



MODEL 1896

# Tractor

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122 S.A.E. gross engine hp (90 kW)

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116 D.I.N. ps\* (85 kW)

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95 PTO hp\* (70 kW)

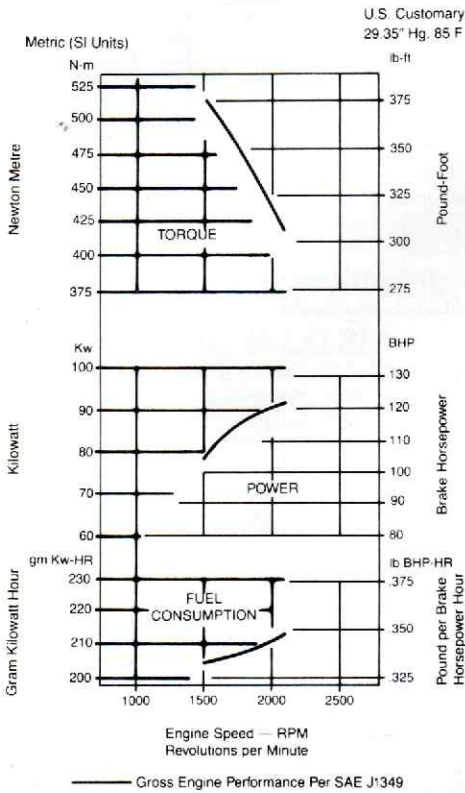
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\*Mfg's Rating.



# BASIC TRACTOR

## ENGINE PERFORMANCE CURVE



### Engine Full Load Performance

Maximum horsepower @ 2100 RPM (mfr's rating):

S.A.E. gross engine ..... 122 (90 kW)  
 D.I.N. ps ..... 116 (85 kW)  
 PTO ..... 95 (70 kW)

Type: 6-cylinder in-line, 4-cycle, valve-in-head, direct injection, turbocharged, diesel engine.

Fuel ..... No. 2 Diesel  
 High idle ..... 2250 rpm  
 Low idle ..... 800 rpm  
 Rated engine speed ..... 2100 rpm  
 Displacement ..... 5.9 litres  
 Bore and stroke ..... 102 x 120 mm

Compression ratio ..... 17.5:1  
 Crankshaft — counterweighted, balanced, high strength, steel alloy.  
 Number of bearings ..... 7

### Lubrication System

Positive displacement with full flow oil filter.

### Fuel System

Fuel injection pump. Bosch rotary-distributor type. Size of injectors, 17 mm diameter.

### Fuel Filtering System

Water trap and drain located in base of fuel tank.

1st stage fuel filter, full flow spin-on type with water trap.

2nd stage fuel filter, full flow spin-on type.

### Cooling System

Type: pressurized, 15 psi (103 kPa) capacity thermostat controlled, bypass type, forced circulation (centrifugal pump).

Radiator: heavy duty fin and tube type, coolant recovery reservoir.

### ELECTRICAL SYSTEM

Type of system: 12 volt negative ground.  
 Alternator: 12 volt 105 ampere output.

### Lighting Equipment and Identification Marking

- Front rectangular headlights (hood mounted) ..... 2
- Tail lights (fender mounted) ..... 2
- Amber combination flashing warning and directional signal lights (located on side of cab) ..... 2
- Front flood lights (roof mounted) ..... 2
- Rear flood lights (fender mounted) ..... 2
- Optional front flood lights (roof mounted) ..... 2
- Optional rear flood lights (mounted on cab filter housing) ..... 4
- Slow moving vehicle emblem (rear mounted) ..... 1

### CAPACITIES

Engine cooling system ..... 22 U.S. qts (20.8 litres)  
 Fuel tank (rear mounted) ..... 65 U.S. gals (246 litres)  
 Engine oil with filters ..... 16 U.S. qts (15.1 litres)  
 Transmission and hydraulic oil system ..... 100 U.S. qts (95 litres)  
 Dipstick oil level indicators.

### TRANSMISSION

#### Standard Range Powershift Transmission

Ground speed selections: 12 forward/3 reverse. Type: 3-speed compound planetary electrically actuated hydraulic shifting with multiple wet disk clutches and 4-speed gear selection. 3-speed powershift controlled by a lever on operator's RH console, can be shifted with tractor on the go.

#### Transmission Gear Selection

4-speed gears and park lock controlled by lever on operator's RH console. The tractor must be stopped and inching pedal depressed to shift to any of the four range gears or park. Neutral transmission starting switch.

**Power transfer:** multiple wet disc. Inching pedal operation: suspended pedal.

#### Transmission park lock

Locking mechanism engages gear mounted on transmission countershaft.

