

TRENCHER



Expanding the World... and Your Prospects

With the world at the brink of an information explosion, you need to be ready to handle the workload. And no other line of trenchers is better suited to be the tools you use to get you to your destination. Whether you're getting ready to pave the information super highway or installing the underground utilities that fuel the world, there's a Case trencher designed to meet your needs.

These tool carriers are top performers in their class. Encore after encore, they consistently earn their keep, even in the harshest underground environments. See your Case dealer for the full line of underground equipment, including horizontal directional drills.

When you know what you're up against, get the equipment that produces results — underground construction equipment from Case.







Table of Contents

Engine/Electrical	. 4
Operator Environment	. 5
Ground Drive/Chassis	. 6
Hydraulics	. 7
Trencher	. 8
Plow/Quad Attachment	. 9
Reel Carrier/Backfill Blade	10
Rockwheel/Hydra-Borer [®] System	11
Backhoe	12
Backhoe Dimensions	13
Service	14
Dimensions	15

Engine

This is the same engine you've come to rely on in other Case heavy-duty construction equipment, from backhoes to excavators. The Case 4-390 diesel engine has a proven reputation for reliability and efficiency through years of the toughest on-the-job experience. Integral design of the oil and coolant pumps incorporates components into the engine block to reduce heat buildup and wear with fewer parts.

One-piece cast iron parent metal bore block eliminates cavitation erosion and coolant leaks in the cylinder bore for increased ring and piston life.

Pressurized under-piston nozzles provide positive cylinder wall lubrication. Deep sump supplies oil lubrication at angles up to 45°.

The 860's turbocharged 4T-390 offers increased horsepower and high altitude compensation for outstanding performance.

This outstanding engine is backed by one of the best warranties in the industry.

ENGINE

Gross horsepower per SAE J1995, net horsepower per SAE J1349.



ELECTRICAL

TIRE OPTIONS (Standard or Heavy-duty Galaxy) 660

31 x 15.5 - 15 8PR 35 x 19.00 - 16.1 10PR or 12PR 860

38 x 18.00 - 20 10PR or 12PR

Water with calcium chloride is approved for use as ballast in these tires. Note: Do not exceed the maximum GVW shown on the ROPS plate.

Operator Environment

These spacious operator compartments feature conveniently located, low-effort controls, full instrumentation and excellent visibility to enhance productivity. Left and right entry/exit permits unobstructed operator movement.

The isolation mounted operating platform on the 860 reduces vibration to lessen operator fatigue.

All attachment controls are located within easy reach from the operator's seat. The seat swivels to provide operating comfort when working with rear-mounted attachments.

A swingaway catwalk lets you move freely to and from the operator's compartment to the backhoe, yet allows easy service access to the engine. The single key-start ignition and shutoff enable fast and easy starts and stops.

A seat interlock system requires the operator to be seated when starting and operating the unit.

System gauges and indicator lights are grouped for high visibility engine coolant temperature, hydraulic oil temperature, voltage, fuel level, hourmeter and rpm's. Indicator lights — engine oil pressure, alternator, air filter, hydraulic filter restriction, parking brake indicator and neutral light.

TRAVEL/WORK SPEEDS - MPH (km/h)				
660	1st	2nd	3rd	4th
31 x 15.5 - 15 Tires	1.4 (2.3)	1.9 (3.0)	5.1 (8.2)	7.4 (11.9)
35 x 19.00 - 16.1 Tires	1.4 (2.3)	1.9 (3.0)	5.1 (8.2)	7.4 (11.9)
860				
Low range	0.9 (1.4)	2.2 (3.5)	4.2 (6.7)	6.6 (10.6)
High range	1.2 (1.9)	2.9 (4.6)	5.6 (9.0)	8.8 (14.1)

Rated speeds in forward or reverse





Don't let the weather keep you from your work... stay productive throughout the year by installing a comfortably heated cab to your 660 or 860 trencher.



