

Pipeline Television Inspection System

This sewer television system is delivered complete, ready for operation. The system includes a pan & tilt camera and transporter with light head capacity from 6" to 36" lines. Components can be used with the base unit including a small diameter color camera for pull, push or tractor applications. A mainline lateral launch camera system is also included.

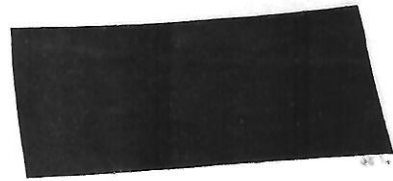
- 1 Ford F450 16' hi-cube van, 16500 GVWR, 6.8L gas engine. See detailed specs for full vehicle specifications, to which Aries includes:
 - 2 Full width rear bumper steps, high grip tread
 - 1 32" wide high grip tread step, hinged, with positive locking positions
 - 1 Backup alarm
 - 2 Arrow bars, 1ea mounted front and rear, with controls in cab
 - 2 Adjustable floodlights, mounted above rear doors
 - 2 Amber strobe lights, 1ea mounted front and rear of roof, with controls in cab

Truck Chassis

205" wheelbase, 120" cab-to-axle
16,500lb gross vehicle weight rating
Front GAWR 6500lb, coil spring suspension with 32mm stabilizer bar and 1.38" diameter gas shock absorber
Rear GAWR 12000lb, multi-stage leaf suspension with 27mm stabilizer bar and 1.38" diameter gas shock absorber
(6) tires, 225/70R19.5G BSW A/S
(6) wheels, 19.5" x 6.00" steel disc 10-hole
Power steering
Hydraulic front and rear disc brakes
12V alternator, 200A
12V 78A·h 750CCA automotive battery
ICC running lights plus standard lights including stop, turn, reverse, plate, and 4-way
Mud flaps
40g fuel tank, driver's side fill
Front tow hooks
7-pin trailer harness

Drivetrain

6.8L EFI gas V10 engine, 362hp @ 4750rpm, 457lb·ft @ 3250rpm
Differential ratio 4.88, limited slip
Heavy-duty automatic 6-speed transmission with overdrive
Dry type air filter
Spin on type oil filter, disposable type
Fuel filter
Heavy-duty cooling system
Engine block heater
PTO provision with cab switch



Cab

Fresh air heater and defrosters, with supplemental cab heater
Cab air conditioning
AM/FM/CD/MP3 radio
40/20/40 vinyl split front bench seat with center armrest, cupholder, storage, and manual driver-side lumbar support
Molded black cab steps
Intermittent windshield wipers with washers
12V dome light
Dual rear view mirrors, external, manual swing-away type with standard top and convex bottom section, retractable and adjustable
Tilt steering wheel
Steering wheel mounted cruise control

Hi-Cube Body

Aluminum construction
84" interior clear height
96" exterior width
Minimum interior load space of 190"
Flat floor with undercoating
Rear door grab handles, qty.2
Full opening rear doors with 3 hinges per door, cam lock, and positive hold-open clamps at head height
Side door, 24" wide, with qty.3 RV-style pull out steps and grab handle

1 7,000W, gas powered, commercial grade generator, 120V, 60 Hz, with electric local and remote start/stop control to include:

- 1 Generator enclosure lined with fire retardant and noise reduction material
- 1 Hinged, vented cover with lock mechanism and air spring supports
- 1 Exhaust system with internal muffler
- 1 Auxiliary battery, 12V DC and case
- 1 DC converter, 45A
- 1 Electric distribution panel and circuit breaker box, 16-space
- 1 Electric supply transfer system, house power or generator system, automatic, 50A
- 1 35' cord and house power receptacle with cover
- 1 System engineering panel to include:
 - 1 Generator volt meter
 - 1 Generator frequency meter
 - 1 Generator hour meter
 - 1 Generator start/stop switch

1 Box body "Command Center" control room interior including:

- 1 Lonplate non-skid floor covering
- 1 Brune Slate Formica laminated surface wall covering
- 1 White embossed ceiling cover
- 1 Bulkhead wall with sliding Plexiglas window and swing passage door to equipment room
- 1 Roof mounted air conditioner, 13500 BTU with 5600 BTU heat strip
- 1 Wall mounted 1500-Watt heater
- 1 Modular control center, 19" rack mounted above the bulkhead window

