



680 B Construction King

71 hp Case diesel engine

Full power shuttle transmission
and torque converter

16½' backhoe with dual-pump
hydraulics

5000 lbs. capacity
Hydra-leveling® loader

Features

Basic Tractor—Case-built, open chamber, direct injection diesel engine. Fast, responsive power plus record breaking fuel economy. Famed for long life and dependability.

4-speed forward and reverse, full power shuttle transmission. Travel forward and reverse simply by moving a hand lever near the steering wheel. Eliminates clutching. Adds speed, ease and convenience to 680 operation.

Torque converter instantly and automatically adjusts speed and power to load requirements. No stalling. Less slippage. No clutch wear. More production.

Full-time Hydrostatic power steering lets the operator maneuver with ease—even turn with a full load in the bucket. Saves time and effort. Ideal for close quarter work.

Adjustable, bucket-type, turn-around seat for loader and backhoe operation.

Massive front axles with heavy-duty spindles and bearings for exceptionally high load carrying ability, minimum maintenance.

Backhoe—16½' Case-built backhoe reaches over 19' from swing pivot, loads to a height of 11'5", generates over 10,500 lbs. of bucket digging force. Big 5" diameter boom and 4½" diameter crowd cylinders provide production boosting crowd-dig power.

42 gpm dual-pump hydraulic circuit powers bucket, boom and crowd while digging and lifting. It then automatically splits to operate swing on one circuit (25 gpm), boom, crowd and bucket on the other circuit (17 gpm). Gives the 680 backhoe greater speed, more capacity and productivity.

Alloy steel, box section design boom. Ten times the torsional strength of open backhoe booms. Resists the twists of day-in, day-out production backhoe work. Less maintenance.

Fast, accurate 190° swing with choice of foot swing or dual-lever hand control for operation of swing, boom crowd and bucket action. Hydraulic cushioning protects unit on full swings.

Choice of 24", 30" and 36" backhoe trenching buckets. Exceptionally rugged in design. Ideally matched to big production excavating jobs.

Loader—Exclusive Hydra-leveling loader design automatically keeps the bucket level from ground to full lift. Eliminates load spillage. Fewer parts to wear, less maintenance.