#### Differential Lock

Type: electrically activated by lighted switch located on RH console — the brake pedals deactivate differential lock. Traction and field steering aid.

### APPROXIMATE TRACTOR SPEEDS IN MPH (KM/H) AT 2100 RPM

With standard 12-speed Powershift Transmission

TRANSMISSION GEAR RANGE	POWERSHIFT MPH/KM/H			REAR TIRE SIZE
	1	2	3 and R**	
1	1.9 (3.1)	2.5 (4.0)	3.2 (5.2)	18.4 x 38 R1
2	3.2 (5.2)	4.3 (6.9)	5.4 (8.7)	
3	4.9 (7.9)	6.5 (10.5)	8.1 (13.0)	
4*	9.9 (15.9)	13.2 (21.2)	18.1 (29.1)	

\*When the transmission is in fourth range you cannot operate the tractor in reverse.

\*\*Release power shift lever latch for reverse selection.

## BRAKES

Type: enclosed hydraulic power assisted — (2) self-adjusting and self-equalizing multiple plate wet-type differential brakes. Operation: individually operated, suspended pedals, sliding pin lock for transport.

## HYDROSTATIC POWER STEERING

**Pump:** open center direct drive gear type (operates brakes also). Pump capacity: (steering and brakes) at 2100 engine rpm and 2000 psi (13 790 kPa) . . . . . 8.0 gpm (30.3 litres/min)

**Steering Control Pump:** hydrostatic type, integral and bi-directional gerotor. Metering section actuated by steering wheel.

**Steering Cylinder:** one integral double-acting cylinder located behind front axle assembly — equal steering speed right/left.

Wheel turns lock

to lock . . . . . 3.5  
Steering wheel diameter . . . 15" (381 mm)  
Tilting steering wheel . . . . . Standard  
Degree of tilting mechanism . . . 25° to 55°  
Number of tilt adjustments . . . . . 5  
Tilt operation . . . . . Pedal  
Telescoping wheel . . . . . Standard  
Range of telescoping . . . . . 4" (102 mm)

## CASE CON TROL HYDRAULICS

Type of system — closed center — pressure and flow compensating type.

### Charging Pump for Hydraulic System

Hydraulic charging pump: delivers filtered oil under pressure to main hydraulic pump. Capacity . . . . . 42 gpm (159 litres/min)

### Main Hydraulic Pump

Variable displacement axial piston pump. Rated pressure . . . 2250 psi (15 513 kPa)  
Rated volume . . . . . 23 gpm (87 litres/min)  
Hydraulic oil pressure filtration.

Transmission and hydraulic oil cooler.

Type: air to oil type.

Location: front of radiator.

## THREE POINT HITCH

### Hitch Draft Control Hydraulic System for Category II, Convertible to III and III N With Optional Quick Coupler. Sway adjustment. Load and Depth Sensing System

Type sensing: lower link — transfers weight to rear tractor wheels for additional traction when encountering heavy draft conditions.

Number of rockshaft lift cylinders . . . . . 1

Maximum Pressure to

rockshaft . . . . . 2250 psi (15 513 kPa)

Hitch control: draft sensing and position control levers on RH console.

Type hitch control valve: 3 position, raise-hold-lower.

Type draft arms: swinging type with fixed or float position on lift links: solid, heavy duty.

Lifting capacity 3-point hitch: at 24" (610 mm) load centers to rear of hitch points:

Lower hole . . . . . 6600 lbs (2 994 kg)

Upper hole . . . . . 8250 lbs (3 742 kg)

Linkage lifting range  
. . . . . 8"-36" (203-914 mm)

## REMOTE HYDRAULICS

### Remote Hydraulic Cylinder and Hydrostatic Master Control

Operation: double-acting, single-acting or float (pressure flow compensating). Features 1st priority and 1st/2nd remote load-check.

Type of control valve — closed center.

Flow control — variable adjust according to application, standard on remote valve, optional in cab.

Number of remote outlets, 2 standard, up to 2 optional.

Variable range of flow at remote outlets . . . 21/3.5 gpm (80/13 litres/min)

Adjustment pressure range control . . . . . 2000/1200 psi (13 790/8 274 kPa)

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

Hydraulic cylinder hose length, 108" (2.74m) with quick detachable type ASAE/ISO standardized male hydraulic couplers (couple under minimal pressure).

## POWER TAKE OFF

Power take off shaft with shield.

Standard dual speed reversible single shaft 540/1000 rpm with quick converting feature.

