



680 Series C Construction King

84 hp Case diesel engine

Full power shuttle transmission
and torque converter drive

Outboard planetary rear axle with torque
proportioning differential

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.

Synchromesh 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.

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

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.

Outboard heavy-duty planetary rear axle with torque proportioning differential for excellent maneuverability in soft, muddy terrain.

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.

45.5 gpm dual-pump hydraulic circuit powers bucket, boom and crowd while digging and lifting. It then automatically splits to operate swing on one circuit (27.5 gpm), boom, crowd and bucket on the other circuit (18 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.

Wide range of trenching and bellhole 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.

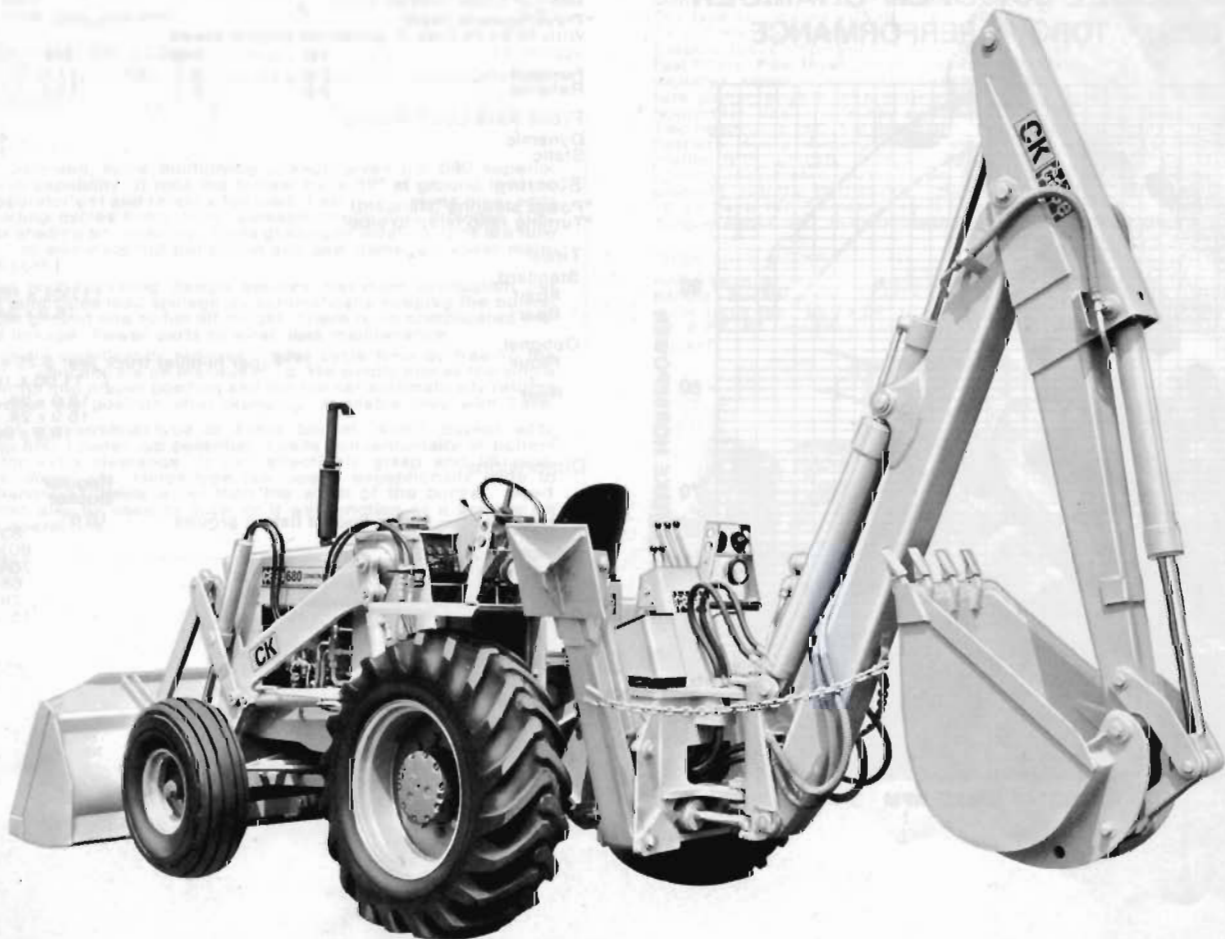
Power linkage mounting of cylinders provides exceptional breakout force, bucket rollback and grading angle. While grading or dozing, bucket cylinders are fully retracted to eliminate rod deflection.

