

EPL SOLUTIONS, INC.

SpeedCut® Pro

High-Speed Descaler · Setup & Operation Manual



PRODUCT	SpeedCut® Pro High-Speed Descaler
USE	High-speed descaling and heavy-duty sewer line cleaning
OPERATOR	Trained operators only. PPE must be used at all times.

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1 Safety Guidelines

Read this section before the machine ever leaves the truck. The SpeedCut® Pro runs at variable high speed under real cutting load — every line below is here because it protects you, the machine, or the job.

- Only experienced, trained operators should run the SpeedCut® Pro.
- Always wear safety glasses and protective gloves. Eye and hand protection is mandatory.
- Avoid loose clothing or jewelry that may get caught in moving parts.
- Keep the workspace clear, dry, and well-lit, and position equipment near the point of entry for good work flow.
- Always use a GFI-enabled power cord. Never operate the unit in rain or snowfall.
- In hot conditions, locate the equipment in a shaded area.
- Know how to use the foot pedal, and make sure you can shut the machine down quickly if you need to.

LOCAL CODES Be aware of local codes that govern how drains are flushed and how discharged flow is regulated. Check before you cut.

POWER If no direct power is available, a generator with a **minimum 2000-watt capacity** may be used. The GFI-enabled power cord must be a minimum of 14 gauge and rated for 15 amps.

2 Before You Begin

What's Included

- SpeedCut® Pro high-speed descender on reel
- Control box with power rocker switch and RPM dial
- GFI-enabled power cord
- Foot pedal
- Oil syringe canister tool
- Allen key set
- Setup & Operation Manual

Required Tools & Supplies

- 30W non-detergent oil (or 0W-20 for cold climates)
- Oil syringe kit
- Phillips head screwdriver (short)
- 3/32" and 1/8" Allen keys
- 1/2" socket on an impact drill
- Rotary grinder, and a sharp knife or pipe cutters (cable repair only)
- Clean rags and safety PPE

Setup Area

- Choose a clean, dry, and level space with room to feed cable.
- Ensure adequate lighting and a clear line to the point of entry.

- Confirm a GFI-enabled power source is within reach.

3 Connect & Disconnect Sequence

The control box carries the power rocker switch and the RPM dial. Sequence matters here — connecting and disconnecting in the right order protects the motor and its controller.

BEFORE YOU START Ensure the POWER rocker switch is in the OFF position before starting any connection or disconnection, and confirm each plug and socket is properly aligned before seating it.

Connect Sequence

1. Use the 8-pin receptacle to connect the SpeedCut® reel — **left side** of control box.
2. Attach the foot pedal cord to the 5-pin connector — **right side** of control box.
3. Use the C16 3-prong socket to connect the POWER input cord — **left side** of control box.

Disconnect Sequence

When the job is finished, disconnect in reverse order so the motor is not damaged.

1. Disconnect the 3-prong power cord socket.
2. Disconnect the 5-pin foot pedal.
3. Disconnect the 8-pin SpeedCut® reel connector.

4 Setup & Pre-Operation Test

Pre-Operation Test — No Chain Attached

Run this test before starting **every** job. It confirms the machine spins clean before any tool touches the pipe.

1. Pull 2 feet of SpeedShaft® cable out of the drum — **do not attach any tool or chain knocker**.
2. Set the power rocker switch to ON.
3. Set the speed control (RPM) to 1500–2000.
4. Step on the foot pedal to engage the motor.
5. Decrease the speed control from 2000 down to 0 to test the control.
6. Set the power rocker switch to OFF.
7. Oil the SpeedShaft® cable if needed (see **Section 6**).

WARNING Ensure the foot pedal is positioned in a safe location so it cannot be activated accidentally.

Attach Your Tools

Attach your tools or chain knockers for the job before you begin cutting — either using the SpeedConnector, or by attaching them directly to the SpeedShaft® cable (see **Section 10**). See the **Tool Selection Guide in Section 10**.