Ground Drive/Chassis

The hydrostatic ground drive offers a wide range of working and transport speeds for all the different applications and conditions you'll encounter. Heavy-duty 4-wheel drive axles with both front and rear limited-slip or locking differentials provide all the ground-biting action you'll need, especially in tough plowing conditions. They're also rated to handle the weight of the attachments. Outboard planetaries reduce driveline loads and allow for increased ground clearance at the axle center section. Locking axles for the 860 are electronically controlled by the operator.

A 10-degree front axle oscillation provides wheel-to-ground contact when operating over rough terrain or when crossing open trench lines. A modular powertrain makes servicing quicker and easier for less downtime. Each component can be removed separately without disturbing the remaining parts.

These tool-carrying main frames are unitized to absorb shockloads in the most demanding applications. The driveline components are protected inside the frame rails.

The neutral position of the hydrostatic drive provides hydrodynamic braking power when the engine is running. A foot-operated emergency/parking brake with disc and caliper on the transmission shaft prevents movement.



Both machines utilize hydraulic 4-wheel steering to get you in and around tight spots, or to crab steer when working on sloped job sites or for offset plowing. The front wheels are controlled with the steering wheel and the rear wheels with a control lever that positions the wheels hydraulically. A rear wheel position indicator displays the angle of the rear wheels.

GROUND DRIVE SYSTEM

Hydrostatic drive	Variable displacement
	axial-piston pump
660	0 - 34.6 gpm (0 - 131 L/min)
860	0 - 34.6 gpm (0 - 131 L/min)
Axle ratio	
660	Total - 11.6:1
	Planetary - 6.1
860	Total - 16.0:1
	Planetary - 6.1
Differentials	
660	Limited-slip
860	Electric locking

Hydraulics

These high-efficiency hydraulic systems are designed to give you exceptional response and smooth power flows for attachment operation and steering. Open-center hydraulics with direct displacement controls provide ondemand flow control for power when steering and operating attachments simultaneously, and for instantaneous changes in speed and direction.

The Hydraulic oil cooler maintains optimum operating temperatures for maximum component life in all climates.

Optional auxiliary hydraulic PTO kit combines the steering and accessory flow for powering attachments like the Hydra-Borer[®] System or other hydraulic tools.

HYDRAULIC PUMP SPECS*

Filtration — Full-flow spin-on cartridges Accessory return 2 micron Charge pump flow....... 2 micron

*660 pump capacity rated @ 2100 engine rpm 860 pump capacity rated @ 2200 engine rpm



Trencher

Trenchers are ideal for deep drops, laying large diameter pipe, or trenching in hard or rocky conditions when plowing isn't practical. This optional attachment is available with either a standard sprocket or heavy-duty rock boom with cupped or rock & frost teeth on a standard, anti-backflex or welded H-plate chain — crumber and restraint bars to match. Dual, double pitch augers provide spoil removal.

Installed to the rear of the 660 and 860, the trencher is easily visible as you operate from the seated position. The trencher can be mounted to the center, offset or with the quad-attachment.

A hydrostatic drive provides an infinite range of speeds to match all soil conditions and is reversible to let you work the chain free if it becomes lodged.

A 2-speed trencher drive motor on the 860 offers you a high-torque, low speed for rocky and tough conditions, and a high speed for loose soil or sticky gumbo.

TRENCHER DIMENSIONS

Dig depths
660 to 72.0" (1.83 m)
860 to 84.0" (2.13 m)
Digging widths
660 6.0" to 16.0"
(152 to 406 mm)
860 7.0" to 18.0"
(178 to 457 mm)
Chain line speed
660 maximum 620 ft/min
(189 m/min)
860 maximum 670 ft/min
(204 m/min)
Chain tensile strength
660 50,000 lb (22 680 kg)
65,000 lb (29 483 kg)
75,000 lb (34 019 kg)
660
& 860 110,000 lb (49 895 kg)
150,000 lb (68 039 kg)
165,000 lb (74 843 kg)
225,000 lb (102 058 kg)

Drive...... Hydrostatic/reversible Boom angle from horizontal...... Up 50° Down 65°

The planetary trencher drive features a flywheel, torsion shaft and planetary gearset for smooth operation and long life. A flywheel helps keep the chain line from stalling in tough soil conditions and minimizes pressure spikes in the hydrostatic system. Between the flywheel and planetaries is a torsion shaft that serves as a spring to absorb shock loads from the trencher driveline. Planetary gears multiply the hydrostatic motor torque by 22 times for excellent chain line digging power.



