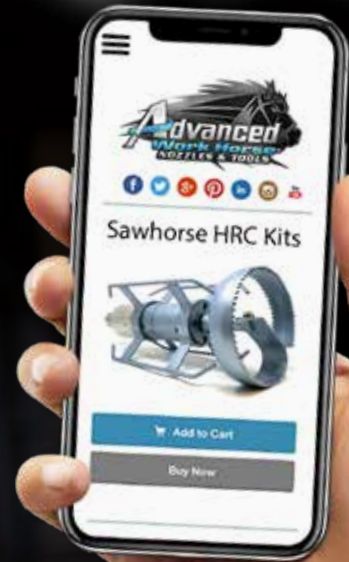


# ADVANCED WORK HORSE NOZZLES CATALOG 2019



**Maximize** ▶▶▶▶▶  
**Your Horsepower**

**PLEASE SUPPORT YOUR  
LOCAL WORKHORSE DISTRIBUTOR**

Visit us on Social Media



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## Introduction

Welcome to our **Advanced Work Horse®** line of sewer, pipe and storm drain cleaning nozzles and equipment. Our wide

variety of nozzles will equip your operators with the tools to tackle the majority of your jetting challenges regardless of the size or condition of the pipe. All of the Advanced Work Horse Nozzles offer the finest in engineering and design available for the sewer and pipe maintenance industry. **NDH™ - Near Diamond Hard - conical ceramic "sleeves"** (not disks) actually accelerate the water flow as it leaves the nozzle, generating an extraordinarily powerful jet blast which outperforms the competition.

## Manufacturer's Warranty

Advanced Infrastructure Technologies warrants all nozzles for one year from date of purchase, against defects in materials and workmanship. Should your nozzle fail before this time, please contact us for a return authorization. We will repair or replace the item without charge at our discretion. Kindly note that tampering, modifying or altering the characteristics of the nozzle in any way, may not only void this warranty, but also create a dangerous condition. This warranty is limited to the value of the nozzle only and does not include other potential damages such as loss of revenue or time, or damage to other equipment. We kindly request that all warranty claims be accompanied by proof of purchase documentation. Thank you.

## Safe Operation

All of the Advanced Work Horse nozzles and equipment have been manufactured for use with high water pressure and must be handled with extra caution. Please insure that you incorporate all of your daily required safety practices and devices when using this equipment. Only experienced operators who have been appropriately trained in their proper use should operate nozzles under industry working pressures. **Improper use may cause severe injury including death.** Please consult your distributor who will be pleased to offer training. A fee may be required.

## Nozzle Efficiency & Calculation

In order to properly configure your nozzles we have prepared a worksheet which will provide us the information needed to insure your nozzles will perform to their utmost for your specific application. Please see our suggested order form on page 15. Thank you for your interest in the most **Advanced nozzles** available to our industry today!

## Pipe Range Recommendations

Our tables list the recommended pipe range for each of our nozzles in our effort to help you achieve optimal performance. However, it is often possible to improvise, and use our nozzles in smaller and often in larger pipe sizes, outside the range recommended. Consult you dealer, or call us, we are happy to help you with any questions you have.

**We are here to help!**

**MAKE IT  
YOUR WAY!**

**WE WILL CUSTOM  
CONFIGURE A KIT  
—With Your—  
Choice of Nozzles.**

High Quality Pelican  
Case Included

Please Consult Your Dealer





# Everyday, Superior Cleaning – Economical Options

## LOWER COST ➔ HIGH VALUE

### Radial Nozzle - High Cleaning *Tier 2*

**Use: Everyday, high cleaning energy nozzle.** Very cost effective. Dual angled jets minimize streaking. Try this for “everyday” work, you will be pleased.

Hose Connection	Part Number*	Rearward Jets Part #	Weight (lbs.)	Dimensions (L" x Dia")	Pipe Range (inches)
1/2"	LHD-40.08	(6) 1503	.2	1.8 x 1.25	2-8
3/4"	LHD-40.12*	(8) 1503	1.3	3.1 x 2.4	6 and up
1"	LHD-40.16*	(8) 1503	1.3	3 x 2.4	6 and up
1 1/4"	LHD-40.20*	(8) 1503	2.6	4 x 2.75	8 and up

\* Add “FJ” to part number for optional “Front Jet”, not available in 1/2" model. An added charge applies.

25° & 35°

### Radial Mustang 6 - High Thrust *Tier 3*

**Use: Everyday, high thrust, water conservative nozzle.** Very cost effective, exceptional thrust. Can be run at very low pressures. Amazing performance in 6" and 8" lines.

Hose Connection	Part Number	Rearward Jets Part #	Weight (lbs.)	Dimensions (L" x Dia")	Pipe Range (inches)
1/2"	N/A*				
3/4"	LHD-42.12	(6) 1505	2.5	3.0 x 2.8	6 and up
1"	LHD-42.16	(6) 1505	2.5	3.0 x 2.8	6 and up
1 1/4"	N/A*				

\* These selections were not available at the time of the printing of this catalog edition. Please consult your dealer for current updates, as these tools may be available at the time of your request.

17°

### Radial Mustang 8 - High Cleaning *Tier 3*

**Use: Our newest and most efficient Radial cleaning nozzle.** Extraordinary cleaning power, this tool may be run at or below 1600 psi at the pump for terrific cleaning while saving water and fuel.

Hose Connection	Part Number	Rearward Jets Part #	Weight (lbs.)	Dimensions (L" x Dia")	Pipe Range (inches)
1/2"	N/A*				
3/4"	LHD-44.12	(8) 1505	2.5	3.0 x 2.8	6 and up
1"	LHD-44.16	(8) 1505	2.5	3.0 x 2.8	6 and up
1 1/4"	N/A*				

\* These selections were not available at the time of the printing of this catalog edition. Please consult your dealer for current updates, as these tools may be available at the time of your request.

