

RT960 Trencher

ASTEC

ENGINE

Model	Cummins
Type	4-stroke, Turbo Charged
Cylinders	4
Bore/Stroke	4.02" x 4.72" (102 x 120 mm)
Displacement	239 in ³ (3.9 L)
Fuel injection.....	Direct
Fuel.....	Diesel
Fuel filter.....	In-line strainer & spin-on cartridge
Air intake	Cross-flow
Cooling	Liquid
Horsepower	
Gross.....	99 (74 kW) @ 2200 rpm
Net	91 (68 kW) @ 2200 rpm
Maximum torque	
Gross.....	298 lb-ft (404 N-m) @ 1500 rpm

ENGINE COOLING

Radiator	
Core size area.....	415 in ² (.268 m ²)
Rows of tubes	5
Fan w/standard transmission	
Style	7 blade suction
Diameter	20.4" (518 mm)
Ratio	1.1:1
Water pump	
Style	Integral
Engine oil	
Pump.....	Deep sump plate cooler with pressurized nozzles under-piston
Pump operating angle ratings	
Side-to-side.....	Rated 45°
Fore and aft	Rated 45°
Oil filtration	Replaceable, full-flow cartridge

POWERTRAIN

Transmission	4-speed Hydra-shift with constant gear mesh
Drive	Hydrostatic 4WD variable displacement axial-piston pump 0 – 46.5 gpm (0-176 L/min)
U-joints	Constant velocity
Axle ratio.....	19.2:1
Planetaries	6:1 – Outboard
Differentials	Electrically actuated
Steering	2W, 4W and crab
Axle oscillation	20°
Service brakes.....	Hydrostatic
Parking brake	Internal, SAHR multi-disc
Travel speeds	
1st.....	1.4 mph (2.2 km/h)
2nd.....	2.9 mph (4.7 km/h)
3rd.....	5.0 mph (8.1 km/h)
4th.....	10.5 mph (16.8 km/h)

NOTE: Rated speeds in forward and reverse.

TIRES

38 x 18.00-20, 10 PR
38 x 18.00-20, 12 PR (heavy-duty)

SERVICE CAPACITIES

Fuel tank.....	25 gal (95 L)
Cooling system.....	18.2 qt (17.2 L)
Engine with oil filter....	11.6 qt (11 L)
Hydraulic reservoir ...	20 gal (75.7 L)
Total hydraulic	22 gal (83.3 L)
Transmission.....	9 qt (8.5 L)
Axle center (each)	9.5 qt (9 L)
Planetaries (each)	1.1 qt (1 L)
Trencher planetary drive	1.5 qt (1.4 L)
Hydra-Borer® System.....	1.0 qt (0.9 L)

HYDRAULICS

Ground drive pump	46.5 gpm (176 L/min)
Attachment drive pump	46.5 gpm (176 L/min)
Steering pump	7.1 gpm (27 L/min)
Accessory pump	11.4 gpm (43.3 L/min)

Filtration:

Full-flow spin-on cartridges	
Accessory return.....	2 micron
Charge pump flow (2).....	2 micron

NOTE: Pump capacity rated @ 2385 engine rpm.

ELECTRICAL SYSTEM

Voltage.....	12 volts, negative ground
Alternator.....	65 amp
Starter.....	3.35 hp (2.5 kW)
Battery	685 CCA@ 0°F (-17.7° C)