No other drop plow in the world offers you more features to let you work faster and easier.



The optional heavy-duty P95 vibratory plow is designed to take on your toughest plowing conditions. An aggressive shaker speed and large amplitude provide plenty of soil fracturing force while minimizing restoration. A variety of blades are available with fixed or floating chutes in either a 4:1 or 10:1 chute radius to match cable installation requirements to alleviate cable damage. The hydraulic swing frame and steerable blade allow you to guide the plow back and forth for maximum maneuverability in tight turns or around obstructions. Whether you're laying CATV, gas, water, electrical or telephone, the P95 can get you where you're going.

Plow

P95 VIBRATORY PLOW DIMENSIONS

Quad Attachment

To allow the maximum addition of attachments to these heavy-duty hitters, add a quad-attachment to mount both the trencher and cable plow on the rear. The 860 quad-attachment features the P95 plow and hydro trencher with 22:1 planetary torsion drive, and allows you to switch these attachments from one side to the other.

The 660 quad-attachment is integrated and features the P85 plow on the left and a hydrostatic trencher with 14:1 planetary torsion drive on the right.



QUAD-ATTACHMENT DIMENSIONS

Offset from centerline of machine to center of: 660 Plow 11.4" (290 mm) Trencher 25.3" (643 mm) 860 Plow left...... 15.6" (396 mm) Trencher right... 26.5" (673 mm) Plow right 18.5" (470 mm) Trencher left..... 15.6" (396 mm)

660 weight*... 11,219 lb (5089 kg) 860 weight*... 15,300 lb (6940 kg)

*660 equipped with quad-attachment, plow, trencher, 4' rock boom, 75K chain, large cup teeth, restraint bar, D125 backhoe and 18" bucket.

*860 equipped with quad-attachment, plow, trencher, 4' rock boom, 150K chain, large cup teeth, restraint bar, 762 backhoe and 18" bucket.

Reel Carrier

Attach a reel carrier to either one of these units to remain highly mobile while plowing without having to pull a separate trailer to the job site, or around as you work — heavy-duty hydraulic lift cylinders provide pickup for installation and removal of reels. Cable guides on the ROPS direct the cable up and over the operator to the plow — specific for CATV, flexible gas lines, electrical and telephone installations.

REEL CARRIER DIME	NSIONS	
	660	860
Maximum reel width	42.1″ (1.07 m)	56.0″ (1.42 m)
Maximum reel diameter		
w/backfill blade	48.0″ (1.22 m)	60.0″ (1.52 m)
Maximum reel diameter		
w/o backfill blade	60.0″ (1.52 m)	80.0″ (2.03 m)
Capacity	. 1,500 lb (680 kg)	2,500 lb (1134 kg)
Reel shaft diameter	1.9″ (48 mm)	2.38" (60.5 mm)
Angle of approach w/o ba	ckfill blade	
w/48" (1.22 m) spool	27°	NA
w/60" (1.52 m) spool	20°	
w/80" (2.03 m) spool	NA	
Center of reel		
Pickup height	11.9″ (303 mm)	11.9″ (303 mm)
Lift height	59.5″ (1.51 m)	59.5″ (1.51 m)





Backfill Blade

An optional 6-way blade mounts to the front of both the 660 and 860 for backfilling. The wide offset outside the tires lets you stay away from the trench wall to prevent cave-ins. These blades have excellent ground clearance in the raised position to get you up and over curbs or most obstructions.