Performance: PTO horsepower at 2100 engine rpm (mfr's rating)

. . . . . 95 hp (70 kW)

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

540 rpm — 6 spline; 1000 rpm — 21 splines. Rotation (from rear) clockwise.

Shaft diameter

540/1000 . . . . . 1.375" (35 mm)

PTO brake — power applied.

Operation hydraulic detent: hand lever on right hand operator console, coast position.

## DRAWBAR

Standard with 3-point hitch accommodates 1.25" (31.8 mm) diameter pin for implement hitch.

Optional swinging drawbar without hitch accommodates 1.50" dia pin (38.1 mm).

## AVERAGE SHIPPING WEIGHT (2WD)

Includes cab, hitch, power shift  
. . . . . 11,850 lbs (5 375 kg)

### Important

The total tractor weight with ballast and weights must never be more than  
. . . . . 14,500 lbs (6 577 kg)

## TIRE EQUIPMENT AVAILABLE

Front Tires:

10.6 x 16, 6 Ply (F2)

11.0 x 16, 8 Ply (F2)

14L x 16.1, 10 Ply (F2)

Rear Tires:

23.1 x 30, 8 Ply (R1) & (R2)

23.1 x 34, 8 Ply (R1) & (R2)

16.9 x 38, 8 Ply (R1)

18.4 x 38, 6, 8, 10 Ply (R1) & (R2)

18.4R38, 1 Star (R1)

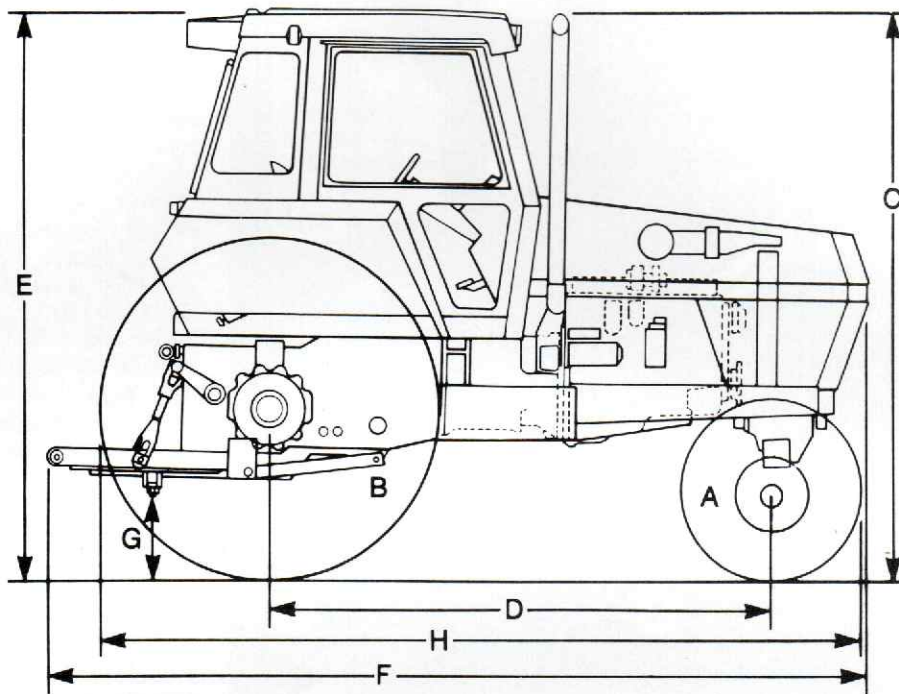
Optional Dual:

23.1 x 34, 8 Ply (R1) & (R2)

18.4 x 38, 6 Ply (R1) & (R2)

18.4R38, 1 Star (R1)

## APPROXIMATE OVERALL DIMENSIONS



### DIMENSIONS — Standard 2WD

A.....	11.00 x 16 (F2) tires
B.....	18.4 x 38 (R1) tires
C.....	116" (2.95 m)
D.....	108" (2.74 m)
E.....	118" (3.00 m)
F.....	171" (4.34 m)
G.....	16" (406 mm)
H.....	163" (4.14 m)

Turning radius without brakes.....	173" (4.39 m)
Turning radius with brakes.....	156" (3.96 m)

### Front Wheels

Front rear wheel tread spacing with 10.00 x 16 tires.

Adjustable front axle width.....	60"-88" (1.52-2.24 m)
Adjustable (increments).....	4" (102 mm)
Row-crop clearance under front axle.....	21.3" (541 mm)

### Rear Wheels

Single rear wheel tread spacing with 18.4 x 38 tires on standard 96" axle.....	60"-110" (1.52-2.79 m)
Tread width on optional 120" axle.....	60"-132" (1.52 m-3.35 m)
Diameter of rear axles.....	3.5" (89 mm)

### Dual Wheels

Dual rear wheel tread with 18.4 x 38 tires and 120" (3.05 m) rear axle.

