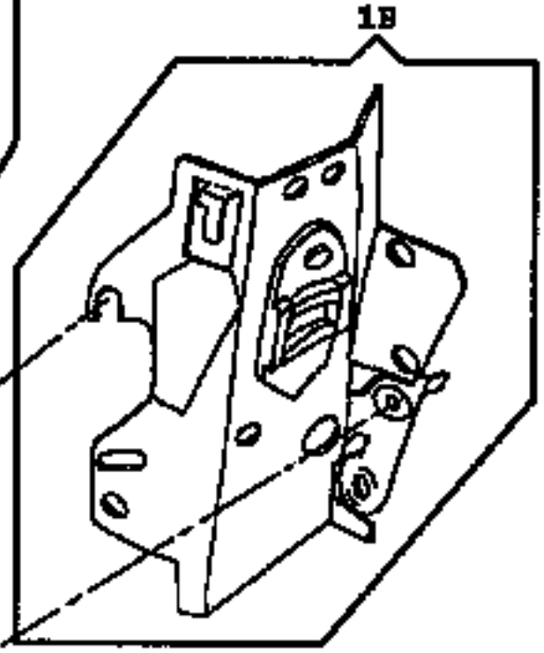
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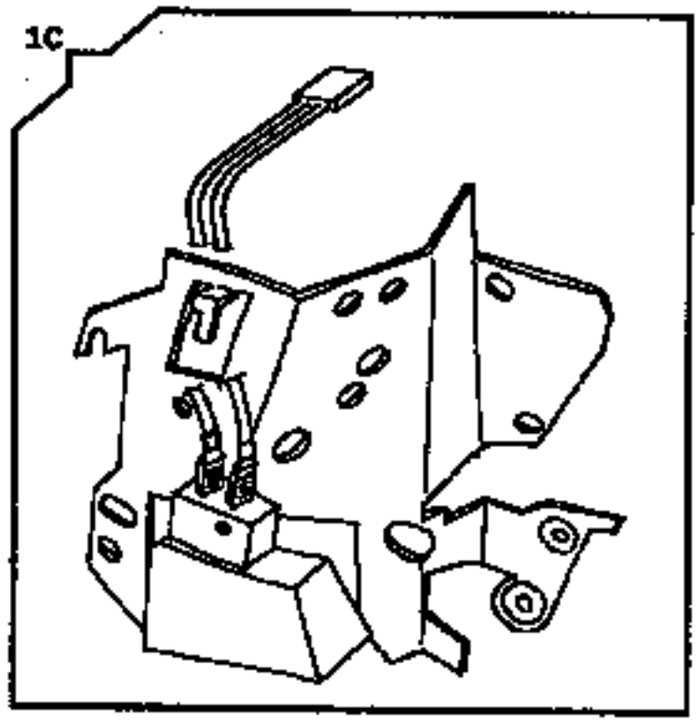
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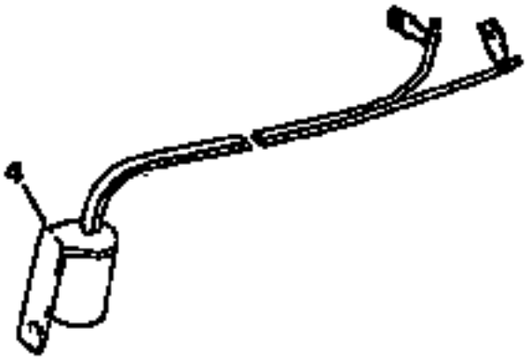
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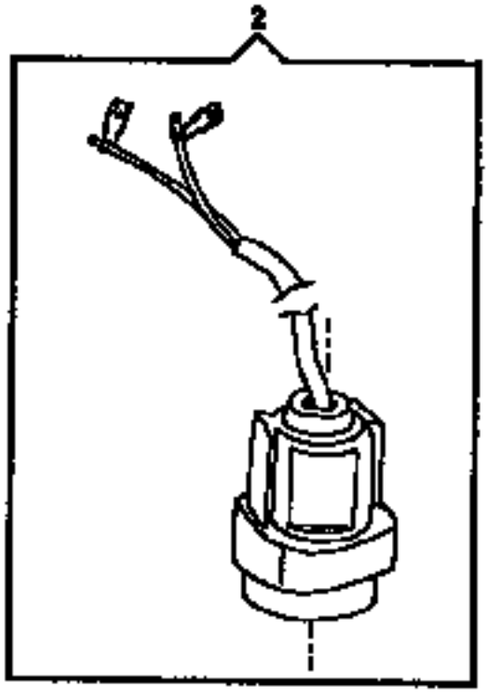
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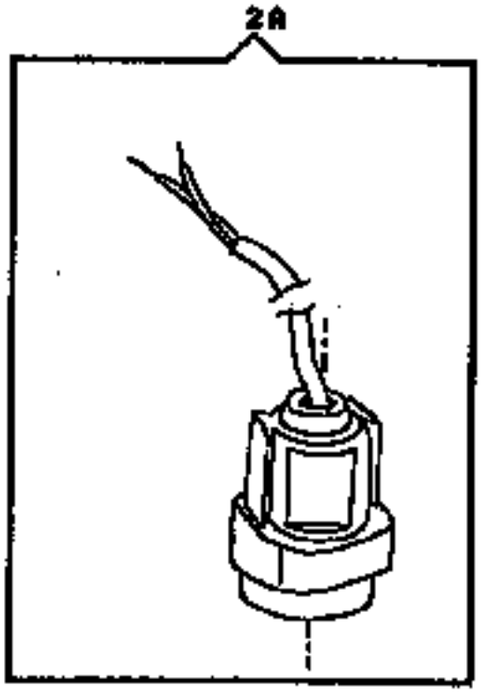
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Repair Guide

Sewing Machine: Won't turn on

A power supply failure, bad outlet cord or a failed On/Off switch can prevent the sewing machine from powering up.

Check the power supply first. Plug a lamp or other small appliance into the electrical outlet that you’re using for the sewing machine to make sure the outlet works. If the electrical outlet is dead, reset the house circuit breaker for the outlet. If the outlet still doesn’t work, try using a different outlet to power the sewing machine.

If the electrical outlet is okay, unplug the sewing machine and check the outlet cord for damage. Replace the cord if it’s damaged.

If the outlet cord is okay, check the On/Off switch for continuity using a multimeter (with the sewing machine still unplugged). With the switch turned to the "on" position, the meter should measure near 0 ohms of resistance through the On/Off switch. If the meter measures infinite resistance, replace the On/Off switch because it’s preventing the sewing machine from getting power.

These repairs may help solve your Sewing Machine problem:

Replace the sewing machine On/Off switch

The On/Off switch turns on the work light and sends power to the foot pedal. Unplug the sewing machine and check the On/Off switch wiring if the light switch doesn't work. Replace the on/off switch if it's defective.

Replace the sewing machine outlet cord

The outlet cord attaches to the On/Off switch to provide power to the sewing machine. Examine the outlet cord regularly for damage. Broken wires in the outlet cord prevent the sewing machine from getting power. Replace the outlet cord if it's damaged or broken.

How to Replace a Sewing Machine On/Off Switch

This DIY repair guide explains how to replace the on/off switch on a sewing machine. The on/off switch turns on the sewing machine's power and work light. If the work light won't come on with a new bulb when you turn on the on/off switch, replace the switch with the manufacturer-approved replacement part.

Use these steps to replace the on/off switch in common Kenmore and Brother sewing machines.

Time required:

Less than 30 min.

Part Required

- On/Off switch

Tool Required

- Phillips screwdriver
- Work gloves

Before you begin

Wear work gloves before you begin.

Instructions

⚠ *Warning:* Undertaking repairs to appliances can be hazardous. Use the proper tools and safety equipment noted in the guide and follow all instructions. Do not proceed until you are confident that you understand all of the steps and are capable of completing the repair. Some repairs should only be performed by a qualified technician.

https://youtu.be/INA-hB9LVfA

How to Replace a Sewing Machine On/Off Switch

Step 1: Shut off the electricity

Unplug the sewing machine’s power cord from the wall outlet.

Step 2: Remove the drive belt cover

Remove the screws securing the belt cover to the sewing machine and pull the belt cover off.

Remove the front screw.

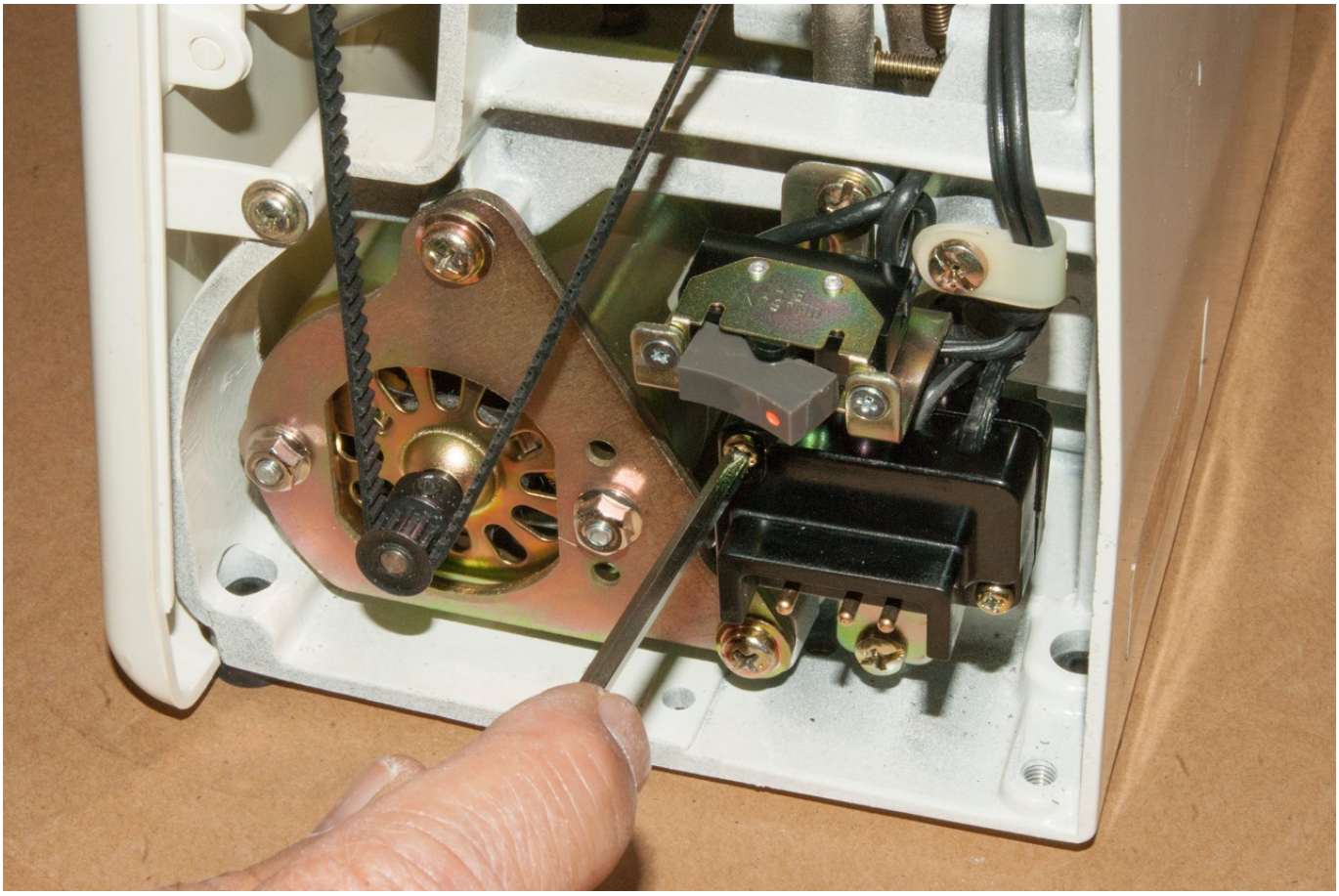
Remove the bottom screw.

Step 3: Remove the On/Off switch

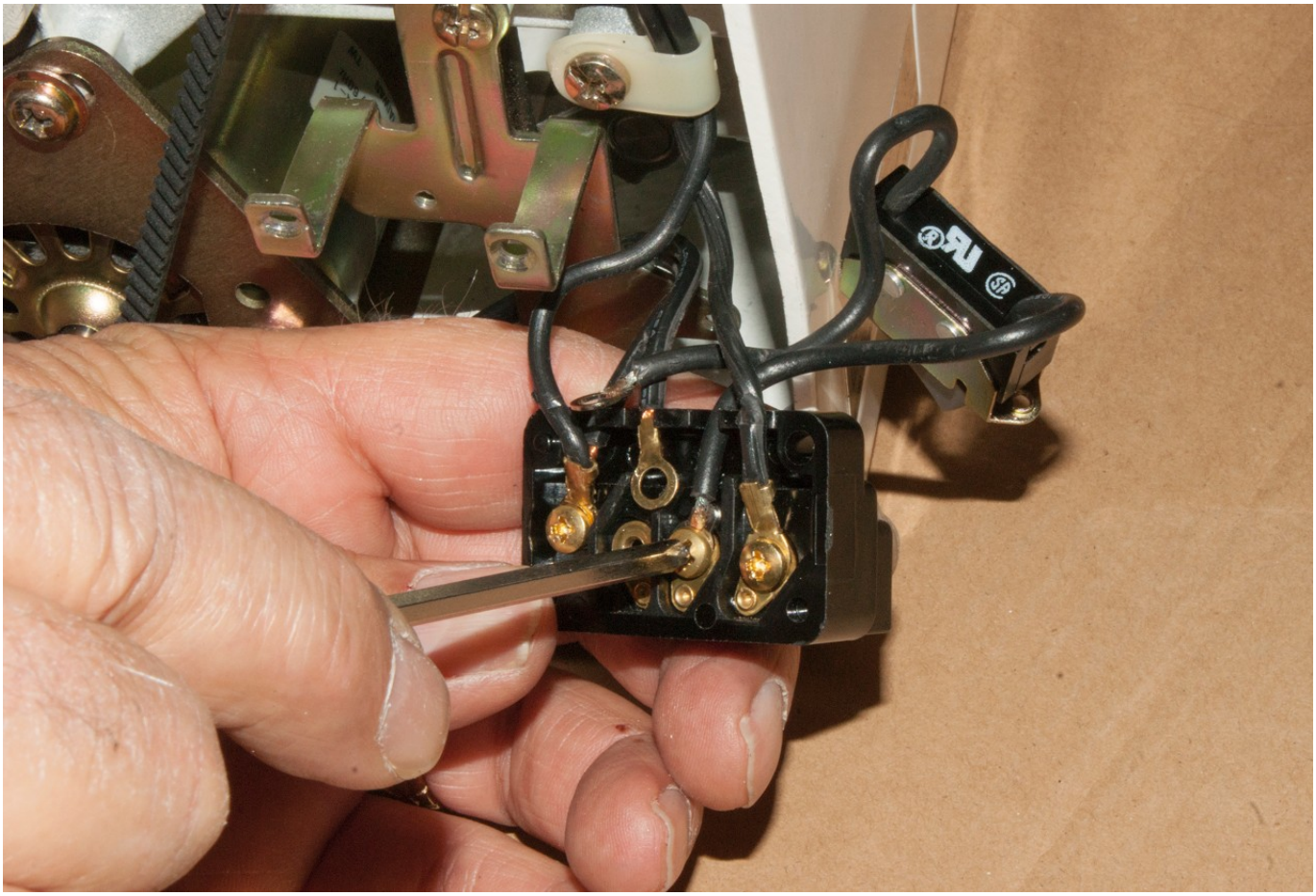
Remove the screws securing the On/Off switch to the mounting bracket.