	660	860
Width	72.0" (1.83 m)	80.7" (2.05 m)
Height	14.3" (365 mm)	16.1" (410 mm)
Blade lift height	15.4" (390 mm)	19.1" (484 mm)
Angle of approach	20°	20°
Ground clearance	7.4" (188 mm)	12.0" (305 mm)
Angle left or right, each dir	rection 40°	34.5°
Tilt both directions	8°	12°
Offset outside of tire	10.4" (265 mm)	8.5" (215 mm)
Depth of cut	5.9" (150 mm)	3.1″ (78 mm)
Weight	862 lb (391 kg)	1,070 lb (486 kg)

*660 equipped with 31 x 15.5 - 15 tires *860 equipped with 38 x 18.00 - 20 tires

BACKFILL BLADE DIMENSIONS*

Rockwheel

Jobs that require cutting concrete, asphalt or any tough material will be no match for a rockwheel. This heavy-duty attachment is great for trenching frozen soil or making drops in rock also. The rockwheel mounts to the rear of these two units and is supported by (2) pillow block bearings, not the hydraulic motor. It uses carbide cutting teeth and comes in cutting widths of 3", 4", 5" or 6" with a maximum 40" cutting depth for the 860.

ROCKWHEEL DIMENSIONS

Cutting widths 3.0" (76 mm) or 4.0" (102 mm) or 5.0" (127 mm) or 6.0" (152 mm) Cutting wheel depths and weights **660** Up to 24.0" (610 mm).... 2,600 lb (1179 kg) Up to 30.0" (762 mm).... 3,300 lb Up to 30.0" (762 mm).... 3,300 lb

(1497 kg) Up to 36.0" (914 mm).... 3,600 lb (1633 kg) Up to 40.0" (1016 mm)..... 4,000 lb (1814 kg) Teeth...... Replaceable carbide tips Drive Hydrostatic Lift....... Hydraulic



Hydra-Borer[®] System

The optional Hydra-Borer boring system virtually eliminates the need for restoration of surface structures by tunneling underneath them. It's quick and easv to use without an assortment of other tools. Simply attach boring rods together to increase the boring length as you drill under the surface with the prime mover. Its high rotational torque can bore through tough soil conditions, even when backreaming. A variety of bits, reamers and backreamers are available in sizes from 2.0" (51 mm) to 12.0" (305 mm) for all your drilling needs.

HYDRA-BORER SYSTEM DIMENSIONS

Drive shaft height

660	33.7″ (856 mm)
860	35.4″ (900 mm)
Drive	Hydraulic
Maximum RPN	N
660	272
860	289
Torque	. 268 lb•ft (363 N•m)
Rotation	Bi-directional

Rod length 10'0" (3.05 m)

(A)	hv	Ira		
1	bo	rer		
			N	
		1	5	
		F	2	2

Backhoe

For the increased performance and versatility you need when taking on those bigger jobs, equip your 660 or 860 with a backhoe from Case...the leader in backhoe technology. These quick-mounting backhoes are easy to operate with 2-lever controls. A swingaway catwalk for getting to the backhoe from the operator's compartment, a muffler shield and a tip-up seat help make your job even easier. There's also a wide range of buckets to complement your digging requirements.

BACKHOE LIFTING CAPACITIES*

660

Straight to front and within swing arc

1	870 lb (395 ka)
2.	900 lb (410 kg)
З.	880 lb (400 kg)
4.	880 lb (400 kg)
5.	830 lb (375 kg)
6.	810 lb (365 kg)
7.	810 lb (365 kg)
8.	790 lb (360 kg)
9.	2,000 lb (905 kg)
10.	1,840 lb (835 kg)
11.	1,980 lb (900 kg)

860

.....

Straight to front and within swing arc

1.	1,180 lb (535 kg)
2.	1,440 lb (655 kg)
3.	1,570 lb (710 kg)
4.	1,550 lb (705 kg)
5.	1,540 lb (700 kg)
6.	1,490 lb (675 kg)
7.	1,500 lb (680 kg)
8.	1,460 lb (660 kg)
9.	1,460 lb (660 kg)
10.	1,810 lb (820 kg)
11.	3,930 lb (1785 kg)
12.	3,080 lb (1395 kg)
13.	2,440 lb (1105 kg)
ackhoe 7% of t	lifting capacities on this he maximum lifting capa

*Backhoe lifting capacities on this chart are 87% of the maximum lifting capacities per SAE standards J31 and J49. Rated backhoe equipped with a 24" (610 mm) trenching bucket. Rated boom is put in the 65° position for the dipper lifting test.



