EPL SOLUTIONS, INC.

SpeedCut® Mini+

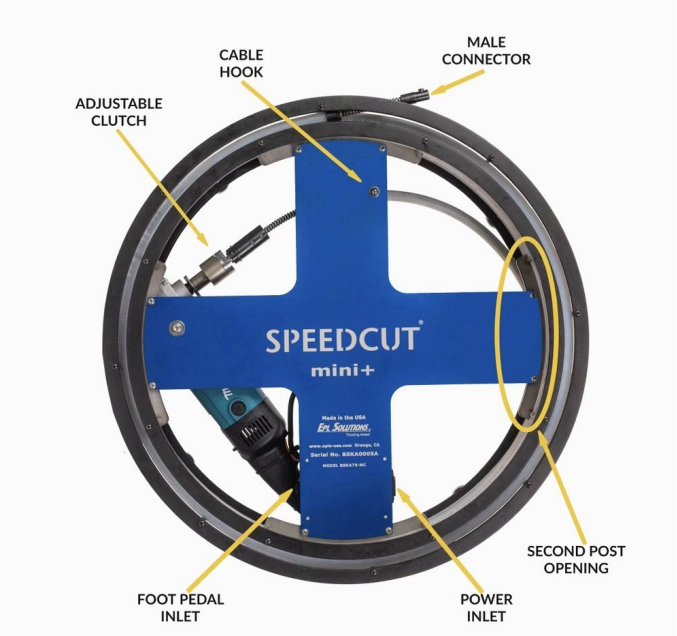
High-Speed Descaler · Setup & Operation Manual

PRODUCT	SpeedCut® Mini+
USE	High-speed descaling and drain cleaning
OPERATOR	Trained operators only. PPE must be used at all times.

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IMAGE A — *SpeedCut® Mini+ component reference. Model may vary depending on generation.*



1 Safety Guidelines

Read this section before the machine ever leaves the truck. Every line below exists because someone learned it the hard way.

- Only trained operators should run the SpeedCut® Mini+.
- Always wear safety glasses and protective gloves.
- Avoid loose clothing or jewelry that may get caught in moving parts.
- Keep the workspace clear, dry, and well-lit.
- Use only the provided power cord.
- Never operate the unit in rain or wet conditions.
- Know how to use the foot pedal, and make sure you can unplug the machine quickly if you need to.

2 Before You Begin

What's Included

- SpeedCut® Mini+ unit
- Power cord
- Foot pedal
- Accessory bag w/ Allen keys
- Setup & Operation Manual

Required Tools

- 30W non-detergent oil (or 0W-20 for cold climates)
- 1/8" Allen key
- 7/64" Allen key — for clutch tension adjustment (see **Section 6.1**)
- Crescent wrench
- Clean rags
- Safety PPE

Setup Area

- Choose a clean, dry, and level space.
- Ensure adequate lighting and room to feed cable.

3 Setup

1. Position the machine near the access point.
2. Plug in power and foot pedal by going underneath the drum/basket and into the electrical box.
3. Pull out 2 ft. of cable and briefly test spin without any tool attached.
4. Attach your tools or chain knockers securely — either using the SpeedConnector or attaching them directly to the SpeedShaft® cable (see Section 7).
5. Optional: connect low-flow water for flushing.
6. Position the camera 12" behind the tool for visibility, if available.
7. Confirm the workspace is clear, PPE is on, and no loose items are nearby.

4 Operation

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

If a Stall Occurs

- Immediately release the pedal.
- Pull or push off of obstruction to free the cutter.
- Allow any backspin to stop naturally.
- Refer to Troubleshooting in **Section 6**.

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 descaler 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.

Understanding Your Speed Dial

The speed dial is on the motor itself. Set the speed by rotating the dial; each setting corresponds to a rotation speed (RPM) as shown below. The dial runs from **0 to 6** — for routine descaling, **3–4 is recommended**, though you can run anywhere in the range as the job calls for it.

Speed Dial	Rotation Speed (RPM)
1	600
2	900
3	1500
4	2100
5	2700
6	3200

Using Extension Cables

SpeedShaft® extension cables add reach when a run goes long. The Mini+ runs up to **125 ft total (100 ft recommended)** 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 speed setting to keep the run smooth and manage drag.