Remove the terminal block mounting screws and remove the terminal block.

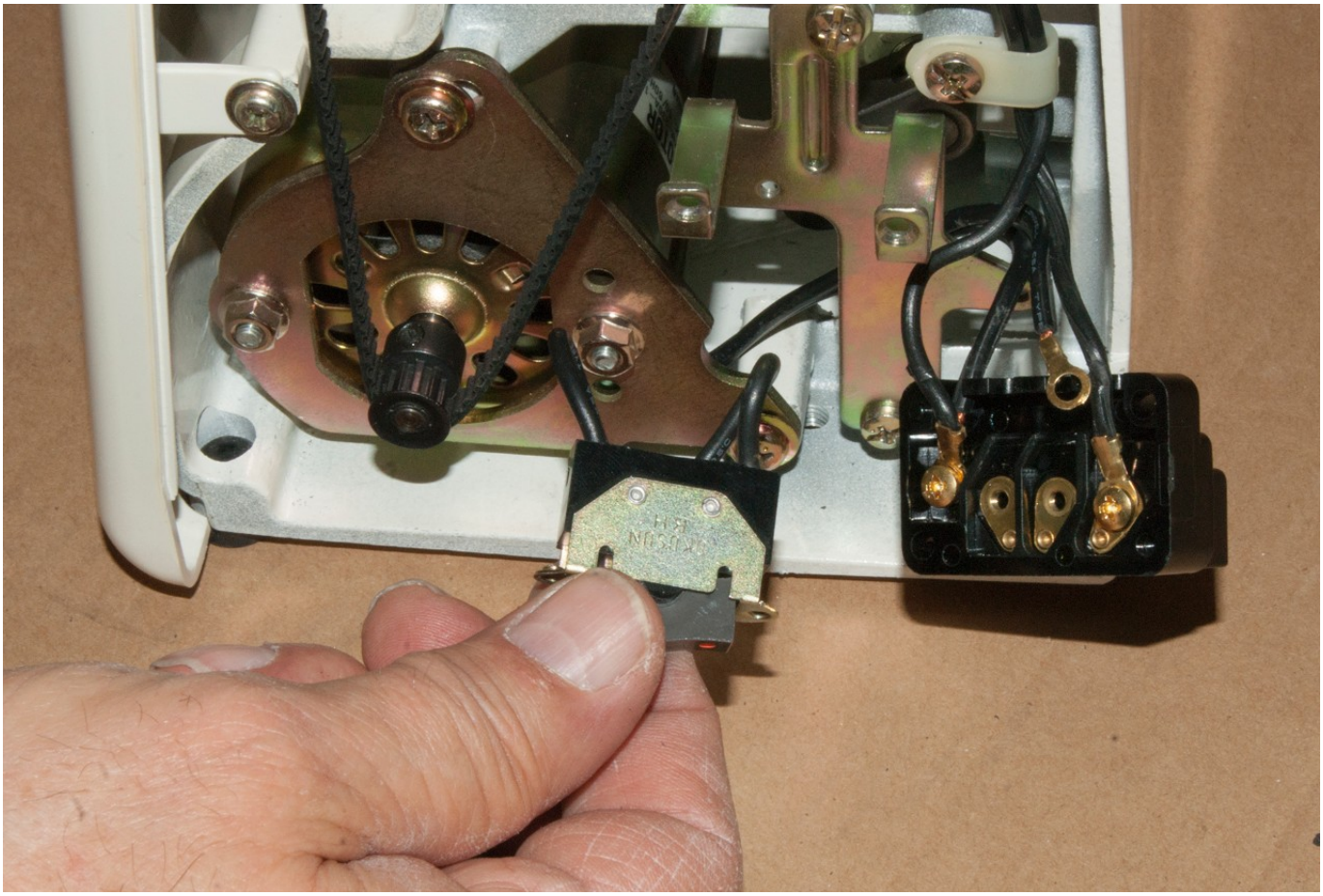
Disconnect the On/Off switch wires from the terminal block and remove the On/Off switch.



Remove the terminal block.



Remove the On/Off switch wires.



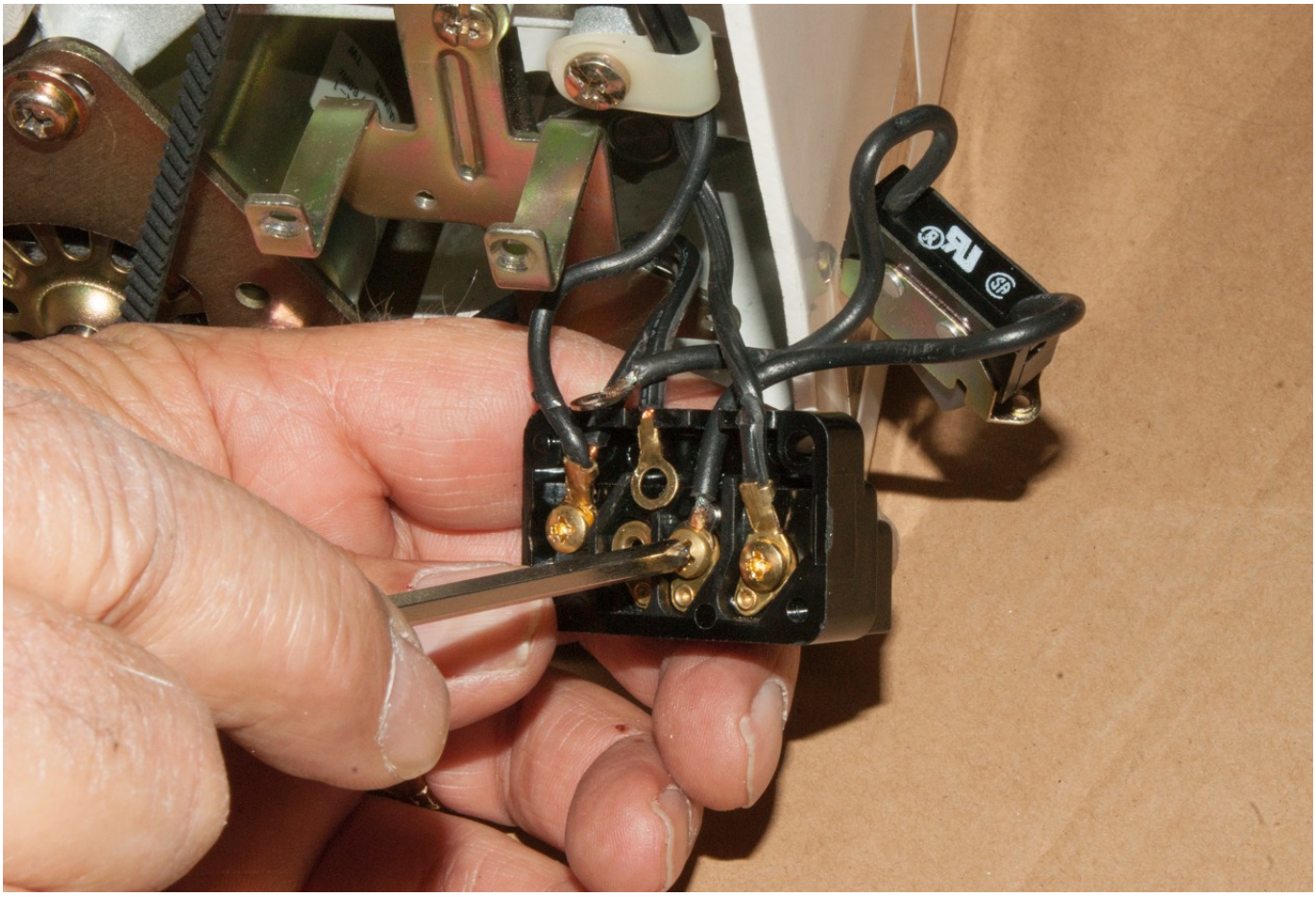
Remove the On/Off switch.

Step 4: Install the new On/Off switch

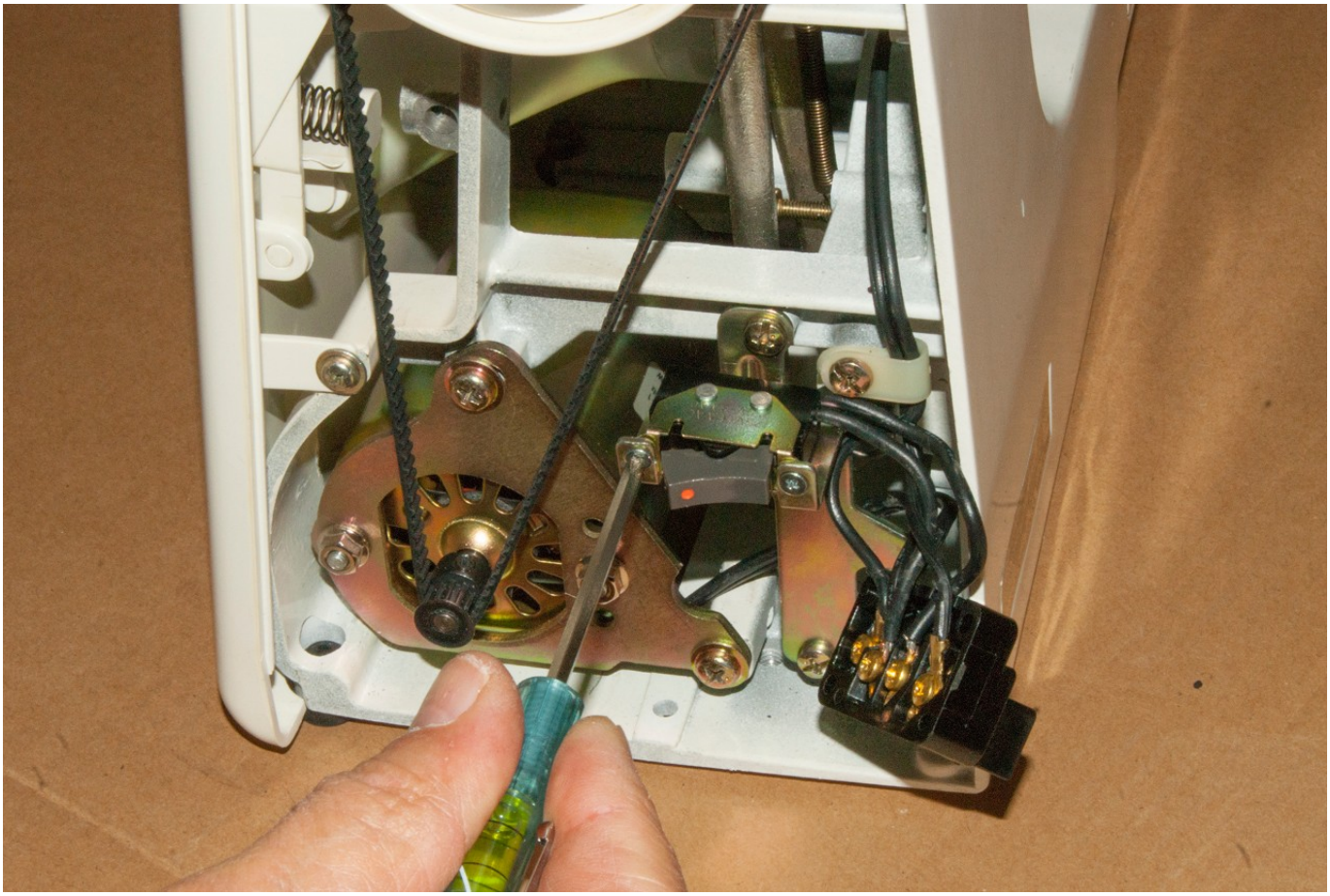
Connect the new On/Off switch wires to the terminal block.

Reinstall the terminal block and screws.

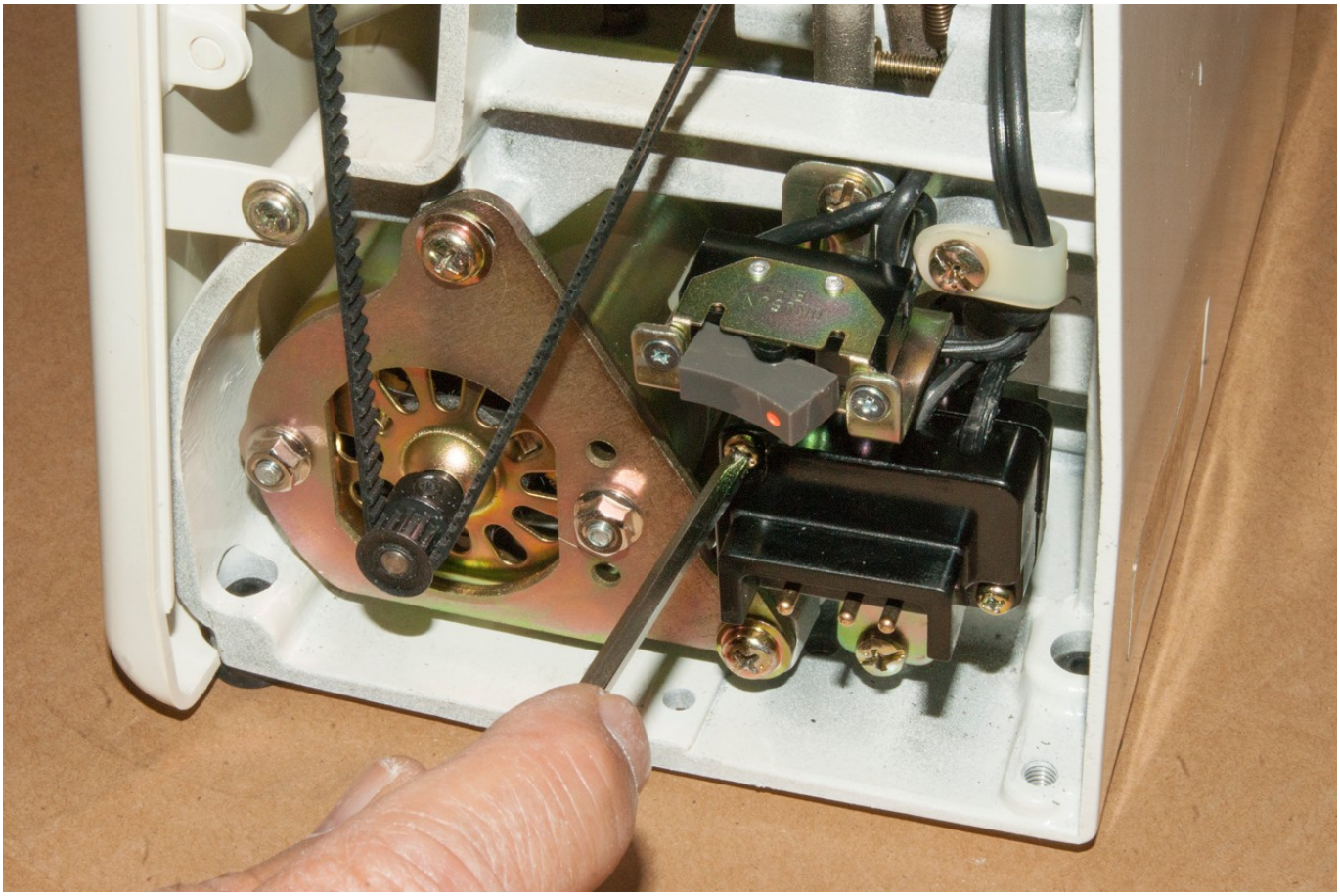
Position the new On/Off switch on the mounting bracket and reinstall the mounting screws.