BUCKETS	
660 - MODEL D125	

Bucket Width	Struck Capacity*	Rated Capacity*
13.0" (330 mm)	1.13 ft. ³ (0.032 m ³)	1.38 ft. ³ (0.039 m ³)
18.0" (457 mm)	1.62 ft. ³ (0.046 m ³)	
24.0" (610 mm)	2.29 ft. ³ (0.065 m ³)	

860 - MODEL 762

13.0" (330 mm)	1.7 ft. ³ (0.05 m ³)	2.3 ft. ³ (0.07 m ³)
18.0" (457 mm)	2.6 ft. ³ (0.07 m ³)	3.5 ft. ³ (0.10 m ³)
24.0" (610 mm)	3.7 ft. ³ (0.11 m ³)	5.0 ft. ³ (0.14 m ³)

Backhoe Dimensions

	660 - Model D125	860 - Model 762
A. Digging depth - maximum	89.3" (2.27 m)	111.6″ (2.83 m)
Digging depth - 2 foot flat	bottom 86.8" (2.20 m)	109.8″ (2.79 m)
Digging depth - 8 foot flat	bottom 81.8" (2.08 m)	95.4″ (2.42 m)
Bucket digging force	6,670 lbf (29 669 N)	*7,179 lbf (31 934 N)
Dippor diaging force		*1 100 lbf (10 501 NI)

Digging depth - 2 foot flat bottom		109.8″ (2.79 m)
Digging depth - 8 foot flat bottom	81.8″ (2.08 m)	
Bucket digging force	6,670 lbf (29 669 N)	*7,179 lbf (31 934 N)
Dipper digging force	3,230 lbf (14 367 N)	*4,180 lbf (18 594 N)
Loading height	89.3″ (2.27 m)	105.5″ (2.68 m)
B. Reach from swing pivot	135.6″ (3.44 m)	
Bucket rotation	174°	*160°
Swing arc	175°	
C. Operating height - fully raised	166.2″ (4.22 m)	192.8″ (4.89 m)
Transport height	108.8″ (2.76 m)	117.2″ (2.97 m)
Stabilizer spread		
Working	90.0″ (2.28 m)	
Transport	64.3″ (1.63 m)	
Leveling angle		
Backhoe weight w/o bucket	1,604 lb (728 kg)	2,232 lb (1012 kg)

*With bucket pinned in power hole.

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

Serviceability

You'll be hard pressed to find another line of trenchers that are easier to service than these.

Removable engine panels with rubber latches make maintenance access fast, easy and uncluttered. Panels are lockable to prevent vandalism.



You get engine oil filtering protection with a full flow, 25-micron spin-on cartridge — 250 hour service interval. Engine oil level can be checked without removing any panels; just reach through the access door to get the dipstick.

Externally accessed air cleaner is easily serviced in seconds without tools or removing any panels. A dust evacuator eliminates the need to empty a dust cup.

Hydraulic reservoir, engine coolant, axles and ground drive gearbox have 1,000 hour service intervals for minimal maintenance.

Hydrostatic pump and accessory circuit return filters have 500 hour service intervals and are located inside the right-hand step for easy access.

The ground level, hydraulic fluid sight gauge indicates oil level at a glance.

The fuel tank fill cap is located on the left-hand step to the operator compartment on the 860, and at the left rear corner of the compartment on the 660 for convenient access.

A maintenance schedule decal lists capacity, requirements and intervals for convenience of fleet servicing oilers.

Monitor gauges indicate engine coolant and hydraulic system temperatures, fuel level, battery voltage, rpm's and hours.