Minimum inside wheel tread width.....	60" (1.52 m)
Maximum outside wheel tread width (steel duals).....	128" (3.25 m)
Maximum with wheel spacers.....	160" (4.06 m)

### MECHANICAL FRONT DRIVE

Wheelbase.....	108" (2.74 m)
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**Ground clearance** — minimum w/14.9 x 28,(R1) front tires

Center of front axle.....	17.5" (444 mm)
Front axle oscillation.....	22° (total)
Front axle steering angle.....	50° (max.)

### Front Tire Tread Adjustments

60" (1.52 m), 64" (1.63 m), 68" (1.73 m), 72" (1.83 m), 77" (1.96 m), 81" (2.06 m), 85" (2.16 m), 89" (2.26 m)
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### Turning Radius

Without Brakes.....	213" (5 410 mm)
With Brakes.....	166" (4 216 mm)

### Weights

Approximate tractor weight with MFD.....	13,050 lbs (5 919 kg)
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### Important

The total tractor ROPS weight with ballast and weights must never be more than  
..... 14,500 lbs (6 577 kg)

### MFD approved tire combinations

FRONT	REAR
14.9 x 26, 6/10 Ply (R1)	23.1 x 30 (R1) 16.9 x 38 (R1)
16.9 x 26, 6/10 Ply (R1)	23.1 x 30 (R2) 23.1 x 34 (R1) 18.4 x 38 (R1) 18.4R x 38 (R1)
16.9 x 26, 6/10 Ply (R2)	23.1 x 34 (R2) 18.4 x 38 (R2)
13.6 x 28, 6/10 Ply (R1)	23.1 x 30 (R1) 16.9 x 38 (R1)
14.9 x 28, 6/10 Ply (R1)	23.1 x 30 (R2) 23.1 x 34 (R1) 18.4 x 38 (R1) 18.4R x 38 (R1)
14.9 x 28, 6 Ply (R2)	23.1 x 34 (R2) 18.4 x 38 (R2)

### Controls

Lever on right-hand console engages or disengages MFD. Tractor must be stopped to engage or disengage.



### OPERATIONAL ITEMS

Hand console controls — functions of the tractor and remote implements. (See illustration above).

1. Power shift
2. Range transmission and park lock
3. Engine throttle
4. Differential lock switch
5. Remote hydraulic outlet No. 1
6. Remote hydraulic outlet No. 2
7. Sensing lever for hitch
8. 3-point hitch
9. PTO control lever
10. Front wheel drive lever

### OPERATOR'S ENVIRONMENT

Optional Case International "Silent Guardian" cab, pod type rubber mounted and isolated from power train, roll protected. Heater, air conditioning and self-purging rear-mounted air filter. Custom interior, instrumentation light and 3-position dome light. Tinted glass. Gas-assist door opener. Inside rear-view mirror. Equipped for radio, external antenna.

**NOTE:** Operator's cabs are equipped with built-in rollover protection and overhead protection as specified in ASAE Standards S383 and S310. SAE Standards J167 and J1194 and OSHA Regulations 1928.51, 1928.53 and 1926.1002.

### Seat Type

Standard with cab — Case International air/oil suspension seat. Swivel, fore-aft adjustment, contoured gray cloth cushions, lumbar adjustment, weight and height adjustments, seat cushion tilt, back rest tilt, flip-up arm rests and retractable seat belt.

With ROPS — black vinyl seat with fore-aft and height adjustment, flip-up arm rests and seat belt.

### Cab Components

Entry door location	Left side
Door locks with ignition key	Yes
Number of alternate exits excluding door	2
Type of glazing	tinted tempered glass
Total glass area	38.6 ft <sup>2</sup> (3.59 m <sup>2</sup> )
Cab size	83 ft <sup>3</sup> (2.35 m <sup>3</sup> )
Threshold width	11.5" (2.92 mm)
Isolation mounts	4
Cab air intake and filter location	Rear
Size of cab air filter	266 in <sup>2</sup> (1 716 cm <sup>2</sup> )
Cab blower design	Double radial pressurization blowers
Cab blower speeds	3
Blower location	Top rear of cab
Blower rated capacity (max.)	520 cfm (14 750 litres/min.)
Maximum recirculation of air inside cab	75%
Type of recirculation control	Adjustable sliding door

### Operator Environment Controls.

#### Heater and Air Conditioner

Capacity	2 ton (24,000 BTU)
Cab sound pressure level (mfr's est.)	78.0 dBa

## INSTRUMENTATION

### Intelligent Monitoring System

Digital instrument cluster, with English or Metric readout capability, displaying engine, PTO and ground speed and electric tach/hourmeter. Bar graphics 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, transmission oil pressure and temperature and air filter indicator. Light for alternator. Green light to signify all "systems normal."