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- 1 Ergonomically contoured and finished control desk
- 1 Fluorescent lighting system
- 3 Quad grounded 120V AC sockets
- 1 Duplex grounded 120V AC sockets
- 1 Operator chair, swivel with casters
- 1 Padded bench seat with storage underneath
- 1 Closet/cabinet/storage space, 20"W x 20"D x 60"H, minimum 4 removable shelves

- 1 Box body equipment room interior including:**
 - 1 Aluminum treadplate non-skid floor covering
 - 1 Embossed aluminum laminated surface wall covering
 - 1 White embossed ceiling cover
 - 4 Quad electrical outlets, 120V AC grounded
 - 1 Duplex weatherproof GFCI electrical outlet, 120VAC
 - 1 Fluorescent lighting system
 - 1 Set equipment storage brackets and hooks
 - 1 Work bench with Lonplate worktop and vise
 - 1 9-drawer tool chest
 - 1 Storage cabinet over work bench approximately 4' long with fluorescent light underneath
 - 1 Tie down brackets, shipped loose for floor installation
 - 1 Fire extinguisher, 10lb, 4A60 B:C rating, OSHA/DOT-approved
 - 1 Equipment aluminum storage shelves, 2 levels, 36x18, between reel and bulkhead

- 1 Water wash down system for equipment clean-up including:**
 - 1 Water storage tank, 25-gallon
 - 1 Set of fill, vent and drain connections
 - 1 Water tank demand pump
 - 1 25' retractable wash down hose with spring-loaded hand nozzle

- 1 Equipment hoist, 500lb. rating**
 - 1 Mounting kit for side of TV reel

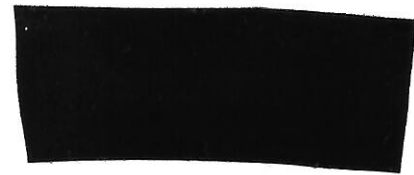
- 3 17" LCD flat panel multimedia monitor**
 - 2 Mounted to control room desktop
 - 1 Mounted rear facing in the equipment room

- 1 Rack-mounted computer and video overlay system, including:**
 - 1 VL5000 data logging overlay module, rack mounted
 - 1 Industrial hardened case with air filtering, shock mounts for hard drive and CPU fan, peripheral cards support bar, 19" rack, 3U high
 - 3.2GHz Intel Quad Core i5 processor
 - 8GB of RAM, DDR3
 - 1TB SATA hard drive, 7200rpm, storage
 - 120GB solid state hard drive, boot
 - (2) RJ45 ethernet ports
 - (8) USB ports, (2) located on front of PC
 - DVD burner, 48x CD-R, 36x CD-RW, 24x DVD±R, 16x DVD-ROM, 8x DVD+R, 6x DVD-R, 12x DVD±DL
 - 1 Wireless keyboard and optical mouse
 - 1 Windows 7 operating system, 64-bit

- 1 1TB USB-connection external hard drive
 - 1 UPS back-up battery system, rack mount
 - 1 Ink Jet printer, color, HP, USB port
 - 1 Microphone with on/off switch for placing audio onto inspection video
 - 1 Video capture device for post-delivery IT Pipes software installation
- 1 Color TV power control unit, multi-conductor, modular control center mount, with:**
- 1 Camera power supply with adjustable voltage and amp level, DC amp and voltmeters, on/off switch and circuit breaker
 - 1 TV camera light head intensity control with on/off switch and circuit breaker
 - 1 Light head power supply with DC amp and voltmeters, switch and circuit breaker
 - 1 Light head power selector switch, 5-position with light head bulb overdrive auto resetting protective circuit breaker
 - 1 Set pre-wired connections for tractor and/or pan and tilt camera controllers
- 1 Aries PE3410 Pathfinder series zoom pan and tilt camera w/ high intensity LED light ring and integrated self-cleaning lens wiper system, including:**
- Pathfinder zoom pan and tilt camera w/ multi-axis continuous rotation
 - Integrated self-cleaning lens wiper system
 - 40X zoom (10X optical & 4X digital)
 - Maintenance-free forward facing true color warm white directional LED lighting modules, positioned in the arms of the camera
 - Maintenance-free true color warm white directional LED directional lighting system with for inspecting up to 36" pipelines
 - White balance optimization with (4) selectable settings
 - "Starlite" light enhancement feature with (4) user selectable enhancement steps
 - "One Touch Scanning" feature with (2) user selectable continuous joint scan presets
 - "Quick Look" preset view positions (6) (Up, Down, Right, Left, Lat R, Lat L)
 - Fast-check pressure monitoring system
 - On-screen camera diagnostics functions including:
 - Camera model, serial number, software revision
 - Camera operating hours, regulated voltage value, head temperature
 - Camera internal pressure, control error recognition, LED current value
 - 1 Camera/tractor storage and transport case
 - 1 Camera recharge kit
- 1 Desktop dual mode camera controller including: joystick for axial rotation and pan and tilt angle; remote focus; zoom in/out; home, diagnostics, white balance, Starlite, and preset switches**
- 1 Aries TR3310 Pathfinder steerable self-propelled transporter for relined 6" to 24" lines, including:**
- 1 Tractor assembly with continuous duty drive motors
 - 6 3" narrow rubber wheels
 - 2 3" rubber wheels
 - 4 4" rubber wheels
 - 4 4" extended hub rubber wheels
 - 4 5" extended hub rubber wheels
 - 1 Fast-check pressure monitoring system
 - 1 Integrated inclinometer system