5 Maintenance

Cable Oiling

1. Disconnect power and the foot pedal.
2. Disconnect the cable from the clutch.
3. Pull off of the cable hook.
4. Pull the entire cable from the drum.
5. Pull the cable out from the sleeve.
6. Pour oil into the chain-side opening.
7. Wipe the cable clean and insert it into the sleeve.
8. Reinsert the cable and sleeve in the 2nd post opening (see Image A on Page 1).
9. Reattach all parts and test.

> **SPEED MATTERS** The speed dial runs 0–6. During normal descaling, **3–4 is recommended** — you can run anywhere in the range, but higher speeds add drag and can activate the clutch sooner. See Section 6.1.

> **TIP** Oil the cable frequently. It is the cheapest thing you can do to extend cable life and keep the machine performing the way it did on day one.

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

How to Oil the Cable

Scan to watch the full oiling procedure step by step.

6 Troubleshooting

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

Table A — Common Issues

Issue	Possible Cause	Solution
Motor does not start	Power cord not connected	Ensure cords are connected securely
	Power source issue	Try a different outlet or reset the breaker
	Motor overheated	Unplug and let cool before retrying
	Air foot pedal not connected	Ensure air foot pedal is connected securely
Cable not spinning	Cutter jammed in scale, blockage, or broken pipe	Release the foot pedal and free the tool with a push/pull
	Broken cable	Follow steps for cable repair — see Section 8
	Set screws on clutch not tightened on cable	Tighten set screws onto cable with 1/8" Allen key
	Clutch too loose	Tighten clutch to desired tension — see 6.2
	Motor overheated	Unplug and allow the motor to cool
Motor stalls frequently	Clutch too tight	Loosen until it slips before stalling
	Tool too aggressive	Switch to a smaller tool
	Excessive water drag	Reduce water flow
Clutch activating (slipping) during normal use	Chains sized too large	Resize the chains to the pipe diameter or under — see 6.1
	Drill speed set too high	Run at speed 3–4 max during normal descaling — see 6.1
	Clutch out of adjustment	Adjust clutch tension at the tensioning nut — see 6.1
Backspin after stall	Cable under tension	Let the cable unwind naturally
Noise or vibration	Loose parts or worn tool	Inspect fittings and replace worn components

6.1 Clutch Activating? Start Here.

The clutch is a safety device, not a failure. It is designed to slip before your chains do — so when it activates, it is telling you the machine is under more load than it should be. Do not fight it. Diagnose it.

If your clutch is activating, work through these three checks in order. See **Table B**.

Table B — Three Checks

#	Check This	The Fix
1	Your chains are set too large.	Resize the chains to fit the pipe diameter — or under. A chain that is oversized for the pipe loads the machine every rotation, and the clutch does exactly what it was built to do: it gives before the cable does.
2	Your drill speed is too high.	Set the speed to 3–4 at the highest during normal descaling and operation. Speeds beyond this may cause the clutch to activate prematurely. Faster is not better here.

#	Check This	The Fix
3	The clutch needs adjustment.	Over time, the clutch may need to be adjusted. Loosen the 7/64 screw on the tensioning block of the clutch. Tighten the tensioning block until it reaches your desired tension. Then re-fasten the 7/64 screw.

6.2 Adjusting the Clutch — Step by Step

1. Loosen the 7/64 screw on the tensioning block of the clutch.
2. Tighten the tensioning block until it reaches your desired tension.
3. Re-fasten the 7/64 screw.

> **REMEMBER** Set the clutch so it slips before the chains do — never the other way around. A clutch that never slips is not a stronger machine.

Still activating? Call us at **714-453-9760**. Walk us through the pipe, the chain size, and the speed you are running, and we will work it out with you. We would rather spend ten minutes on the phone than have you lose a day on the job.

7 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 Cutter (1.5")	Punching through solid blockages.
Brush	Preparing epoxy-coated pipe surfaces.
Sandpaper	Polishing epoxy for a smooth finish.