Running Water — Optional

Running water is recommended as needed to flush out debris generated during cutting. Recommend running at 1500 RPM.

NOTE Adding water to the sewer line adds drag to the cable and chains. Use it only as necessary.

Visualization with a Camera

A camera system is highly recommended to inspect the condition and integrity of the pipe — checking for failures, voids, and separations — before running the high-speed chain knocker.

Position the camera a minimum of **12 inches** behind the cutter during operation. Keep the screen in clear view of the operator to assist cutting.

NOTE Do not use a camera together with the SpeedCut® Pro if it is physically too difficult to push both the machine and the camera down the pipe.

5 Operation

Point of Entry Operation

Where possible, push both the SpeedShaft® cable and the camera down the pipe to the far end of the line to be cleaned, keeping the camera at least 12 inches behind the cutting tool.

The goal is to start from the farthest point and work back toward the operator, flushing debris downhill as you go. Cutting in a forward direction can compact debris and complicate clearing the line. When this reverse method is required, use very low water flow and operator discretion.

While Cutting

- Never push the cutting tool into scale or a blockage **before** pressing the foot pedal.
- Step on the foot pedal and let the chain reach speed before advancing.
- Do not force the cable forward — let the tool do the work.
- Watch the camera to monitor progress.
- After cutting, withdraw the cable slowly and wipe it clean.

RPM RULE Raising the RPM will provide smoother results, but it can result in extra drag and resistance. Match your speed to the pipe and the debris, not the schedule.

RPM Management — Speed, Drag & Heat

Routine descaling should run from **0–1500 RPM**. The **2000–3200** range is your polishing range — reach for it to smooth out a descale even further, or when you need the extra speed to clean faster.

But speed has a cost: higher RPM generates more drag, and enough drag will trip the thermal switch. Several things add drag on top of your speed:

- **Water, grease, sludge, or debris** in the line. When you hit heavy debris, back down to 1500 RPM to manage drag.
- **Long runs** — up to 150 ft when using extensions — build drag over the length of the cable.

The takeaway: RPM management is your control. Dial it in and you get the job done fast while keeping heat on the machine in check.

The Flex Rings — Why Your Cable Stays Put

The drum is fitted with flex rings that do exactly what the name says: they flex open on the side where the cable feeds out, and compress on the opposite side to keep the rest of the cable contained in the drum.

This solves a complaint common to nearly every other descender on the market — where the cable sits loosely in the drum and can pop out. The flex rings keep your cable where it belongs.

Best practice: when pushing and pulling cable, keep it **closer to a 45° angle to the drum**. This makes it easier to feed the cable in and out.

Using Extension Cables

SpeedShaft® extension cables add reach when a run goes long. The SpeedCut® Pro runs up to **150 ft** total with extensions. Connect each extension to the machine's SpeedShaft® cable male-to-female, and stack additional extensions the same way to build up length.

Attach your chain knockers or tools to the **far end first** — before feeding the cable down the line. Connect the extension(s) to the machine cable, attach your tools to the working end, then push the cable into the pipe.

LONG RUNS Extra-long extension lengths add drag. You may need to lower your machine's RPM to keep the run smooth and manage heat.

6 Oiling the SpeedShaft® Cable

Tools needed: oil syringe kit and a short Phillips head screwdriver.

Oil before use. Oil is injected into the oil block, and as the motor runs it distributes along the entire SpeedShaft® cable. Oil after roughly every 5 hours of use. Oiling the cable frequently is the cheapest thing you can do to extend cable life and keep the machine performing the way it did on day one.

NOTE The high-speed cutter may drip oil from the oil block. Protect the work area as needed.

1. Facing the motor, rotate the reel so the oil block is at the 3 o'clock position with the motor at 12 o'clock. Use the drum brake to lock the reel in position.
2. Locate the 10/32 screw on the side of the aluminum oil block.
3. Remove the screw with a short Phillips head screwdriver and set it somewhere safe while oiling.
4. Immediately thread the syringe assembly into the oil block.
5. Grasp the syringe and remove the plunger.
6. Add oil to the syringe canister.
7. Replace the plunger and press the oil completely into the aluminum oil block.
8. Repeat steps 5–7 for a total of 3 full syringes of oil into the oil block.
9. In test mode (no tool attached), run the motor at 2000 RPM to lubricate the shaft.
10. Once sufficient oil is added, remove the syringe assembly and reinstall the 10/32 screw.
11. Disengage the locking brake.