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. Choice of 1¼ or 1½ cu. yd. conventional loader buckets. Also 1 cu. yd. 4-in-1 bucket.

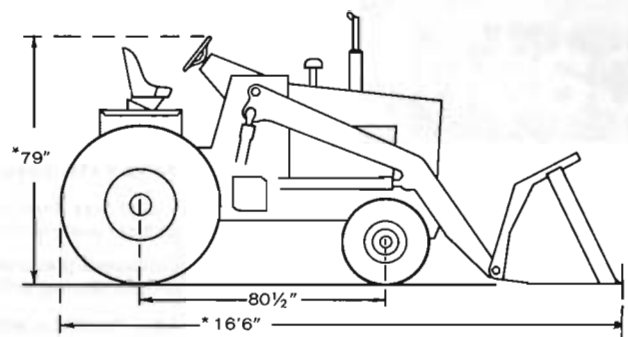
Unit shown is equipped with non-standard items. Manufactured and warranted by J I Case Company, Racine Wisconsin USA.



Specifications 680 Series C Construction King

Engine

Make and model	Case 301
*Type of fuel	diesel, No. 2
*Number of cylinders (valve-in-head)	4
*Bore and stroke	4 3/8" x 5"
*Displacement (cu. in.)	301
*Electrical system	12 V
Batteries (number and capacity)	(2) 12 V, 74 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
	impeller
Horsepower	
(1) Gross rated	84 @ 2200 rpm
(2) Mfg. rated	80 @ 2200 rpm
(3)*Net flywheel	74 @ 2200 rpm
Maximum torque — lbs. ft.	
(1) Mfg. rated	220 @ 1600 rpm
(2)*Net	210 @ 1600 rpm
Torque at governed rpm — lbs. ft.	
(1) Mfg. rated	191 @ 2200 rpm
(2) Net	172 @ 2200 rpm
(1) Gross 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) Manufacturer's rating at flywheel when equipped with oil and water pumps. Fuel set at maximum quantity for this application. Corrected to 500' altitude with .38" Hg. vapor pressure (29.38" Hg. observed barometer) and 85° F air (per SAE J816a).	
(3) 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 synchromesh with full power shuttle and torque converter.

*Torque converter: single stage, hydrokinetic type (2.15 to 1 ratio)

*Reversing unit: full power, hydraulic clutch

*Rear axle outboard planetary with torque proportioning differential.

*Brakes: individual or simultaneous, foot-activated, vacuum assisted, 15" x 4" drum 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	10 quarts
*Transmission	28 quarts refill

Tractor Operational Data

*Travel speeds (mph)

With 16.9x24 tires @ governed engine speed

	1st	2nd	3rd	4th
Forward	2.9	6.3	11.0	18.6
Reverse	3.0	6.4	11.1	18.7

Front Axle Load Rating

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

Steering

*Power steering (standard)

*Turning ratio (stop to stop)

Hydrostatic
2 1/2 turns

Tires

Standard:

Front

Rear

11.00L x 16, 14 PR, I1
16.9 x 24, 8 PR, R4

Optional:

Front

Rear

super hi-miler truck tire: 8.25 x 15, 12 PR
11.00 x 16, 8 PR F3
16.9 x 24, 10 PR, R4
16.9 x 24, 12 PR, R4
16.9 x 28, 8PR, R4