> **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® Mini+: 125 ft (100 ft recommended).

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 7-1**).

- 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.

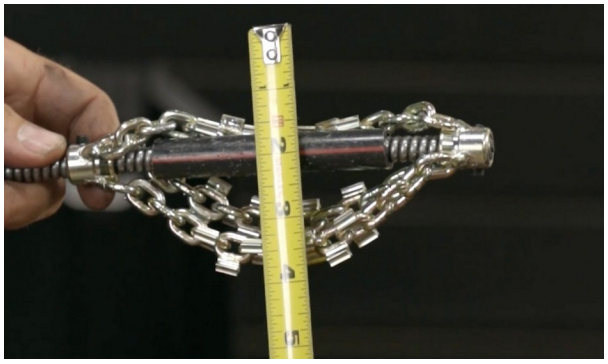


Figure 7-1 — Measure from the center of the cable to the lowest point the chain hangs — half the pipe diameter.

CYCLONE CHAINS Cyclone chains cannot be adjusted for size. Always run cyclone chains at low speed / speed 3–4 or lower 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.

8 Cable Repair

WATCH THE VIDEO

Cable Repair Walkthrough

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

1. Disconnect power.
2. Pull the full cable from the drum.
3. Loosen the clutch set screws.
4. Pull off of the hook and remove the remaining cable.

5. Remove the motor/clutch end sleeve cap.
6. Trim any damaged sleeve.
7. Push the male connector flush with the sleeve cap (see Image A on Page 1).
8. Trim to exactly 2" of exposed cable on the motor/clutch end.
9. Remove any burrs if the cable end is frayed.
10. Reinsert the cable and sleeve through the 2nd post opening (see Image A on Page 1).
11. Reattach all parts and test.

9 Cleaning & Storage

- Wipe the cable clean with a dry rag after use.
- Do not hose down the machine or cable.
- Store in a cool, dry place away from sunlight.
- Coil the cable loosely, without kinks.
- Cover the unit and oil occasionally if unused for long periods.

10 Quick Reference

Safety Checklist

- ✓ Wear PPE
- ✓ Foot pedal clear
- ✓ Bit secured
- ✓ Work area dry and open
- ✓ Chain sized to pipe diameter or under
- ✓ Drill speed set to 3–4

Quick Setup Steps

- Plug in.
- Test spin.
- Attach bit.
- Use optional water.
- Start slow and feed cable carefully.

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: **speed 3–4 or lower**, size not adjustable.

Clutch Activating? Three Checks

- Chains too large → resize to pipe diameter or under.
- Speed too high → back down to 3–4.
- Clutch out of adjustment → loosen the 7/64 screw, set tension, re-fasten.

11 Technical Data

Specifications for the SpeedCut® Mini+. Figures are nominal; EPL may update components without notice.

Specification	SpeedCut® Mini+
Pipe range	2" – 6"
Cable	3/8" (10mm) anti-flip SpeedShaft®
Cable on drum	75 ft
Maximum reach	Up to 125 ft with extensions (100 ft recommended)
Speed	0 – 3,200 RPM
Power draw	~10 A (1,200 W)
Motor	Built-in motor
Clutch	Adjustable mechanical clutch (self-serviceable)
Power supply	110V AC
Control	Foot pedal
Weight	50 lb
Dimensions (L × W × H)	26 × 26 × 10 in
Warranty	1-year manufacturer's warranty
Origin	Designed & built in the USA

12 Maintenance Schedule

Keep the machine on a simple rhythm. Inspect the wear items before every job, and run the periodic checks on the schedule below. Replace any worn part before the next job.

Maintenance Task	Before Each Use	Monthly	Annually
Inspect cable & casing for wear	●		
Inspect tools / chains for wear	●		
Check set screws tight	●		
Oil the SpeedShaft® cable	~every 5 hrs of use		
Check all bolts & screws tight		●	
Inspect foot pedal & power cord		●	
Clean motor vents		●	
Inspect clutch operation		●	
Replace carbon brushes			● or when worn to limit

LEGEND ● = inspect or perform at that interval. "~every 5 hrs of use" is a running-time guide, not a calendar date.

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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