Reconnect the On/Off switch wires



Install the new On/Off switch.



Reinstall the terminal block.

Step 5: Reinstall the belt cover

Position the belt cover on the sewing machine and reinstall the belt cover mounting screws.

Reinstall the belt cover.

Step 6: Restore power

Plug the sewing machine into the electrical outlet.

Sewing Machine: Skipping stitches

Lint in the shuttle race, wrong thread tension, bad needle timing, a damaged needle or using the wrong type of needle can cause the sewing machine to skip stitches.

Use the right size and type of needle for the fabric and thread you're using so the needle can hook the bottom thread and doesn't skip stitches.

Check the needle for wear and damage. Replace a dull or bent needle that won't pick up the bottom thread.

Check thread tension because the needle can skip stitches if upper or lower thread tension is too tight or too loose.

Check the shuttle race for lint buildup because the debris can prevent the needle from hooking the bottom thread. Clean the shuttle race if necessary.

The needle will skip stitches if needle timing is off. Adjustment of the needle timing typically requires service by a technician, who uses special tools to synchronize the shuttle hook with the needle. If you eliminate all possible causes for skipped stitches except for bad needle timing, you'll likely need to have a service technician adjust the timing.

These repairs may help solve your Sewing Machine problem:

Adjust the sewing machine needle timing

If the machine won’t pick up the bobbin thread because the shuttle hook isn’t synched with the needle, adjust the needle timing. Adjustment of the needle timing usually requires service by a technician. Using special tools, the technician positions the needle and loosens the shuttle drive gear set screws then adjusts the shuttle drive gear to synchronize the shuttle hook with the needle.

Adjust the sewing machine thread tension

Tight upper thread tension causes skipped stitches. Reduce the upper thread tension when the sewing machine skips stitches. Adjust lower thread tension as necessary to balance with the upper thread tension to create perfect stitches.

Clean the sewing machine

Clean lint and debris from the shuttle race every 3 months because it often attracts lint and dust. Clean the feed dogs at the same time because they also attract lint and dust. Clean those areas more often when using the sewing machine regularly. Oil the sewing machine after cleaning.

Replace the sewing machine needle

Examine the needle regularly and replace it when it's dull or bent. A dull or bent needle causes skipped stitches. When the machine skips stitches, check the needle and replace it if it's worn or bent.

Sewing Machine: Runs sluggish

Lack of lubrication, lint buildup, a worn drive belt or a faulty drive motor can cause the sewing machine to run sluggish.

Clean and lubricate the sewing machine regularly (at least yearly) to prevent drive gears from sticking and causing sluggish needle or feed dog movement.

Check the drive belt for wear because a worn drive belt can slip—causing sluggish drive system movement.

If the drive motor makes noise when running, then a worn bearing may be preventing the motor from driving the belt smoothly. Replace the motor if it’s noisy and not running smoothly.

These repairs may help solve your Sewing Machine problem:

Replace the sewing machine drive belt

The drive belt transfers motor rotation to the hand wheel and upper shaft. If the belt breaks, the hand wheel won't move and the bobbin-winding spindle won't spin. Examine the drive belt and replace it if it's worn or broken.

How to Replace a Sewing Machine Drive Belt

This DIY repair guide explains how to replace the drive belt in a sewing machine. The drive belt connects the drive motor to the hand wheel and upper shaft, turning the hand wheel and upper shaft as the motor runs. A broken or worn belt can't turn the hand wheel and upper shaft. Replace a broken or worn sewing machine drive belt using the manufacturer-approved replacement part.

Use this basic procedure to replace the drive belt in Kenmore and Brother sewing machines.

Time required:

Less than 15 min.

Parts Required

- Drive belt

Tools Required

- Work gloves
- Phillips screwdriver

Before you begin

Wear work gloves to protect your hands.

Instructions

 *Warning:* Undertaking repairs to appliances can be hazardous. Use the proper tools and safety equipment noted in the guide and follow all instructions. Do not proceed until you are confident that you understand all of the steps and are capable of completing the repair. Some repairs should only be performed by a qualified technician.

https://youtu.be/8Voq7f5vT6E

How to Replace a Sewing Machine Drive Belt

Step 1: Shut off the electricity

Unplug the sewing machine's power cord from the wall outlet.

Step 2: Remove the drive belt cover

Remove the screws securing the belt cover to the sewing machine and pull the belt cover off.

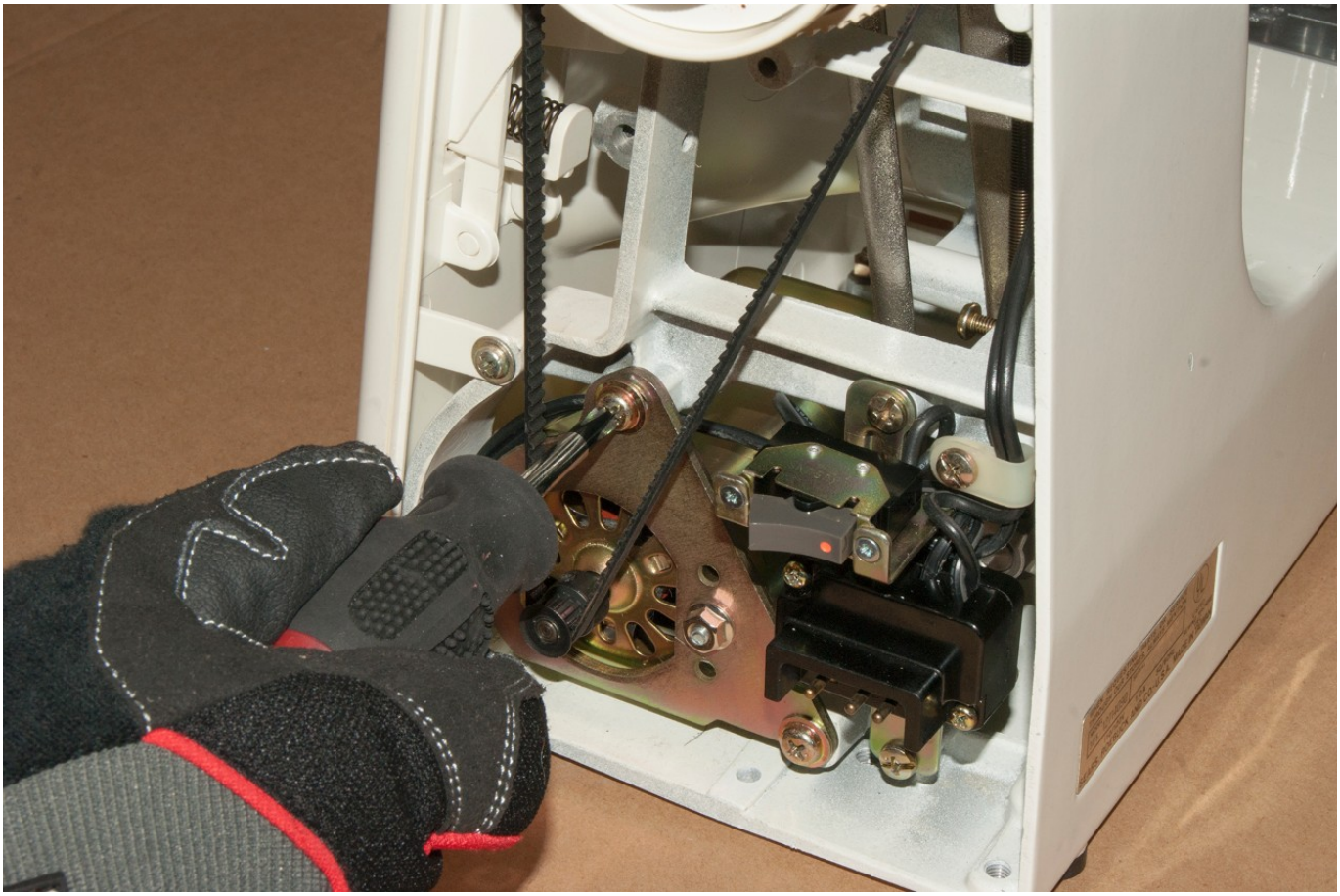
Remove the front screw.

Remove the bottom screw.

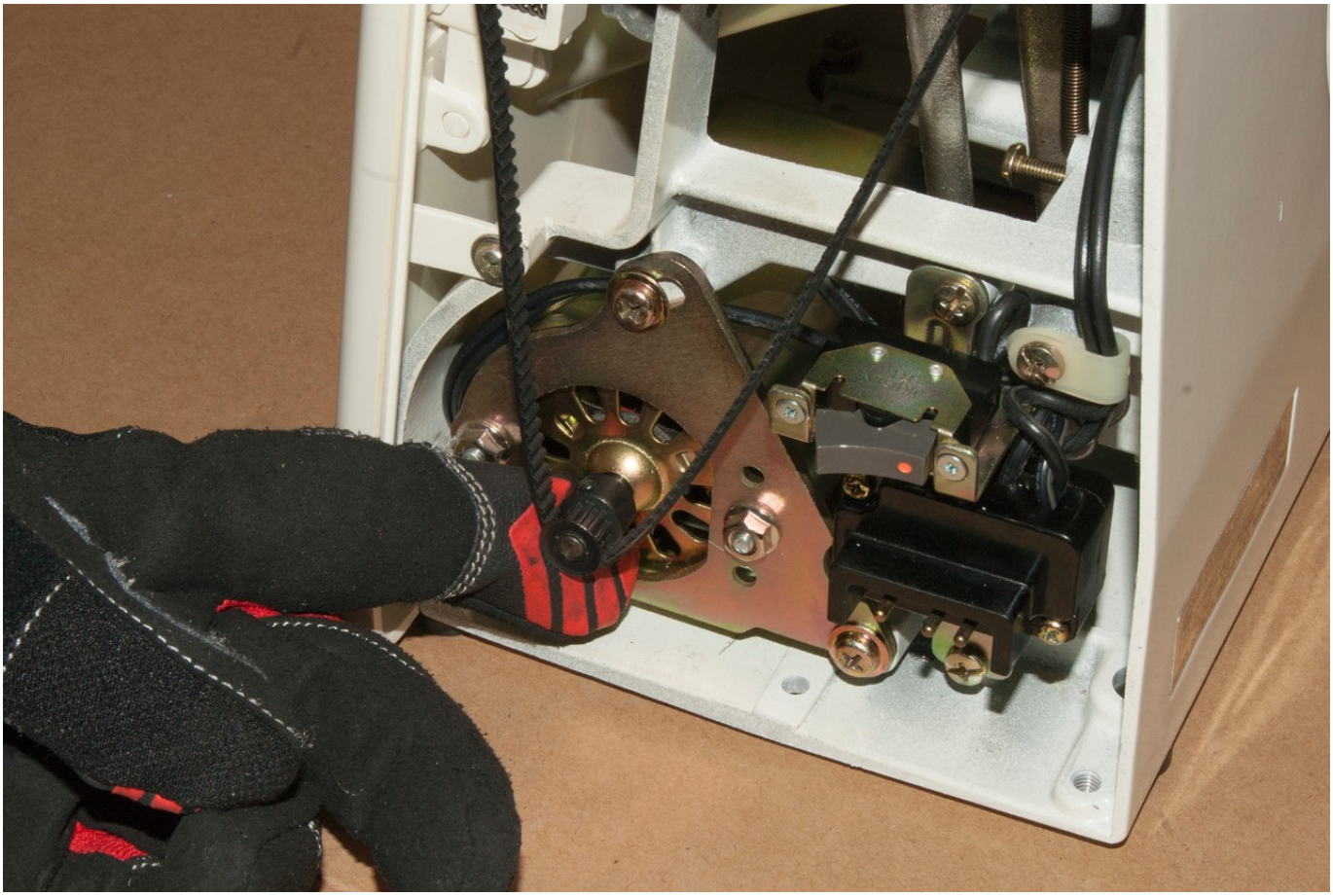
Step 3: Remove the drive belt

Loosen the 2 motor mounting screws and pivot the motor upward to release the belt tension.

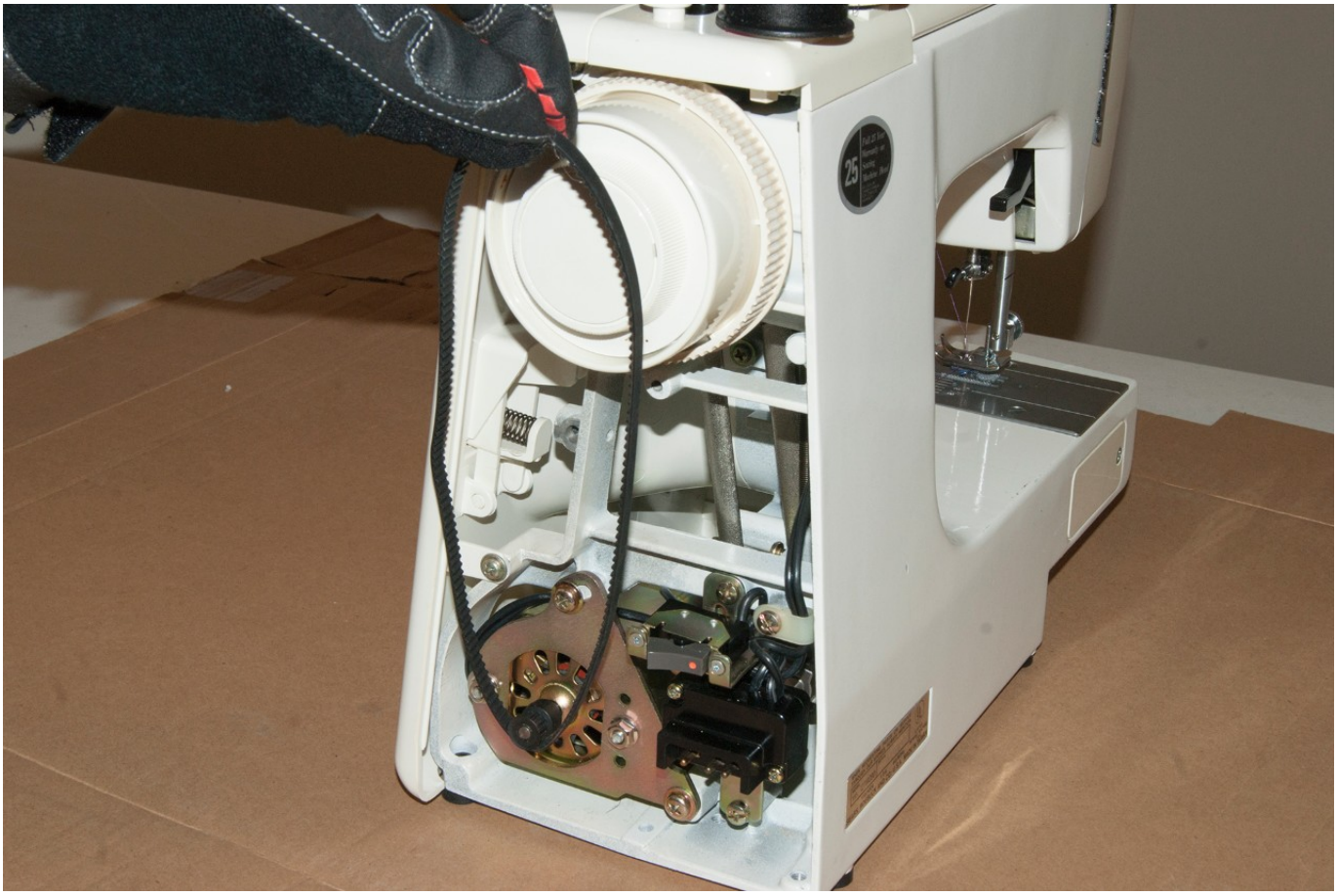
Slide the drive belt off the hand wheel and remove the belt.