TIP If the SpeedCut® will not spin due to lack of oil, remove the syringe, thread on the 10/32 screw, and pull out a length of cable to relieve friction. Stretching the cable out straight — for example, inside a pipe — speeds up the oiling process. Then start again at step 1.

Use 30W non-detergent oil. In colder climates, a thinner 0W-20 oil is recommended. Always use an approved oil — for compatible types, call us at 714-453-9760.

SpeedConnector Maintenance

Over time, the SpeedConnector can build up debris. To maintain it, spray WD-40 into the SpeedConnector, then actuate the button to work the debris out.



WATCH THE VIDEO

Oiling the SpeedShaft® Cable

Scan to watch the full oiling procedure step by step.

7 Troubleshooting & Motor Stalls

Most issues in the field come down to load, speed, or heat — and all three are manageable. Work the table from left to right.

Issue	Possible Cause	Solution
Motor does not start	Power cord not connected	Ensure all cords are seated securely in the correct sequence
	Power source issue	Try a different outlet, reset the breaker, or check the GFI
	Foot pedal not connected	Confirm the 5-pin foot pedal is connected securely
	Motor overheated	Let it cool before retrying
Motor stalls under load	Cutter caught in scale, blockage, or broken pipe	Release the pedal and free the cutter with a push/pull
	Chain oversized for the pipe	Resize the chain to the pipe diameter or under
	Tool too aggressive for the pipe	Switch to a smaller or less aggressive tool
	Excessive water drag	Reduce water flow
Motor won't re-engage	Thermal limiter tripped from repeated stalls	Disconnect, let cool up to 15 min, reconnect in sequence
Backspin after a stall	Cable unwinding under torque	Let it unwind fully — do NOT press the pedal during backspin
Noise or vibration	Loose parts or worn tool	Inspect fittings and replace worn components

If the Motor Stalls

1. Immediately pull or push the cable off of obstruction to release the cutter. **Do not hold a powered stall for more than a few seconds.**
2. If you cannot release the cutter, take your foot off the pedal and manually pull or push the cable back to relieve tension.
3. Once the cutter is free, continue with normal operation.
4. If the motor does not re-engage, disconnect all attachments in the correct sequence, allow the unit to cool, then reconnect in sequence and resume.

WHY THIS MATTERS Frequent stalls build excessive heat and trip the controller's thermal limiter, shutting the motor down for up to 15 minutes. Raising the RPM will not clear a stall — it only makes the heat worse. Also check your chain size — an oversized chain loads the machine every rotation and builds heat fast.

BACKSPIN When the motor stalls and you release the pedal, the motor naturally unwinds as torque releases. Do NOT press the foot pedal during this backspin. Always let the cable fully unwind and relax before pressing the pedal again.

Still stuck? Call us at **714-453-9760**. Walk us through the pipe, the tool, and the speed you're running, and we'll work it out with you. We'd rather spend ten minutes on the phone than have you lose a day on the job.

8 Belt-Drive Replacement

If the drive belt needs to be replaced, work through these steps in order.

1. Ensure the power cord is completely unplugged from the unit.
2. Unplug the right-angle power connector on the motor by loosening the thread and pulling straight out.
3. Remove the lower 5/16" bolt from the motor mount using a 1/2" socket.
4. Loosen the upper bolt without removing it.
5. Swing the motor pulley upward to release belt tension.
6. Remove the worn belt.
7. Reverse the process to install the new belt, then verify proper tension and alignment before operation.

9 Cable Repair

Tools needed: 3/32" Allen key, 1/8" Allen key, 1/2" socket on an impact drill, rotary grinder, and a sharp knife or pipe cutters.