- 1 Remotely-operated electric camera lifting mechanism
- 1 Rear viewing camera with LED lighting
- 1 512 Hz internal locating beacon
- 1 Storage and transport case
- 1 Set maintenance parts
- 1 Tractor power supply and control module with volt and amp meters, circuit breakers (2), on/off switch and direction control display, rack mount location
- 1 Hand-held Pathfinder series tractor controller
- 1 Foot pedal controller, fwd/rev only, at rear of vehicle
- 2 4" carbide impregnated high traction wheels
- 2 4" extended hub carbide impregnated high traction wheels
- 1 Large diameter pipe kit with geared side rails and 8" diameter rubber tires for operation up to 36" lines
- 1 **Pathfinder cable and reel assembly, including:**
 - 1 Heavy-duty frame, drum and motor assembly with clutch and cable level wind assembly
 - 1 Footage meter with local LCD footage display and encoder for footage signal to remote video data display system
 - 1 Hand held reel controller with 20' cable
 - 1 Emergency hand crank arm
 - 1 1000' of lightweight low friction multi-conductor cable
 - 1 Spare cable termination kit
 - 1 Sealed continuous contact collector assembly, 12 slip rings minimum
 - 1 Telescoping swivel cable guide roller assembly
 - 1 Mounting bridge with tractor storage underneath
 - 1 Drip pan with drain
 - 1 Interconnect cable to TV system electronics
- 1 **Television cable reel with power level wind, electric motor drive, and multi-ratio manual transmission, to include:**
 - 1 Footage meter on TV reel level wind assembly with local mechanical footage readout and encoder for footage signal to remote video data display system
 - 1 Transmission control linkage at control console
 - 1 Local reel mount electrical and mechanical control
 - 1 Remote desktop electrical and mechanical controls
 - 1 Sealed continuous contact collector assembly, 12 slip rings minimum
 - 1 Drop down cable guide assembly
 - 1 24-pin switchover and test cable system
 - 1 Drip pan with drain
- 1 **Combination TV transmission and tow cable assembly, .43" diameter, Kevlar™ armored, 2,000 lb. rating, 1,000' Red Maxx, to include:**
 - 1 Cable terminal connector, 12-pin molded
 - 1 Dummy plug, 12-pin
 - 1 Tow/tag line bridle set, multi-conductor cable
 - 1 Clam-shell style strain relief
 - 1 Cable terminal repair kit