20° & 25°

OPTIONAL FRONT JET-FJ  
(FJ not available in 1/2" model)



# General Cleaning, High Pull Solutions

## Grenade Nozzle *Tier 3*

**Use:** The “Gold Standard” for main lines 8” and larger. 10 rearward dual angled jets set the standard for large line cleaning. Advanced internal flow design yields extraordinary thrust compared to competitor versions. This nozzle exhibits remarkable performance and superior sediment control.

Hose Connection	Part Number	Rearward Jets Part #	Forward Jets	Weight (lbs.)	Dimensions (L" x Dia")	Pipe Range (inches)
1/2"	LHD-20.08	(8) 1503	N/A	3	4.125 x 2	3 and up
3/4"	LHD-20.12	(8) 1503	N/A	3	4 x 2	6 and up
1"	LHD-20.16	(10) 1505	N/A	6.5	5 x 3.125	6 and up
1 1/4"	LHD-20.20	(10) 1505	N/A	25	9 x 4.375	12 and up



## Torpedo 6 *Tier 3 – Improved!*

**Use:** For long pulls and hills, to assist in getting the hose to those difficult destinations. Our all new Torpedo 6 has been completely redesigned to improve thrust. 6 massive jets and a tier 3 flow chamber provide massive thrust.

Hose Connection	Part Number	Rearward Jets Part #	Forward Jets	Weight (lbs.)	Dimensions (L" x Dia")	Pipe Range (inches)
1/2"	LHD-61.08	(6) 1503	N/A	.4	3.8 x 1.6	3 and up
3/4"	LHD-61.12	(6) 1503	N/A	1.5	7 x 2.35	6 and up
1"	LHD-61.16	(6) 1503	N/A	1.5	7 x 2.35	6 and up



**Advanced has been designing and perfecting nozzles for over 15 years.** We have traveled the world to meet and exchange information with the foremost nozzle designers in the industry and have taken what we have learned to create a line of tools that you can trust will do the job they were intended to do – extraordinarily well. Don’t waste your huge investment by purchasing tools that are simply “shiny”, and yet will not do the job properly, as can be seen in the photo to the right.

When a nozzle is improperly designed, its jets will not flare correctly and the result will be streaking as seen in this photo.



# General Cleaning, Our Top Performer

## Phantom Grenade

**Use: Light weight alloy.** Advanced hollow hull and Tier 3 design creates unmatched efficiency. Wider angled jets distribute greater power to cleaning energy.

Hose Connection	Part Number	Rearward Jets	Forward Jets	Weight (lbs.)	Dimensions (L" x Dia")	Pipe Range (inches)
3/4"	LHD-23.12	(8) 1505	N/A	5	7 x 3.75	6 and up
1"	LHD-23.16	(8) 1505	N/A	5	7 x 3.75	6 and up
<b>New!</b> 1 1/4"	LHD-21.20	(8) 1505	N/A	5	7 x 3.75	6 and up

**NEW! Phantom Chrome:** Manufactured from Chromium Stainless Steel, for you bottom feeders! Our Phantom Chrome will endure the grinding associated with bottom cleaning and still give you the excellent cleaning performance of the Phantom design.

Hose Connection	Part Number	Rearward Jets	Forward Jets	Weight (lbs.)	Dimensions (L" x Dia")	Pipe Range (inches)
<b>New!</b> 3/4"	LHD-24.12	(8) 1505	NA	10	7 X 3.75	6 and up
<b>New!</b> 1"	LHD-24.16	(8) 1505	NA	10	7 X 3.75	6 and up

## The Incredible Advanced Phantom Grenade Outperforms Anything You Have In Your Current Arsenal.

**Reason Number 1** - The hollow hull of the Phantom, made from ultra lightweight alloy, allows us to manufacture the nozzle in a wider diameter. The wider diameter brings the jets closer to the pipe wall, shortening the travel distance of the jet stream. This reduced travel distance is critical in assuring maximum power is focused on the surface to be cleaned.

**Reason Number 2** - Nozzle designs employ a balance between thrust energy and cleaning energy. Heavy nozzles simply require a disproportionate allocation of available power be directed to thrust. The space age alloy used in the Phantom's hull results in a remarkably lightweight nozzle which allows us to spread the cleaning jets to a wider angle, and bias the power in favor of cleaning versus thrust, generating amazing cleaning force.

**Reason Number 3** - Advanced fluid dynamics mean greater conservation of energy: Less expensive nozzle designs give little attention to fluid dynamics, and tremendous energy is wasted in turbulence. The radiused stainless steel alloy Tier 3 flow chamber of the Advanced Phantom Grenade is ported and polished to provide optimum flow.

**Reason Number 4** - The worlds most advanced fuel injector technology utilizes conical ceramics which outperform other configurations: The leading competitors utilize ceramic "discs", like flat washers, to form the orifices of their nozzles. Of course ceramics are attractive due to their wear characteristics but "discs" are history. Premium industrial conical ceramic orifice technology actually accelerates the water stream as the flow path tapers on approach to the orifice, maximizing your horsepower.