WATCH THE VIDEO

Cable Repair Walkthrough

Scan to watch the full cable repair and reassembly on video.

Initial Steps

1. Disconnect the 3-prong power cord from the control box.
2. Disconnect the 8-pin SpeedCut® reel connector from the control box.
3. Remove any chains or attachments from the chain-side connector.
4. Unplug the motor connector, then move to the opposite side of the drum.

Disassemble the Motor Mount

5. Remove the bottom 5/16" bolt on the motor mount using a 1/2" socket.
6. Loosen the top motor mount bolt just enough to swing the motor out.
7. Remove the belt from the motor.
8. Fully remove the top motor mount bolt.
9. Set the motor, belt, and all hardware aside.

Remove the Cable

10. Pull the entire cable out from the drum until the final coil is reached.
11. Remove the oiling block by unscrewing the two 5/16" bolts. Set the bolts aside.
12. Loosen the two bearing set screws with a 3/32" Allen key.
13. Pull out the oil block cable adapter.
14. Remove all six set screws from the oil block cable adapter using a 1/8" Allen key.
15. Disconnect the oil block fitting with a SharkBite removal tool, or press the ring down with a suitable alternative.
16. Carefully remove the oil block — do not drop it.
17. Remove the cable completely from the drum.
18. Press the chain-side connection until it is flush with the sleeve cap.

Inspect & Prepare the Cable

19. Examine the cable through the semi-transparent sleeve for damage.
20. If needed, pull the cable from the motor side to create a visible gap near the snap.
21. Trim any damaged sleeving to prevent oil leaks — even if the cable looks okay.
 - If damage still isn't visible, use a magnet: it won't stick to sleeving without cable inside, and it will stop when it reaches usable cable.
22. On the motor side, trim the sleeve to expose exactly 6.5" of cable.

23. Ensure the cut is clean and even.
24. If the steel rope is frayed, trim slightly more until the end is smooth.
25. Reconfirm that 6.5" of clean cable is exposed.
26. Slide the oil block cable adapter onto the cable to check for burrs or rough edges.

OPTIONAL – ROTARY GRINDER If using a rotary grinder, secure the cable to prevent whipping or shifting, and grind in a well-ventilated area away from flammable materials.

Reassembly

27. Feed the freshly exposed cable through the second post opening closest to the oil block mounting point.
28. Reconnect the oil block by pressing the sleeve into the fitting until it clicks.
29. Insert the oil block cable adapter into the cable until it is fully seated.
30. Tighten all six set screws with a 1/8" Allen key. Use Blue Loctite if available.
31. Push the adapter flush against the bearing.
32. Tighten the bearing set screws using the 3/32" Allen key.
33. Reinstall the oiling block using the two 5/16" bolts and the 1/2" socket.
34. Feed the rest of the cable back into the machine.

Reattach the Motor

35. Align the drum so the motor mount holes are vertically aligned. Lock the brake.
36. Reinstall the top bolt on the motor mount first.
37. Swing the motor up and slip the belt on.
38. Hinge the motor back down and reinstall the bottom bolt.
39. Tighten both bolts with a 1/2" socket.
40. Ensure the motor connector pins insert squarely.
41. Reconnect the motor connector and tighten the threads.

Final Safety Check

42. Remove all tools and loose items from around the motor and chain-side connector.
43. Confirm you are not wearing any loose clothing near moving parts.
44. Plug in the control box.
45. Test the machine — the cable should spin smoothly.
46. Perform a final safety inspection. If anything feels off, stop immediately and inspect.

10 Tool Selection Guide

The right tool is the difference between descaling a line and beating on it. Match the tool to the pipe, not to the schedule.

