

# Electric Eel<sup>®</sup>

## MODEL 800 Hydrostatic Sewer Cleaner

Operator's Manual



**ELECTRIC EEL MANUFACTURING CO., INC.**

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[www.electriceel.com](http://www.electriceel.com)

*Proudly Made in The USA Since 1939*

# Description/Specifications

## DESCRIPTION

The ELECTRIC EEL Model 800 Sewer Cleaning Machine is the newest of ELECTRIC EEL's complete line of quality sewer and drain cleaning equipment. This Hydrostatic machine is specially designed for the professional when cleaning 4 to 18 inch diameter lines and using up to 650 feet of dual cable.

## SPECIFICATIONS

Line Capacity . . . . . 4 to 18" dia. with up to 650 feet of cable  
Weight . . . . . 245 lbs.  
    Diesel . . . . . 300 lbs.  
    (with hydraulic fluid at the proper level in the tank)  
Frame . . . . . 3/16" formed steel base with integral hydraulic fluid tank and cooling system  
Clutch . . . . . Dual disc slip clutch  
Engine . . . . . 8 HP I.C. 4 cycle, gasoline engine, (9 HP Diesel optional)

## Safety Instructions

The following safety rules for operating ELECTRIC EEL's Hydrostatic Municipal Sewer and Drain Cleaning equipment **MUST** be read carefully before operating this machine.



**TO PREVENT SERIOUS BODILY INJURY AND TO AVOID DANGER FROM ROTATING CABLES AND EQUIPMENT:**

## GENERAL SAFETY

1. **ALWAYS** wear **HEAVY** reinforced leather gloves and **SAFETY** glasses when operating this equipment.
2. Place this machine within 8 feet of inlet, and **NEVER** add more than **ONE 8' SECTION** of cable at a time between sewer opening and machine.
3. **NEVER** handle rotating cable or cable under tension.
4. **DO NOT WEAR** loose clothing or jewelry while operating this machine.
5. The Model 800 Sewer Cleaning Machine should be **OPERATED BY ONE PERSON ONLY**. Additional personnel in the work area should observe all safety instructions.
6. Wear rubber soled **NON-SLIP SHOES, HEAVY LEATHER** gloves, and **EYE Protection**.
7. **ALWAYS AVOID** direct contact of skin, facial area and especially the **EYES** with drain water. Chemical compounds used in drains can result in serious burns and other injuries.
8. **REPLACE** fittings, cables, and any rotating parts as soon as they become visibly worn. **REPLACE** any cables which become fractured, bent, kinked, or are otherwise damaged.
9. **NEVER** attempt to service equipment beyond the recommendations on the operating instructions. All other servicing should be referred to qualified Electric Eel service personnel.
10. To maintain safe operation, **USE ONLY** identical replacement parts and cables from Electric Eel.
11. **ALWAYS KEEP CLEAR** of rotating shafts, pulleys, belts, or other rotating parts.
12. **DO NOT LOOSEN** the hydraulic hose lines when the machine is operating. Stop engine and wait for 5 minutes for engine and fluids to cool, then release pressure by turning the Safety Hydraulic Relief Valve lever on the left side of the hydraulic pump counterclockwise.
13. Any hydraulic hoses and fittings that are cut, leaking, or are otherwise damaged should be **REPLACED** immediately.

 **DANGER** 



To prevent serious injuries including:

- Shock, electrocution or burns due to improper grounding.
- Serious injuries to body, limbs or hands and feet due to cables that twist, kink and break.
- Eye injuries caused by loose cable, thrown debris or splashed water.

**READ SAFETY INFORMATION THOROUGHLY!**

14. **DO NOT** continue to operate machine when cleaning tool becomes stuck in obstruction. **EXCESS TORQUE ON A CABLE COULD CAUSE IT TO FRACTURE. RELEASE CABLE TENSION** to prevent unnecessary build-up of torque on the cable. Keep machine under control at all times. (Refer to operating instructions to free cleaning tool).
15. **NEVER HANDLE ANY CABLE UNDER TENSION.\* ALWAYS** relieve tension on the cable by turning the Safety Hydraulic Relief Valve lever on the left side of the hydraulic pump counterclockwise.
16. **NEVER** force a tool and cable into pipeline blockage. This may overload the cable or tool and cause it to fracture.
17. Use **CORRECT TOOL** for the job or application. Check the tool chart and use the proper tool for the size of the line being cleaned.
18. To maintain safe and efficient operation **CLEAN THOROUGHLY** all cables and tools with water after use. Acids in the drain and sewer lines can attack and deteriorate the metal of the cables and tools. Deterioration can cause premature fracture or breakage in tools or cable.