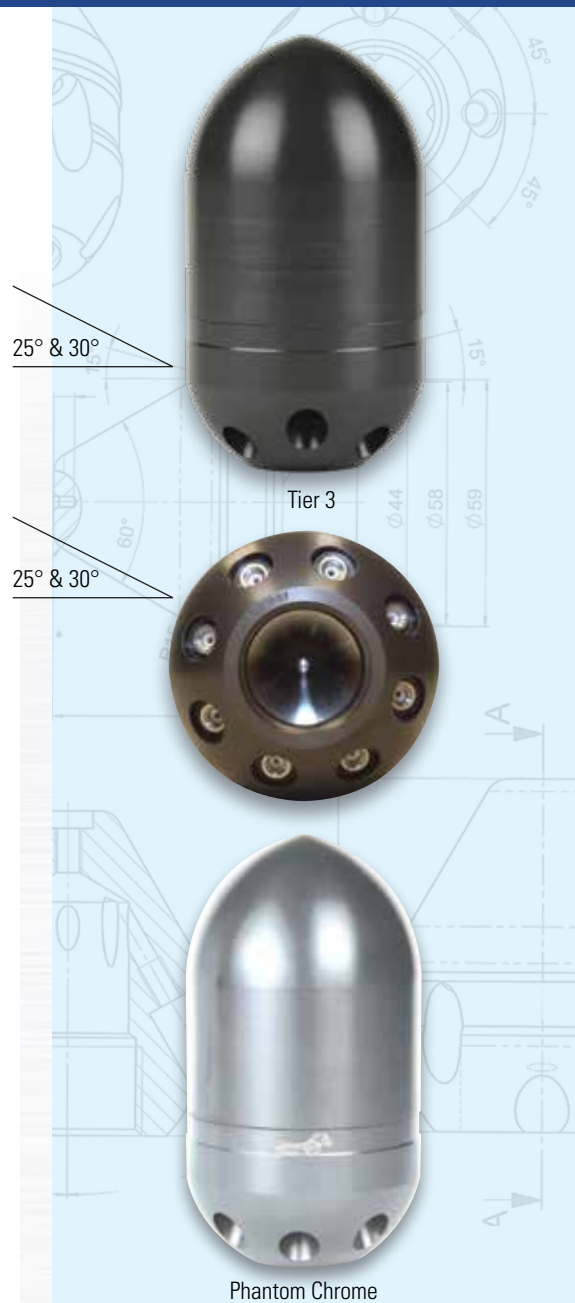
**Together these characteristics combine to create a nozzle which shatters grime and debris like no other.**

- Maximize Energy
- Clean Better
- Save Water

**The Advanced PHANTOM GRENADE™**



The Phantom's virtually unmatched design delivers grime blasting energy to the pipe wall. Streaking is virtually non-evident.





# Finish Cleaning, Forward Cleaning

## Spinners

Time tested designs offer great 360° cleaning performance in a cost effective tool. These nozzles do 90% of what any controlled rotation nozzle does, at a fraction of the cost. Do not count these tools out. Not recommended for root cutting.

### Attack Spinner *Tier 2*

**High cleaning energy delivery (ATK - Attack)**

**Use: Crown cleaning, finish cleaning (to remove streaks) and grease removal.**

The high speed spinning barrel has a pair of jets which are directed almost perpendicular to the pipe wall, delivering maximum cleaning energy to the task.

Hose Connection	Part Number	Rearward Jets	Spinning Jets	Weight (lbs.)	Dimensions (L" x Dia")	Pipe Range (inches)
1/2"	LHD-10.08	N/A	(4)1503	1	3.125 X 1.125	3-12
3/4"	LHD-10.12	(3) 1503	(4)1503	3	4 X 2.25	6 and up
1"	LHD-10.16	(3) 1503	(4)1503	3	4 X 2.25	6 and up
1 1/4"	LHD-10.20	(4) 1505	(4)1505	16	7.125 X 4	8 and up

25°

80° & 45°

### High Thrust Spinner *Tier 2*

**Use: Crown cleaning, finish cleaning (to remove streaks) and grease removal.**

Used where higher thrust is required than provided by the ATK version. All 4 spinning jets are directed rearward to provide cleaning with thrust assistance. Great for everyday cleaning.

Hose Connection	Part Number	Rearward Jets	Spinning Jets	Weight (lbs.)	Dimensions (L" x Dia")	Pipe Range (inches)
1/2"	LHD-12.08	N/A	(4) 1503	1 1/2	3.5 X 2.25	3-12
3/4"	LHD-12.12	(3)1503	(4) 1503	3	4 X 2.25	6 and up
1"	LHD-12.16	(3) 1503	(4) 1503	3	4 X 2.25	6 and up
1 1/4"	LHD-12.20	(4) 1505	(4) 1505	16	7.13 X 4	8 and up

25°

45° & 25°

### Forward Cleaning Spinner *Tier 2*

**Use: Cleaning in the "forward direction", away from the pump unit.** Some field conditions require that debris is displaced "forward", or away from the entrance to the pipe system and the operator.

Hose Connection	Part Number	Rearward Jets	Spinning Jets	Weight (lbs.)	Dimensions (L" x Dia")	Pipe Range (inches)
1/2"	LHD-11.08	(3) 1503	(4) 1503	1 1/2	3.5 X 2	3-12
3/4"	LHD-11.12	(4)1503	(4) 1503	3	4 X 2.25	6 and up
1"	LHD-11.16	(4)1503	(4) 1503	3	4 X 2.25	6 and up
1 1/4"	LHD-11.20	(4)1505	(4) 1503	16	7.125 X 4	8 and up

25°

45° & 25°

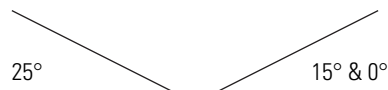


# Blockage Busting Solutions

## Chisel Point Nozzle *Tier 2*

**Use: Blockages of all types.** The Chisel point blockage nozzle is the “Gold Standard” for clearing all types of blockages. Use it to blast a hole in roots and grease, and then follow with your root cutter or grease clog tools. This technique saves wear and tear on your expensive controlled rotation nozzles, which are not especially proficient at opening blockages. This design is the time tested, ultimate cost-effective, blockage busting tool. Every jetter should have one on board as standard equipment. Use in lines of any size where blockages are a problem.

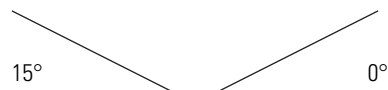
Hose Connection	Part Number	Rearward Jets	Forward Jets	Weight (lbs.)	Dimensions (L" x Dia")	Pipe Range (inches)
1/2"	LHD-30.08	(3) 1502	(4) 1502	.2	2.25 x 1.4	3 and up
3/4"	LHD-30.12	(3) 1503	(4) 1502	.8	2.75 x 1.75	4 and up
1"	LHD-30.16	(6) 1503	(4) 1503	1.3	3.4 x 2	6 and up
1 1/4"	LHD-30.20	(6) 1503	(5) 1505	2.2	4 x 2.4	8 and up



## Aquadrill Nozzle *Tier 2*

**Use: Opens blockages quickly, including grease and ice.** The substantial front jet drills in a rotating pattern to bore away at blockages while the rear thrusters drive the nozzle aggressively forward.

