



# MODEL 4994 Tractor

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400 (298 kW) gross engine horsepower

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344 (257 kW) PTO horsepower

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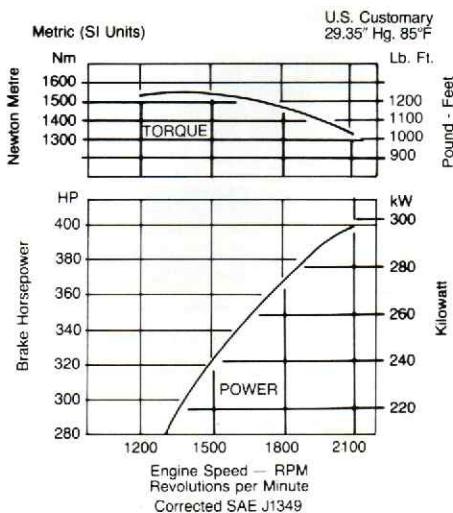
306 (228 kW) d/p horsepower

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# BASIC TRACTOR

## ENGINE PERFORMANCE CURVE



### ENGINE

#### Engine Full Load Performance

Maximum horsepower measured at 2100 engine rpm

Gross engine ..... 400 hp (298 kW)

PTO..... 344 hp (257 kW)

Type: 8 cylinder, 4 cycle, valve in head, direct injection turbocharged diesel engine.

Fuel ..... No. 2 diesel

Governed speed range ... 750-2400 rpm

Rated engine speed ..... 2100 rpm

Maximum torque..... 996 ft/lbs @ 2100 rpm (1 309 N-m)

Displacement ..... 866 in<sup>3</sup> (14.3 L)

Bore and stroke..... 5 x 5.51" (127 x 145 mm)

Compression ratio ..... 15.5:1

Cylinder sleeves: induction hardened, wet removable type.

Crankshaft: counterbalanced, dynamically balanced, induction hardened journals & filet radii.

Number of main bearings..... 5

**Lubrication System:** Gear pump type with pressure control valve.

**Fuel System:** Multiple plunger fuel injection pump w/electric lift pump assembly; manual fuel shutoff.

Size of injectors ..... 21 mm

Note: manual fuel shutoff controlled by engine stop cable.

#### Fuel Filtering System

Welded trap and water drain on bottom of each fuel tank. Preliminary fuel filter: located at bottom of fuel transfer pump.

1st stage fuel filters (2): full flow spin-on.

2nd stage fuel filters (2): full flow spin-on.

#### Cooling System

Type: Pressurized, dual thermostat controlled.

Radiator relief pressure: 10 psi (68.9 kPa).

Radiator: Heavy duty fin and tube deaerating type.

Capacity of system ..... 88 qts (83 L)

#### ENGINE OIL HEAT EXCHANGER

Type: oil to water. Location: LH side of engine. Transmission and hydraulic oil cooler (oil to air type). Location: front of radiator (swing out).

Oil cleaner: Centrifugal type; continuous working, cyclonic separation.

#### Air Cleaner — High Capacity

Self-cleaning air induction system. Stratotube w/final and safety dry type elements; service indicator light on instrument panel, muffler aspirated.

#### Muffler — High Capacity

Oval w/dust aspirator for engine air filters, under hood. Curved exhaust extension.

#### ELECTRICAL SYSTEM

Type of system: 12 volt negative ground.

Alternator: 12 volt, 105 amp output, negative ground.

Batteries: (2) 12 volt, 95 amp hours, heavy duty.

#### Lighting Equipment and

#### Identification System:

Headlights (halogen) ..... 2

Front cab lights (halogen) ..... 2

Rear cab lights (halogen) ..... 2

Tail lights..... 2

Flasher lights, one RH, one LH,

w/directional signals..... 2

Slow Moving Vehicle Sign..... 1

Optional front field lights (halogen)

cab mounted..... 2

Optional rear flood lights (halogen)

cab mounted..... 4

#### CAPACITIES

Fuel tanks, one on each side of frame,

total ..... 300 gals (1 134 L)

Engine oil capacity w/filters. . 27 qts (25 L)

Transmission w/PTO..... 63 qts (59.3 L)

without PTO..... 59 qts (55.8 L)

Hydraulic system ..... 105 qts (99 L)

Front differential ..... 16.9 qts (16 L)

Rear differential ..... 22.7 qts (21.5 L)

Planetaries (each) ..... 13.5 qts (12.8 L)

#### TRANSMISSION

Type: full powershift w/12 forward speeds and two reverse speeds. Micro-processor controlled with electronic service diagnostic monitoring system. Forward speed range: 2.48 to 17.21 mph (3.99 to 27.69 km/h).