Dimensions

*Overall length — loader bucket flat on ground

*Overall width — rear wheels

Wheelbase

Tread width — front

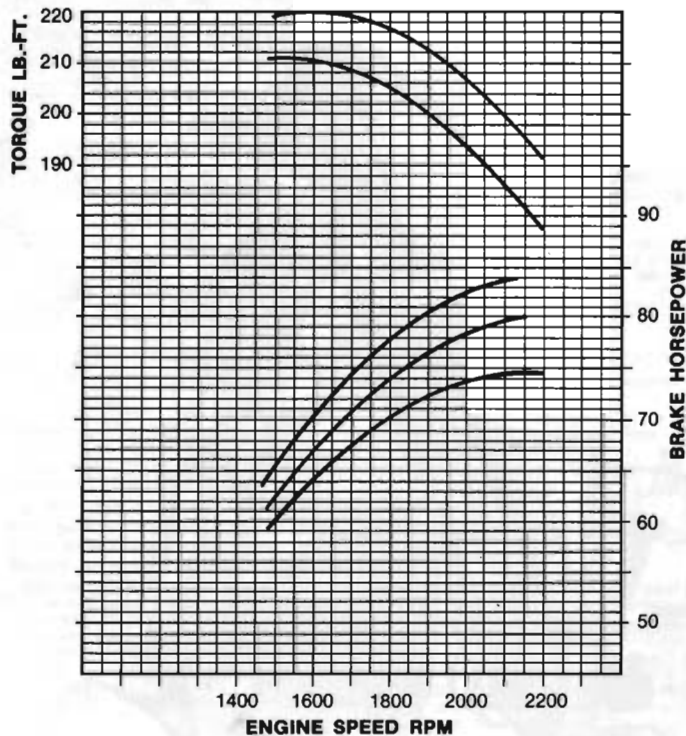
— rear

*Overall height (to top of steering wheel)

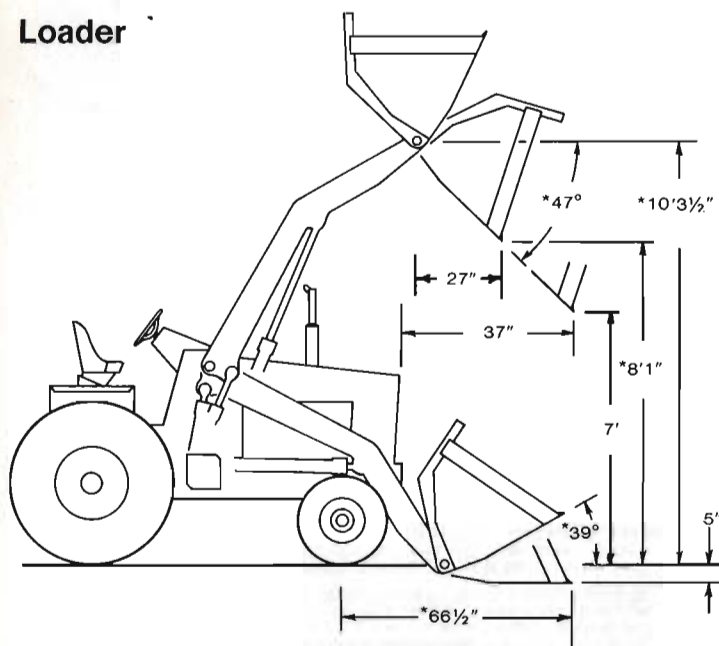
*Ground clearance — bottom of rear axle

Regular Bucket	4-in-1 Bucket
16'6"	16'3"
	83"
	80 1/2"
	70 3/4"
	65"
	79"
	15 1/8"

CASE MODEL 301 OPEN CHAMBER DIESEL TORQUE PERFORMANCE



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 105°
*Max. dump angle at full height	47°
*Digging depth below ground line, bucket level	5"
*Turning clearance circle dia. — with brakes	29'4"
— 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

13,250 lbs.

(with 1 1/4 cu. yd. bucket and 2850 lb. rear counterweight)

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 105° 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 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	
Case	1 1/4 cu. yd.	1,060 cu. yd.	85"
4-in-1	1 cu. yd.	1,506 cu. yd.	96"
		.85 cu. yd.	85 1/2"
			1120 lbs.

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" @ 47°
Dump clearance at full height using clam	10'1 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: 27.5 gpm and 18 gpm tandem pumps for combined flow of 45.5 gpm @ 2200 rpm @ 2000 psi with Case Hi-Lo TCH oil.

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

*System relief pressure setting: 2150 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)	D.A. 3 1/2" dia. x 31" stroke, 2" rod
Bucket (2)	D.A. 3" dia. x 23 1/8" stroke, 1 3/4" rod
Hydra-leveling (2)	D.A. 3" dia. x 7 1/4" stroke, 1 1/2" rod
Clam (4-in-1 only) (2)	D.A. 3 1/2" dia. x 9 1/8" 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