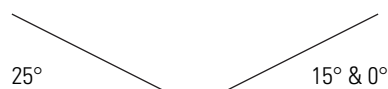
Hose Connection	Part Number	Rearward Jets	Forward Jets	Weight (lbs.)	Dimensions (L" x Dia")	Pipe Range (inches)
1/2"	LHD-31.08	(6) 1502	1 Aquadrill	.5	2.25 x 1.25	3 and up
3/4"	LHD-31.12	(8) 1503	1 Aquadrill	2	4 x 2.25	6 and up
1"	LHD-31.16	(8) 1503	1 Aquadrill	2	4 x 2.25	6 and up



## Super Chisel

This powerful large profile chisel is perfect for large lines and large capacity machines (1" and up, 80 gallons and up). It's massive size and Large 1505 NDH™ Jets will quickly rip through blockages. It goes in like a bullet, making a small hole as it punctures the blockage, and then rips out a massive opening to quickly relieve the surcharge.

Hose Connection	Part Number	Rearward Jets	Forward Jets	Weight (lbs.)	Dimensions (L" x Dia")	Pipe Range (inches)
1"	LHD-32.16	(6) 1505	(5) 1505	6.5	7.50 x 2.75	8 and up
1 1/4"	LHD-32.20	(6) 1505	(5) 1505	10	8.50 x 3.25	8 and up



***“Cleaning effectively is the all important goal.  
Maximizing performance is key.”***

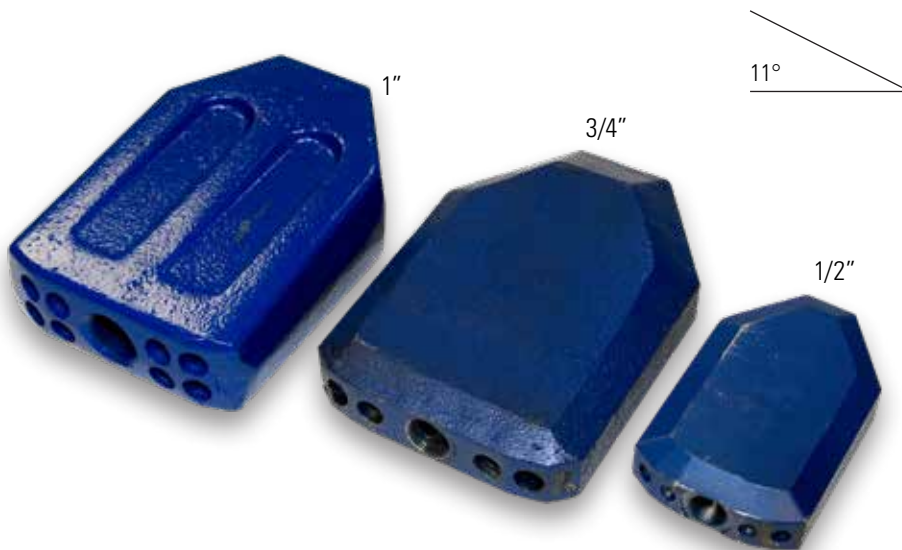
# Bottom Cleaning (sediment) Solutions

## Economical Bottom Cleaning Options

### Fluke Nozzle

**Use: Very effective bottom cleaner.** Concentrates all its power downward & rearward, blasting into and emulsifying silt. If you have only occasional use for a bottom cleaner consider this economical option.

Hose Connection	Part Number	Rearward Jets	Forward Jets	Weight (lbs.)	Dimensions (L" x W" x H")	Pipe Range (inches)
1/2"	LHD-70.08	(4) 1505	N/A	5	6 x 3.5 x 1.25	6 and up
3/4"	LHD-70.12	(4) 1505	N/A	13	8.5 x 6 x 3	8 and up
1"	LHD-70.16	(8) 1505	N/A	18	9 x 6 x 3.5	12 and up



Our Flukes are now available with our no-maintenance, stainless steel, high pressure swivel:

Hose Connection	Part Number	Rearward Jets	Forward Jets	Weight (lbs.)	Dimensions (L" x Dia")	Pipe Range (inches)
3/4"	LHD-75.12	(4) 1505	N/A	16	12 x 6 x 3	8 and up
1"	LHD-75.16	(8) 1505	N/A	21	12 x 6 x 3.5	12 and up

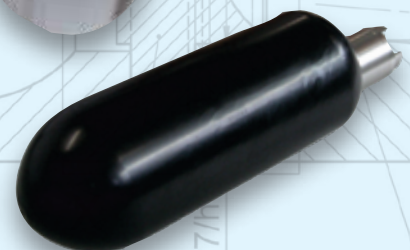
## INTRODUCING: The Bottom-Bomb!

**Our Bottom-Bomb**, Model BB-9 is a simple, incredibly effective, bottom cleaning nozzle. Internal ballast keeps the powerful jets on the bottom of the pipe and the maintenance free swivel protects your hose from twisting.

Hose Connection	Part Number	Rearward Jets	Forward Jets	Weight (lbs.)	Dimensions (L" x Dia")	Pipe Range (inches)
1"	LHD-76.16	(7) 1505	N/A	37	5.5 x 17.5	12 and up
1-1/4"	LHD-76.20	(9) 1505	N/A	54	6.25 x 19.5	15 and up

**CAUTION!** These nozzles move a tremendous amount of sediment compared to conventional cleaning nozzles. Special instruction may be required to use these nozzles effectively. Please consult your authorized dealer.