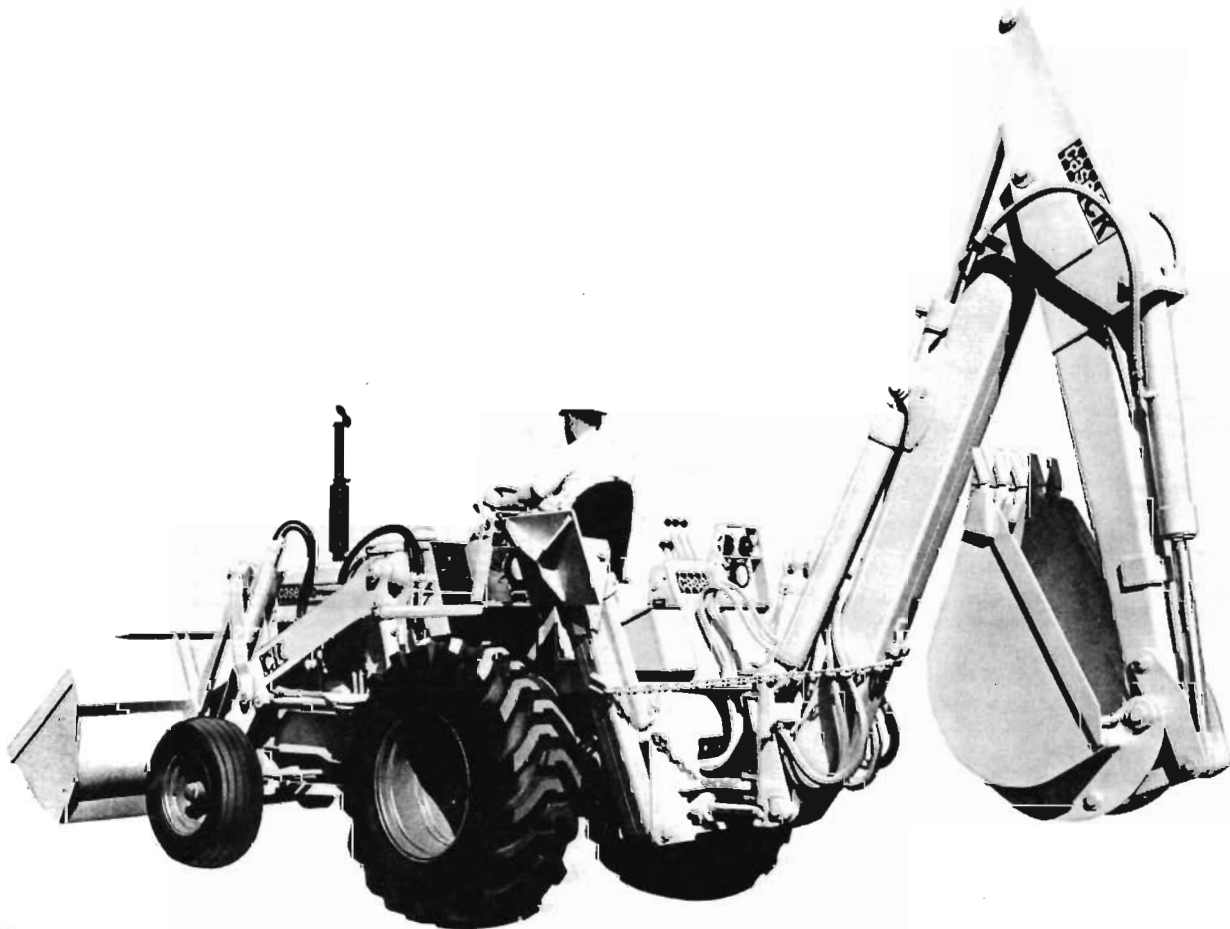
Power linkage mounting of cylinders provides exceptional breakout force, bucket rollback and grading angle. While grading or dozing, bucket cylinders are fully retracted to eliminate rod deflection.

Single lever controls all loader functions—bucket rollback, lift, dump, return-to-dig. Simplifies operation, speeds cycling.

Exclusive return-to-dig returns the bucket to its proper digging position after the load is dumped. Frees the operator so he can concentrate on maneuvering.

Unitized loader—main frame—prime mover design. Built specifically for high production loading and long life.

Choice of 1¼ or 1¾ cu. yd. conventional loader buckets. Also 1 cu. yd. Drott 4-in-1® bucket.



Specifications 680 Construction King

Engine

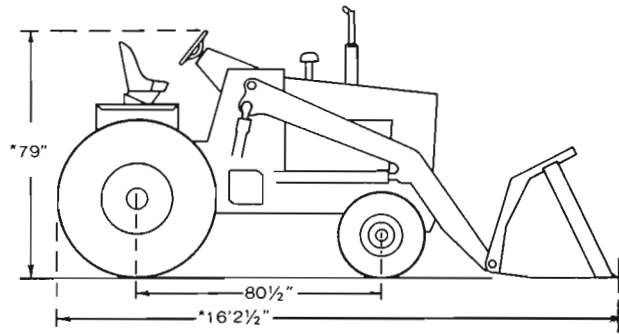
Make and model	Case 267
*Type of fuel	diesel, No. 2
*Number of cylinders (valve-in-head)	4
*Bore and stroke	4 1/8" x 5"
*Displacement (cu. in.)	267
*Electrical system	12 V
Batteries (number and capacity)	(2) 6 V, 150 amp. hr.
Compression ratio	16.5 to 1
Fuel induction	injection pump
Fuel supply	fuel injection
Air cleaner	dry-type
Oil filter, full-flow type	renewable, spin-on cartridge
Lubrication	positive pressure
Cooling system — type	pressurized, 7 psi
— pump	impeller

Horsepower

(1) Mfg. rated	71 @ 2000 rpm
(2)*Net flywheel	64 @ 2000 rpm
Maximum torque — lbs. ft.	
(1) Mfg. rated	215 @ 1300 rpm
(2)*Net	205 @ 1300 rpm
Torque at governed rpm — lbs. ft.	
(1) Mfg. rated	186 @ 2000 rpm
(2) Net	167 @ 2000 rpm

(1) Manufacturer's rating at flywheel when equipped with oil and water pumps. Fuel set at maximum quantity for this application. Corrected to sea level — 29.92" Hg. and 60° F dry air.