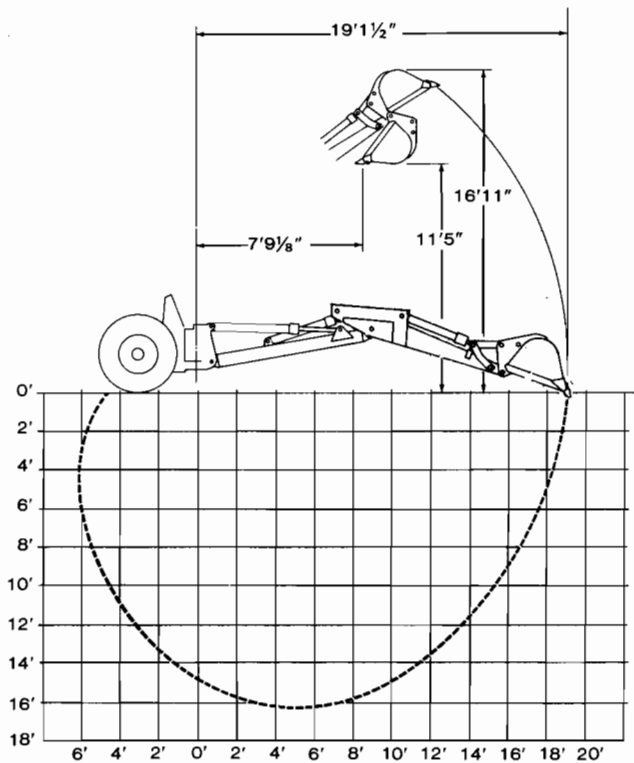
55 amp. alternator. Anti-freeze solution to -20°F. Heavy-duty front axle with 70 3/4" tread. Vacuum-assisted drum-type service brakes. Parking brake. Dry-type air cleaner with service indicator. 2850 lb. rear cast counterweight. 12-volt electrical system with circuit breaker. Case 301 cu. in. diesel 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. 16.9 x 24, 8 PR, R4 rear tires. 11,00L x 16, 14PR I1 front tires. Tool box. Torque converter. Synchromesh 4-speed, full power shuttle transmission.

Optional Equipment

Anti-freeze to -40°F. Spark arresting muffler. Pusher fan. Engine side panels. Bucket teeth. 11,00 x 16, 8 PR, F3 and 8,25 x 15, 12PR Super Hi-miler truck tire. 16.9 x 24, 10 PR, R4 and 16.9 x 24, 12 PR, R4 and 16.9 x 28, 8 PR, R4 rear tires. 1 1/4 and 1 3/4 cu. yd. loader buckets. 1 cu. yd. 4-in-1 bucket.



16½' Backhoe



----- DIGGING PROFILE
TRENCHING BUCKET

Model Designation: 680CK with 36 Backhoe Backhoe Operational

Digging depth — *IEMC rated	16'0"
Maximum digging depth (with teeth)	16'4"
*Swing arc	190°
*Digging radius (from swing pivot)	19'1½"
*Reach (from center line of rear axle)	21'6¾"
*Bucket rotation	157°
*Loading height	11'5"
*Loading reach at full height	7'9⅞"
*Stabilizer spread — operating position	11'6"
— travel position	6'6½"
*Maximum grade on which backhoe will make vertical cut	12°
*Digging force, bucket cylinder	10,680 lbs.
*Digging force, dipper cylinder	6,800 lbs.

Backhoe Dimensions

Overall height, maximum	16'11"
*Transport height	12'2½"
*Overall width — at stabilizers (in travel position)	86½"
— at rear wheels	83"
*Overall length (travel position, loader bucket flat)	22'3¼"
*Ground clearance (at backhoe)	13¼"

Backhoe Approximate Shipping Weight

14,700 lbs.
(with 1¼ cu. yd. loader bucket and 24" backhoe bucket)

Backhoe Hydraulic System

*Pump capacity: 27.5 gpm and 18 gpm tandem pumps for combined flow of 45.5 gpm @ 2200 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.

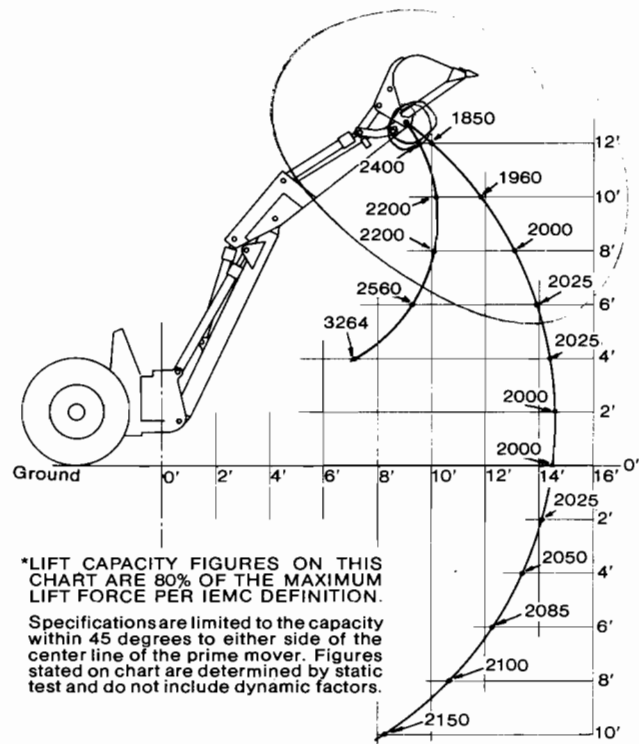
*System capacity: 35 gals. — 17.5 gals. refill

