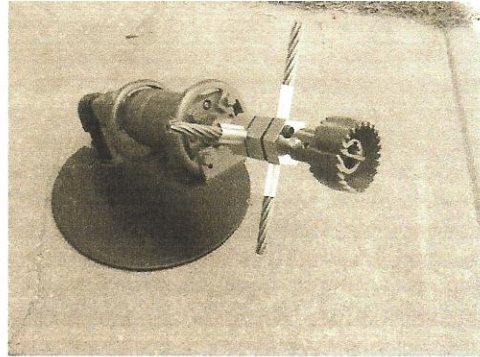
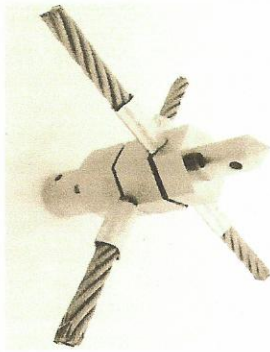


Assembly and Operating Instructions



Assembly:

Loosen the two 5/16" bolts in the hub until the cables can be inserted. Insert the cables and tighten the bolts evenly to secure the cables. Do not over tighten, Do not try to close the gap. The clamping action of the hub and the flexibility of the cable will prevent the bolts from loosening. The threads come lubricated with an anti-seize compound and should be kept lubricated. Please note that these bolts are 5/16" X 24 X 2 1/2" (FINE THREAD) stainless steel cap screws. You will need a 1/4" Allen wrench for these screws. A "T" handle is recommended. Cables are provided 1/4" to 3/8" longer than the nominal pipe size to provide maximum life. Fray or grind the ends down if you experience difficulty inserting the assembly into the pipe (or just jam it in the pipe). Use the 1/4" X 20 X 2" bolt with two flat washers and stop nut (provided) to attach the assembled RIPPER to your hydraulic motor. Attach a root saw or other attachment to the shaft on the front of the RIPPER. We recommend a one size step-down, (example 6" saw blade, 8" cables for 8" diameter pipe). **ALWAYS** use the proper skids for the pipe diameter you are cleaning to assure proper positioning of the RIPPER in the pipe. For 18" or larger pipes see our FlexKid suspension system.

Safety:

Use normal precautions and standard good practice when using a root saw with your flusher. Wear protective gloves when changing cables and handling the RIPPER to prevent puncture wounds. **THE RIPPER WILL CLIMB MANHOLE WALLS !!** Use a spotter when ripping. Common sense and typical good practice methods will provide safe operation of the RIPPER we take no responsibility for your actions.

Operation:

Clean as you normally would. Starting at the downstream manhole run the RIPPER upstream slowly with your flusher maintaining the recommended output for your hydraulic motor. Let the RIPPER do its work. When it is moving slowly it is working best. Watch your hose for any deflection which might indicate that the RIPPER has stopped rotating. When this occurs pull it back a few feet, wait ten seconds and then continue. When the upstream manhole is reached retrieve the RIPPER, again slowly. When possible storm sewers should be flushed prior to ripping to loosen and remove debris. This will minimize cable wear and prolong cable life. After use your cables will fray and deflect slightly at the hub. When this happens rotate them 180 degrees. When the cables have worn beyond the point of making good contact with the pipe they can be used in a smaller diameter pipe and still provide good cleaning (worn 10" cables 8" pipe).

For technical assistance contact your distributor or Rootripper, Inc. at (630) 207-3655