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- 1 **Aries LE3260 Lateral Evaluation Televising System (LETS) with fixed locating camera, including:**
 - 1 Tractor/launcher assembly with
 - Front viewing camera
 - Rear viewing camera
 - Tip-up connector
 - Lateral launcher with rotation and insertion angle positioners, and push cable drive
 - Lateral footage encoder
 - 6 Each of 3", 4" and 5" diameter rubber tires for 6" to 12" sewer lines
 - 6 3" diameter carbide high traction wheels
 - 1 Launch chute for use in 6" and 6" relined pipe
 - 1 Launch chute for use in 8"-12" sewer lines
 - 2 Push cable assemblies (.52"), 120', for 3", 4" and 6" laterals
 - 1 Maintenance tool kit
 - 1 Set of test cables
 - 1 Truck mounted LETS motorized automatic combination retrieval / storage reel with clutch system, slip ring collector assembly, and 1,000' of multi-conductor video cable
 - 1 Field termination kit for cable
 - 1 Set of video A/B switching equipment for mainline or LETS operation
 - 1 "Tigertail" downhole guide tube
 - 1 **LETS control box including:**
 - Insertion/retraction control for push camera
 - Variable push speed control with auto resetting overload circuit breaker
 - Set volt and amp meters
 - Joystick insertion control for elevation and rotation
 - PIP selector control
 - Footage pop-up and reset control
 - Camera selector switch, lateral push or mainline fixed camera
 - Interconnect cable, control box to power control unit
 - 1 **Tractor accessories, including:**
 - 1 Desktop transporter controller with speed adjustment and forward/reverse
 - 1 Foot pedal controller, rear of vehicle
 - 1 **ST930 push camera, color, self-leveling, with lighthead, 512Hz beacon, spring neck, skid, and case**
 - 1 **Cable manhole guide system including:**
 - 1 Manhole top roller assembly
 - 1 Manhole bottom roller assembly and adapter hook
 - 5 Quick lock extension poles
 - 1 Insertion and extractor pole assembly and tractor adapter
 - 3 Quick lock extension poles
 - 1 Downhole pole mounting brackets
 - 2 **DVD – operation / maintenance and spare parts manuals**
 - 1 **Maintenance tool kit**
 - 1 **Delivery of system**
 - 3 **Days of training**
 - 1 **One year warranty, TV system**



OPTIONAL EQUIPMENT

Option #1 – add to launcher

- 1 Aries PE3600 pan and tilt camera w/ high intensity LED light ring, including:**
 - 1 Pan and tilt camera w/ infinite axial and pan/tilt rotation
 - 1 Maintenance-free true color warm white directional LED directional lighting system with internal regulators for inspecting up to 6" pipelines
 - 1 Remote focus (continuous)
 - 1 Internal beacon electronics (On/off control)
 - 1 "Smart Upright Home" circuitry (electronic gravity sensor)
 - 1 Lens/light wiper to clear obstructions
 - 1 Camera storage and transport case
 - 1 Spare parts / camera recharge kit

PATHFINDER

Pipeline Inspection System

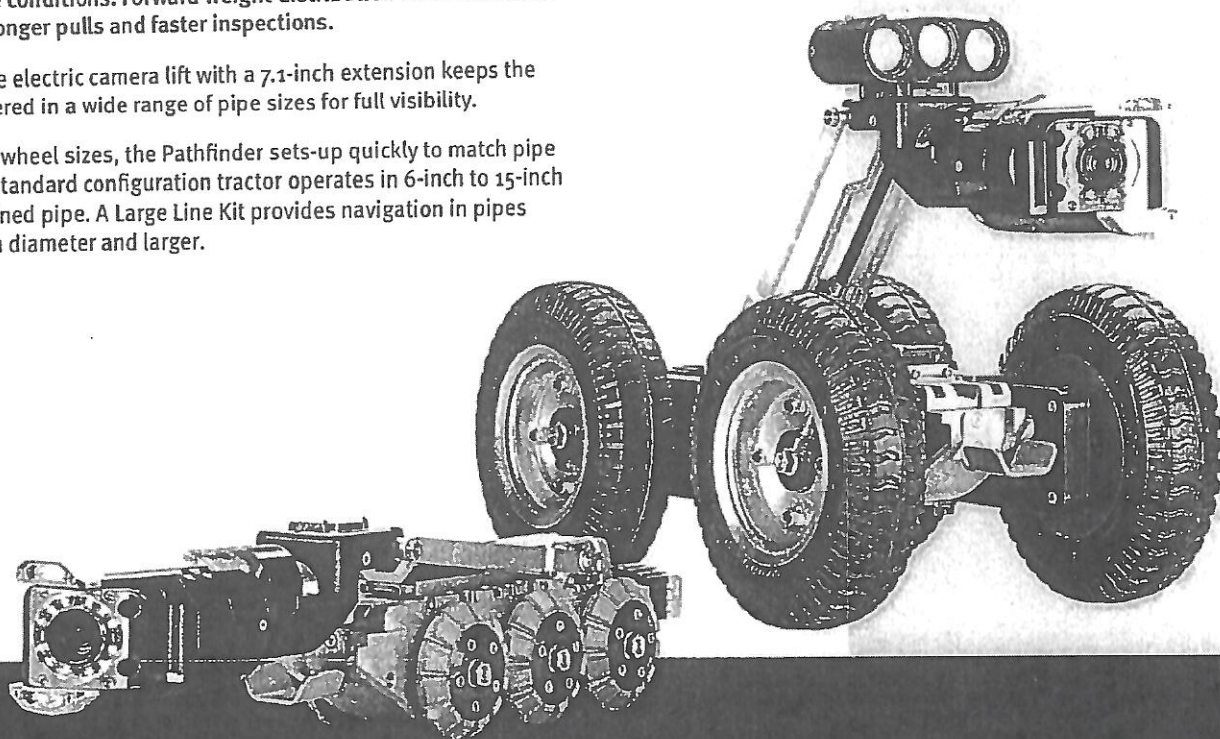
See what you're missing.

