EPL SOLUTIONS, INC.

SpeedShaft® Extension Cable

Setup, Operation & Repair Manual



SpeedShaft® Extension Cable — male and female connectors for fast connections.

PRODUCT	SpeedShaft® Extension Cable — 3/8"(10mm)
USE	Extend a SpeedCut® machine, or run on its own from a drill
OPERATOR	Trained operators only. PPE must be used at all times.

1 What It Is

The SpeedShaft® Extension Cable is a genuine 3/8"(10mm) anti-flip SpeedShaft® cable — the same cable your machine runs. It has a male connector on one end and a female connector on the other for fast, secure connections to leaders, to other extensions, and to the machine.

Use it two ways: add reach to any machine that features a 3/8"(10mm) SpeedShaft® cable (for example, the SpeedCut® Pro, Mini+, and more), or run it on its own from a drill of your choice. Each extension stacks with other SpeedShaft® extensions when a run goes long.

> **COMPATIBILITY** Works with any machine featuring a 3/8"(10mm) SpeedShaft® cable and a SpeedConnector — for example, the SpeedCut® Pro and Mini+. The base SpeedCut® Mini uses 5/16"(8mm) cable and is not compatible.

2 Where You Can Use It

- **Pipe range:** 2" to 6" — the same range as the machines.
- **Maximum run with extensions on a machine:** refer to your machine's manual for its maximum run length — for example, up to 150 ft on the Pro, or up to 125 ft on the Mini+ (100 ft recommended).
- **Run on its own from a drill (no machine):** up to 100 ft total.
- Attach the extension first, then the chain, leader, or accessory on the far end.

3 Connecting the Extension

Every extension has a male end and a female end, so pieces link together in one direction.

1. **To the machine:** connect the extension to the end of the machine's SpeedShaft® cable, male-to-female.
2. **Stacking extensions:** join the male end of one extension to the female end of the next to build up length.
3. **At the working end:** attach your chain, leader, or SpeedConnector to the far connector.
4. **To disconnect:** compress the button on the connector to release it.



Connect the extension to the machine cable.



Attach a chain and leader at the working end.



Compress the button to release any connection.

NOTE Make every connection fully seated and secure before the machine or drill is powered. Never describe a connection as complete until it is locked together.

4 Running On Its Own — Drill Operation

To run the extension without a machine, attach the female connector to a drill chuck adapter, then chuck the adapter into a drill of your choice — corded or battery. The drill chuck adapter is available at EPLS-USA.com or 714-453-9760.



Female cable end → drill chuck adapter.



Chuck the hex shank into your drill.

Two Ways to Run It

- **Two operators (ideal):** one runs the drill, the other feeds the cable in and out of the pipe.
- **Solo loop:** one hand on the drill, one hand feeding the cable, worked in a loop.

SET THE CLUTCH OR THE DRILL WILL FIGHT YOU When the drill's clutch is not set properly, the drill can fight the operator — twisting and kicking as the cable loads up. This is why two operators (one on the drill, one on the cable) is preferred. Adjust the clutch until operating is smooth and easy; a well-set clutch does the fighting for you.



Operator one runs the drill.



Operator two feeds the cable at the pipe.

SPEED & CLUTCH Recommended speed is **1500 RPM**; you can run up to **3200 RPM**. Always use a clutch setting on the drill when one is available, and match your speed to the pipe and the debris.

CHAINS & SIZING The same chain rules apply as on the machines: size the chain hang to half the pipe diameter, and run cyclone chains at low speed only — they cannot be adjusted for size. See the Tool Selection Guide in Section 7.

5 Operating Instructions

Whether you run the extension from a machine or from a drill, the cutting technique is the same. These are the same fundamentals we train every SpeedCut® operator on.

Before You Cut

- **Inspect the line.** A camera is highly recommended — check the pipe for failures, voids, and separations before running a chain.
- **Match the tool to the pipe.** Size the chain to the pipe diameter (see Section 7) and pick the right tool for the job.
- **Attach the accessory last.** Connect the extension (and any stacked extensions) first, then the chain or leader on the far end.

While Cutting

- Never spin the tool into scale or a blockage **before** the cable is turning — bring it up to speed first.
- Do not force the cable forward — let the tool do the work.
- **Start low.** Run at 1500 RPM for routine descaling; increase only when the job calls for it.
- Use a clutch setting on the drill whenever one is available.
- Use a camera to monitor progress.
- After cutting, withdraw the cable slowly and wipe it clean.

SPEED, DRAG & HEAT Water, grease, sludge, long runs, and oversized chains all add drag — and drag builds heat and trips the clutch.