\*Relieve all tension build-up before attempting to handle cable.

WARNING: This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

## Assembly Instructions



### TO PREVENT SERIOUS BODILY INJURY:

1. Engine — Check and fill all fluid levels according to the engine manual before starting. The engine will be shipped from the factory without oil.
2. Model 800 machine —
  - Check the level of hydraulic fluid on the sight glass on the left side of the machine tank. With the machine setting level, Hydraulic Fluid should be to the bottom of the sight glass for proper operation and pump cooling. Use **ONLY** a mineral based high quality hydraulic fluid such as Shell Company, TELLUS Oil ISO 46, or equivalent.

- Assemble the handle in the two sockets on the back of the machine (Control Lever, Black Knob up) and tighten the wing nuts. If the handle is not fully seated in the sockets the Pump Control will not operate properly.
- Reattach the 1/4" diameter brass pivot on the upper end of the control cable, in the 1/4" dia. hole at the bottom of the Pump Control lever. The brass pivot shaft with cotter pin hole should face inward (to the left). Install the cotter pin to lock brass pivot in place.
- Reattach the control cable collar to the bracket, welded to the handle below the Pump Control Lever, with two slotted round head 1/2" x 10-24 screws provided. The groove of the "U" shaped bracket should be fitted into the 1/8" wide female groove of the cable collar so it can be locked into place.
- Remove the 3/4" diameter pipe plug on the top right front side of the machine and replace it with the chrome breather filter supplied.

## MAINTENANCE

- Maintenance on the Model 800 machine should be minimal for the life expectancy of the machine.

## CLUTCH ADJUSTMENT

- The clutch setting of 150 inch/lbs. must **NEVER** be exceeded.
- The clutch setting in most cases will not need to be adjusted for the life of the machine.
- If the clutch needs to be reset, the following procedure should be used:
  1. **MUST** obtain an inch/lbs. torque wrench and adapter from ELECTRIC EEL.
  2. Attach the adapter to the drive fitting of the Model 800 machine and follow instructions included with the adapter.

## Assembly Instructions (con't)



**OPERATOR MUST BE THOROUGHLY FAMILIAR WITH ALL SAFETY INSTRUCTIONS BEFORE OPERATING THIS EQUIPMENT.**

### THE CABLE

The Dual Cable is composed of a right hand wound, open spaced, outer spring steel and a left hand wound, closed spaced, inner steel spring which are joined at each end with couplings. This construction provides a strong, flexible cable that self-feeds through the pipeline in either direction.

Cable sections and tools are joined by firmly pressing the fittings together and turning the cables or tools a quarter turn to engage the snap lock pin. Cables and cleaning tools are disconnected by using the spanner wrench (available from ELECTRIC EEL) by disengaging the locking pin and turning a quarter turn in the opposite direction, as shown in Figure 1.

Municipal Duty Dual Cable is recommended for use in 4" to 18" diameter lines for distances up to 650 ft. The Dual Cable sections require periodic maintenance—usually just an occasional oiling of the snap lock pin in the male coupling.

If the cables are to be stored for several weeks between jobs, a light coating of oil will prevent rusting.