Tool	When to Reach for It
Star carbide chain knocker	Roots and scale. General drain cleaning in cast iron, and cautiously in clay pipe. Size the chain to the pipe diameter or under.
Square carbide chain knocker	Scale, roots, and general drain cleaning. Can be used more safely in clay pipe. Size the chain to the pipe diameter or under.
Non-carbide chain knocker	Plastic pipe. Size the chain to the pipe diameter or under.
Tulip Cutters (3/4", 1", 1½", 2")	Cutting a hole the size of the tulip cutter, and punching through stoppages such as concrete, calcium buildup, or epoxy.
Brush	Descaling a brush-on epoxy coating (brush only).
Sandpaper	Polishing — smoothing the epoxy surface after a brush-on application.

BEFORE EVERY JOB Inspect tools for wear. Worn tools take longer to clean the pipe.

Chains, Leaders & the SpeedConnector

The SpeedShaft® cable takes standard **3/8"(10mm)** tooling — a custom cable built for the best performance in high-speed drain cleaning. Run the chains and leaders EPL supplies, or bring your own 3/8"(10mm) accessories and adapt them. Chains, leaders, and extensions are sold separately — call 714-453-9760 or visit EPLS-USA.com.

- **3–6" chains:** snap your preset leaders onto the SpeedConnector.
- **2" chains:** remove the whole SpeedConnector by loosening the set screws with a 1/8" Allen key, then attach the chains directly to the cable. This minimizes the front-end footprint and maximizes cable flex where you need it most.

Using the SpeedConnector — 3"-6" Chains

Each sized leader carries the chain, and the SpeedConnector locks it to the SpeedShaft® cable in seconds. Line the connector up, push it on, and the spring-loaded collar snaps home — no tools. **To disconnect**, compress the button and pull the leader off. The SpeedConnector also joins SpeedShaft® extension cables the same way — snap on to add length.



Snap on — line up the leader and push; the SpeedConnector locks it to the cable.



Disconnect — compress the button and pull the leader off.



Add length — the SpeedConnector joins a SpeedShaft® extension cable to the machine the same way. Total recommended run on the SpeedCut® Pro: up to 150 ft.

Adapt Almost Any Tool

Chains aren't the only thing that runs on the SpeedConnector. Many tools adapt to it — sanding and flap wheels, cyclone and grinding heads, flexible leads, and more. Attach them on a leader, or with a **3/8-24 male-to-female**, **3/8-24 female-to-female**, or **#6-style slot-to-female** SpeedConnect adapter.



Tool heads that run on the SpeedConnector — sanding/flap, cyclone and grinding heads, and more.



A flexible SpeedConnect lead.

2" CHAINS — REMOVE THE SPEEDCONNECTOR For 2" pipe, run the chains directly on the cable. Loosen the SpeedConnector set screws with a 1/8" Allen key, remove the connector, and attach the chains to the cable end. The smaller front end gives you the most flex in tight lines. To restore the SpeedConnector afterward, reinstall the set-screw male connector (SKU 59387).



Take the SpeedConnector off with a 1/8" Allen key (if it's a crimp-on, cut it off with a grinder).

Trimming Back the Sleeve — Direct 2" Chains

To run 2" chains directly on the cable, trim back the sleeve at the chain-side end to expose enough cable to seat the chains.

CHECK FIRST If the exposed cable past the sleeve is already 5 inches or more, you do not need to trim the sleeve back — you already have enough cable to seat 2" chains.

SAFETY FIRST Disconnect the machine from power and remove the foot pedal before servicing the cable end. Wear eye and hand protection, and keep the cable end pointed away from yourself and others.

1. Remove any chains and the SpeedConnector from the cable.
2. Remove the sleeve cap — thread it counterclockwise with a crescent wrench.



Loosen the cap counterclockwise.



Cap removed — cable exposed.

3. Trim the sleeve back **5 inches or more** with PVC pipe cutters or a sharp knife.



Trim with PVC cutters or a sharp knife.



Trimmed 5"+ — cable exposed for direct chains.

4. Reinstall the sleeve cap — start it clockwise by hand, then tighten with the crescent wrench.



Start the cap clockwise by hand.



Tighten with the crescent wrench.