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 39¾" stroke, 2¼" rod
Crowd (1)	D.A. 4½" dia. x 40½" stroke, 2¼" rod
Bucket (1)	D.A. 4" dia. x 27¼" stroke, 2¼" rod
Swing (2)	D.A. 4½" dia. x 11¾" stroke, 2" rod
Stabilizer (2)	D.A. 4" dia. x 21¾" stroke, 2" rod

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



*Backhoe Buckets Outside Widths

Trenching	Bellhole
12"	12"
18"	16"
24"	30"
30"	36"
36"	

Standard Equipment

All loader standard equipment. (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 27.5 gpm pump. The other has a 18 gpm pump. These pumps are tandem mounted, producing a combined flow of 45.5 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 27.5 gpm pump operates swing for greatest speed, while the 18 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



- 88 hp Case diesel engine
- Full power shuttle transmission and torque converter drive
- Outboard planetary rear axle with torque proportioning differential
- Componentized construction
- 16½' backhoe with dual-pump hydraulics
- 5000 lbs. capacity Hydra-leveling® loader
- Exclusive Hydra-Guide

680 C Construction King

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.

Synchromesh 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.

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

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.

Outboard heavy-duty planetary rear axle with torque proportioning differential for excellent maneuverability in soft, muddy terrain.

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.

45.5 gpm dual-pump hydraulic circuit powers bucket, boom and crowd while digging and lifting. It then automatically splits to operate swing on one circuit (27.5 gpm), boom, crowd and bucket on the other circuit (18 gpm). Gives the 680 backhoe greater speed, more capacity and productivity.

Optional Hydra-Guide automatically controls the backhoe curl, dig, lift cycle. Operator dials "dig", pulls the dipper control lever and bucket automatically fills itself. Operator dials "trench", and bucket levels bottom of trench.

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.

Wide range of trenching and bellhole 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.

Two levers control 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. Choice of 1¼ or 1½ cu. yd. conventional loader buckets. Also 1 cu. yd. 4-in-1 bucket.

Unit shown is equipped with optional equipment. J I Case Company, Racine Wisconsin USA 53404.

J I Case
A Tenneco Company



Specifications

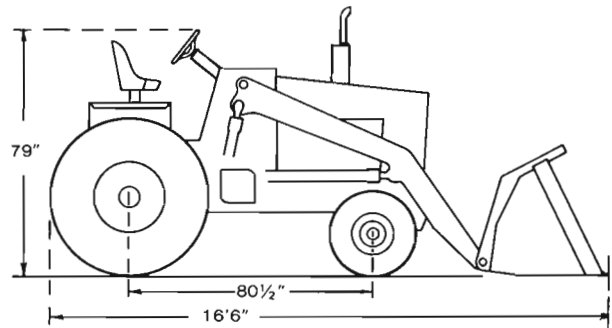
680 C

Construction King

Engine

Make and model	Case 301 diesel, No. 2
Type of fuel	4
Number of cylinders (valve-in-head)	4 3/8" x 5"
Bore and stroke	301
Displacement (cu. in.)	12 V
Electrical system	(2) 12 V, 74 amp. hr.
Batteries (number and capacity)	16.5 to 1
Compression ratio	injection pump
Fuel induction	fuel injection
Fuel supply	dry-type
Air cleaner	renewable, spin-on cartridge
Oil filter, full-flow type	positive pressure
Lubrication	pressurized, 7 psi
Cooling system — type	impeller
— pump	