100% of  
AVAILABLE  
**ENERGY**  
FOCUSED  
DIRECTLY



Internal ballast keeps this nozzle properly oriented for maximum performance



# Bottom Cleaning (sediment) Solutions

## Our Most Powerful Bottom Cleaning Tools!

### Bulldozer Nozzle

**Use:** The Bulldozer nozzle is the gold standard for sediment removal. Ideal for 12" and larger lines. Superior quality stainless steel swivel connectors on all our Bulldozers

Hose Connection	Part Number	Rearward Jets	Forward Jets	Weight (lbs.)	Dimensions (L" x W" x H")	Pipe Range (inches)
3/4"	LHD-71.12	(6) 1505	N/A	29	16 x 7 x 7	12 and up
1"	LHD-71.16	(6) 1505	N/A	29	16 x 7 x 7	12 and up
1 1/4"	LHD-71.20	(10) 1505	N/A	81	21 x 9 x 8	18 and up

### Power Bulldozer

**Use:** The big brother of our popular Bulldozer. More powerful, bigger!

Hose Connection	Part Number	Rearward Jets	Forward Jets	Weight (lbs.)	Dimensions (L" x W" x H")	Pipe Range (inches)
1"	LHD-72.16	(8) 1505	N/A	57	21 x 9 x 8	18 and up
1 1/4"	LHD-72.20	(14) 1505	N/A	87	24 x 11 x 9	24 and up

*We are often asked about the number of jets for cleaning. **Fewer jets means each individual jet is more powerful,** and when it comes to emulsifying silt, this is significantly so.*



**CAUTION!** These nozzles move a tremendous amount of sediment compared to conventional cleaning nozzles. Special instruction may be required to use these nozzles effectively. Please consult your authorized dealer.

- Roll Cage Design
- Ballast Keeps These Tools Upright
- Stainless Swivels Protect Your Hose



# Root Cutters

## Spider 50

**Use: The ultimate preparation tool kit for liner installers.** The shortened body of this powerful root cutter allows it to navigate clean-outs and curves in laterals. This is the Plumber's standard in Europe. Kit comes with three spinning barrels which include: link chain (shown), roller chain and poly-filament cutters with spare chains and poly filament.

Hose Connection	Part Number	Rearward Jets	Spinning Jets	Weight (lbs.)	Dimensions (L" x Dia")	Pipe Range (inches)
1/2"	LHD-05.08	(3) 1503	(3) 1503	1.5	3.75 x 2	4-6
1/2"	LHD-05.08KIT	(3) 1503	(3) 1503	5	3.75 X 2	4-6

20°

90°

## Spider 60

**Use: The Spider 60 chain cutter will pulverize roots and remove many type of deposits.** Sized to work best in 6" to 8" pipe applications. Four hardened runners centralize the nozzle exceptionally. Comes with one set of (3) chains. Specify desired size.

Hose Connection	Part Number	Rearward Jets	Spinning Jets	Weight (lbs.)	Dimensions (L" x Dia")	Pipe Range (inches)
3/4"	LHD-52.12	(4) 1504	(4) 1504	10	14 X 3.5	6-10
1"	LHD-52.16	(4) 1503	(4) 1503	10	14 X 3.5	6-12

Although the Spider 60 is recommended for pipe ranges of 6"-10", it may also be used for light applications in 12" pipe.

20°

90°

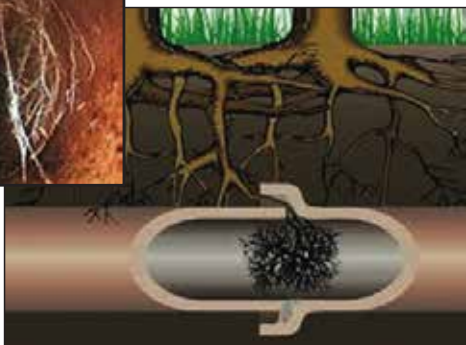
## Spider 80

**Use: Many uses including root pulverizing and removal of tough grease deposits of many types.** The larger motor obliterates roots in 8" - 12" lines. Four hardened and adjustable runners. Comes with one set of (3) chains. Specify desired size.

Hose Connection	Part Number	Rearward Jets	Spinning Jets	Weight (lbs.)	Dimensions (L" x Dia")	Pipe Range (inches)
3/4"	LHD-50.12	(4) 1504	(3) 1504	16	17.5 X 3.5	8-12
1"	LHD-50.16	(4) 1503	(3) 1503	16	17.5 X 3.5	8-12

20°

90°



**Actual photo after cleaning with inferior tools and set up**

Courtesy Summerland, Ca.



# Root Cutters

## Chain Sets

Imported, hardened link chain to replace your worn stock sets. Each set includes 3 lengths of chain, cut to match the pipe size required and includes re-placement hardware for securely mounting your chains.

Spider Model	Pipe Size	Part No.
50	3	LHD-05.200-3
50	4	LHD-05.200-4
50	6	LHD-05.200-6
50	Bulk (length in meters)	LHD-05.200-B
60	6	LHD-50.200-6
60	8	LHD-50.200-8
60	10	LHD-50.200-10
80	8	LHD-52.200-8
80	10	LHD-52.200-10
80	12	LHD-52.200-12
60/80	Bulk (length in meters)	LHD-50.200-B
250/450	Bulk (length in meters)	LHD-58.200-B