Loosen the motor mounting screws.



Pivot the motor upwards.

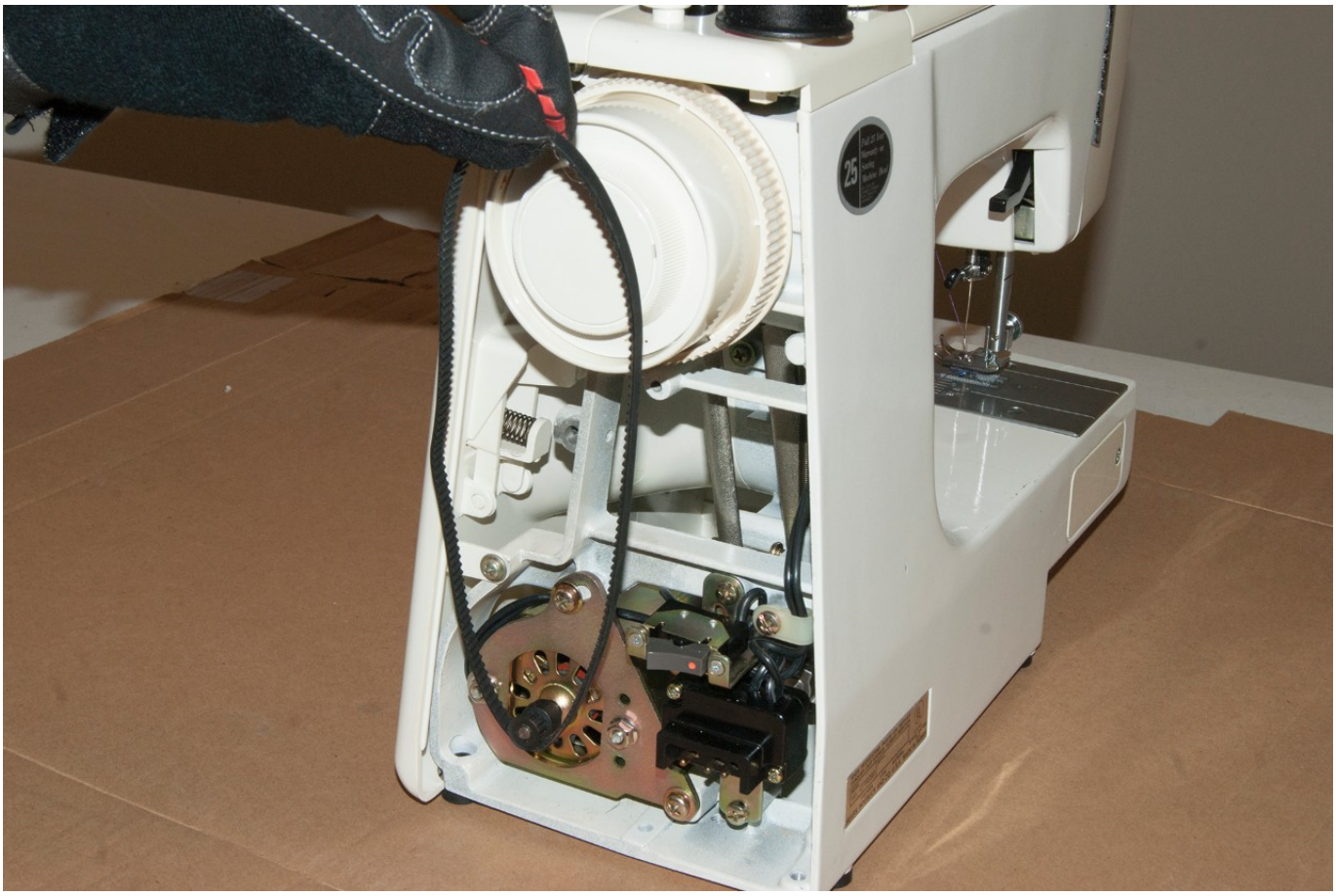


Remove the drive belt.

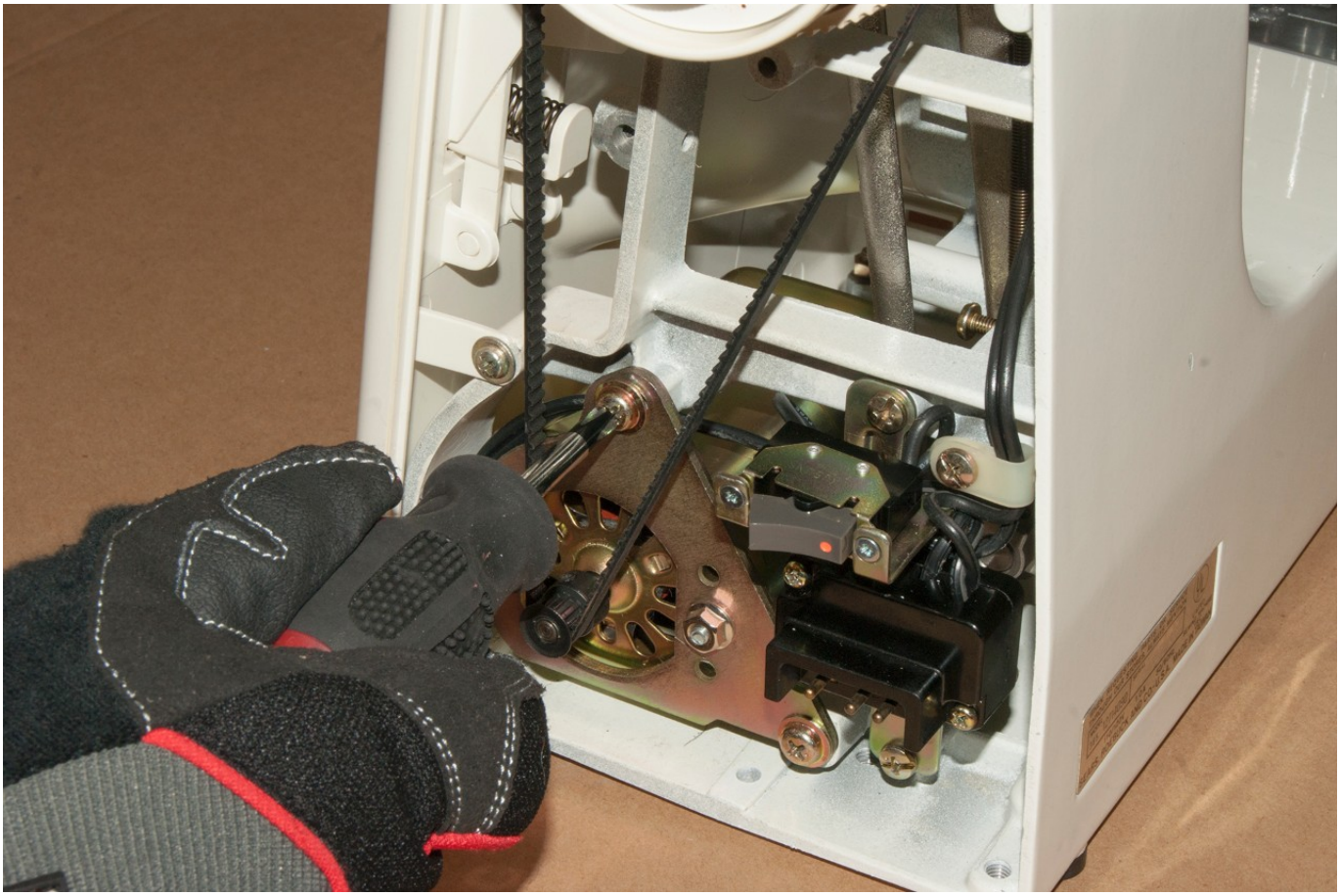
Step 4: Install the new drive belt

Position the new drive belt under the motor pulley and then roll the belt onto the hand wheel.

Pivot the drive motor to apply slight tension to the belt and tighten the motor mounting screws firmly.



Install the new drive belt.



Tighten the screws.

Step 5: Reinstall the belt cover

Position the belt cover on the sewing machine and reinstall the belt cover mounting screws.

Reinstall the belt cover.

Step 6: Restore power

Plug the sewing machine into the electrical outlet.

Replace the sewing machine motor

The motor drives the belt, which spins the hand wheel and upper shaft. Replace the motor if it won't run when activated by the foot pedal.

How to Replace a Sewing Machine Drive Motor

This step-by-step repair guide shows how to replace the drive motor in a sewing machine. The drive motor rotates the drive belt, which turns the hand wheel and upper shaft. If the sewing machine drive motor runs roughly or won't run at all, replace the motor with the manufacturer-approved replacement part.

Follow the basic steps in this repair guide and video to replace the drive motor in Kenmore and Brother sewing machines.

Time required:

Less than 30 min.

Part Required

- Drive motor

Tools Required

- Work gloves
- Phillips screwdriver

Before you begin

Wear work gloves to protect your hands.

Instructions

 *Warning:* Undertaking repairs to appliances can be hazardous. Use the proper tools and safety equipment noted in the guide and follow all instructions. Do not proceed until you are confident that you understand all of the steps and are capable of completing the repair. Some repairs should only be performed by a qualified technician.

https://youtu.be/kauWpyfkxkc

How to Replace a Sewing Machine Drive Motor

Step 1: Shut off the electricity

Unplug the sewing machine's power cord from the wall outlet.

Step 2: Remove the drive belt cover

Remove the screws securing the belt cover to the sewing machine and pull the belt cover off.

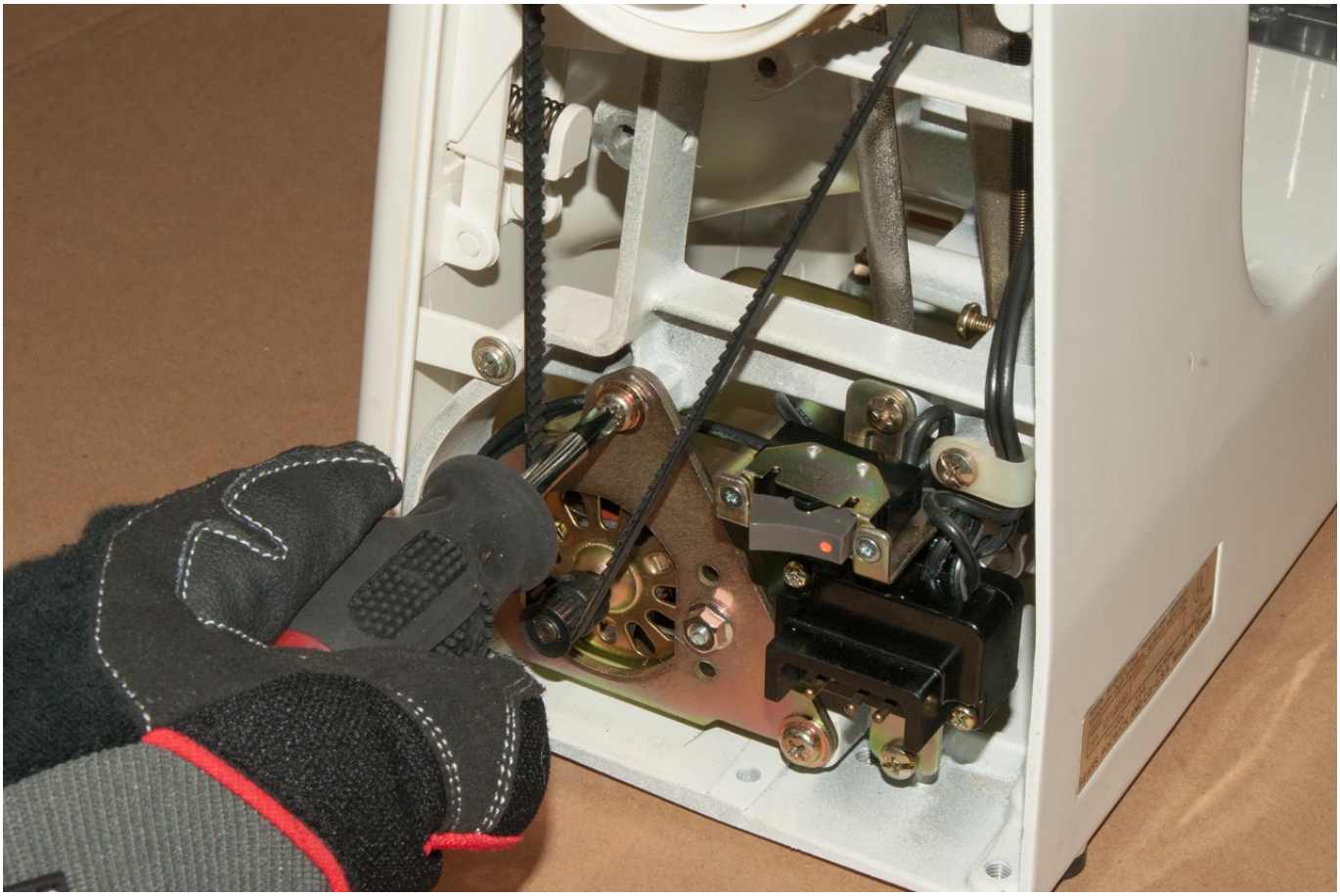
Remove the front screw.

Remove the bottom screw.

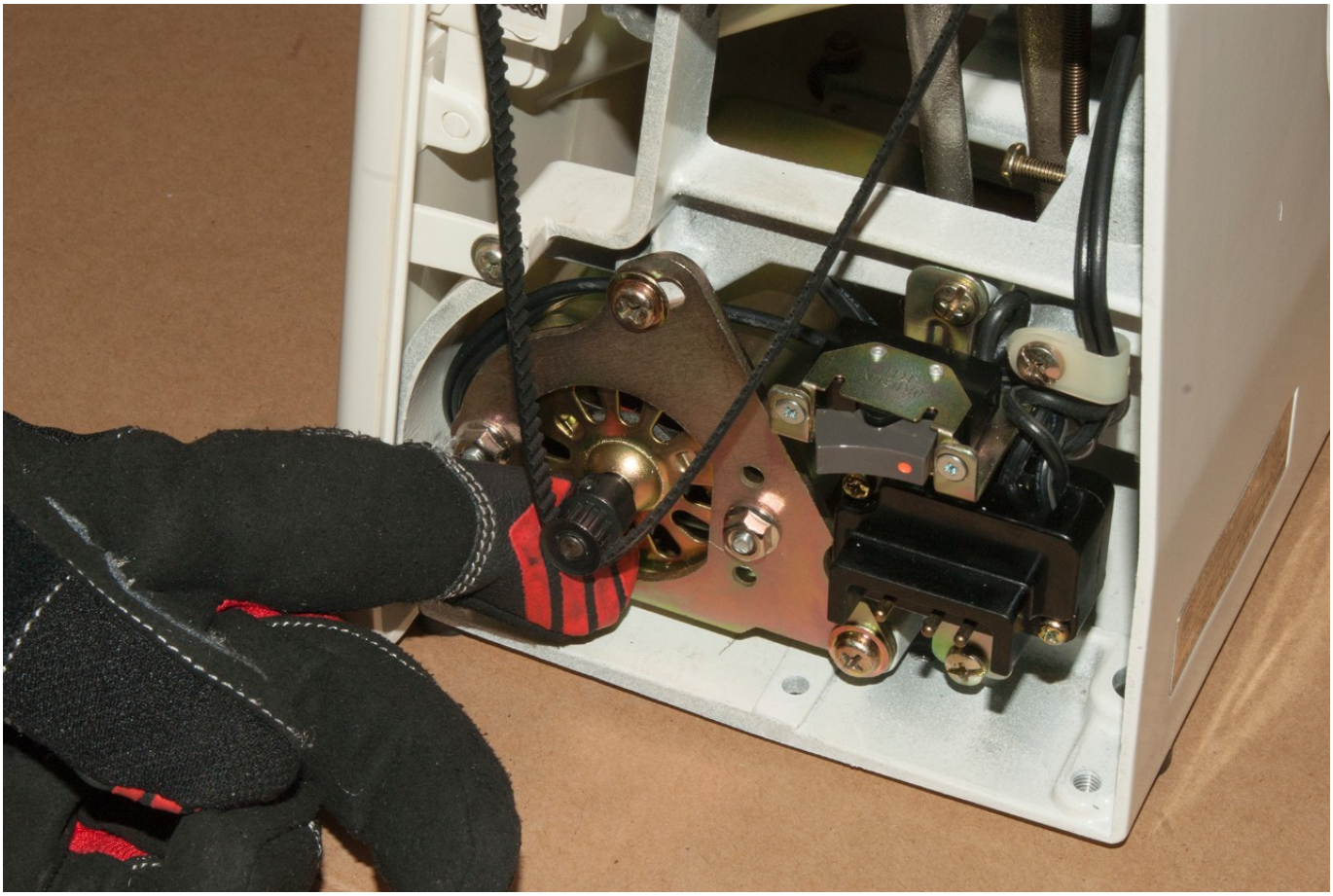
Step 3: Remove the drive belt

Loosen the two motor mounting screws and pivot the motor upward to release the belt tension.