Pathfinder Model TR3310 is a powerful, steerable transporter for mainline sewer inspection.

Improved drive components in this upgraded system provide longer life in harsh pipe conditions. Forward weight distribution results in better traction for longer pulls and faster inspections.

An adjustable electric camera lift with a 7.1-inch extension keeps the camera centered in a wide range of pipe sizes for full visibility.

With various wheel sizes, the Pathfinder sets-up quickly to match pipe contours. A standard configuration tractor operates in 6-inch to 15-inch diameter relined pipe. A Large Line Kit provides navigation in pipes up to 36-inch diameter and larger.



CLEAR VIDEO

- >> Pan & Tilt Camera with in-the-pipe lens cleaning system
- >> Ultra-light sensitive (1.0 lux) with an LED lighting system
- >> 40x zoom capability
- >> Auxiliary high-power, detachable light head for better viewing in large-diameter pipe

PERFORMANCE

- >> Compact design for great maneuverability through harsh pipe conditions
- >> Increased power main drive motors capable of pulling 15% more cable
- >> Operates in power forward, power reverse, steer-left, steer-right and free-wheeling modes

DEPENDABLE

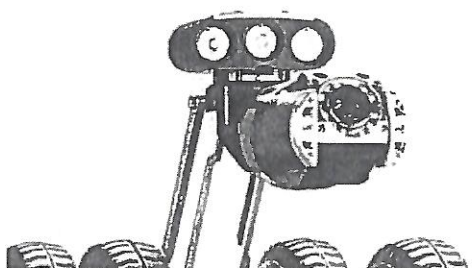
- >> Improved sealing of three separate cavities to prevent moisture intrusion
- >> Remote control with Xbox 360® controller provides ease-of use with improved maintainability
- >> Rear tip-up cable connection with secure twist-lock mechanism

PATHFINDER

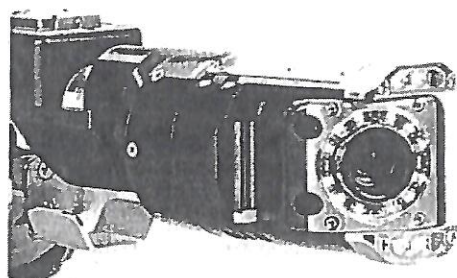
Pipeline Inspection System

See what you're missing.

Durable tractor system sets up quickly for 6-inch and larger pipe.



The Pathfinder acquires clear video in large pipes with an electric camera lift that extends to 7.1 inches, centering the camera in the pipe. An optional high-power, detachable light head illuminates the wide field of view.



The Aries WiperCam is the industry's only mainline camera with an in-the-pipe lens cleaning system. The Pan and Tilt Camera with a 300° viewing angle gives the operator a complete view of the mainline and laterals.