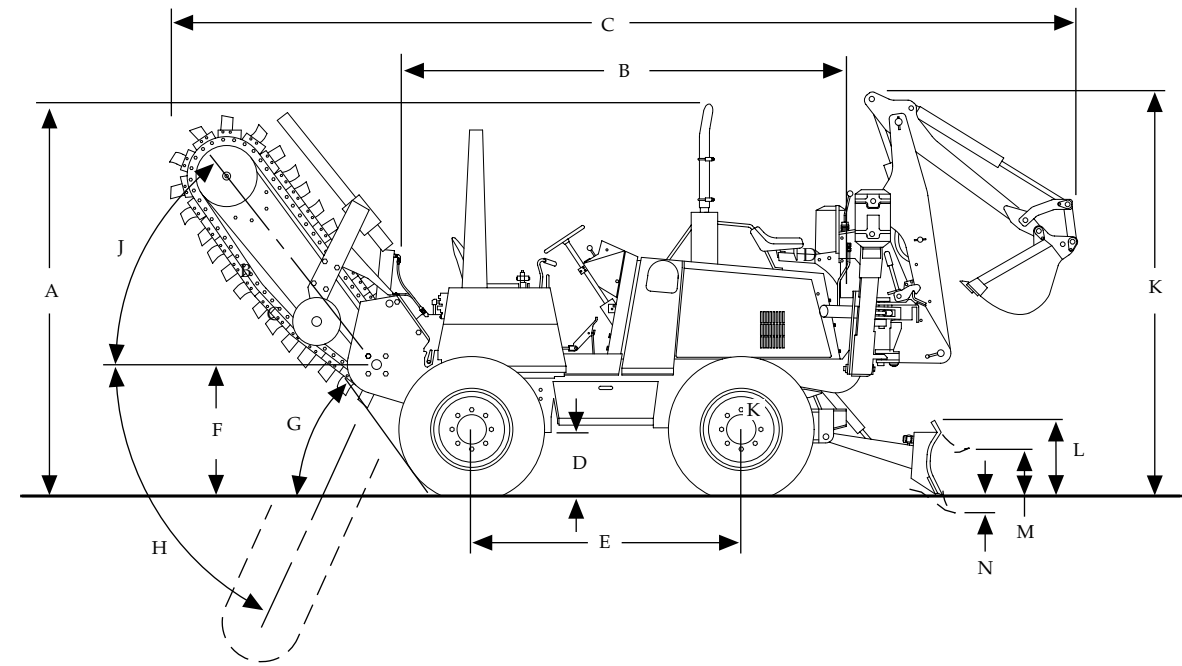
OPERATOR

ENVIRONMENT

ROPS
Left and right entry/exit
Unobstructed operator platform
Swivel seat w/seat belt
Key start
Hand and foot controls
Iso-mounted platform

INSTRUMENTATION

Engine coolant temperature gauge
Hydraulic oil temperature gauge
Fuel level indicator
Voltage meter
Engine oil pressure indicator
Tachometer/hourmeter
Hydraulic charge filter indicator
Hydraulic filter indicator
Air filter restriction indicator
Neutral indicator
Alternator light



DIMENSIONS

A. Overall height – prime mover (to top of muffler)	115.7" (2.93 m)
B. Overall length – prime mover	128.3" (3.28 m)
C. Overall transport length w/backhoe and trencher w/4' (1.22 m) boom	275.0" (6.98 m)
Angle of approach – prime mover	58°
Angle of departure – prime mover.....	60°
D. Minimum ground clearance – (axle to ground)	12.4" (315 mm)
Minimum ground clearance w/backfill blade	11.2" (284 mm)
E. Wheelbase	76.8" (1.95 m)
F. Height to centerline of trencher headshaft	29.8" (756 mm)
G. Angle of departure with trencher attachment	34°
H. Trencher boom angle down from horizontal	65°
J. Trencher boom angle up from horizontal.....	50°
K. Backhoe transport height.....	117.2" (2.97 m)
L. Backfill blade height	16.1" (410 mm)
M. Backfill blade lift height	19.1" (484 mm)
N. Backfill blade depth of cut below grade.....	3.1" (78 mm)
Transport height, plow frame base tractor.....	91.5" (2.32 m)
Center of rear wheel to rear of plow with chute in ground	114.1" (2.90 m)
Plow swing angle.....	25°
Plow offset from centerline	32" (813 mm)
Angle of departure base tractor/plow attachment raised:	
w/30" (762 mm) mounted blade	26°
w/o mounted blade.....	30°
Plow blade tip ground clearance base tractor:	
w/30" (762 mm) mounted blade.....	28.4" (721 mm)
Overall width base tractor	85.8" (2.18 m)
Overall width w/optional tires	85.8" (2.18 m)
Tread width (centerlines) base tractor	68.1" (1.73 m)
Turning radius (outside) base tractor – 4-wheel steer.....	Left – 129" (3.27 m) Right – 129" (3.27 m)
Operating weight	12,700 lb (5760 kg)*