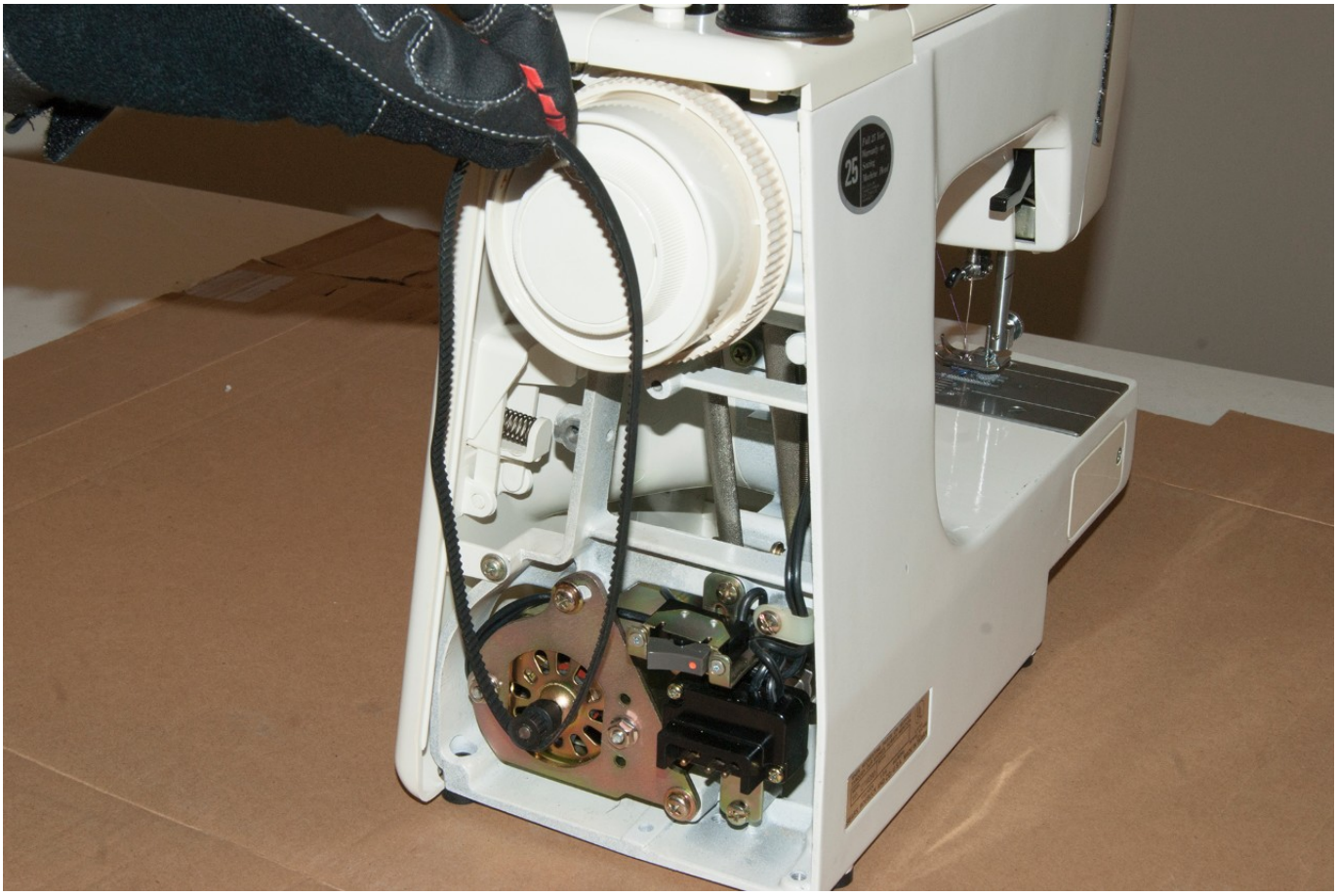
Slide the drive belt off the hand wheel and remove the belt.



Loosen the motor mounting screws.



Pivot the motor upwards.



Remove the drive belt.

Step 4: Remove the drive motor

Remove the two motor mounting screws and slide the motor out.

Remove the terminal block mounting screws and remove the terminal block.

Disconnect the motor wires from the terminal block and remove the drive motor.

Remove the 2 motor mounting screws.

Remove the terminal block mounting screws.

Disconnect the motor wires.

Remove the drive motor.

Step 5: Install the new drive motor

Connect the new motor wires to the terminal block.

Reinstall the terminal block and screws.

Position the new drive motor in the machine and loosely reinstall the motor mounting screws.

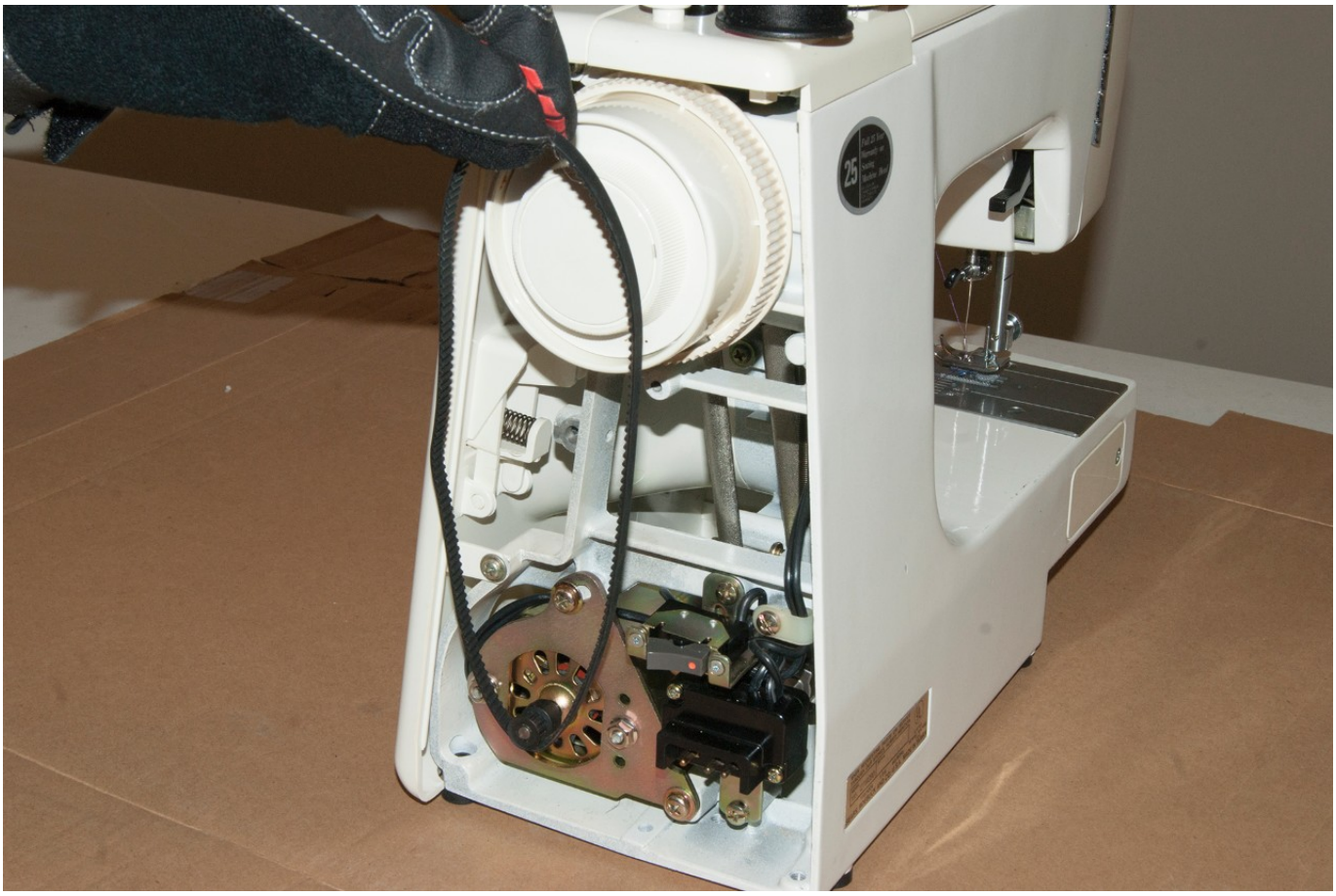
Connect the new motor wires.

Install the new drive motor.

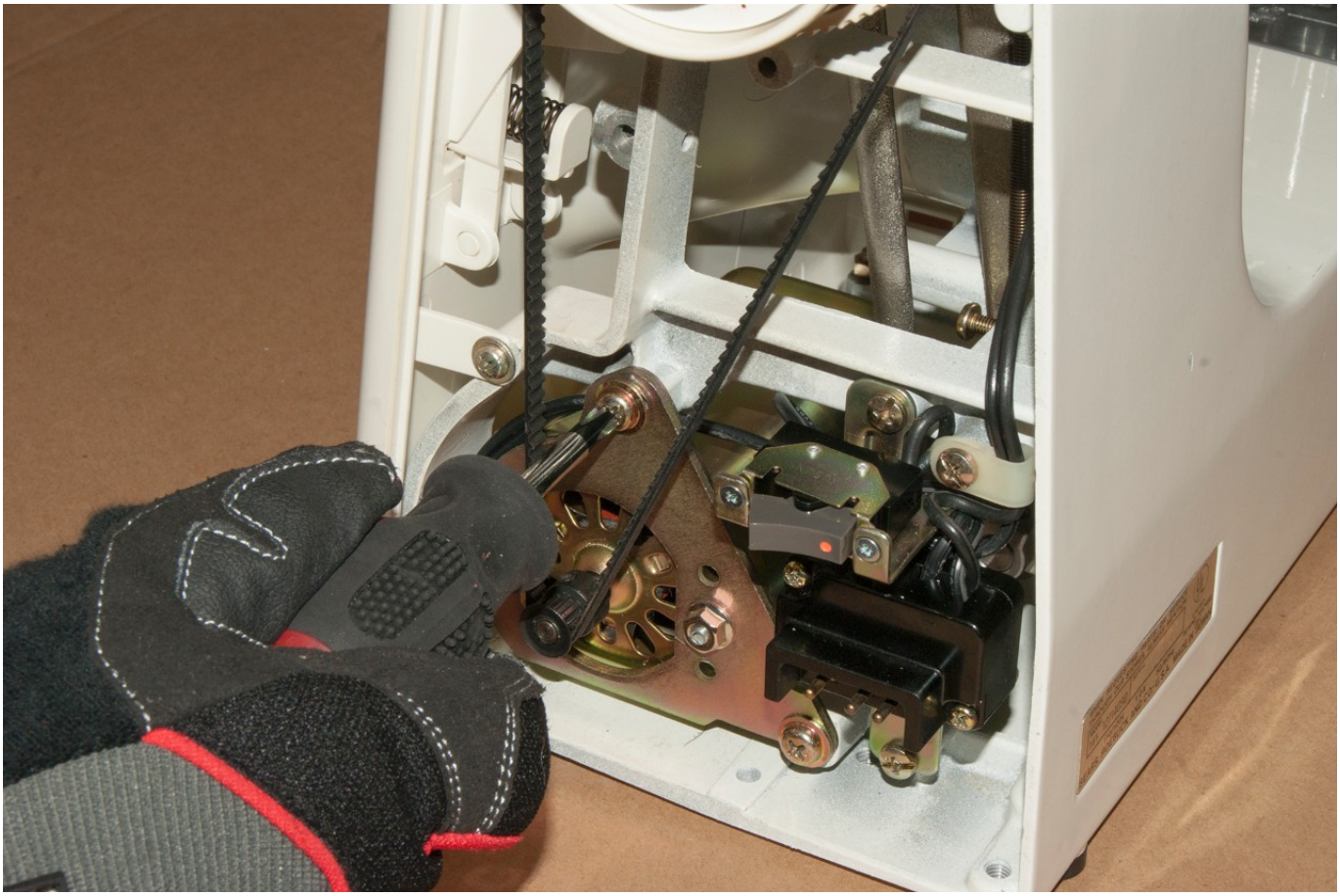
Step 6: Reinstall the drive belt

Position the drive belt under the motor pulley and then roll the belt onto the hand wheel.

Pivot the drive motor to apply slight tension to the belt and tighten the motor mounting screws firmly.



Install the drive belt.



Tighten the screws.

Step 7: Reinstall the belt cover

Position the belt cover on the sewing machine and reinstall the belt cover mounting screws.

Reinstall the belt cover.

Step 8: Restore power

Plug the sewing machine into the electrical outlet.

Oil the sewing machine

Oil the machine at least once a year. If you use the sewing machine frequently, oil it every 3 months. The machine runs sluggish or knocks loudly if you don't oil it regularly. If the sewing machine is idle for an extended time, oil it before sewing. Follow the directions in your owner’s manual to oil the sewing machine. Wipe off any excess oil to avoid staining your fabric when sewing. Clean dust and debris from the machine while oiling.

Clean the sewing machine

Clean lint and debris from the shuttle race every 3 months because it often attracts lint and dust. Clean the feed dogs at the same time because they also attract lint and dust. Clean those areas more often when using the sewing machine regularly. Oil the sewing machine after cleaning.

Sewing Machine: Needle won't move

A disengaged clutch, broken drive belt or internal drive gear failure can prevent the needle from moving.

Engage the hand wheel clutch if you have it disengaged for bobbin winding.

If the needle won’t move with the clutch engaged, unplug the sewing machine and check the drive belt. Replace the drive belt if it’s broken.

If the drive belt is okay, an internal drive gear failure is likely preventing the needle from moving. You’ll typically need to have a service technician examine the sewing machine and fix a drive gear failure.

These repairs may help solve your Sewing Machine problem:

Replace the sewing machine drive belt

The drive belt transfers motor rotation to the hand wheel and upper shaft. If the belt breaks, the hand wheel won't move and the bobbin-winding spindle won't spin. Examine the drive belt and replace it if it's worn or broken.