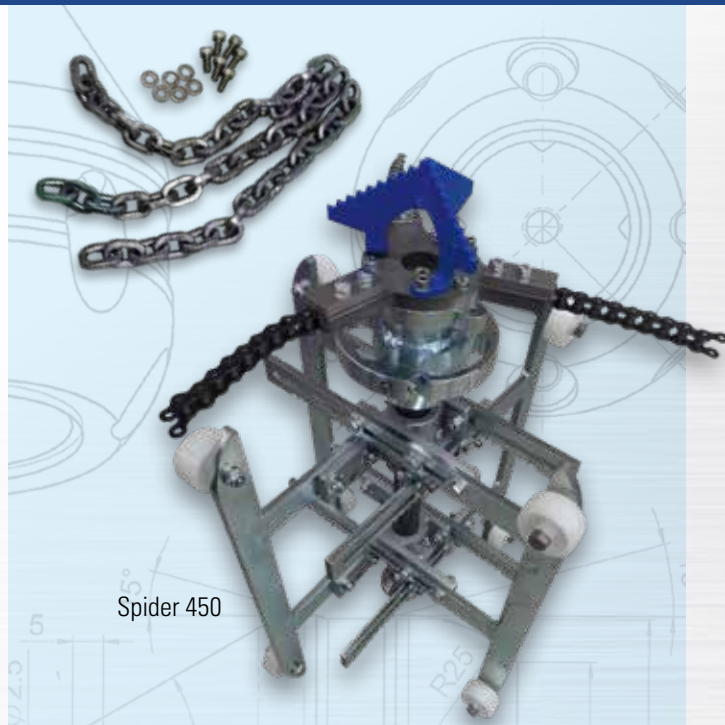
## Order Your Spider 60 & 80 as a Kit



Spider Model	Kit Size	Part No.
Spider 60	3/4"	LHD-52.12KIT
Spider 60	1"	LHD-52.16KIT
Spider 80	3/4"	LHD-50.12KIT
Spider 80	1"	LHD-50.16KIT

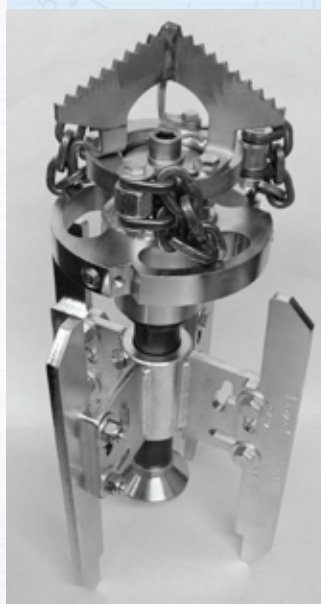
**These handy kits offer great added value. Keep everything right where you can find it when you need it. Kits include:**

- Tool Box
- 2 extra sets of chain with mounting hardware
- Wrenches to adjust skids
- T-Handle allen wrench to attach chains
- Loctite
- WD-40
- Compressed air



Spider 450

Spider Model	Part No.
1" Spider 250	LHD-53.16
1" Spider 450	LHD-58.16



Newly added  
to our line!  
Spider 250  
and Spider 450

Spider 250

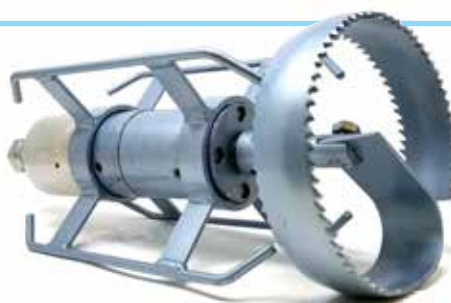
SPIDERS APPLICATION CHART

Spider Model	4"	6"	8"	10"	12"	15"	18"	21"	24"	27"	30"	36"
50												
60												
80												
250												
450												



# Hydraulic Root Cutter Kit and Accessories

Part Number	Hydraulic Root Cutter (HRC) Part/Kit
AW4400	HRC Motor Assembly
AW4403	HRC Seal Washer
AW4404	High Pressure Thrust Nozzle
AW4400-K6	HRC 6" Kit
AW4400-K8	HRC 8" Kit
AW4400-K10	HRC 10" Kit
AW4400-K12	HRC 12" Kit

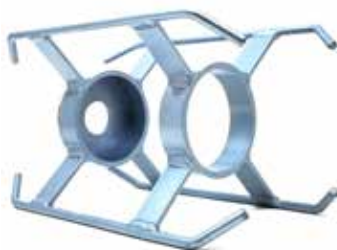


Our Sawhorse HRC Kits include: High torque motor, sealing washer, high thrust nozzle, skid, root saw chuck, super duty concave root saw, assembly wrench, and maintenance crank

## Skids

Properly centralize your root cutter, and maximize saw efficiency and blade life. Special sizes available as special order, including 15" and 18".

The skid pictured is a 10" skid. This skid comes in several sizes.



## Root Saws

Our Super Duty root saws are manufactured from hardened tool steel, which is 25% beefier than our competitors standard blades. The concave design helps to protect the pipe walls from accidental damage. Our blades are heat treated to the ideal hardness, yielding the perfect combination of hardness, for exceptional wear, and ductility, for toughness in use.



## Chucks

Chucks (left to right) root saws, spring blades and a root saw + spring blade combination chuck.



Chuck Style	Part No.
Root Saw Chuck	AW2104
Spring Blade Chuck	AW2107
Combination Chuck	AW2108

## Spring Blades

Our unique spring blades are manufactured from hardened spring steel. The cutting blades are sharp, and feature ground notches, to catch the smaller roots that try to slide by the blade. Our blades will become your standard. **Ask about our no risk trial!**



## HRC Tools

Pipe Size	Skids	Root Saws	Spring Blades
3"			
4"			
6"	AW4409-6	AW2004-6	AW2111-6
8"	AW4409-8	AW2004-8	AW2111-8
10"	AW4409-10	AW2004-10	AW2111-10
12"	AW4409-12	AW2004-12	AW2111-12
15"			AW2111-15

# High-Flow Tools 80+ GPM

## Phantom Chrome

Manufactured from Chromium Stainless Steel, for you bottom feeders! Our Phantom Chrome will endure the grinding associated with bottom cleaning and still give you the excellent cleaning performance of the Phantom design.