Horsepower	
(1) Mfg. rated	88 @ 2200 rpm
(2) Net flywheel	79.5 @ 2200 rpm
Maximum torque — lbs. ft.	
(1) Mfg. rated	241 @ 1500 rpm
(2) Net	221 @ 1500 rpm
Torque at governed rpm — lbs. ft.	
(1) Mfg. rated	210 @ 2200 rpm
(2) Net	190 @ 2200 rpm
(1) Manufacturer's rating at flywheel when equipped with oil, water and fuel pumps. Fuel set at maximum quantity for this application. Corrected to 500' altitude with .38" Hg. vapor pressure (29.38" Hg. observed barometer) and 85° F air (per SAE J816a).	
(2) Net as applied to this vehicle when equipped with operating accessories including oil, water and fuel 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 balanced 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 synchromesh with full power shuttle and torque converter. Torque converter: single stage, hydrokinetic type (2.15 to 1 ratio) Reversing unit: full power, hydraulic clutch. Rear axle outboard planetary with torque proportioning differential. Brakes: individual or simultaneous, foot-activated, straight air. Automatic failsafe, spring applied, air released, parking brakes utilizing main brake drums on axle. 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	10 quarts
Transmission	28 quarts refill

Tractor Operational Data

Travel speeds (mph)				
With 16.9 x 24 tires @ governed engine speed				
	1st	2nd	3rd	4th
Forward	2.9	6.3	11.0	18.6
Reverse	3.0	6.4	11.1	18.7

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

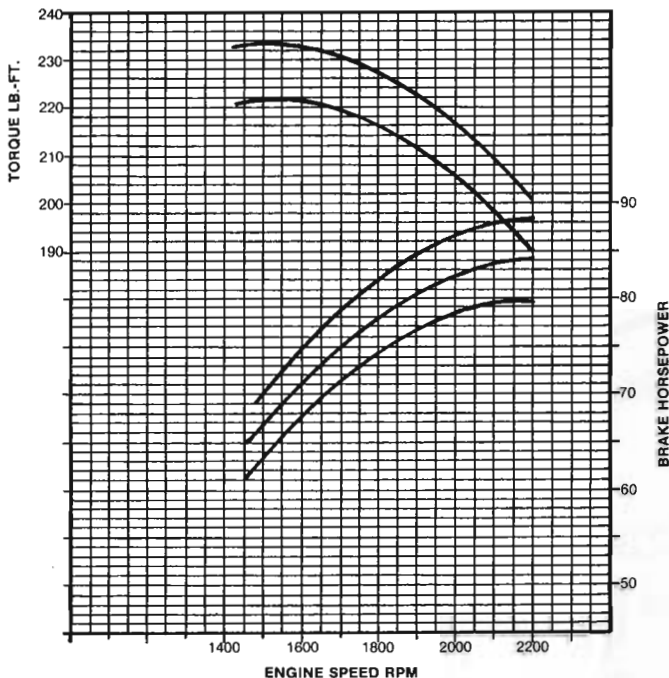
Tires

Standard:	
Front	11.00L x 16, 14 PR, I1
Rear	16.9 x 24, 8 PR, R4
Optional:	
Front	super hi-miler truck tire: 8.25 x 15, 12 PR
	11.00 x 16, 8 PR F3
	16.9 x 24, 10 PR, R4
	16.9 x 24, 12 PR, R4
	16.9 x 28, 8 PR, R4
Rear	19.5L x 24, 12 PR, R4

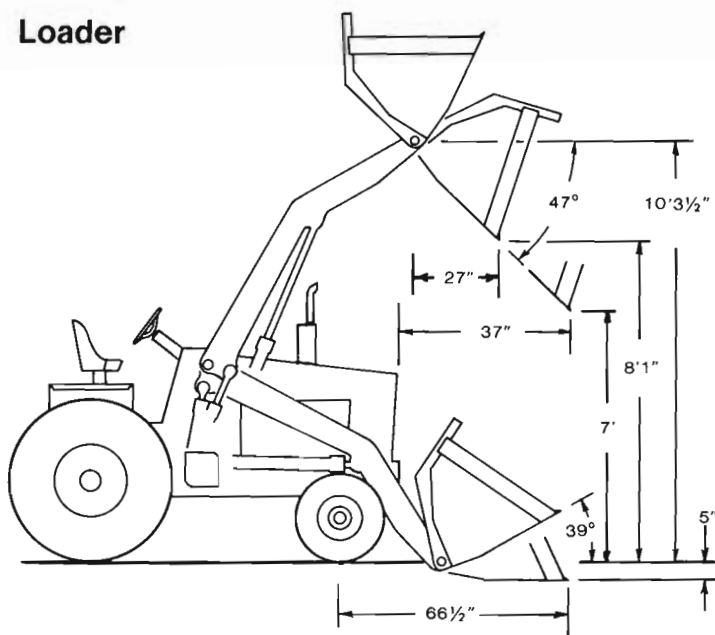
Dimensions

	Regular Bucket	4-in-1 Bucket
Overall length — loader bucket flat on ground	16'6"	16'3"
Overall width — rear wheels		83"
Wheelbase		80 1/2"
Tread width — front		70 3/4"
— rear		66"
Overall height (to top of steering wheel)		79"
Ground clearance — bottom of rear axle		15 1/8"