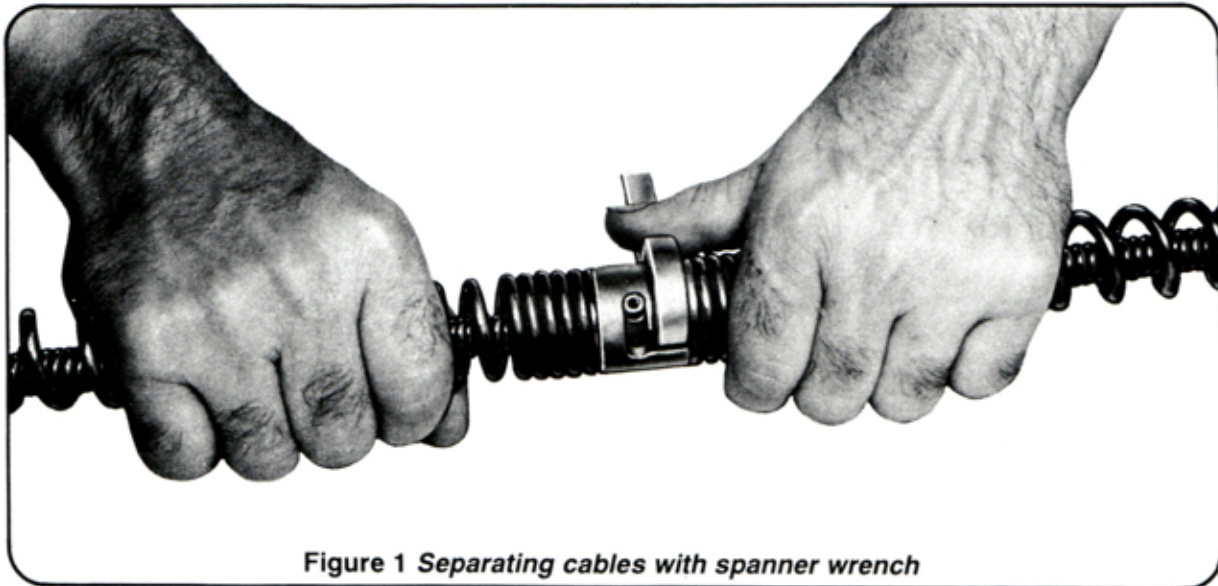


Figure 1 *Separating cables with spanner wrench*

## Operating Instructions



**OPERATOR MUST BE THOROUGHLY FAMILIAR WITH ALL SAFETY INSTRUCTIONS BEFORE OPERATING THIS EQUIPMENT.**

1. If at all possible, the nature and approximate location of the stoppage should be determined before starting the job. Usually a sewer line obstruction is removed by running the cleaning tool downstream until the obstruction is reached.

2. The cleaning tool should be chosen according to the enclosed information for the line size being cleaned.
3. The cleaning tool reduces the obstruction to small pieces, which are then washed downstream by the flow of water. In such cases, you should use as much water in the line as possible.
4. Sometimes it is necessary to work upstream, especially in cases where the distance between manholes exceeds the cable length. Running the cleaning tool upstream is often most effective in removing sand, silt and other sediments because it augers the deposit back toward the operator where it can be removed.

# Operating Instructions (con't)

- When cleaning a pipeline with an opening that cannot be easily approached by the power unit, such as in a trench or manhole, A GUIDE TUBE should be used to protect the cable from kinks or entanglements with objects outside the pipeline. When using the GUIDE TUBE in a manhole, it should be set up with the guide tube jack holding it firmly at the top of the manhole (Figure 2). Before placing the GUIDE TUBE in the manhole, be sure to thread the cable through the TUBE and attach the cleaning tool.