Sizing Your Chains

Chain size is measured, not eyeballed. Take a ruler or tape measure and measure from the center of the cable down to the lowest point where the chain hangs, including any carbides. That hang should be half of your pipe diameter (**Figure 10-1**).

- Example: for 4" iron pipe, you want the chain to hang **2" from the center of the cable** (half the diameter).
- To hone out the pipe instead of cleaning the full diameter, make the hang slightly shorter — e.g. **1 7/8" instead of 2"**.
- Only the point of contact with the pipe wall matters — don't worry about any other measurement.

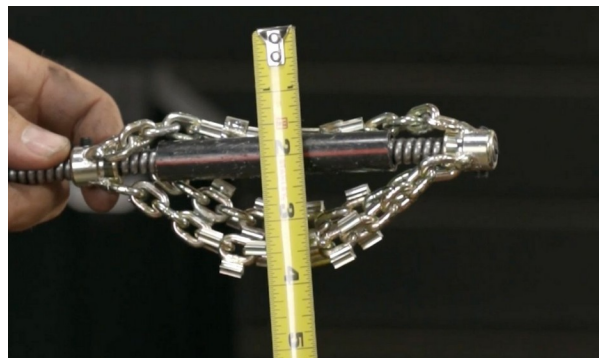


Figure 10-1 — Measure from the center of the cable to the lowest point the chain hangs — half the pipe diameter.

CYCLONE CHAINS Cyclone chains cannot be adjusted for size. Always run cyclone chains at no more than 1500 RPM to avoid damaging the pipe. They are excellent for removing scale, but they are not meant for fine-tuning your cleaning.



WATCH THE VIDEO

Sizing Your Chains

Scan to watch how to size chains to the pipe diameter for a clean, safe cut.

11 Cleaning & Storage

- When removing the SpeedCut® from the drain, wipe down the cable sheath with a dry cloth.
- **Never spray-wash the SpeedCut® Pro high-speed cutter.**
- Store in a cool, dry place away from direct sunlight.
- Coil the cable loosely, without kinks.
- Oil occasionally if the machine sits unused for long periods.

Toolbag Checklist

- Oil syringe canister tool
- SpeedCut® Pro Setup & Operation Manual
- Power cord
- Foot pedal
- Allen key set

12 Quick Reference

Safety Checklist

- ✓ Wear PPE — safety glasses and gloves
- ✓ GFI-enabled power cord in use
- ✓ Foot pedal clear and in a safe spot
- ✓ Bit secured and matched to the pipe
- ✓ Work area dry, level, and open
- ✓ Chain sized to pipe diameter or under

Connect / Disconnect Order

Connect: 8-pin reel → 5-pin foot pedal → 3-prong power.

Disconnect: 3-prong power → 5-pin foot pedal → 8-pin reel.

Pre-Operation Test — No Chain

- Pull 2 ft of cable, no tool attached
- Power ON, RPM 1500–2000
- Step on pedal, run down 2000 → 0
- Power OFF, then oil if needed

Chains & Sizing

- 3–6" chains → leaders on the SpeedConnector; 2" chains → remove the SpeedConnector, chains direct to cable.

- Size the hang to **half the pipe diameter** (4" pipe → 2" hang); shorten slightly to hone.
- Cyclone chains: **1500 RPM max**, size not adjustable.

Motor Stalled? Do This

- Release the pedal and pull the cable back to free the cutter.
- Let the cable unwind fully — **never** press the pedal during backspin.
- Raising the RPM will **not** clear a stall — free the tool first, then resume.
- Repeated stalls? Let it cool, then reconnect in sequence.

13 Support & Warranty

- 1-Year Limited Warranty.
- Covers manufacturing defects under normal use.
- Excludes misuse, improper maintenance, and unauthorized changes.
- Proof of purchase required for claims.

Returns & Repairs

- Contact support before shipping.
- Unauthorized returns may be refused.
- Charges apply for out-of-warranty repairs.

We're here to fix a problem, not sell equipment.

Putting Plumbers First. · Quality Equipment. Shared Knowledge. Problems Solved.
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