#### Type of Clutch

Multiple wet disc, located in transmission.

#### Transmission Oil Level

Dipstick (left side of tractor).

# BASIC TRACTOR

## APPROXIMATE TRAVEL SPEEDS IN MPH\*\* (KM/H) AT 2100 RPM

Transmission Gear	MPH	KM/H
1	2.48	3.99
2	2.98	4.79
3	3.53	5.68
4	4.24	6.82
5	5.09	8.19
6	6.15	9.90
7	7.08	11.39
8	8.05	12.96
9	10.07	16.20
10	12.11	19.48
11	14.53	23.38
12	17.21	27.69
Reverse 1	3.12	5.02
Reverse 2	8.94	14.38

\*\*Tire pressure: 16 psi (110 kPa) no slip conditions w/24.5 x 32 tire equipment. Travel speeds calculated at rated speeds.

### BRAKES

Type: hand parking, mechanically actuated by adjustable brake handle on the operator's platform (audible and visual warning).

Type: foot service, self-adjusting dual caliper disc, hydraulically actuated.

Location: main drive line.

Operation: right foot, suspended pedal.

### AXLES

Final drive (integral w/wheels): 3 pinion planetary located in wheel hub.

Planetary reduction . . . . . 6.2:1

Differential type: limited slip differential (transfers wheel slippage to opposite wheels to increase traction).

Differential reduction . . . . . 3.9:1

Total axle reduction . . . . . 24.18:1

## CASE INTERNATIONAL SOLID STATE SELECTIVE STEERING

Two independent hydraulic steering systems; front and rear can be operated independently or can be operated in combination through a solid state electro hydraulic system. This offers 4 methods of steering:

1. Front wheel steering selection — controlled by the steering wheel (rear wheels center in this mode).
2. Rear wheel steering selection (rear wheels only), controlled by a rocker switch.
3. Automatic coordinated steering selection (front and rear wheels controlled by steering wheel). Rear wheels are steered automatically by steering wheel when the steering mode switch is placed in 4 wheel control position.
4. Crab steering selection. Front and rear wheels steer the tractor diagonally in a straight line ahead. Front wheels are controlled by steering wheel, and rear wheels by the rocker switch.

Steering radius w/24.5 x 32 tires @ 96.1" (2.44 m) tread width:

Front wheel steer . . . . . 353" (897 cm)

Automatic coordinated (front and rear wheel steer) . . . . . 222" (564 cm)

## CASE INTERNATIONAL CONTROL HYDRAULICS

Type of system: Closed center, pressure and flow compensating system.

### Charging Pump for Hydraulic System:

Deliver filtered oil under pressure through two filters to main and steering pumps.

Capacity . . . . . 47 gpm @ 40 psi  
(178 L/min @ 276 kPa)

## Main Hydraulic Pump

Two variable displacement axial piston pumps: pressure sensing and flow compensating; deliver filtered oil to remote, hitch, power shift and rear steering systems.

Rated pump

pressure . . . . . 2650 psi (18 269 kPa)

Rated volume . . . . . 35 gpm (132 L/min)

## REMOTE HYDRAULICS

### Remote Hydraulic Cylinder and Hydrostatic Control

Operation: double acting, single acting or float.

Type of control valves; closed center, (pressure/flow compensating).

Flow control, variable adjust control on valves with four in cab standard.

Number of remote circuits — four standard.

Variable range of flow at remote circuits . . . . . 4 to 28 gpm (15.2 to 106.1 L/min.)

Optional 2nd remote circuit w/load check feature available.

Optional remote double acting cylinder, 4" (102 mm) by 8" (203 mm) stroke.

Adjustable kick-out pressure angle control . . . . . 1500 to 2400 psi

(10 343/16 548 kPa)

Hydraulic cylinder hose length, 150" (3.81 m) w/quick detachable type ASAE

standardized swivel and shroud covered male hydraulic couplers (coupler under minimal pressure).

# BASIC TRACTOR

## POWER STEERING HYDRAULIC SYSTEM

Filtered oil supplied to the front wheel hydrostatic steering pump by open center gear pump.

Steering pump capacity

..... 30 in<sup>3</sup>/rev (491.6 cm<sup>3</sup>/rev)

Rated pressure ... 2500 psi (17 235 kPa)

Rear wheel steering oil is supplied by the main hydraulic axial piston pump.