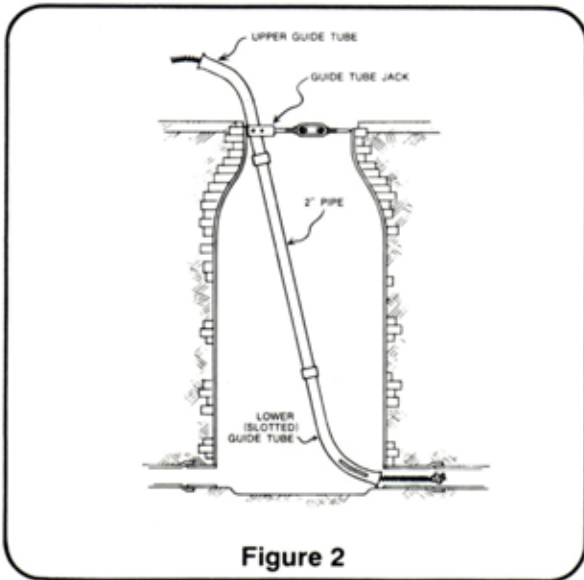


Figure 2

## GUIDE TUBE

- NEVER** add more than **ONE 8' SECTION** of cable at a time between sewer opening and machine. The open spaced, right hand wound construction of the outer cable member provides a self-feeding action and exerts an even pressure against the pipeline stoppage. If the safety clutch slips, put the machine in reverse and back away momentarily from the obstruction. Repeated slippage may indicate a broken or damaged pipeline.
- AVOID** slack in the cable between the machine and the pipeline opening—as this is the area where cable will have a tendency to loop and then kink and become damaged.
- Normally, the machine should be operated at a medium to high speed, 500 to 1000 RPM, when feeding the cable into the pipeline. Use very low speed, 50 to 400 RPM when starting into a completely blocked pipeline. Use Reverse for withdrawing cable or to back away momentarily from an obstruction which has caused the safety clutch to slip.



Figure 3

## MODEL 800 POWER UNIT

Model 800 is powered by an 8 HP I.C., 4 cycle gasoline (9 HP Diesel optional) engine which provides ample power to handle the toughest jobs. This engine should be serviced in accordance with the instructions on the engine nameplate and in the included engine manufacturer's service manual.

Power is transmitted from the engine to the Hydraulic Pump which powers a Hydraulic Motor. This in turn drives the cable thru a safety clutch to rotate the cable. Varying the Hydraulic Pump pressure provides a variable cable speed of 0 to 1000 RPM. Maximum torque is delivered from 50 to 1000 RPM.

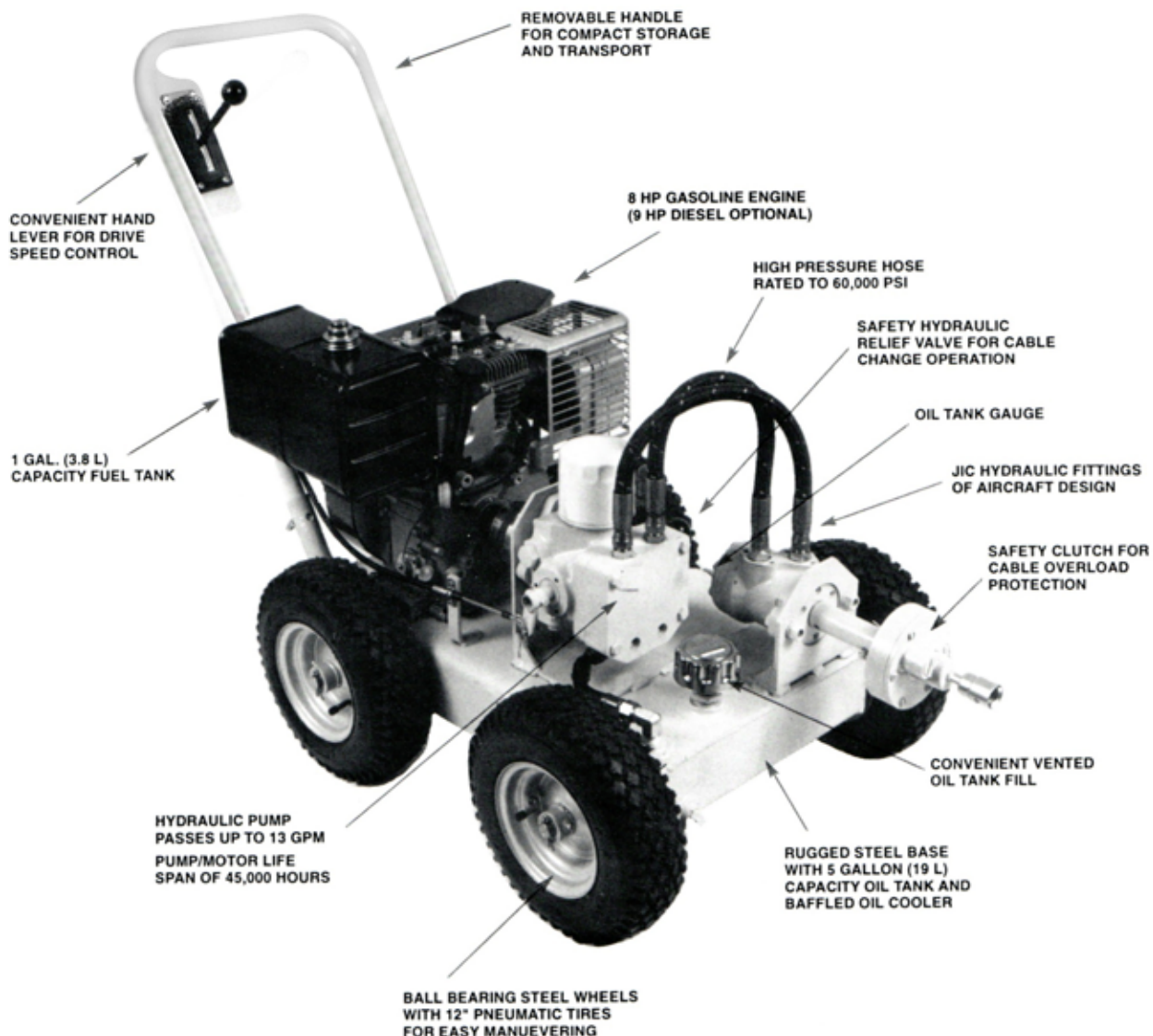
Attached to front end of the safety clutch is a counter shaft which is equipped with a female coupling for attaching the Dual Cable. This safety clutch is designed to protect the cable and cleaning tools against overloading.