(2) Net as applied to this vehicle when equipped with operating accessories including oil and water pumps, alternator, air cleaner, fan and muffler. Corrected to 500 ft. altitude with .38" Hg. vapor pressure (29.38" Hg. observed barometer) and 85° F air (per SAE J816a).



Engine Features

Direct injection, open chamber design with special spiral intake passages cast into heads to assure big capacity, free air flow and a thoroughly mixing swirl as fuel enters combustion chamber. Promotes instant, clean, complete combustion. Cuts fuel consumption.

Extra heavy, rigid block supports bearings and crankshaft. Multiple cylinder heads avoid warpage, assure optimum temperature control for cooler operation, easier servicing.

Replaceable, wet-type sleeves with alloy pistons and rotating exhaust valves lengthen engine life, simplify repairs.

Dynamically counterbalanced crankshaft absorbs stresses, keeps engine running smooth. Big bore, long stroke design permits moderate rpm operation for reduced wear, longer life.

Power Train

*Transmission: 4-speed sliding gear with full power shuttle and torque converter.

*Torque converter: single stage, hydrokinetic type (2.42 to 1 ratio)

*Reversing unit: full power, hydraulic clutch

*Final drive: spur gear

*Brakes: individual or simultaneous, foot-activated, hydraulically assisted, 7" triple disc brakes with over-center type parking lock. Brakes can be operated with or without interrupting power flow to rear wheels by clutch cut-off control located on dash.

Capacities

*Cooling system	30 quarts
*Fuel tank	28 gals.
*Engine lubricating oil	8 quarts
*Transmission	28 quarts refill

Tractor Operational Data

*Travel speeds (mph)

With 16.9x24 tires @ governed engine speed				
	1st	2nd	3rd	4th
Forward	2.5	3.8	8.5	18.0
Reverse	3.4	5.0	10.9	23.0

Front Axle Load Rating

Dynamic	44,000 lbs.
Static	11,000 lbs.

Steering

*Power steering (standard)

Hydrostatic

*Turning ratio (stop to stop)

2 1/2 turns

Tires

Standard:

Front (loader with counterweight)	8.25x15, 12 PR super hi-miler truck tire
(loader/backhoe)	11.00Lx16, 14 PR, F3
Rear	16.9x24, 8 PR, R4

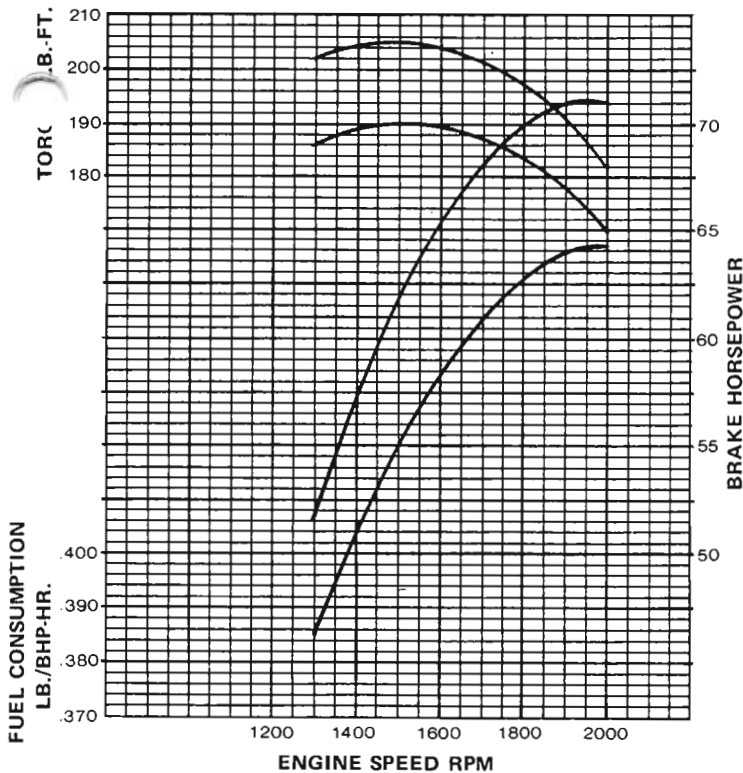
Optional:

Front (loader and backhoe)	8.25x15, 12 PR super hi-miler truck tire
Rear	12.00x24, 8 PR, sure grip grader, L2
	16.9x24, 10 PR, R4
	16.9x24, 12 PR, R4

Dimensions

*Overall length — loader bucket flat on ground	Regular Bucket	4-in-1 Bucket
*Overall width — rear wheels	16'2 1/2"	16'1 1/8"
Wheelbase	82"	
Tread width — front	80 1/2"	
— rear	70 3/4"	
*Overall height (to top of steering wheel)	66 3/4"	
*Ground clearance — at cross member	79"	
	13 1/4"	

CASE MODEL 267 OPEN CHAMBER DIESEL TORQUE PERFORMANCE

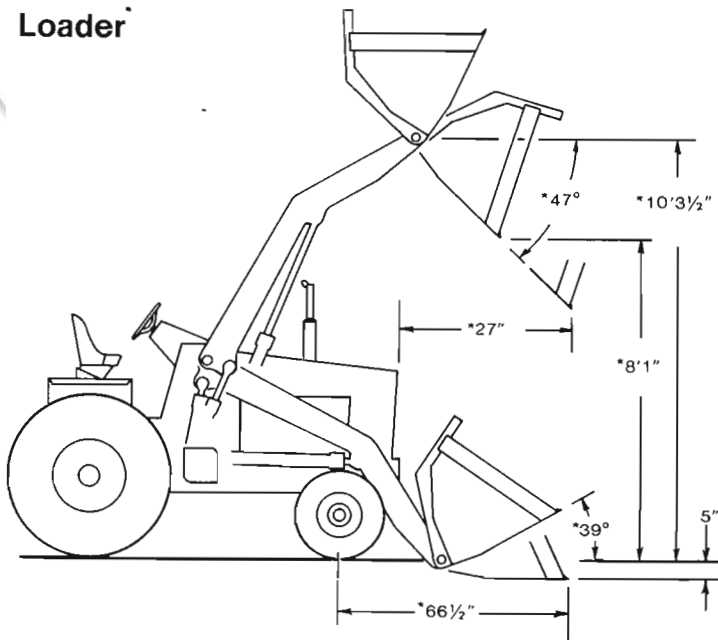


FUEL CONSUMPTION
LB./BHP-HR.

ENGINE SPEED RPM

BRAKE HORSEPOWER

Loader



Model designation: 680 CK Loader

Loader Operating Data

*Lift capacity to full height	5000 lbs.
*Breakout force, maximum	10,050 lbs.
*Height to bucket hinge pin	10'3 1/2"
*Dump reach at full height	27"
*Dump clearance at full height	8'1"
*Reach, bucket on ground	66 1/2"
*Bucket rollback at ground level	39°
Grading angle	up to 106°
*Max. dump angle at full height	47°
*Digging depth below ground line, bucket level	5"
*Turning clearance circle dia. — with brakes	29'3"
— without brakes	39'0"
*Raising time to full height	5.5 sec.
*Dumping time	1.5 sec.
*Lowering time (power down)	3.2 sec.

Loader Approximate Shipping Weight (less bucket) 12,900 lbs.

Loader Features

Unique, patented, force multiplying linkage gives the 680 superior productive capability. It rolls the bucket back 39° at ground level to let the operator get and retain a full load. Fast dump saves time, adds extra loading cycles every hour. Linkage design also provides 110° angle for grading and leveling. While grading or leveling, rods are fully retracted to eliminate rod deflection and seal damage — lower maintenance cost.

Exclusive Hydra-leveling design assures maximum production per cycle. It eliminates load spillage by automatically keeping the bucket level from ground line to full lift height. There is no complicated mechanical linkage. Fewer parts to wear, less maintenance.