How to Replace a Sewing Machine Drive Belt

This DIY repair guide explains how to replace the drive belt in a sewing machine. The drive belt connects the drive motor to the hand wheel and upper shaft, turning the hand wheel and upper shaft as the motor runs. A broken or worn belt can't turn the hand wheel and upper shaft. Replace a broken or worn sewing machine drive belt using the manufacturer-approved replacement part.

Use this basic procedure to replace the drive belt in Kenmore and Brother sewing machines.

Time required:

Less than 15 min.

Parts Required

- Drive belt

Tools Required

- Work gloves
- Phillips screwdriver

Before you begin

Wear work gloves to protect your hands.

Instructions

 *Warning:* Undertaking repairs to appliances can be hazardous. Use the proper tools and safety equipment noted in the guide and follow all instructions. Do not proceed until you are confident that you understand all of the steps and are capable of completing the repair. Some repairs should only be performed by a qualified technician.

https://youtu.be/8Voq7f5vT6E

How to Replace a Sewing Machine Drive Belt

Step 1: Shut off the electricity

Unplug the sewing machine's power cord from the wall outlet.

Step 2: Remove the drive belt cover

Remove the screws securing the belt cover to the sewing machine and pull the belt cover off.

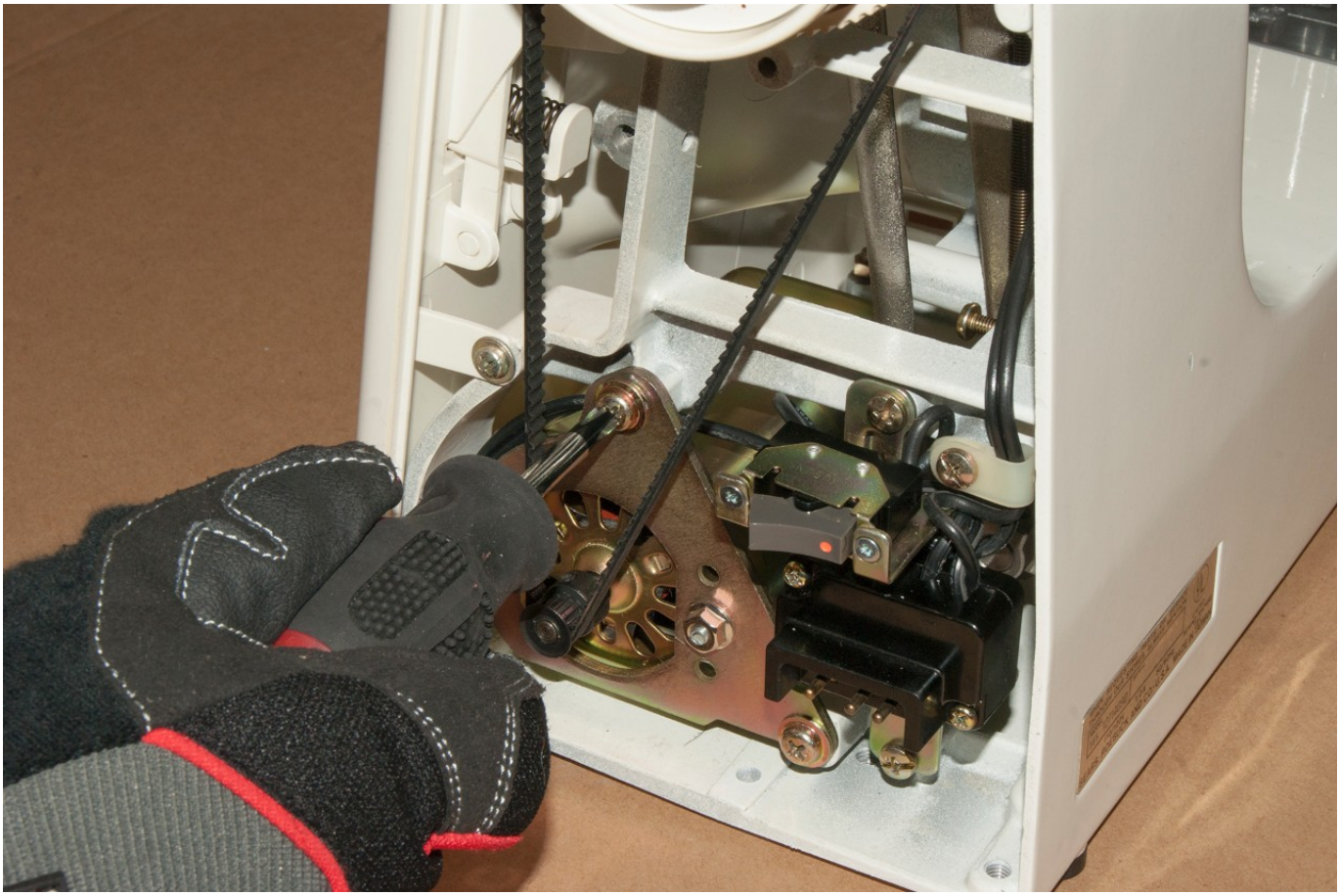
Remove the front screw.

Remove the bottom screw.

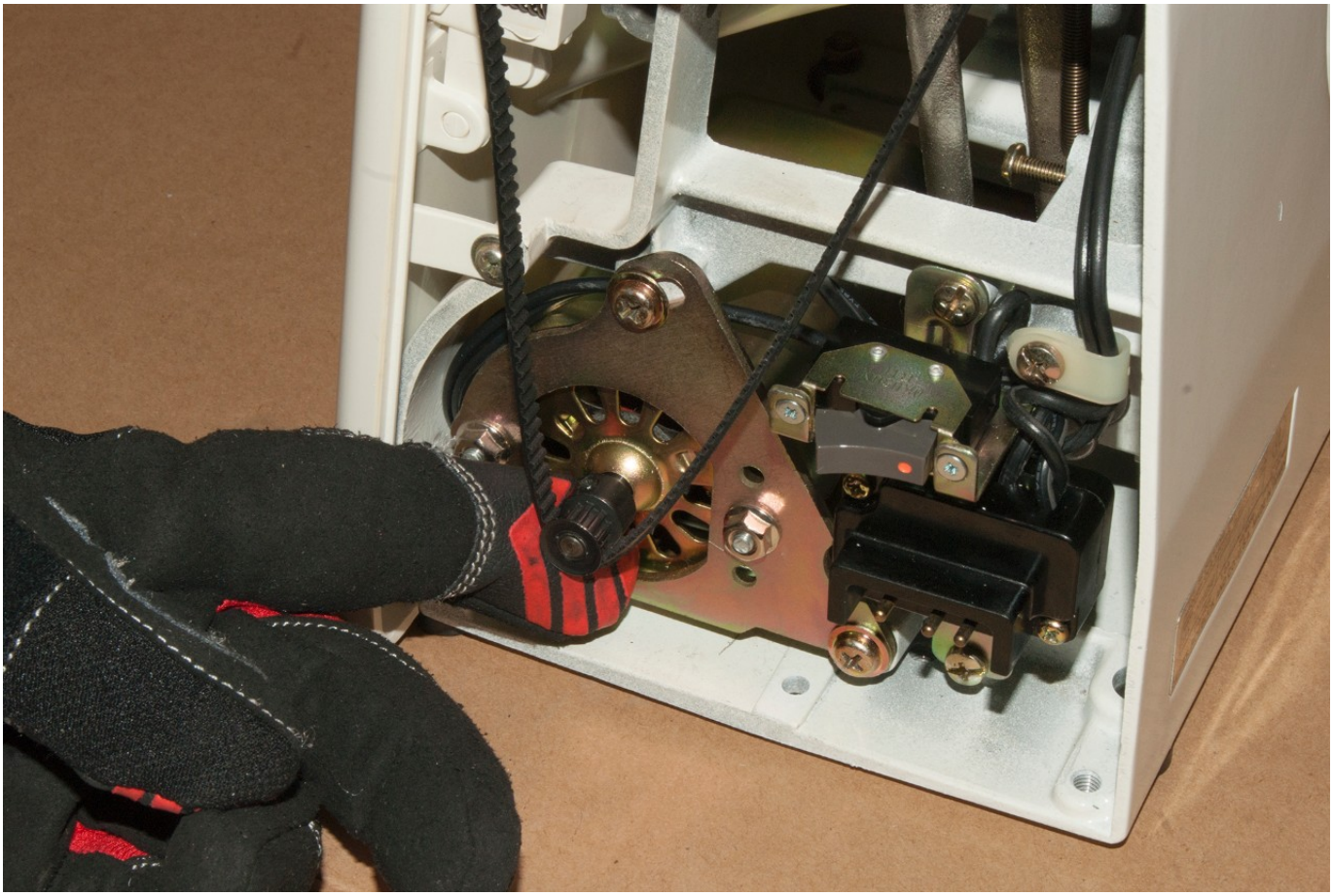
Step 3: Remove the drive belt

Loosen the 2 motor mounting screws and pivot the motor upward to release the belt tension.

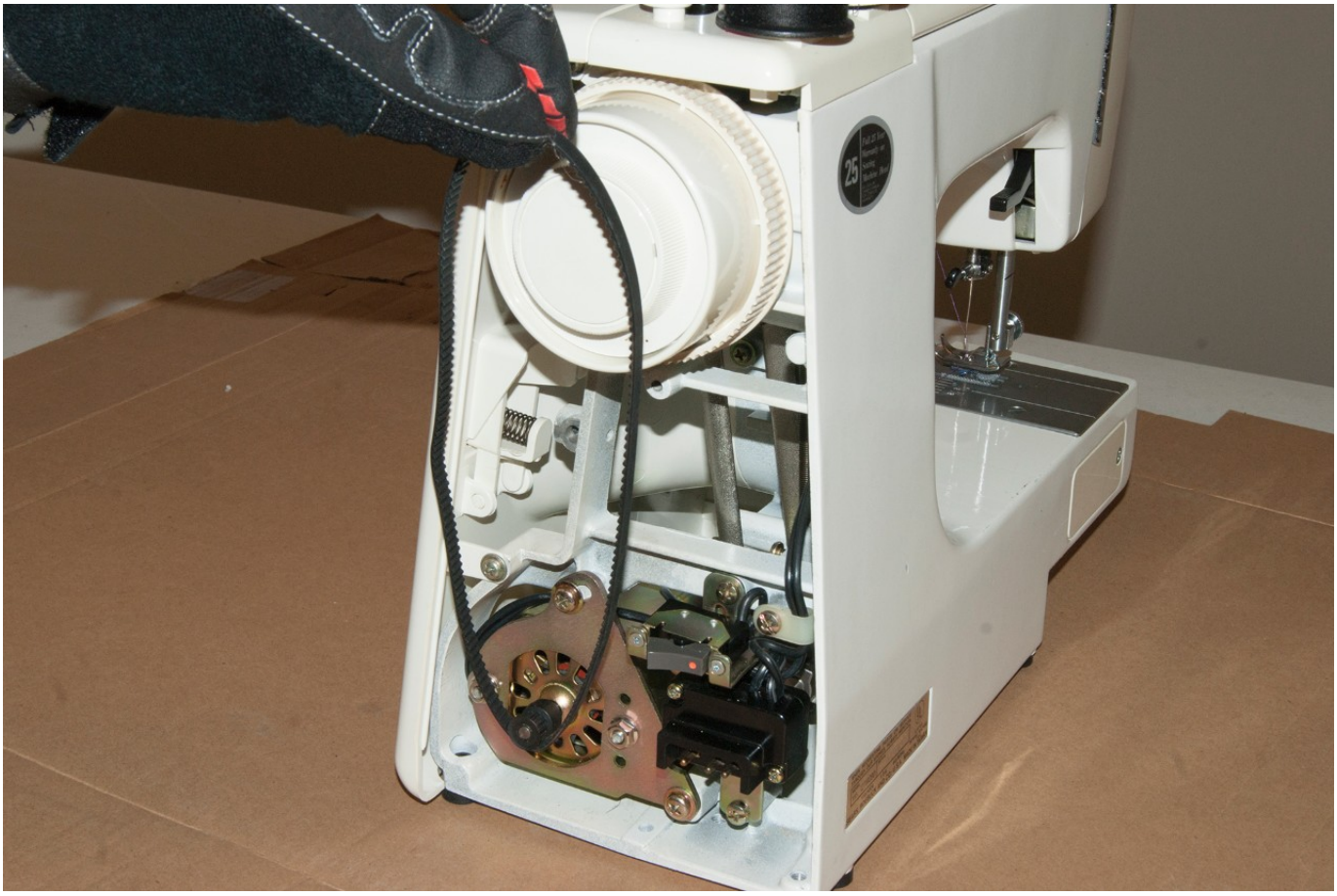
Slide the drive belt off the hand wheel and remove the belt.



Loosen the motor mounting screws.



Pivot the motor upwards.

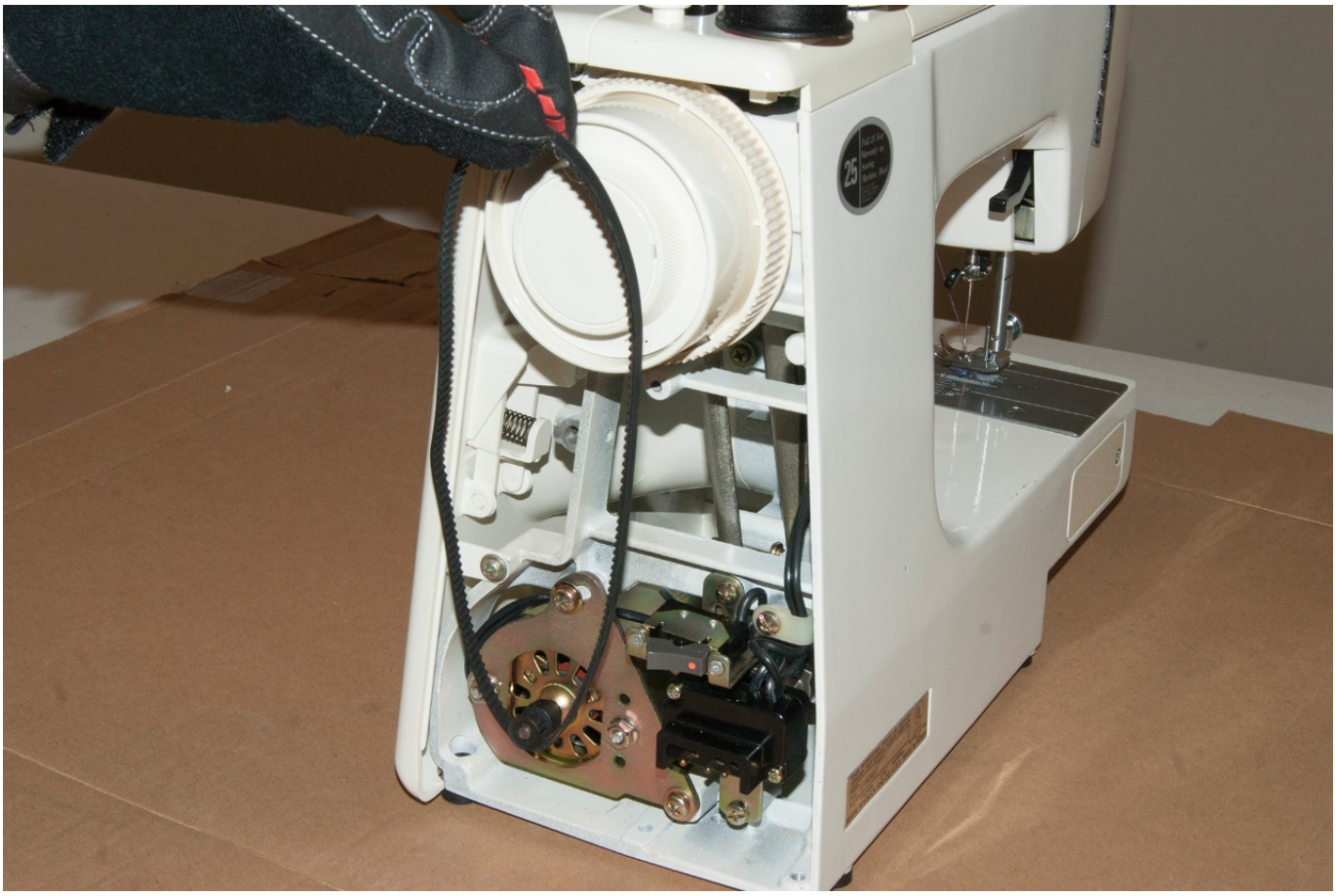


Remove the drive belt.