Clutch tension can be increased or decreased by tightening or loosening the two adjusting screws on the clutch face. In all cases, the two screws must be tightened or loosened an equal amount. The recommended clutch tension setting is 150 inch lbs. of torque. **CAUTION:** Tightening the screws beyond 150 inch lbs. will eliminate the ability of the safety clutch to protect against overloading of the cables and tools. Serious personal injury could result.

# MODEL 800 OPERATION

## KEY FEATURES

1. 8 HP, I.C. gasoline engine (9 HP Diesel optional).
2. Built in rugged steel base with integral 5 gallon (19 L) Hydraulic fluid capacity for cooling and operating pump and motor.
3. Hydraulic Pump and Motor with 13 GPM capacity. Operated properly, Pump/Motor have an expected life of 45,000 hours.
4. High Pressure, Pump to Motor, hydraulic hoses rated to 3500 PSI.
5. Safety Hydraulic Relief Valve for cable change operation.
6. Convenient Hydraulic Fluid tank gauge.
7. J.I.C. rated Hydraulic fittings of Aircraft design.
8. Safety clutch for cable overload protection.
9. Ball Bearing Steel Wheels with 12" Pneumatic tires for easy maneuvering.
10. Convenient vented Hydraulic Fluid tank fill and easy drain.
11. Removable handle for compact storage and transportation.
12. 1 Gallon (3.8 L) capacity fuel tank.
13. Convenient, handle mounted, Pump Control lever for cable speed control.
14. Easily accessible Hydraulic Pump filter, which should be changed every 100 hours or 6 months of operation. (Do not remove filter without first waiting 5 minutes for the engine and fluids to cool down, then release the pressure with the Safety Hydraulic Relief Valve).



# Electric Eel®

## SEWER and DRAIN CLEANING EQUIPMENT

HEAVY DUTY

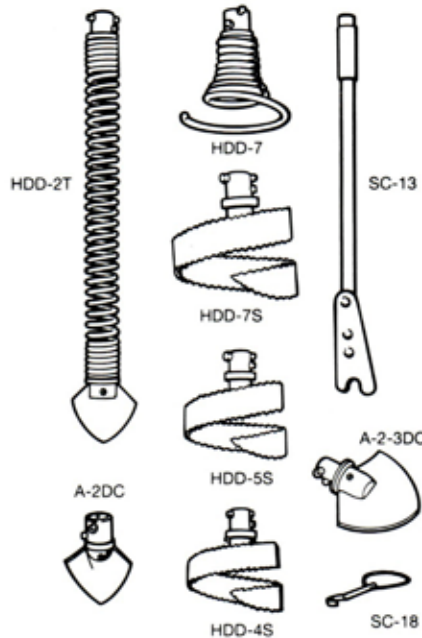
CLEANING TOOLS

AND ACCESSORIES

FOR THE

TOUGHEST JOBS

## MODEL 800



### Initial Opening Tools.

- HDD-2T. 2-3/8" diameter for 4" or larger pipeline
- A-1DC. 1-7/8" diameter for 4" or larger pipeline
- A-2DC. 2-3/8" diameter for 4" or larger pipeline