Service Capacities

	660	860
Fuel tank	17 gal (64.3 L)	25 gal (94.6 L)
Cooling system	18 qt (17.2 L)	18 qt (17.2 L)
Engine with oil filter	11.5 qt (11 L)	11.5 qt (11 L)
Hydraulic reservoir	14 gal (53 L)	20 gal (75.7 L)
Total hydraulic	20 gal (75.7 L)	22 gal (83.3 L)
Transmission	1.75 qt (1.7 L)	1.5 qt (1.4 L)
Axle center (each)	4 qt (3.8 L)	9.5 qt (9 L)
Planetaries (each)	0.65 qt (0.6 L)	1.1 qt (1 L)
Pump drive	0.70 qt (0.65 L)	0.70 qt (0.65 L)
Trencher planetary drive	1.5 qt (1.4 L)	1.5 qt (1.4 L)
Hydra-Borer System	1 qt (0.9 L)	1 qt (0.9 L)

Dimensions



	660	860
A. Overall height prime mover (to top of ROPS)	91.46″ (2.32 m)	103.0″ (2.62 m)
B. Overall length prime mover	98.77″ (2.51 m)	126.0″ (3.20 m)
C. Overall transport length w/backhoe		
and trencher w/4' boom	232.3″ (5.90 m)	275.0″ (6.98 m)
Angle of approach - prime mover	80°	
Angle of departure - prime mover		
D. Minimum ground clearance - w/o backfill blade	9.8″ (250 mm)	14.0″ (356 mm)
Minimum ground clearance w/backfill blade	7.4″ (188 mm)	12.0″ (305 mm)
E. Wheelbase	64.96″ (1.65 m)	
F. Height to centerline of trencher headshaft	26.3" (669 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°	50°
K. Backhoe transport height	108.8″ (2.76 m)	117.2″ (2.97 m)
L. Backfill blade height	14.3" (365 mm)	16.1″ (410 mm)
M. Backfill blade lift height	15.4″ (390 mm)	19.1″ (484 mm)
N. Backfill blade depth of cut below grade	5.9″ (150 mm)	3.1″ (78 mm)
Transport height, plow frame base tractor	91.5″ (2.32 m)	91.5″ (2.32 m)
Center of rear wheel to rear of plow with chute in ground	112.2″ (2.85 m)	114.1″ (2.90 m)
Plow swing angle	25°	
Plow offset from centerline	32.0″ (813 mm)	32.2″ (818 mm)
Angle of departure base tractor/plow attachment raised:		
w/30" (762 mm) mounted blade		
w/o mounted blade	27°	
Plow blade tip ground clearance base tractor:		
w/30" (762 mm) mounted blade	24.9″ (632 mm)	
Overall width base tractor	70.0″ (1.78 m)	83.5″ (2.12 m)
Overall width w/optional tires	78.0″ (1.98 m)	NA
Tread width (centerlines) base tractor	55.0″ (1.39 m)	67.0″ (1.70 m)
Turning radius (outside) base tractor - 4-wheel steer	Left - 119.5" (3.04 m)	129.9″ (3.30 m)
F	Right - 119.5" (3.04 m)	129.9″ (3.30 m)
Operating weight	10,304 lb (4674 kg)*	12,700 lb (5760 kg)**

Note: 660 base tractor equipped with 31 x 15.5 - 15 tires. 860 base tractor equipped with 38 x 18.00 - 20 tires.

*Operating weight of 660 — Equipped with rear trencher, 4' 110K rock boom, 110K chain and standard teeth, backfill blade, D125 backhoe with 18" bucket, Hydra-Borer System, 5 gallons fuel and no operator. **Operating weight of 860 — Equipped with rear trencher, 4' 110K rock boom, 110K chain and standard teeth, backfill blade, 762 backhoe with 18" bucket, Hydra-Borer System, full fuel and 175 lb (79 kg) operator.





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

IMPORTANT: Case Corporation reserves the right to change these specifications without notice and without incurring any obligation relating to such change. Units shown may be equipped with non-standard equipment.

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Attachments from other manufacturers are shown for illustration only. Case Corporation does not warrant the safety or reliability of these attachments.





Form No. CE 032-5-97