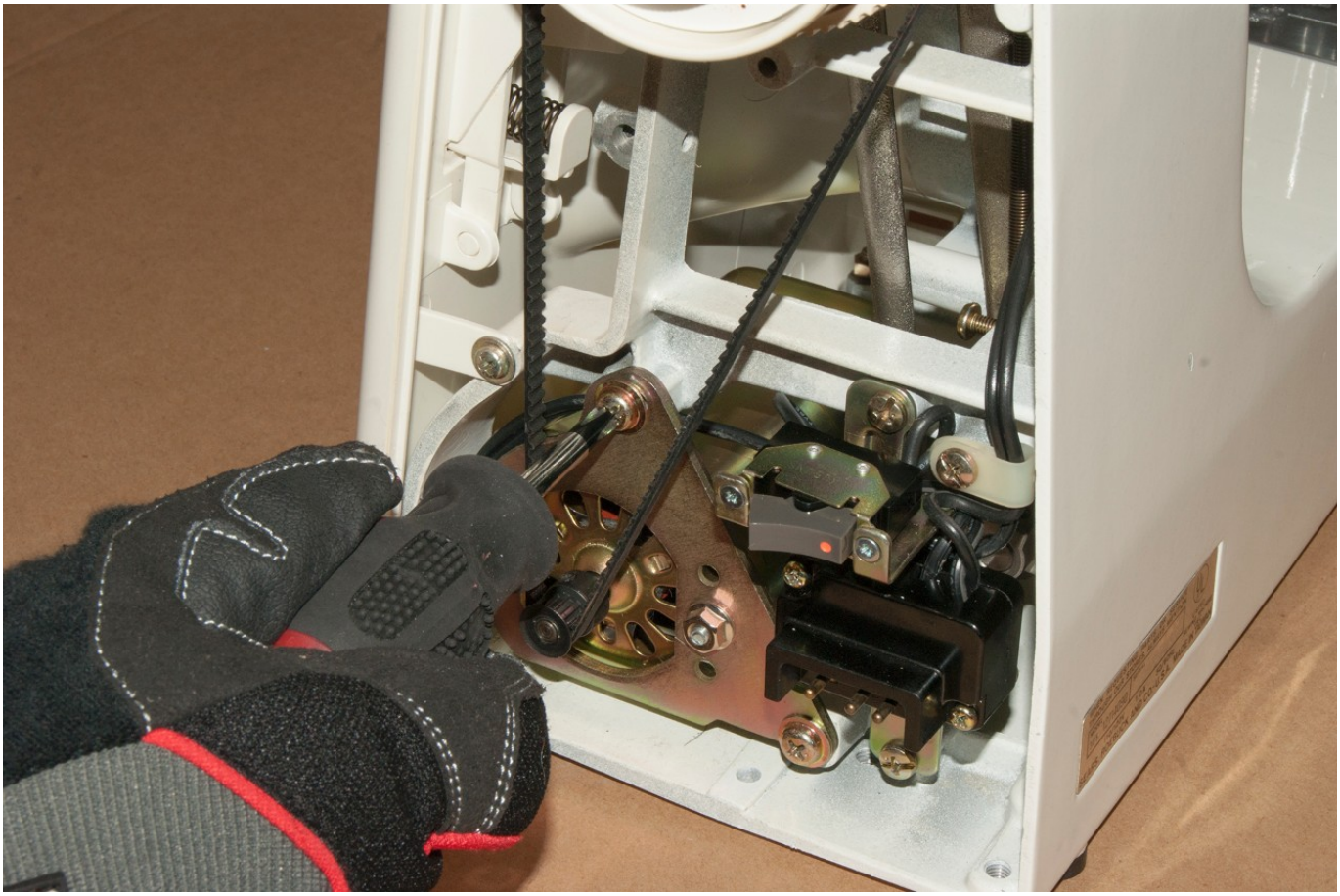
Step 4: Install the new drive belt

Position the new drive belt under the motor pulley and then roll the belt onto the hand wheel.

Pivot the drive motor to apply slight tension to the belt and tighten the motor mounting screws firmly.



Install the new drive belt.



Tighten the screws.

Step 5: Reinstall the belt cover

Position the belt cover on the sewing machine and reinstall the belt cover mounting screws.

Reinstall the belt cover.

Step 6: Restore power

Plug the sewing machine into the electrical outlet.

Sewing Machine: Motor won't run

A faulty foot pedal, locked drive gears, wiring failure or bad drive motor will prevent the sewing machine motor from running.

Unplug the sewing machine and check the wiring connections between the foot pedal and the motor. Reconnect any loose wires and repair any broken wires.

Use a multimeter to check for continuity through the foot pedal switch (with the sewing machine still unplugged). Replace the foot pedal if the meter measures no continuity through the foot pedal switch with the pedal depressed.

Spin the hand wheel to check for drive system binding. If you can turn the hand wheel, clean and lubricate the sewing machine to free up the drive gears.

If the sewing machine motor buzzes but doesn’t run, a motor bearing may be locked up. Replace the sewing machine motor if it buzzes but doesn’t turn.

If the sewing machine motor doesn’t make any noise when activated, then an internal wiring failure in the motor may be preventing the motor from running. Replace the motor if it won’t make any noise and won’t run when activated.

These repairs may help solve your Sewing Machine problem:

Replace the sewing machine motor

The motor drives the belt, which spins the hand wheel and upper shaft. Replace the motor if it won't run when activated by the foot pedal.

How to Replace a Sewing Machine Drive Motor

This step-by-step repair guide shows how to replace the drive motor in a sewing machine. The drive motor rotates the drive belt, which turns the hand wheel and upper shaft. If the sewing machine drive motor runs roughly or won't run at all, replace the motor with the manufacturer-approved replacement part.

Follow the basic steps in this repair guide and video to replace the drive motor in Kenmore and Brother sewing machines.

Time required:

Less than 30 min.

Part Required

- Drive motor

Tools Required

- Work gloves
- Phillips screwdriver

Before you begin

Wear work gloves to protect your hands.

Instructions

 *Warning:* Undertaking repairs to appliances can be hazardous. Use the proper tools and safety equipment noted in the guide and follow all instructions. Do not proceed until you are confident that you understand all of the steps and are capable of completing the repair. Some repairs should only be performed by a qualified technician.

https://youtu.be/kauWpyfkxkc

How to Replace a Sewing Machine Drive Motor

Step 1: Shut off the electricity

Unplug the sewing machine's power cord from the wall outlet.

Step 2: Remove the drive belt cover

Remove the screws securing the belt cover to the sewing machine and pull the belt cover off.

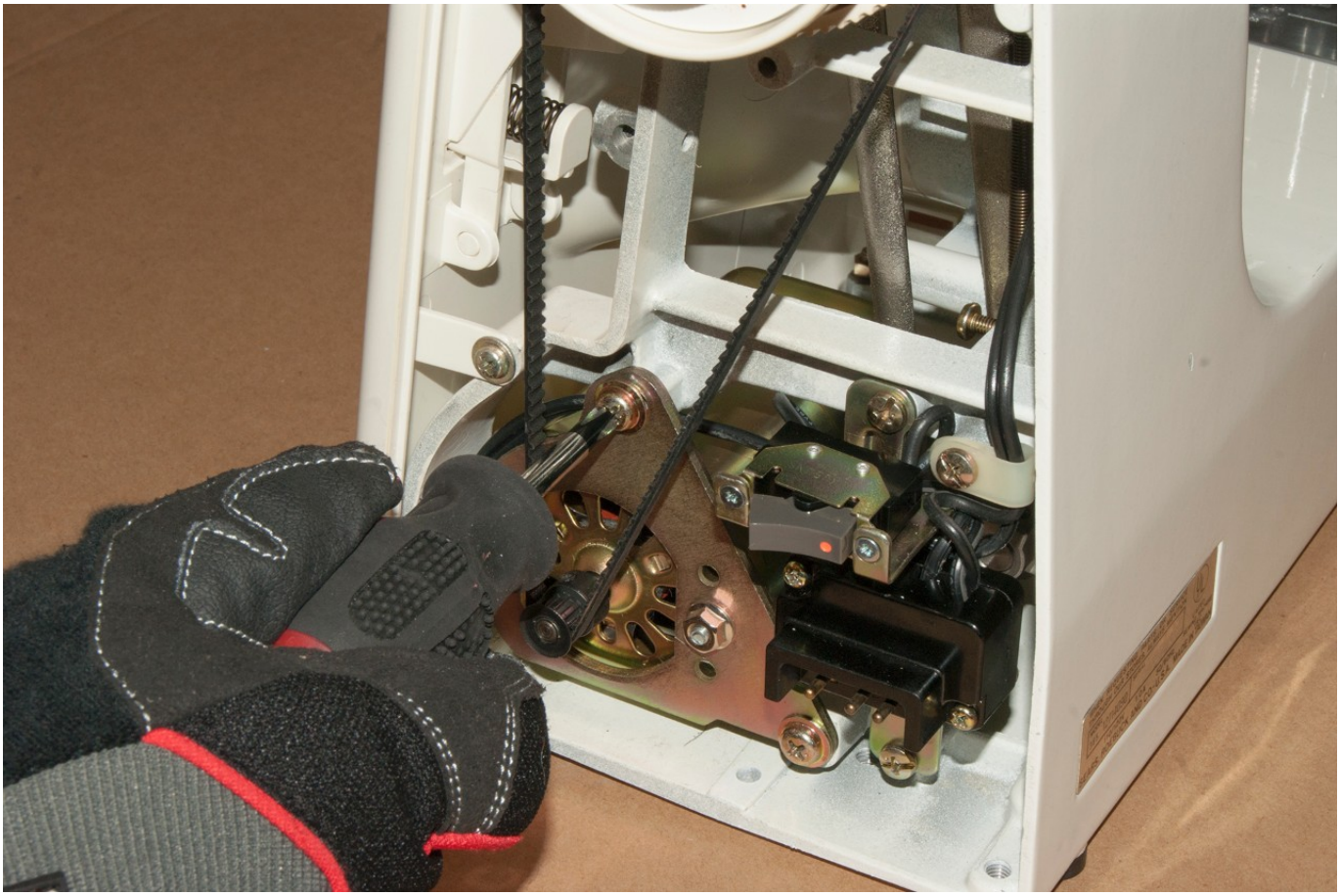
Remove the front screw.

Remove the bottom screw.

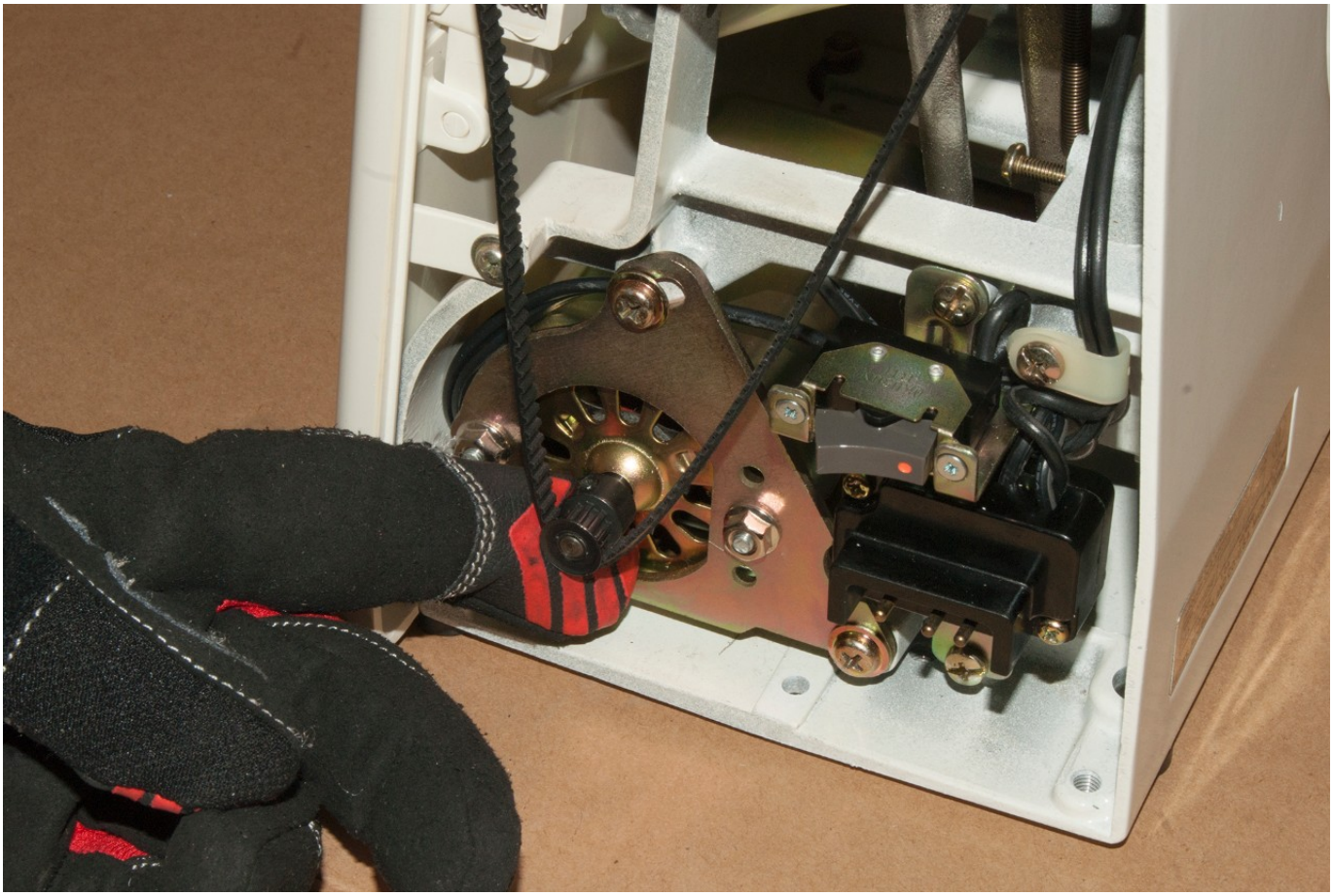
Step 3: Remove the drive belt

Loosen the two motor mounting screws and pivot the motor upward to release the belt tension.