*Operating weight of RT960 — Equipped with rear trencher, 4' (1.22 m) 110K rock boom, 110K chain and standard teeth, backfill blade, 762 backhoe with 18" (457 mm) bucket, Hydra-Borer System, full fuel and 175 lb (79 kg) operator.

ATTACHMENTS

TRENCHER

Dig depth to 84.0" (2.13 m)
 Digging width 7.0" to 18.0"
 (178 to 458 mm)
 Chain line speed 670 ft/min
 (204 m/min)
 Chain tensile strength: 110,000 lb
 150,000 lb
 165,000 lb
 225,000 lb
 Drive Hydrostatic/Reversible
 Boom angle from horizontal... Up 50°
 Down 65°
 Angle of departure..... 34°

6-WAY BACKFILL BLADE

Width 80.7" (2.05 m)
 Height 16.1" (408 mm)
 Lift clearance..... 19.1" (485 mm)
 Angle of approach..... 20°
 Ground clearance 11.2" (284 mm)
 Depth of cut 3.1" (78 mm)
 Offset outside of tire... 8.5" (215 mm)
 Angle left or right..... 34.5°
 Blade tilt - left or right 12°

762 BACKHOE

- A. Digging depth – maximum 111.6" (2.83 m)
 Digging depth – 2' (610 mm) flat bottom 109.8" (2.79 m)
 Digging depth – 8' (2438 mm) flat bottom 95.4" (2.42 m)
 Bucket digging force *7,179 lbf (31 934 N)
 Dipper digging force..... *4,180 lbf (18 594 N)
 Loading height 105.5" (2.68 m)
- B. Reach from swing pivot 163.4" (4.15 m)
 Bucket rotation *160°
 Swing arc 180°
- C. Operating height – fully raised 192.8" (4.89 m)
 Transport height..... 117.2" (2.97 m)
 Stabilizer spread
 Working 99.1" (2.52 m)
 Transport 78.7" (2.0 m)
 Leveling angle..... 3°
 Backhoe weight w/o bucket 2,232 lb (1012 kg)

*With bucket pinned in power hole

RT960 with bucket pinned in straight wall hole
 Bucket digging force 6,131 lbf (27 272 N)
 Dipper digging force 4,065 lbf (18 082 N)
 Bucket rotation..... 185°

P95 VIBRATORY PLOW

VibrationCounter-rotating weights
 Frequency – maximum 2,000 vpm
 Drive Hydrostatic
 Blade steer angle..... 30°
 Plow off centerline..... 32" (813 mm)
 Minimum turning
 radius @ blade 18.0" (457 mm)
 Angle of depression 14°
 Weight (no blade) 2,006 lb (909 kg)

REEL CARRIER

Maximum reel width... 56.0" (1.42 m)
 Maximum reel diameter
 w/backfill blade..... 60.0" (1.52 m)
 w/o backfill blade ... 80.0" (2.03 m)
 Angle of approach w/o backfill blade
 w/5' (1524 mm) reel..... 26°
 w/6' 8" (2032 mm) reel..... 20°
 Center of reel – hydraulic lift
 Pickup height 11.9" (302 mm)
 Maximum height 59.5" (1511 mm)
 Reelshaft diameter..... 2.38" (60 mm)
 Capacity..... 2,500 lb (1134 kg)

QUAD ATTACHMENT

Offset from centerline of machine to
 center of:
 Plow right 18.5" (470 mm)
 Plow left 15.6" (396 mm)
 Trencher right..... 26.5" (673 mm)
 Trencher left..... 15.6" (396 mm)
 Weight 16,000 lb (7257 kg)