FLEX RINGS If you are running from a Flex drum — a SpeedCut® machine, or a Cable Carrier (holds up to 75 ft of cable) — the flex rings keep the cable contained so it will not pop out. When feeding cable by hand from a Flex drum, keep it **closer to a 45° angle to the drum** — this makes it easier to feed the cable in and out.

6 Troubleshooting

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

Table A — Common Issues

Issue	Possible Cause	Solution
Drill will not run	No power or dead battery	Check the outlet or swap in a charged battery
	Drill chuck adapter loose	Re-seat the hex shank and tighten the chuck
Cable not spinning	Connection not fully seated	Check every connection is locked together
	Cutter jammed in scale or blockage	Stop the drill and free the tool with a push/pull
Clutch activates (slips) during normal use	Chains sized too large	Resize the chains to the pipe diameter or under — see 6.1
	Speed set too high	Back down to 1500 RPM during normal descaling — see 6.1
	Drill clutch set too low	Increase the drill's clutch setting — see 6.1
Cable bogs down / stalls	Too much drag (water, grease, debris, long run)	Reduce speed to 1500 RPM and ease your feed rate
	Tool too aggressive for the pipe	Switch to a smaller or less aggressive tool
Drill fights the operator	Drill clutch not set properly	Adjust the drill's clutch setting until it slips before you lose your grip holding the drill — see 6.1
Noise or vibration	Loose connection or worn bit	Check connections and replace worn components

6.1 Clutch Activating? Start Here.

A slipping clutch is a safety feature, not a failure. It is telling you the machine is under more load than it should be. Set your drill's clutch so it slips before you lose your grip holding the drill — a well-set clutch gives before the drill twists or kicks. Work these three checks in order:

1. **Chains too large.** Resize the chains to the pipe diameter or under. An oversized chain loads the machine every rotation.
2. **Speed too high.** Back down to 1500 RPM for normal descaling.
3. **Clutch needs adjustment.** Tighten or loosen your drill's clutch setting. A higher setting gives more torque before it slips; a lower setting slips sooner. Adjust until the clutch slips before you lose your grip holding the drill.

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.

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 run: up to 150 ft on the Pro, 125 ft on the Mini+ (100 ft rec.); 100 ft run on its own with a drill.

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.

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.

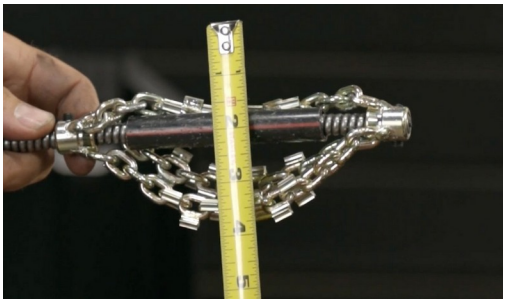


Figure 7-1 — Measure from the center of the cable to the lowest point the chain hangs — half the pipe diameter.

CYCLONE CHAINS Cyclone chains cannot be adjusted for size. Always run cyclone chains at low speed 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 2″ Pipe — Removing the Crimped Connector

The extension ships with a crimped-on male connector so it stays compact. For 2" chains applied directly to the cable, that connector has to come off — and because it is crimped (not held by set screws), you cut it off rather than loosening screws.

1. Cut off the crimped male connector at the cable end.
2. Trim the sleeve back 5 inches or more and run the 2" chains directly on the cable (see Section 10).

GETTING THE SPEEDCONNECTOR BACK Once the crimped connector is cut off, install a replacement set-screw male connector (SKU 59387) to use the SpeedConnector again. Replacement set-screw male connectors (SKU 59387) are available from EPL — call 714-453-9760.



Attach or detach the set-screw male connector (SKU 59387) with a 1/8" Allen key.



Cut off the crimped connector with a grinder or cutoff wheel.



2" chains applied directly to the cable — no connector.

9 Cable Repair

Extension cable repair follows the same process as the main SpeedShaft® cable: trim back the damaged sleeve and restore a clean connector end. The two ends are handled differently.

Male End

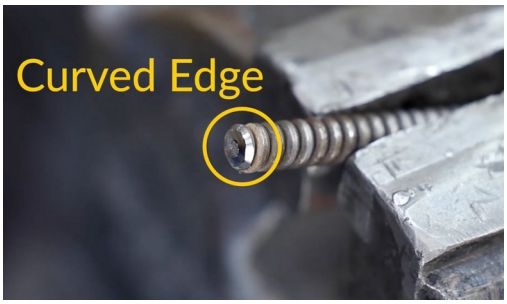
The male end can take either a crimp-on connector or a set-screw connector. Both start the same way: cut the cable to length, then bevel the cut edge.