CASE MODEL 301 OPEN CHAMBER DIESEL TORQUE PERFORMANCE



Loader



Model designation: 680 C CK Loader Loader Operating Data (for units equipped with 11.00L x 16 front and 16.9 x 24 rear tires, and 1 1/4 cu. yd. bucket or 1 3/4 cu. yd. bucket.)

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 105°
Max. dump angle at full height	47°
Digging depth below ground line, bucket level	5"
Turning clearance circle dia. — with brakes	29'4"
— 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 13,250 lbs.
(with 1 1/4 cu. yd. bucket and 2850 lb. rear counterweight)

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 105° 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 two lever controls into their proper position and the bucket automatically returns to its proper dig position after dumping. Choice of conventional-type or 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.

4-in-1 Bucket Operating Data (for units equipped with 11.00L x 16 front and 16.9 x 24 rear tires and 4-in-1 bucket.)

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 1/2"
Reach, bucket on ground	63 5/8"
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 1/4"
Dozing depth	4 1/2"
Digging depth using clam	39 1/2"
Moldboard height	34"
Loader approximate shipping weight (with 1 cu. yd. 4-in-1 bucket and 2850 lb. rear counterweight.)	13,500 lbs.

Loader Hydraulic System

Pump capacity: 27.5 gpm and 18 gpm tandem pumps for combined flow of 45.5 gpm @ 2200 rpm @ 2000 psi with Case Hi-Lo TCH oil.

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

System relief pressure setting: 2150 psi.

Filtration: 25 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)	D.A. 3 1/2" dia. x 31" stroke, 2" rod
Bucket (2)	D.A. 3" dia. x 23 9/16" 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: two 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. Air brakes. Parking brake. Dry-type air cleaner with service indicator. 2850 lb. rear cast counterweight. 12-volt electrical system with circuit breaker. Case 301 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 oil temperature gauge, engine oil pressure light, engine water temperature gauge, dash lights, key switch, push button starter switch, tachometer with hourmeter, Two headlights, two rear floodlights, rear tail and stop lights, turn signals and flashers. Hydra-leveling loader (less bucket). Manifold pre-heater. Upright muffler. Wide, accessible platform. Return-to-dig. Adjustable, bucket-type, turn-around seat. Full-time, hydrostatic steering. Neutral start switch. 28-gallon fuel tank. Hand and foot throttles. 16.9 x 24, 8 PR, R4 rear tires. 11.00L x 16, 14PR L1 front tires. Tool box. Torque converter, Synchronesh 4-speed, full power shuttle transmission.