Hose Connection	Part Number	Rearward Jets	Forward Jets	Weight (lbs.)	Dimensions (L" x Dia")	Pipe Range (inches)
<b>New!</b> 3/4"	LHD-24.12	(8) 1505	NA	10	7 X 3.75	6 and up
<b>New!</b> 1"	LHD-24.16	(8) 1505	NA	10	7 X 3.75	6 and up



## Super Grenade

The massive Super Grenade has been a large flow, large line cleaning standard forever. Our Super Grenade is manufactured from hardened tool steel for exceptional wear, and features 10 dual angle jets. It's formidable size keeps it on the bottom of large lines, flushing massive amounts of sediment, rocks and debris.

Hose Connection	Part Number	Rearward Jets	Spinning Jets	Weight (lbs.)	Dimensions (L" x Dia")	Pipe Range (inches)
1"	LHD-22.16	(10) 1505	NA	21	8 x 4	10 and up
1-1/4"	LHD-22.20	(10) 1505	NA	28	9.2 x 4.4	12 and up



## Bottom-Bomb

**Our Bottom-Bomb**, Model BB-9 is a simple, incredibly effective, bottom cleaning nozzle. Internal ballast keeps the powerful jets on the bottom of the pipe and the maintenance free swivel protects your hose from twisting.

Hose Connection	Part Number	Rearward Jets	Forward Jets	Weight (lbs.)	Dimensions (L" x Dia")	Pipe Range (inches)
1"	LHD-76.16	(7) 1505	N/A	37	5.5 x 17.5	12 and up
1-1/4"	LHD-76.20	(9) 1505	N/A	54	6.25 x 19.5	15 and up

**CAUTION!** These nozzles effectively move a tremendous amount of sediment compared to conventional cleaning nozzles. Special instruction may be required to use these nozzles effectively. Please consult your authorized dealer.

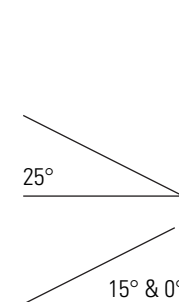


Internal ballast keeps this nozzle properly oriented for maximum performance

## Super Chisel

This powerful large profile chisel is perfect for large lines and large capacity machines (1" and up, 80 gallons and up). It's massive size and Large 1505 NDH™ Jets will quickly rip through blockages. It goes in like a bullet, making a small hole as it punctures the blockage, and then rips out a massive opening to quickly relieve the surcharge.

Hose Connection	Part Number	Rearward Jets	Forward Jets	Weight (lbs.)	Dimensions (L" x W" x H")	Pipe Range (inches)
1"	LHD-32.16	(6) 1505	(5) 1505	6.5	7.50 x 2.75	8 and up
1 1/4"	LHD-32.20	(6) 1505	(5) 1505	10	8.50 x 3.25	8 and up



## Power Bulldozer

**Use:** The big brother of our popular Bulldozer. More powerful, bigger!

Hose Connection	Part Number	Rearward Jets	Forward Jets	Weight (lbs.)	Dimensions (L" x W" x H")	Pipe Range (inches)
1"	LHD-72.16	(8) 1505	N/A	57	21 x 9 x 8	18 and up
1 1/4"	LHD-72.20	(14) 1505	N/A	87	24 x 11 x 9	24 and up



# NOM = Nozzle Orientation Management

## Proofers: Your new secret weapon.

What if we told you it is possible to stop your nozzle automatically, right in the region of the worst problems in your pipe? You can! Use our high grade proofers. This nozzle extension type is constructed with runners that are sized slightly smaller than the pipe I.D. (about 1" smaller), and designed so that they are collapsible - one end is fixed and the other end floats freely. This design prevents them from becoming permanently lodged where offsets or protrusions would jam traditionally constructed nozzle extensions. If you can clean an entire pipe segment, manhole to manhole, **with a proofer on your hose, you can be confident that line is very well cleaned, in fact you have "Proved" it.**

Hose Connection	Part Number	Dimensions (L" x Dia")	Pipe Range	Rated (Pressure Max)
3/4"	AW4001-6	19 x 5 .25	6 and up	3000
3/4"	AW4001-8	19 x 7 .25	8 and up	3000
3/4"	AW4001-10	21 x 9 .25	10 and up	3000
1"	AW4002-6	19 x 5 .25	6 and up	3000
1"	AW4002-8	19 x 7 .25	8 and up	3000
1"	AW4002-10	21 x 9 .25	10 and up	3000
1"	AW4002-12	23 x 11.25	12 and up	3000



**10 precision manufactured**, equally sized, hardened steel, replaceable runners produce a near perfect cylinder shape.

**Grade 8** double bolted clamps assure solid construction



A high pressure **forged coupling** with a **hex section** for secure attachment and easy disassembly



**Precision machined and buffed threads** prevent accidental cuts on operators' hands

Trust Advanced's Quality execution in tool design and manufacturing.

Centering your nozzle in the pipe shortens the jet path length where it is most critical to clean your pipes - above the water line - **Maximize Your Horsepower™!**

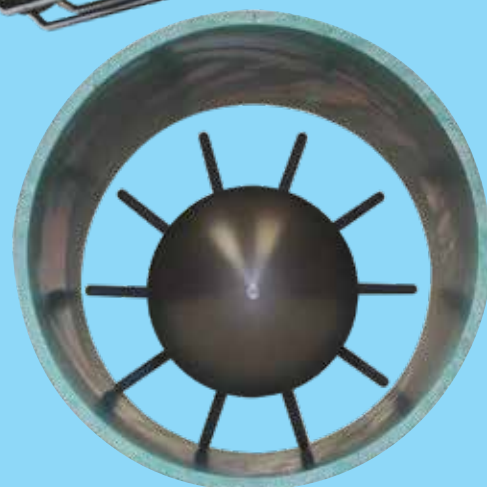
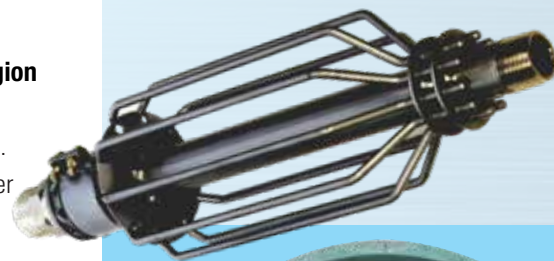


**CENTERING - YES!**



**CATFISHING - NO**

*The proofer design stops your nozzle exactly at the spot where heavy roots or grease are present, giving the nozzle a chance to work. **Your secret weapon against SSO's.***



The Phantom Grenade shown on an 8" proofer in an 8" pipe. **Perfect jet pattern, near perfectly centered in the pipe.**



The worst problems in the vast majority of sewer pipes is above the water line.