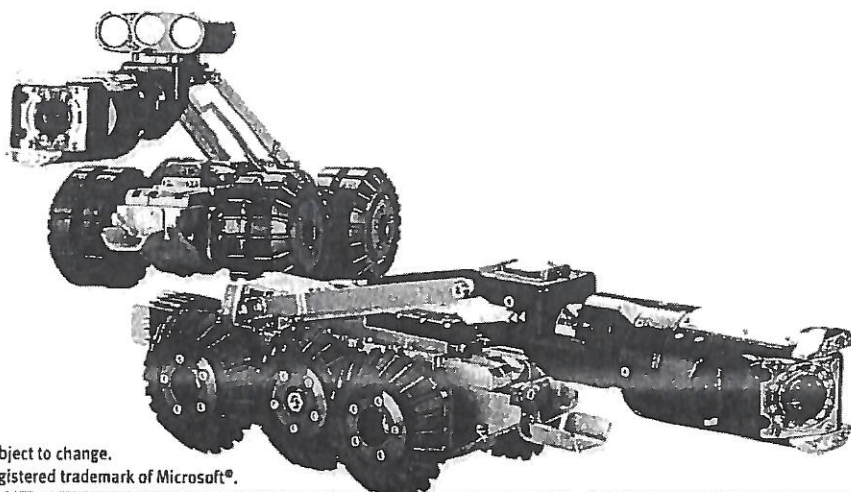
Upgraded Model TR3310 provides improved life and performance.

Operator control and speed are enhanced with improved main drive components for more power and pulling distance. The upgraded tractor can pull 15% more cable. A compact profile provides great maneuverability in deteriorating, debris-filled pipe.

Rugged construction with continuous-duty rated motors, all gear-driven drive train, and improved pressure testing of three separate sealed cavities ensures long service life.

Efficient free-wheel mode and a rear-facing camera provide fast retrieval up to 200 feet per minute.

Pathfinder Model TR3310 is operated by the new Aries Master Controller in both a portable or rack-mounted version. The controller enables remote operation using a dual joystick Xbox 360® controller, for ease-of-use and improved maintainability. The Pathfinder can also be used with a legacy controller.



Specifications subject to change.
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LETS 6.0

Lateral Evaluation Television System

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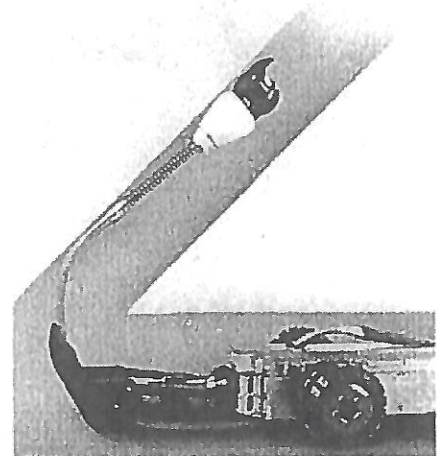
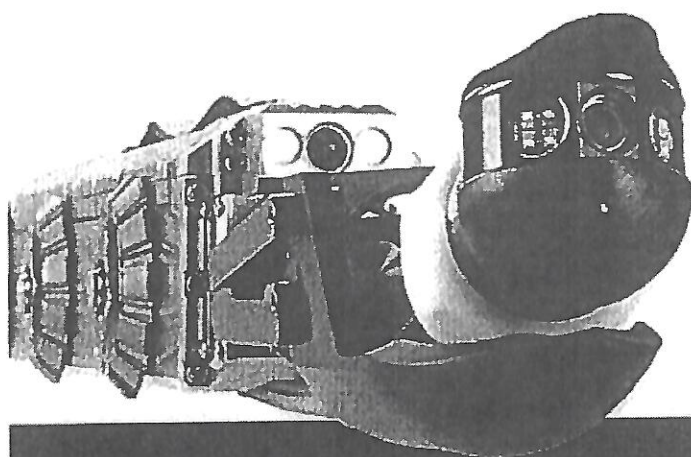
See what you're missing.

Quickly inspect laterals with the slim unibody design for operation in 6-inch and larger mainlines.

Aries' versatile inspection system provides great operator control to efficiently launch the lateral camera. A contoured chute enables the lateral camera to be deployed with or against the flow with a 135-degree launch angle.

The unibody design reduces pipe interference to maneuver quickly through harsh mainline conditions. The powerful self-propelled tractor can traverse the pipe against the flow.

An optional Pan & Tilt lateral camera provides clear video to easily align the chute and launch the camera. An in-the-pipe wiper system cleans the lens for reduced maintenance and increased uptime.