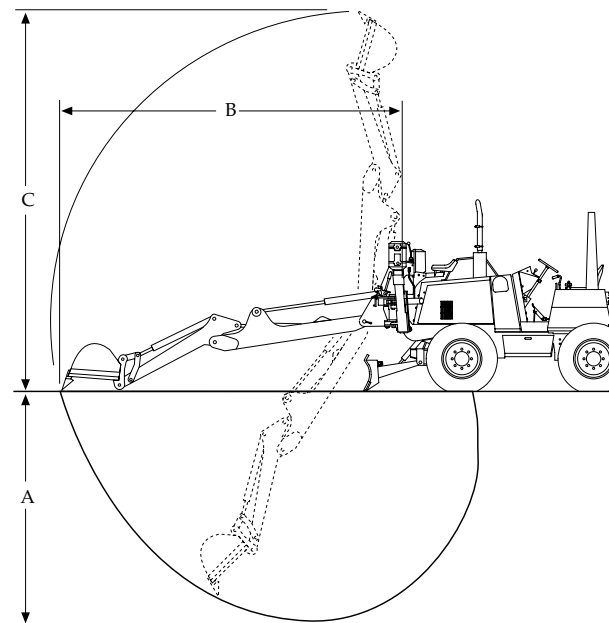
NOTE: RT960 equipped with quad-
 attachment, P95 plow, planetary-drive
 trencher, 4' (1.22 m) rock boom, 150K (68 039
 kg) chain, large cup teeth, restraint bar, 762
 backhoe and 18"
 (457 mm) bucket, dual battery option, rear
 auxiliary hydraulic option, 25 gal (94.6 L)
 fuel, and 175 lb (79 kg) operator.

HYDRA-BORER[®]

Drive Hydraulic
 Torque 423 lb-ft (574 N-m)
 Rotation..... Bi-directional
 Rod length..... 10'0" (2.54 m)
 Drive shaft height..... 35.4" (899 mm)
 Maximum rpm..... 307

ROCKWHEEL

Cutting widths..... 3.0" (76 mm),
 4.0" (102 mm), 5.0" (127 mm)
 or 6.0" (152 mm)
 Cutting depths up to... 30.0" (762 mm),
 36.0" (914 mm) or 40.0" (1016 mm)
 Teeth Replaceable carbide tips
 Drive Hydrostatic
 Lift..... Hydraulic



NOISE LEVELS

Operator..... < 91 dbA
 sound pressure per ISO 6394
 Exterior..... < 110 dbA
 sound pressure per ISO 6393

STANDARD FEATURES

99 hp (74 kW) Cummins turbo
 charged engine
 2 year/2000 hr. engine warranty
 4-wheel steering
 4-wheel drive (lockable axles)
 4-speed Hydrashift

Ease of maintenance
 Unitized main frame
 Pivoting operator's seat
 Iso-mounted operator's platform
 Level/unobstructed operator's
 platform

Similar electrical, hydraulic and
 hydrostatic systems
 Control layout commonality

OPTIONS

Dual batteries
 Engine block heater
 Electric controlled ether start kit
 Attachments for underground
 applications (see page 3)
 Flexible extended warranty plans
 Auxiliary hydraulics - rear

Electric power kit - accessories
 Front counterweight package
 Hydraulic crumbler
 Digging chain:
 • Standard
 • Anti-back Flex
 • Heavy-duty Anti-back Flex

Digging teeth:
 • Cup cutters
 • Conical bits & brackets
 • Terminator - Sharks teeth
 • Combination teeth
 • Welded to chainline

NOTE: All specifications are stated in
 accordance with SAE Standards or
 Recommended Practices, where applicable.

Form No. AT-101-0105

IMPORTANT: Astec Underground reserves
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 out notice and without incurring any obliga-
 tion relating to such change. Astec
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 Printed in U.S.A.

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