Return-to-dig significantly reduces loader cycle time by freeing the operator to concentrate on maneuvering. He simply moves the single lever control into proper position and the bucket automatically returns to its proper dig position after dumping. Available only with Case.

Choice of conventional-type or Drott 4-in-1 bucket. 4-in-1 bucket adds greatly to 680 Loader job potential. Loads conventionally or bottom dumps for extra clearance. It can effectively grasp and lift pipe, boulders, poles, etc. Hinge-type jaw opens exceptionally wide to permit handling objects wider than the width of the bucket. 4-in-1 bucket can also be used to doze, or it will function as a scraper on leveling operations.

Loader Buckets

Types	Capacities	Width	Weights
	SAE Rating (Nominal Heaped)		
Case	1 1/4 cu. yd.	Struck 1,060 cu. yd.	85"
Case	1 1/4 cu. yd.	1,506 cu. yd.	96"
4-in-1	1 cu. yd.	.814 cu. yd.	85 1/2"
			1120 lbs.

Drott 4-in-1[®] Bucket Operating Data

*Lift capacity to full height	4200 lbs.
*Breakout force, maximum	9400 lbs.
*Height to bucket hinge pin	10'3 1/2"
*Dump clearance at full height	8'4" @ 41°
Dump clearance at full height using clam	10 1/2"
Reach, bucket on ground	63 3/8"
Bucket rollback at ground level	43°
Grading angle	up to 106°
*Maximum dump angle at full height	41°
*Digging depth below ground line (bucket flat)	8 1/2"
*Raising time to full height	5.5 sec.
*Dumping time	1.5 sec.
*Lowering time (power down)	3.2 sec.
Width of dozer cutting edge	82"
Maximum clam opening	35 1/2"
Dozing depth	4 1/2"
Digging depth using clam	39 1/2"
Moldboard height	34"

Loader Hydraulic System

*Pump capacity: 25 gpm and 17 gpm tandem pumps for combined flow of 42 gpm @ 2000 rpm @ 2000 psi with Case Hi-Lo TCH oil.

Pump type: front-mounted, tandem, direct drive, positive displacement, gear type.

*System relief pressure setting: 2250 psi.

*Filtration: 40 micron, full-flow replaceable cartridge on return line. Condition gauge for filter.

*System capacity: 35 gals. — 17.5 gals. refill.

Cylinder design and packing: easy-to-service with threaded end cap. Hardened and chrome-plated rods. Cylinder equipped with two-way, triple-seal packing and metal guide rings for positive action. Nylon wiper rings and self-locking cap screw on rod with "U" cup packing. Cylinders have micro-smooth bore for long packing life.

Cylinders:

Lift (2)	3 1/2" dia. x 31" stroke, 2" rod
Bucket (2)	D.A. 3" dia. x 23 3/16" stroke, 1 3/4" rod
Hydra-leveling (2)	D.A. 3" dia. x 7 1/4" stroke, 1 3/4" rod
Clam (4-in-1 only) (2)	D.A. 3 1/2" dia. x 9 1/16" stroke, 1 1/2" rod

Control valve: single-lever control, two-spool valve, positive hold "float" position and raise position in lift circuit. Extra lever and spool for 4-in-1 models. Automatic return-to-dig mechanism is standard.