Steering cylinders, front wheels..... 2

Steering cylinders, rear wheels..... 2

Steering cylinder diameter, front & rear ..... 4" (102 mm)

## POWER TAKEOFF (Independent)

Power takeoff w/shield.

Performance: PTO horsepower at 2100 engine rpm ... 344 PTO hp (257 kW)

Type: hydraulically actuated wet multiple disc clutch, controlled by console lever.

PTO brake, power applied. Independent, hydraulically actuated wet disc clutch.

Sound suppressed drop box with helical gear train.

Rotation (from the rear): clockwise.

Spline size diameter

(20 splines)..... 1.75" (44.5 mm)

## DRAWBAR

Adjustable, 3-position 20, 24 and 28" (508, 610 and 711 mm) wide-swinging, yoke type, will accommodate 2.0" (50.8 mm) diameter pin for implement hitch.

## WHEEL EQUIPMENT

Optional tires (subject to availability, factory installed):

\*24.5 x 32, 10PR (R1) & (R2)

\*24.5R x 32, 1 Star (R1)

30.5 x 32, 10PR (R1) & (R2)

30.5R x 32, 1 Star (R1)

\*23.1 x 34, 8PR (R1) & (R2)

\*20.8 x 38, 10PR (R1) & (R2)

\*20.8R x 38, 1 Star (R1)

\*20.8 x 42, 10PR (R1)

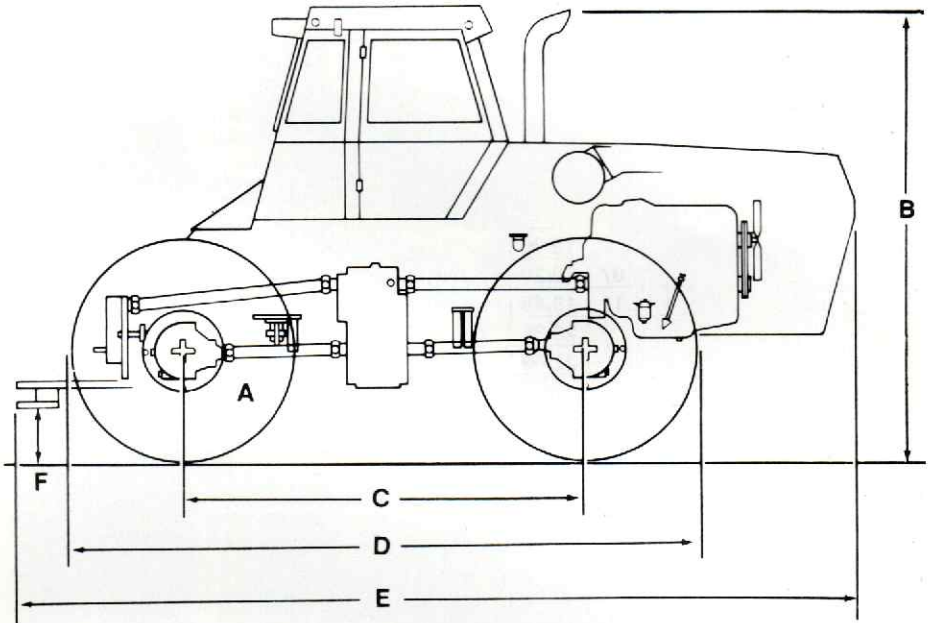
20.8R x 42, 1 Star (R2)

(Fixed position wheels.)

**Outside dual wheels available for most inner tire sizes in R1, R2 tread at 144.6 to 167.5" (3.67 to 4.26 m) tread width.**

\*Duals recommended

## APPROXIMATE OVERALL DIMENSIONS



## WHEEL TREAD WIDTHS

Tire Sizes	Approx Tread Widths
20.8 x 38	91.4" (2.32 m)
20.8 x 42	91.4" (2.32 m)
23.1 x 34	91.4" (2.32 m)
24.5 x 32	96.1" (2.44 m)
30.5 x 32	102.1" (2.59 m)

## DIMENSIONS

A.....	Tire: 24.5 x 32 (R1)
B.....	138.5" (3.52 m)
C.....	124.8" (3.17 m)
D.....	195.9" (4.98 m)
E.....	261.8" (6.65 m)
F.....	14.5" (368.3 mm)
Overall width (min).....	117" (2.97 m)
Overall length.....	261.8" (6.65 m)
Rear axle oscillation.....	30°
Front axle clearance.....	22.7" (577 mm)
Rear axle clearance.....	21.7" (552 mm)