DEPENDABLE

- » Powerful tractor with forward, reverse and free-wheel movement
- » Over-voltage protection prevents damage to main motor drive
- » Tip-up connector for easier pipe insertion with less cable strain

EFFICIENT

- » Contoured chute guides push cable for easy lateral camera launch
- » Rear-facing camera monitors both push cables when in reverse and during retrieval
- » Aries Master Controller enables remote control operation with Xbox 360® controller

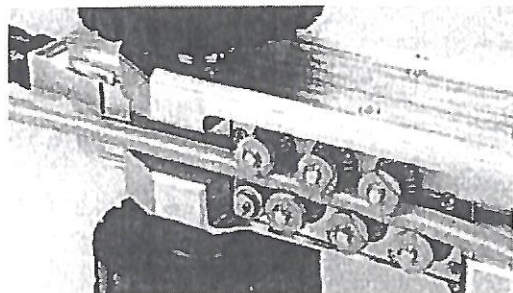
CLEAR VISION

- » Inspect laterals to 150 feet
- » Forward-facing camera captures mainline video and monitors lateral camera launch
- » Choose from self-leveling lateral camera or a Pan & Tilt camera to align chute for easy launching
- » Integrated 512 Hz locating beacon

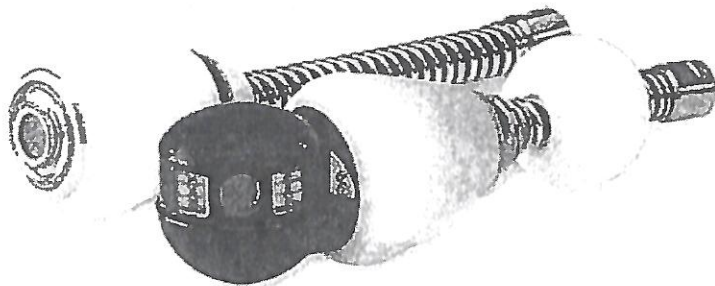
LETS 6.0

Lateral Evaluation Television System

See what you're missing.



A centered push cable on the underbody of the tractor maximizes cable bending for easier launching. The open drive system is self-cleaning, eliminating sludge build-up for maintenance-free operation.



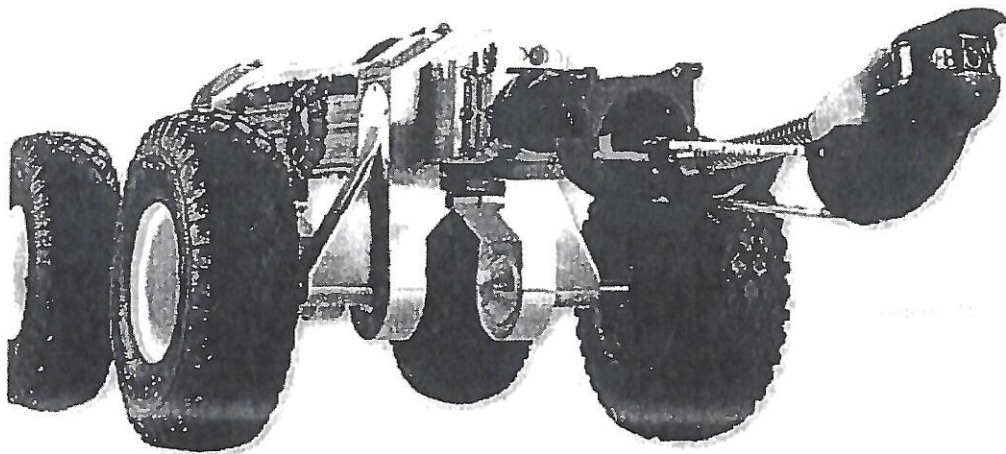
LETS 6.0 (Model 3260) efficiently inspects mainline and laterals

The upgraded LETS 6.0 is the ultimate system to simultaneously acquire mainline and lateral assessment video. A slim tractor profile and superior lateral camera launch provides high productivity.

With various wheel sizes, the LETS 6.0 sets-up quickly to match pipe contours. The basic six-wheel configuration operates in 6- to 12-inch mainlines.

A Large Line Kit with four-wheel configuration operates in pipe to 30-inch diameter and larger. A telescoping chute with five discrete positions provides easier lateral launching in larger pipes.

LETS 6.0 is operated by the Aries Master Controller, providing remote operation using a dual joystick Xbox 360® controller, for ease-of use and improved maintainability. The system also works with legacy controllers.



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