### Finishing Tools.

- A-14DC. 3-1/2" diameter for 4" pipelines and "P" traps

### Heavy Duty Tools.

- HDD-4S. 3-1/4" diameter for difficult obstructions in 4" or larger pipelines
- U4H. heavy duty tool for removing grease in 4" pipelines

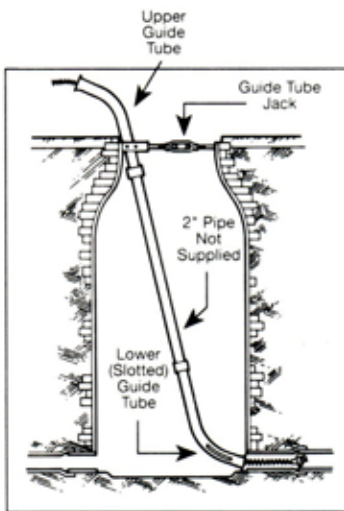
### Retrieving Tools.

- HDD-7. Retrieves broken cable or tools from pipeline

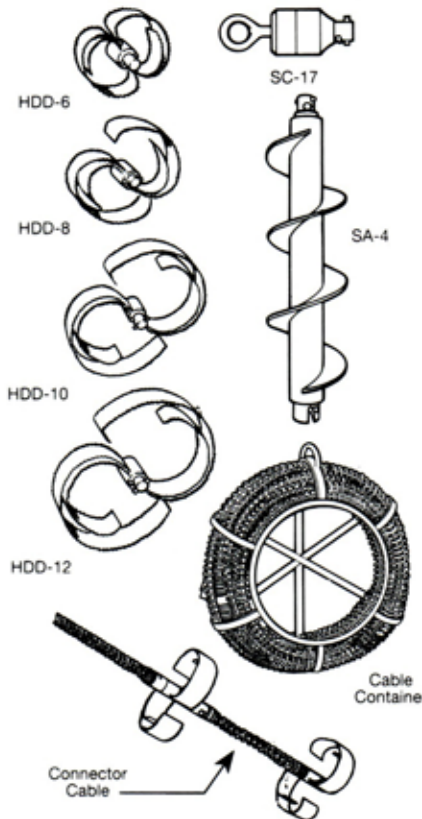
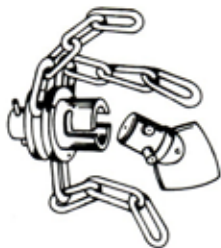
**Feeding Tool.** Helps operator start cable through traps or severe bends

**Cable Container.** Provides convenient handling and storage of up to 56 feet of cable

**Spanner Wrench.** (SC-18) Disconnects cables and tools



MODEL 800 -- IDEAL FOR USE IN MANHOLES



### Grease Removing Tools.

- U-3. for 3" pipelines
- U-4. for 4" pipelines
- U-6. for 6" pipelines
- UC3. for 3" pipelines

### Finishing Tools.

- A-2-3DC. 3" diameter for 4" or larger pipelines
- A-13-2DC. for 3" conductor lines
- A-13DC. for 4" conductor lines
- A-6ADC. 5" diameter for 6" pipelines
- A-2-3DC Special. chops ice in 4" pipelines
- ST-2. bulb-shaped cleaning tool for 4" plastic pipeline

### Heavy Duty Tools.

- HDD-3S. for 3" or larger pipelines
- HDD-5S. for 6" pipelines
- HDD-7S. for 8" pipelines

### Retrieving Tools.

- ST-1. right wound retriever
- HDD-2A. longer, thinner right wound retriever

### Flexible Spring Tools.

- HDD-U3. 12" diameter spring with U3 blade for 3" pipelines
- HDD-U4. 12" diameter spring with U4 or HD blade for 4" pipelines

### Accessories.

- SC-19. provides swivel joint between cleaning tools and cable
- Torque Wrench Adapter

NOTE: Many additional tools and accessories available

# Electric Eel®

Drain cleaning tools for professionals

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