## AVERAGE SHIPPING WEIGHT

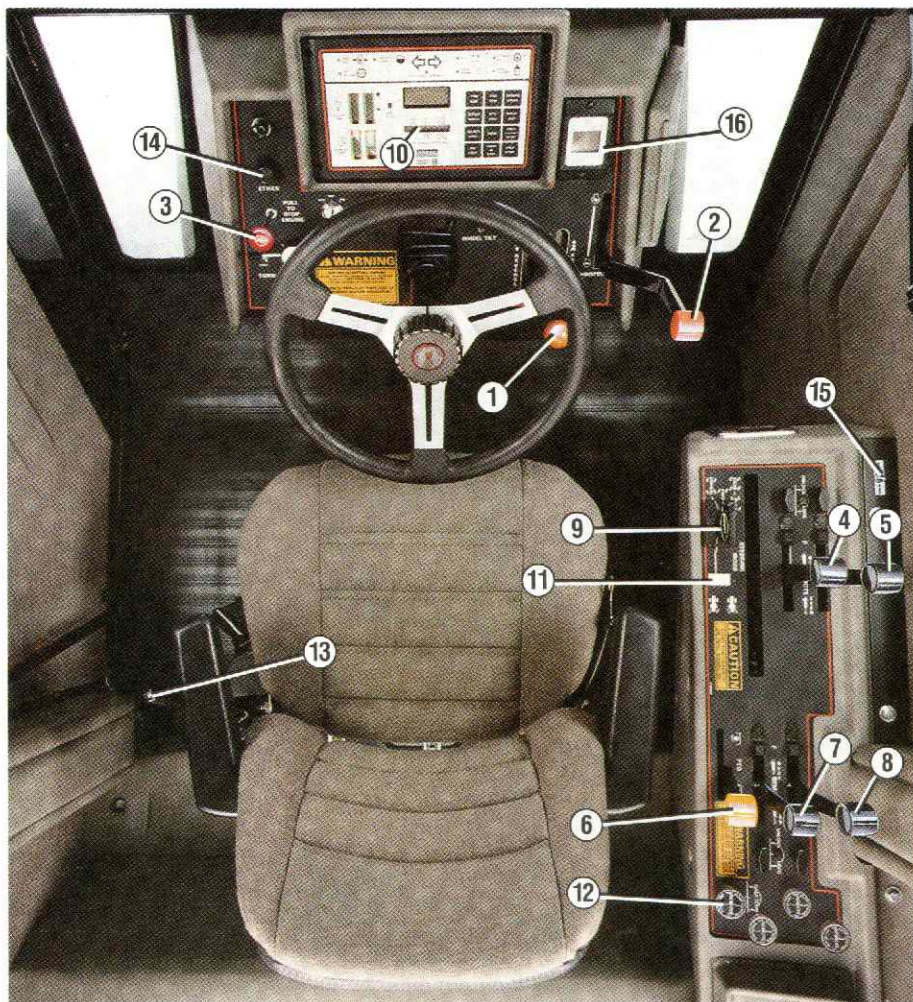
Includes cab, 23.1 x 34 single tires, PTO  
..... 26,500 lbs (12 020 kg)

Max operating weight, tractor with cab and normal field operating equipment: weight/ballast. Dealer installation.

..... 40,000 lbs (18 150 kg)

Weights added as required. Recommend tractor be weighted, statically 60% of the tractor weight on front end, 40% on rear wheels — for optimum performance.

# BASIC TRACTOR



## OPERATIONAL ITEMS

1. Power shift
2. Engine throttle
3. Engine shut-off
4. Remote hydraulic circuit No. 1
5. Remote hydraulic circuit No. 2
6. PTO control lever
7. Remote hydraulic circuit No. 3
8. Remote hydraulic circuit No. 4
9. 4-way steering selector
10. Rear wheel position indicator in digital display
11. Rocker switch for rear wheel positioning
12. Flow control knobs (4 standard)
13. Hand parking brake
14. Ether start assist
15. Transmission field/transport operation switch
16. Speed range/diagnostic display.

## INTELLIGENCE CENTER

**Digital instrument cluster** with English or Metric readout displaying engine, PTO or ground speed and electric tach/hourmeter. Bar graph display of fuel level, coolant temperature, exhaust temperature and voltage.

**Monitoring system** provides lights and audible warning for critical functions; engine oil pressure and coolant temperature, hydraulic/transmission filter pressure and air filter indicator. Transmission monitor provides error code display for steering and transmission. Light for alternator. Green light to signify all "systems normal".