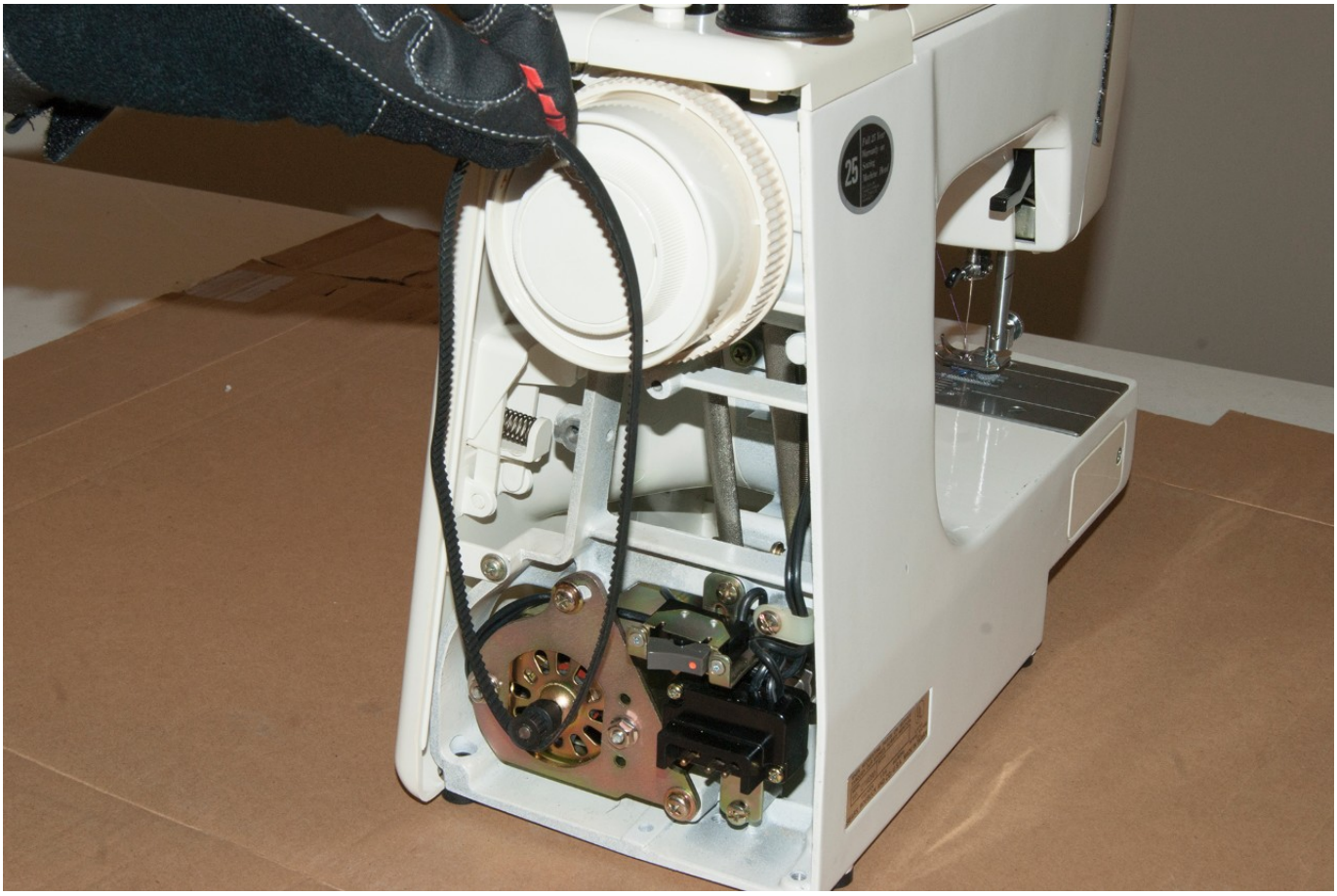
Slide the drive belt off the hand wheel and remove the belt.



Loosen the motor mounting screws.



Pivot the motor upwards.



Remove the drive belt.

Step 4: Remove the drive motor

Remove the two motor mounting screws and slide the motor out.

Remove the terminal block mounting screws and remove the terminal block.

Disconnect the motor wires from the terminal block and remove the drive motor.

Remove the 2 motor mounting screws.

Remove the terminal block mounting screws.

Disconnect the motor wires.

Remove the drive motor.

Step 5: Install the new drive motor

Connect the new motor wires to the terminal block.

Reinstall the terminal block and screws.

Position the new drive motor in the machine and loosely reinstall the motor mounting screws.

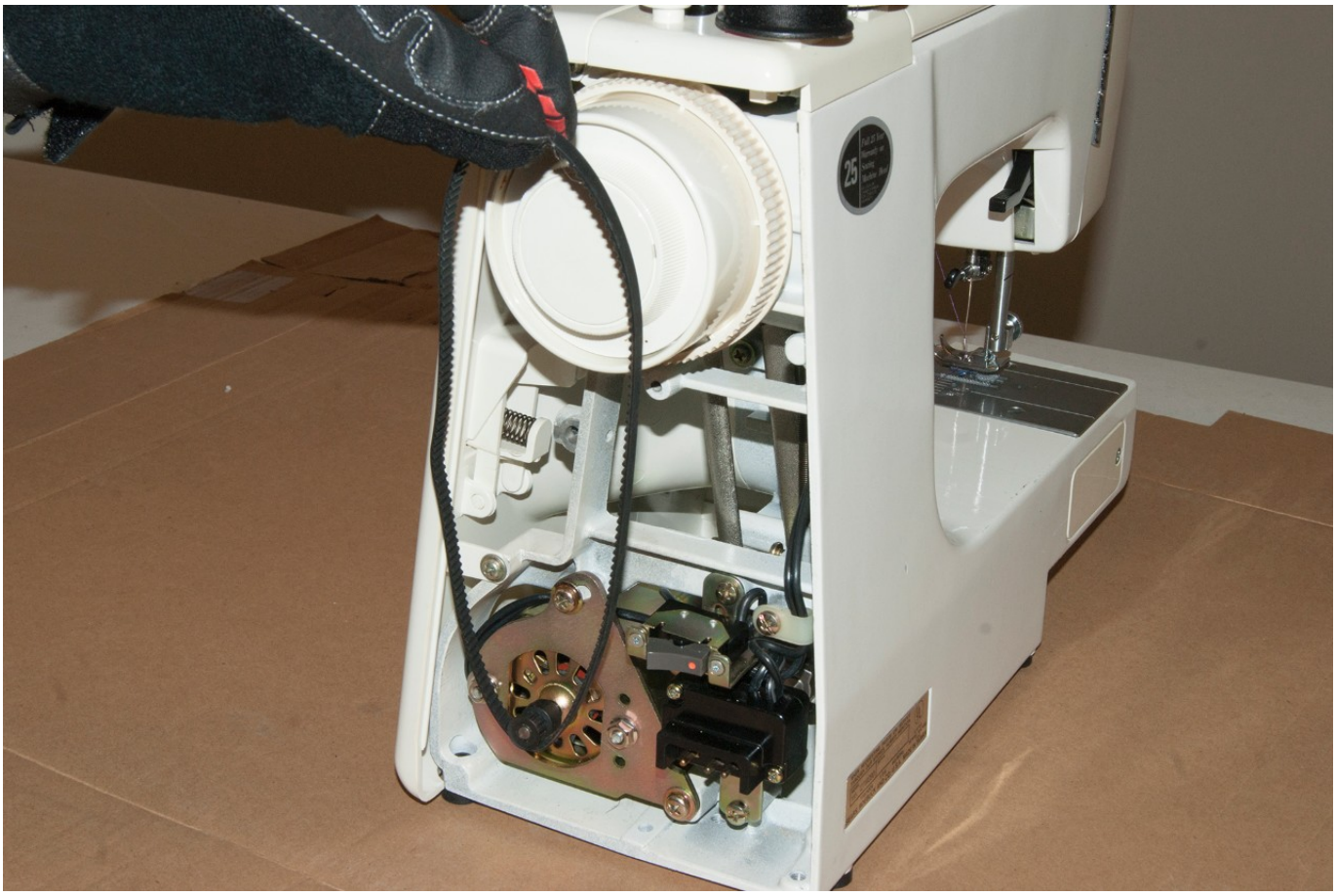
Connect the new motor wires.

Install the new drive motor.

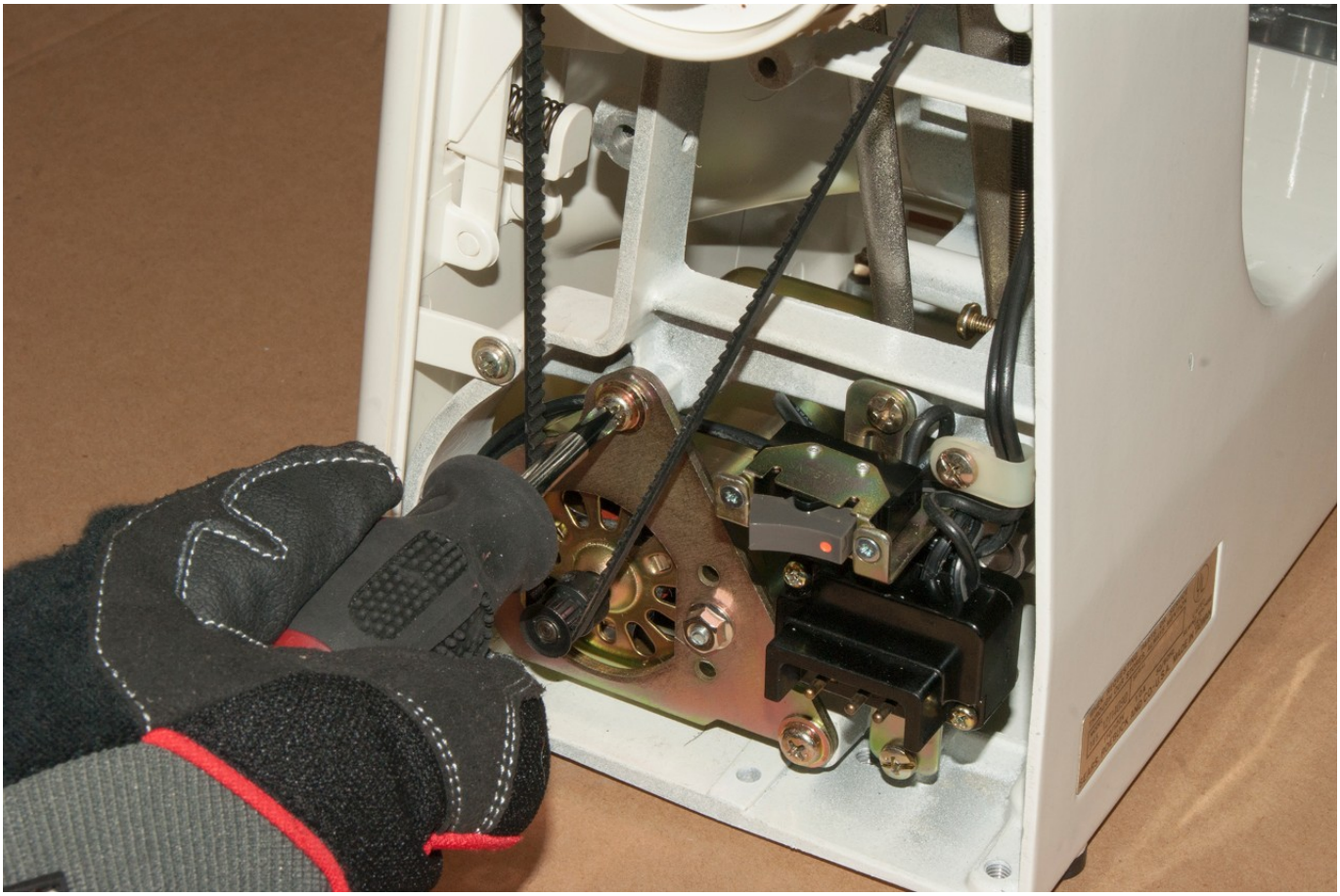
Step 6: Reinstall the drive belt

Position the drive belt under the motor pulley and then roll the belt onto the hand wheel.

Pivot the drive motor to apply slight tension to the belt and tighten the motor mounting screws firmly.



Install the drive belt.



Tighten the screws.

Step 7: Reinstall the belt cover

Position the belt cover on the sewing machine and reinstall the belt cover mounting screws.

Reinstall the belt cover.

Step 8: Restore power

Plug the sewing machine into the electrical outlet.

Replace the sewing machine foot pedal

The foot pedal sends power to the motor. The foot pedal controls the speed of the motor, which drives the belt and hand wheel. Replace the foot pedal control if it fails to send power to the motor or control motor speed when activated.

Clean the sewing machine

Clean lint and debris from the shuttle race every 3 months because it often attracts lint and dust. Clean the feed dogs at the same time because they also attract lint and dust. Clean those areas more often when using the sewing machine regularly. Oil the sewing machine after cleaning.

Sewing Machine: Machine locks up

Thread bunched up in the shuttle race often causes the sewing machine to lock up.

Work the needle up and out of the shuttle race by rocking the hand wheel back and forth. You may be able to remove the needle from its clamp if you’re not able to raise the needle out of the shuttle race using the hand wheel. Pull the fabric away and clear the bunched thread out of the shuttle race. Clean lint and debris out of the shuttle race; they can prevent the needle from hooking the thread, resulting in thread bunching up in the shuttle race and jamming the needle. Cleaning the shuttle race may prevent the sewing machine from locking up again once you resume sewing.

If thread bunches up again immediately after you start sewing and you thoroughly cleaned the shuttle race, then needle and shuttle hook synchronization may need to be adjusted. Adjusting the needle timing typically requires service by a technician, who has special tools to synchronize the shuttle hook with the needle.

These repairs may help solve your Sewing Machine problem:

Clean the sewing machine

Clean lint and debris from the shuttle race every 3 months because it often attracts lint and dust. Clean the feed dogs at the same time because they also attract lint and dust. Clean those areas more often when using the sewing machine regularly. Oil the sewing machine after cleaning.

Adjust the sewing machine needle timing

If the machine won’t pick up the bobbin thread because the shuttle hook isn’t synched with the needle, adjust the needle timing. Adjustment of the needle timing usually requires service by a technician. Using special tools, the technician positions the needle and loosens the shuttle drive gear set screws then adjusts the shuttle drive gear to synchronize the shuttle hook with the needle.

Sewing Machine: Knocks when running

Poorly lubricated sewing machine parts often cause a knocking noise in a sewing machine. A internal gear problem can also cause knocking.

Oil the sewing machine when it's knocking. Prevent knocking by oiling the machine at least once a year or every 3 months if you use the sewing machine regularly. If the machine has been stored for an extended period, oil it before use.

If the sewing machine continues to knock after being oiled, an internal failure likely is causing the knocking. Have a technician service the sewing machine.

These repairs may help solve your Sewing Machine problem:

Oil the sewing machine

Oil the machine at least once a year. If you use the sewing machine frequently, oil it every 3 months. The machine runs sluggish or knocks loudly if you don't oil it regularly. If the sewing machine is idle for an extended time, oil it before sewing. Follow the directions in your owner’s manual to oil the sewing machine. Wipe off any excess oil to avoid staining your fabric when sewing. Clean dust and debris from the machine while oiling.

Sewing Machine: Fabric not moving

Problems with the feed dogs or setting stich length to 0 will prevent the fabric from moving as you sew.

Check your settings and adjust the stitch length if it’s set too low or at 0.

If the fabric won’t move with the stitch length set properly, check the feed dogs’ height. If feed dogs are too low to grab the fabric, adjust feed dog height.

If the feed dogs don’t move when stitch length is set above 0, check for loose feed dog screws or broken parts. Tighten any loose feed dog screws and replace any broken feed dog parts.

These repairs may help solve your Sewing Machine problem:

Adjust the sewing machine feed dogs

Raise the height of the feed dogs if they're not high enough to push the fabric forward when sewing. If the feed dogs don't move when stitch length is set above zero, then tighten loose screws on the feed dog components so that they feed dogs move properly.