**Functions** are percent of wheel slip, elapsed time, acres covered per hour and cumulative acreage count.

**"T"-Bar Operator Cockpit Control (Under Steering Wheel).** Turn signal switch. 2-position light switch (road and field). Key on/off switch. Ether start switch. Shutdown over-ride switch.

### STANDARD EQUIPMENT

Air-induction system—stratotube pre-cleaner with exhaust aspirator with dry-type fuel and safety air elements with service indicator.

Anti-freeze solution to  $-20^{\circ}\text{F}$  ( $-29^{\circ}\text{C}$ ).

Ash tray and cigar lighter.

Automatic shutdown system.

Auxiliary 7 terminal electrical outlet (rear mounted).

Brakes—power internal wet disc, self-adjusting and self-equalizing.

2 Post ROPS, roll protected frame, rubber mounted and isolated from the power train.

Colored coded knobs.

Control console RH side of operator.

"T"-Bar cockpit console with key switch, light controls, ether and over-ride switches.

Drawbar—swinging, sliding type with hitch. Wide swinging, roller type and yoke without hitch.

Electrically actuated differential lock.

Engine, 6 cylinder diesel, turbocharged, 5.9 L.

Ether starting aid (less fluid).

Fenders—steps, hand rails and handles on rear of cab.

Floor mat.

Front axle — adjustable

..... 60" x 88" (1.52-2.24 m)

Fuel tank, rear

mounted ..... 65 U.S. gals. (246 litres)

Fuel cap with sealing boot.

Hitch—3 point Category II with load and depth sensing, 2 position upper link.

Muffler—underhood with extension.

Neutral transmission starting switch.

PTO—540/1000 rpm, independent

hydraulic activated wet disc clutch,

540 rpm—6 spline shaft,

1000 rpm—21 spline shaft diameter

..... 1.375" (34.9 mm)

PTO performance @ 2100 rpm

(Mfr's rating)..... 95 hp (70 kW)

Rear axle diameter..... 3.5" (89 mm)

Rear axle length..... 96" (2.44 m)

Rear wheel tread

18.4 x 38 tires and

96" (2.44 m) axle

..... 60"-110" (1.52- 2.79 m)

Roof cap.

Seat—black vinyl with fore-aft and height adjustment, flip-up arm rest and seat belt.

Side rails.

SMV safety emblem.

Spring loaded elevating hood.

Steering—hydrostatic power (3.5 turns, lock to lock).

Steering wheel—tilting and telescoping.

Step extension—adjustable.

Throttle—hand-type.

Transmission—range powershift, 4-speed constant mesh with 3-speed powershift,

park lock. 12 speeds forward, 3 reverse. Wheelbase—108" (2 743 mm)

Wheels and tires—various sizes for front and rear are available.

### OPTIONAL EQUIPMENT

"Silent Guardian" cab with air conditioning, heater and equipped for radio. A selection of radio, stereo, cassette. Various front tires. Various radial and bias ply rear tires and duals. Implement cord window kit. 120" (3.05 m) rear axle. Mechanical Front Drive. Disc-type hand brake with warning signal (for MFD). MFD fenders. MFD driveline shield. Tool box. Rear windshield wiper. 4" x 8" (102 mm x 203 mm) portable pressure-release cylinder with fittings and 108" (2.74 m) hose length. ASAE/ISO remote hydraulic valve couplings. True Ground Speed Sensor kit. Telescoping Category II draft arms. Convertible Category II-III-IIIN quick coupler. Category II non-adjustable quick coupler. Draft control valve guard. Safety chain support kit. Additional remote hydraulic control circuits (only 1 available with MFD option). Front weight frame and add-on segment weights. Rear wheel weights. In-cab remote flow control kit. 2 front and 4 rear halogen floodlights. Exterior mount rear-view mirrors. Engine coolant heater. Battery heater. Oil pan heater. 2-post foldable rops. Right-hand step kit with exhaust shield and grab handles (for 2-post ROPS). Short exhaust extension (for 2-post ROPS).

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**J I Case (Australia) Pty. Ltd**

(Incorporated in New South Wales)  
A Tenneco Company

Windsor Road, Northmead, N.S.W. 2152  
Telephone (02) 683 1666, Telex 21110