Cut & Bevel the Cable End

1. **Cut the cable to length** with a grinder or cutoff wheel.
2. **Bevel the cut edge** so it is smooth and slightly rounded — a clean curved edge seats and feeds better.



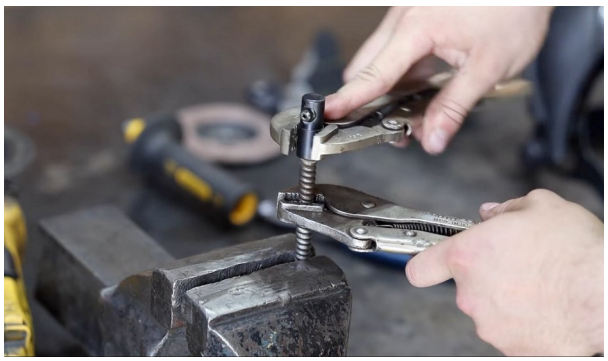
Bevel the cut edge with a grinder.



The finished, beveled curved edge.

Crimp-On Male Connector

1. **Thread the connector counterclockwise** onto the cable end until it is fully seated.



Thread the connector counterclockwise until fully seated.

2. **Crimp the top half** of the connector with a hydraulic crimper.
3. **Twist 90° and crimp the bottom half** to complete the crimp.



Crimp the top half.



Twist 90° and crimp the bottom half.

Set-Screw Male Connector

The set-screw connector is simpler — no threading and no crimping. Cut and bevel the cable end if needed, then place the connector on the cable and tighten the set screws.



Place the set-screw connector on the cable and tighten the set screws with a 1/8" Allen key.

Female End

Breaks are rare on either end. The female connector (SKU 64809) installs the same way as the crimp-on male connector — cut, bevel, thread counterclockwise until fully seated, crimp the top half, then twist 90° and crimp the bottom half — and is then welded. You have two options:

- **Repair it yourself:** purchase the replacement connector and a mobile crimper, follow the crimp-on steps above, and weld it if you have welding capability (welding is optional).
- **Ship it in:** send the cable to EPL and we will repair and weld the female end for you.

> **MAINTENANCE** Oiling and full maintenance guidance for the extension is coming in a future revision. For now, this manual covers cable repair.

10 Trimming Back the Sleeve — Direct 2″ Chains

Trimming the sleeve at the chain-side end exposes enough cable to seat 2" chains directly, without a connector.

> **SAFETY FIRST** Disconnect from power (or unplug the drill) 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.

> **TIP** Start every threaded cap by hand before reaching for the wrench — it is the surest way to avoid cross-threading.

11 Quick Reference

At a Glance

- Pipe range 2"–6". Max run: see your machine's manual (e.g. Pro 150 ft, Mini+ 125 ft); drill-only 100 ft.
- Connect male-to-female: machine → extension(s) → chain/leader.
- Drill use: female end → drill chuck adapter → your drill. Recommended 1500 RPM, up to 3200. Clutch on when available.
- 2" chains: cut the crimped connector, trim sleeve 5"+, run chains direct. Install a set-screw male connector (SKU 59387) to restore the SpeedConnector.

Repair

- Male end: cut, bevel, then crimp-on connector (thread, crimp top, twist 90° + crimp bottom) or a set-screw connector (place + tighten screws).
- Female end (SKU 64809): same crimp-on steps as the male end, then welded — DIY with connector + crimper, or ship in to EPL.

12 Technical Data

Specifications for the SpeedShaft® Extension Cable. Figures are nominal; EPL may update components without notice.

Specification	SpeedShaft® Extension Cable
Type	Passive extension cable (no motor)
Cable	3/8" (10mm) anti-flip SpeedShaft®
Lengths	25 ft · 50 ft · 75 ft (each with male + female SpeedConnectors)
Weight	25 ft = 9 lb · 50 ft = 18 lb
Pipe range	2" – 6"
Maximum reach	On machine: up to Pro 150 ft / Mini+ 125 ft · Standalone drill: up to 100 ft
Speed	Runs at host machine or drill speed
Compatibility	Any machine with a 3/8" (10mm) SpeedShaft® + SpeedConnector (not the base Mini — 5/16")
Warranty	1-year manufacturer's warranty
Origin	Designed & built in the USA

13 Maintenance Schedule

This is a cable-only component — keep it on a simple rhythm: inspect before every job and oil as needed.

Maintenance Task	Before Each Use	As Needed
Inspect cable & casing for wear	●	
Check set screws / connectors tight	●	
Oil the cable		●

NOTE No clutch, belt, vents, or brushes — this is a cable-only component.

LEGEND ● = inspect or perform at that interval.

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

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

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