Loader Model Standard Equipment

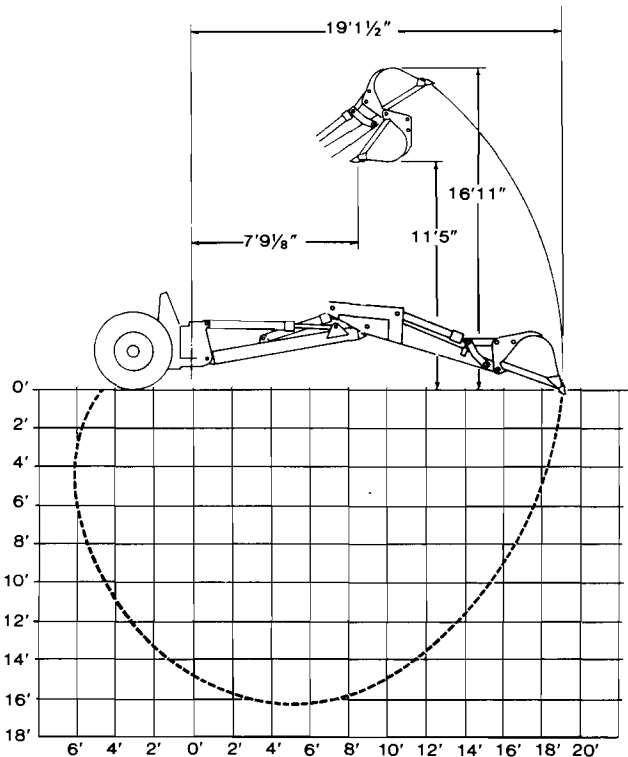
55 amp. alternator. Anti-freeze solution to -20°F. Heavy-duty front axle with 70 3/4" tread. Differential-type, triple-disc, hydraulically-actuated brakes. Parking brake. Dry-type air cleaner with service indicator. 2850 lb. rear cast counterweight. 12-volt electrical system with circuit breaker. Case 267 cu. in. diesel engine. Electric fuel pump. Suction-type fan. Rear wheel fenders. Engine oil and fuel filters. Fuel level gauge. Heavy-duty industrial grille. Instrument panel includes: ammeter, converter clutch pressure gauge, converter oil temperature gauge, engine oil pressure gauge, engine water temperature gauge, hourmeter, dash lights, key switch, push button starter switch, tachometer. Two headlights, two rear floodlights, rear tail and stop lights, turn signals and flashers. Hydra-leveling loader (less bucket). Manifold pre-heater. Upright muffler with rain cap. Wide, accessible platform. Return-to-dig, single-lever control. Adjustable, bucket-type, turn-around seat. Full-time, hydrostatic steering. Neutral start switch. 28-gallon fuel tank. Hand and foot throttles. 16.9x24, 8 PR, tube-type, R4 rear tires. 8.25 x 15, 12 PR, truck, tube-type front tires. Tool box. Torque converter. 4-speed, full power shuttle transmission.

Optional Equipment

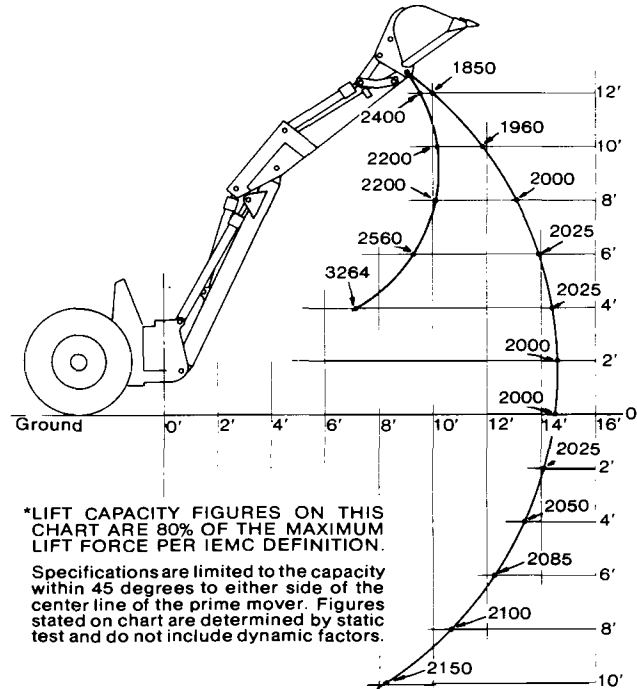
Anti-freeze to -40°F. Spark arresting muffler. Pusher fan. Engine side panels. Bucket teeth, 11.00Lx16, 14 PR, F3 front tires. 16.9x24, 10 PR, R4 and 16.9x24, 12 PR, R4 rear tires. 1 1/4 and 1 3/4 cu. yd. loader buckets. 1 cu. yd. Drott 4-in-1 bucket.



16½' Backhoe



----- DIGGING PROFILE
TRENCHING BUCKET



*LIFT CAPACITY FIGURES ON THIS CHART ARE 80% OF THE MAXIMUM LIFT FORCE PER IEMC DEFINITION.