# SAY GOODBYE TO HAND RODDING & TREACHEROUS, OVERBUILT EASEMENT MACHINES!

**NEW!**

## EC1 Easement Cart

This easement machine is the real deal! Finally, an easy to maneuver, super performing and easy to use Easement Machine. For about the cost of the trailer for all the others, this easement machine will get you to all those tough places, making cleaning in hard to access easements a walk in the park!

Part Number	Weight (lbs)	Dimensions (L" x H" x W")
AW3200	175*	29 x 31 x 30**

\* without water in hose reel

\*\* with pole in storage position



- 1" or 3/4" swivel connect to your jetter
- Ball shutoff valve
- Pressure gauge
- Resettable footage counter



At just 30" wide, the EC1 is easily the most navigable easement machine available!



Transportable in wheelbarrow mode or hand truck mode.

### Well thought out design features include:

- Ball valve shut off
- Pressure gauge
- Resettable footage counter
- 300' of 1/2" hose
- Ratchet rewind handle
- Ground positioning stakes
- Leader Hose and Tiger Tail



## Advanced Workhorse Nozzles Selection Chart

Condition	Nozzle Solution	Part No.*	Page No.
Blockages	Chisel	LHD-30.XX	7
	Aquadrill	LHD-31.XX	7
	Super Chisel	LHD-32.XX	7
	Spider 50	LHD-05.08	10
	Spider 60	LHD-52.XX	10
	Spider 80	LHD-50.XX	10
Bottom of Pipe	Bulldozer	LHD-71.XX	9
	Phantom Chrome	LHD-24.XX	5
	Power Bulldozer	LHD-72.XX	9
	Fluke	LHD-70.XX	8
	Grenade	LHD-20.XX	4
	Bottom Bomb	LHD-76.XX	8
Encrustations	Spider 50	LHD-05.08	10
	Spider 60	LHD-52.XX	10
	Spider 80	LHD-50.XX	10
Forward Cleaning	Forward Spinner	LHD-11.XX	6
General Cleaning	Radial, Mustang 6 & 8	LHD-40.XX	3
	Grenade	LHD-20.XX	4
	Phantom Chrome	LHD-24.XX	5
	Phantom Grenade	LHD-21.XX	5
	Spinners	LHD-10.XX	6
Grease	Radial, Mustang 6 & 8	LHD-40.XX	3
	Phantom Grenade	LHD-21.XX	5
	Spinners	LHD-10.XX	6
	Spider 50	LHD-05.08	10
	Spider 60	LHD-52.XX	10
	Spider 80	LHD-50.XX	10
	Hydraulic Root Cutter	AW4400-KXX	12
High Flow Tools (80+ GPM)	Phantom Chrome	LHD-24.XX	13
	Super Grenade	LHD-22.16	13
	Super Chisel	LHD-32.XX	13
	Bottom Bomb	LHD-76.XX	13
	Power Bulldozer	LHD-72.XX	13
Hills, long lines	Torpedo	LHD-60.XX	4
	Mustang 6	LHD-42.XX	3
Roots	Spider 50	LHD-05.08	10
	Spider 60	LHD-52.XX	10
	Spider 80	LHD-50.XX	10
	Spider 250/ 450	LHD-53/58	11
	Hydraulic Root Cutter	AW4400-KXX	12
Sand, Sediment	Grenade	LHD-20.XX	4
	Fluke	LHD-70.XX	8
	Bottom-Bomb	LHD-76.16	8
	Bulldozer	LHD-71.XX	9
Top of pipe, Crown	Power Bulldozer	LHD-72.XX	9
	Radial, Mustang 8	LHD-40.XX	3
	Phantom Chrome	LHD-24.XX	5
	Phantom Grenade	LHD-21.XX	5
	Spinners	LHD-10.XX	6

\* XX for Part Numbers Denotes Hose Size

## Ceramic Inserts

Ceramic inserts had been pioneered in Europe, where for years they have been using only reclaimed water for sewer and storm drain cleaning. Reclaimed water has a much higher mineral and particulate content than fresh water, which wrecks havoc on nozzles. Ceramics were employed to create orifices because of their hardness and competitive cost. However, until recently, only ceramic discs, like flat washers, were commercially available. Those discs generate significant turbulence. Picture a water stream under pressure, rushing down a channel (the internal bore of an insert) only to reach the end where all must exit through a single tiny hole. All those water molecules jostling for the exit! Cavitation is the result, a form of extreme turbulence, which robs performance. Flow straighteners mask the problem, unintentionally limiting the amount of water that will reach the exit.



Our nozzles feature conical ceramic “sleeves”, borrowed from fuel injector technology, which cause the water flow to accelerate as the flow path narrows, **minimizing turbulence and maximizing hitting power** as the water jet leaves the orifice.



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## Nozzle Calibration

Choosing the correct nozzle for your application is the first important step in achieving more competent cleaning performance. The second step is accurately calibrating your nozzle based upon the pressure (PSI), flow (GPM) and resistance (hose length in feet) of your equipment. Working together we are about to **maximize your horsepower!** Please provide the following information. (Fields with an \*are required):

Manufacturer of jetter

Size of hose

Length of hose\*

Flow in GPM\*

PSI of pump\*

Comments



**Please support your local authorized distributor:**



Call: 1-800-362-0240  
Email: sales@mtechcompany.com



Scan using your  
phone's camera

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