**Functions** are elapsed time, acres covered per hour, cumulative acreage count and rear wheel position indicator.

## OPERATOR'S ENVIRONMENT

Case International "Silent Guardian" cab, pod type, rubber mounted and isolated from power train, roll protected (ROPS); heater, air conditioner and self-purging exterior mounted air filter; 2 speakers and wire harness equipped for radio; custom interior; instrumentation light with 3-position dome light; isolated power lead for accessory hookup; tinted glass; gas assist door opener; inside rear view mirror; convenience center for food and beverage; tool box, rear cab access opening.

Ash tray and cigar lighter.  
Color coded control knobs.

Control console RH side of operator.

Floor mat.

Roof cap.

Seat: Case International, air/oil suspension, swivel, fore-aft isolator, contoured gray cloth cushions, lumbar support adjustment, weight and height adjustments, seat cushion tilt and back cushion tilt, flip-up arm rests and retractable seat belt.

Steering Wheel: Custom Sport.

4 slatted steps with hand rails.

**Operator Environment Controls. Heater & Air Conditioner — standard:**

Capacity . . . . . 2 ton (24,000 BTU)

Cab sound pressure level . . . . 76.5 dBa

# BASIC TRACTOR

## STANDARD EQUIPMENT

Air induction system, aspirated. Stratotube precleaner w/dry type final and safety elements and service indicator.

Anti-freeze solution. (-20°F, -29°C)

Brakes: self-adjusting dual caliper disc w/mechanically actuated park feature.

Cab, "Silent Guardian"; shock-isolated, rubber-mounted platform; pod type w/roll protection per OSHA; inside mirror, gas-assist door opener, 3-position dome light; self-purging exterior air filter; tool box; food & beverage center; rear cab access opening. Heater/air conditioning, isolated power lead for auxiliary electrical hookup. Tinted glass, ash tray, lighter, floor mat, custom interior.

Console controls conveniently located by operator's seat.

Drawbar extendable, 3-position 20, 24, 28" (508, 610, 711 mm), wide-swinging, yoke-type.

Electrical system, 12 volt; alternator 105 amp starter.

Rear-mounted auxiliary 7-terminal SAE electrical outlet.

Elevating hood, hydraulic (one-man accessibility).

Engine, 8-cylinder turbocharged diesel 866 in<sup>3</sup> (14.3 L) displacement.

Four slatted steps w/hand rail.

Fuel tanks (2) total 300 gallons (1134 L). Ether start assist (less ether).

Lights: 2 headlights, 2 front floodlights, 2 rear floodlights, 2 amber combination warning and directional lights (cab mounted), 2 tail lights (rear cab).

Muffler under hood w/aspirator, curved extension.

Engine oil cleaner, centrifugal.

Seat, Case International air/oil suspension, swivel, fore-aft isolator, contoured gray cloth cushions, lumbar support adjustment, weight and height adjustments, seat cushion and back cushion tilt, flip-up arm rests, retractable seat belt and custom sport steering wheel.

SMV safety symbol.

Steering, hydrostatic power. Four-way selective: automatic 4-wheel coordinated, front only, rear only and crab. (Electronically controlled.)

Hydraulic remote circuits. (4)

Throttle, hand.

Tilting and telescoping steering column.

Wheel treads, 91.4 to 102.1" (2.32 to 2.59 m).

Transmission: Heavy-duty no-clutch full power-shifting, 12 forward and two reverse speeds.

(Standard equipment does not include power takeoff, 3-pt. hitch)

## OPTIONAL EQUIPMENT

A selection of radio, stereo and cassette (dealer installed). Outside dual rear view mirrors (dealer installed). Hydraulic double acting portable cylinder 4 x 8" (102 x 203 mm) w/hose, hydraulic stop and detachable hose connections. ASAE/ISO standard male coupler. Power takeoff — 20 splines, 1000 rpm. Diameter 1.75" (44.5 mm) (independent type w/hydraulically engaged multiple wet disc clutch). Front

mounted weight frame accepts up to 32 weights, 100 lbs (45 kg) each. Heater, engine block (2). Lights — front flood (2). Rear flood lights (4). Optional equipment also includes a complete selection of wheels and tires to meet the requirements of any job application. Automatic engine shutdown kit.

## True Ground Speed Sensor

Monitors percentage of actual wheel slippage regardless of engine rpm, wheel/tire selection or soil conditions. Permits precise control of planting monitors and chemical application rates.

**IMPORTANT:** the total tractor weight with ballast and weight must never be more than 40,000 lbs (18 144 kg).

The J I Case Company reserves the right to make improvements in design and changes in specifications at any time without notice and without incurring any obligation to install them on any units previously sold.