Specifications are limited to the capacity within 45 degrees to either side of the center line of the prime mover. Figures stated on chart are determined by static test and do not include dynamic factors.

*Backhoe Buckets Outside Widths

SAE Rating (Nominal Heaped)	Capacities		Weights
	Struck		
24" (trenching)	8.0 cu. ft.	448 lbs.	
30" (trenching)	10.0 cu. ft.	478 lbs.	
36" (trenching)	8.54 cu. ft.	377 lbs.	

Standard Equipment

All loader standard equipment with 11.00Lx16, 14 PR, F3 in lieu of 8.25x15, 12 PR front tires. (No rear counterweight.) Model 36 Backhoe (less bucket). Hydraulic system and controls. Cleated stabilizer pads.

Dual Hydraulic System

The 680 Backhoe hydraulic system is truly unique. Here is positive, no-lag response and maximum operating speed to assure top production output in even the toughest digging.

The system features two hydraulic circuits. One is powered by a 25 gpm pump. The other has a 17 gpm pump. These pumps are tandem mounted, producing a combined flow of 42 gpm which operates bucket, boom and crowd to give the 680 maximum available speed when it's needed most — during the dig-lift cycle!

At the end of the dig-lift cycle the system automatically splits. The 25 gpm pump operates swing for greatest speed, while the 17 gpm pump controls boom, crowd and bucket action.

With this dual system, the 680 is capable of excavating 100 to 120 cu. yds. per hour.

These specifications conform to IEMC definitions. IEMC definitions are not established for specifications not preceded by an.

Important

J I Case Company reserves the right to change these specifications without notice and without incurring any obligation relating to such changes.

Sold and serviced by

Model Designation: 680CK with 36 Backhoe Backhoe Operational

Digging depth — *IEMC rated	16'0"
Maximum digging depth (with teeth)	16'4"
*Swing arc	190°
*Clearance height	11'5"
*Digging radius (from swing pivot)	19'1½"
*Reach (from center line of rear axle)	21'6⅞"
*Bucket rotation	157°
*Loading height	11'5"
*Loading reach at full height	7'9⅞"
*Stabilizer spread — operating position	12'2"
— travel position	7'2½"
*Maximum grade on which backhoe will make vertical cut	12°
*Digging force, bucket cylinder	10,640 lbs.
*Digging force, dipper cylinder	6800 lbs.

Backhoe Dimensions

Overall height, maximum	16'11"
*Transport height	12'2½"
*Overall width — at stabilizers (in travel position)	86½"
— at rear wheels	82"
*Overall length (travel position, loader bucket flat)	22'3¼"
*Ground clearance (at backhoe)	13¼"

Backhoe Approximate Shipping Weight (less bucket) 14,500 lbs.

Backhoe Hydraulic System

*Pump capacity: 25 gpm and 17 gpm tandem pumps for combined flow of 42 gpm @ 2000 rpm @ 2000 psi with Case Hi-Lo TCH oil.

Pump type: front-mounted, tandem, direct drive, positive displacement, gear type.

*System relief pressure setting: 2050 psi

*Filtration: 40 micron, full-flow replaceable cartridge on return line. Condition gauge for filter.

*System capacity: 35 gals. — 17.5 gals. refill

Cylinder design and packing: easy-to-service with threaded end cap. Hardened and chrome-plated rods. Cylinder equipped with two-way, triple-seal packing and metal guide rings for positive action. Nylon wiper rings and self-locking cap screw on rod with "U" cup packing. Cylinders have micro-smooth bore for long packing life.

*Cylinders:

Boom (1)	D.A. 5" dia. x 39⅞" stroke, 2¼" rod
Crowd (1)	D.A. 4½" dia. x 40⅞" stroke, 2¼" rod
Bucket (1)	D.A. 4" dia. x 27¼" stroke, 2¼" rod
Swing (2)	D.A. 4½" dia. x 11⅞" stroke, 2" rod
Stabilizer (2)	D.A. 4" dia. x 21⅞" stroke, 2" rod

Control valve: Heavy-duty, six-spool, sectional valve with open center parallel circuit. Foot swing pedal controls. Hydraulic cushioned stops.