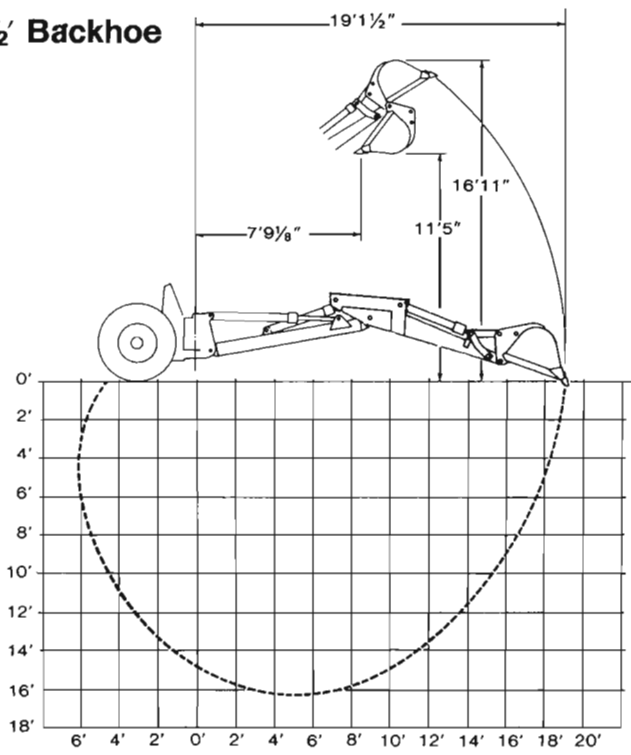
Optional Equipment

Anti-freeze to —40°F. Spark arresting muffler. Pusher fan. Engine side panels. Bucket teeth. 11.00 x 16, 8 PR, F3 and 8.25 x 15, 12PR Super Hi-miler truck tire. 16.9 x 24, 10 PR, R4 and 16.9 x 24, 12 PR, R4, 19.5L x 24, 12 PR, R4 and 16.9 x 28, 8 PR, R4 rear tires. 1/4 and 1 3/4 cu. yd. loader buckets. 1 cu. yd. 4-in-1 bucket. ROPS Canopy with seatbelt, cab, fully enclosed with ROPS built in. Lock up kit. Heater and front window defroster. Rear window defroster.

Loader Buckets

Types	Capacities	Width	Weights	
Case	SAE Rating (Nominal Heaped)			
Case	1 1/4 cu. yd.	Struck 1.060 cu. yd.	85"	806 lbs.
Case	1 3/4 cu. yd.	1.506 cu. yd.	96"	884 lbs.
4-in-1	1 cu. yd.	.85 cu. yd.	85 1/2"	1120 lbs.

16½' Backhoe



----- DIGGING PROFILE
TRENCHING BUCKET

Model Designation: 680 C CK with 36 Backhoe
Backhoe Operational (unit equipped with 11.00L
× 16 front and 16.9 × 24 rear tires)

Digging depth — IEMC rated	16'0"
Maximum digging depth (with teeth)	16'4"
Swing arc	190°
Digging radius (from swing pivot)	19'1¼"
Reach (from center line of rear axle)	21'6⅞"
Bucket rotation	157°
Loading height	11'5"
Loading reach at full height	8'1⅞"
Stabilizer spread — operating position	11'6"
— travel position	6'6½"
Maximum grade on which backhoe will make vertical cut	12°
Digging force, bucket cylinder	10,680 lbs.
Digging force, dipper cylinder	6,800 lbs.

Backhoe Dimensions

Overall height, maximum	16'11"
Transport height	12'2½"
Overall width — at stabilizers (in travel position)	86½"
— at rear wheels	83"
Overall length (travel position, loader bucket flat)	22'3¼"
Ground clearance (at backhoe)	13¼"

Backhoe Approximate Shipping Weight

14,700 lbs.
(with 1¼ cu. yd. loader bucket, 24" backhoe bucket and 500 lb. front counterweight.)

Backhoe Hydraulic System

Pump capacity: 27.5 gpm and 18 gpm tandem pumps for combined flow of 45.5 gpm @ 2200 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: 25 micron, full-flow replaceable cartridge on return line. Condition gauge for filter.

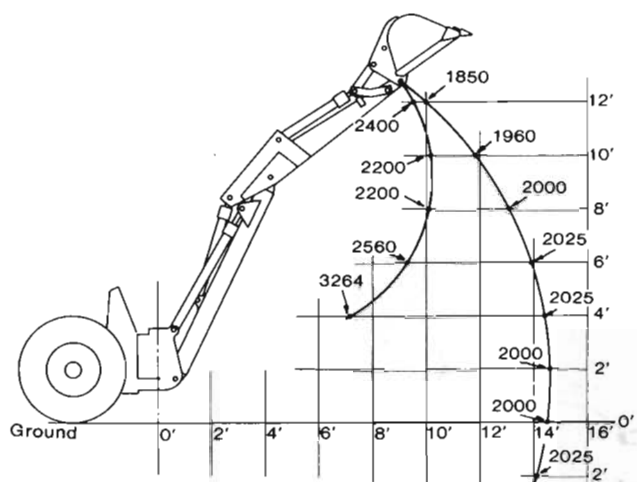
System capacity: 35 gals. — 17.5 gals. refill

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

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



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

Trenching	Hi-Capacity Trenching	Bellhole
12"	24"	12"
18"	30"	16"
24"	36"	30"
36"		36"

Standard Equipment

All loader standard equipment. (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 27.5 gpm pump. The other has a 18 gpm pump. These pumps are tandem mounted, producing a combined flow of 45.5 gpm which operate 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 27.5 gpm pump operates swing for greatest speed, while the 18 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.

Note: All specifications are stated in accordance with IEMC or SAE standards where applicable.

Important

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

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