

VERSATILE

Operator's Manual



Tractor
700 Series 2
1976 - 1977



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SERIES 2 TRACTOR

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INTRODUCTION

We at VERSATILE Manufacturing Ltd. are pleased that you have chosen a VERSATILE Four-Wheel drive Tractor for your farming operation. The founders of VERSATILE have pioneered the development of the four-wheel drive tractor for agricultural use. It has evolved through the ideas and suggestions which have been submitted to us by customers such as yourself.

We ask that you study this manual and adopt the preventative maintenance program outlines in it. Preventative maintenance will provide you with trouble free service for years to come. The suggested schedule has been designed to meet most operating conditions. It may be necessary to adjust your maintenance program to suit your specific operating conditions and to perform the maintenance more often than outlined.

As the purchaser of VERSATILE Four-Wheel Drive Tractor you have also received a Cummins' Operation and Maintenance Manual. We would ask that for maintenance on the engine which is not covered by our tractor manual, you follow the instructions outlined in the Cummins manual. Before placing the tractor in service become familiar with all the procedures described in both the engine manual and the tractor manual.

Review with all operators on a regular basis during the year, the proper and safe way in operating and maintaining the tractor. Any new operators should know the tractor completely before beginning daily operation.

Your dealer is factory-trained to provide you with genuine parts and professional repair service. Consult him regarding your service needs. He is working for you.

SERIAL NUMBER LOCATION

IMPORTANT:

When ordering parts, state the serial number of the tractor and/or engine, whichever applies. The tractor serial number is stamped on the rear of the front frame section and also appears as a metal tag near the clutch pedal in the cab. The engine (Cummins) serial is on a metal tag located on the rear of the engine's left-hand cylinder bank.

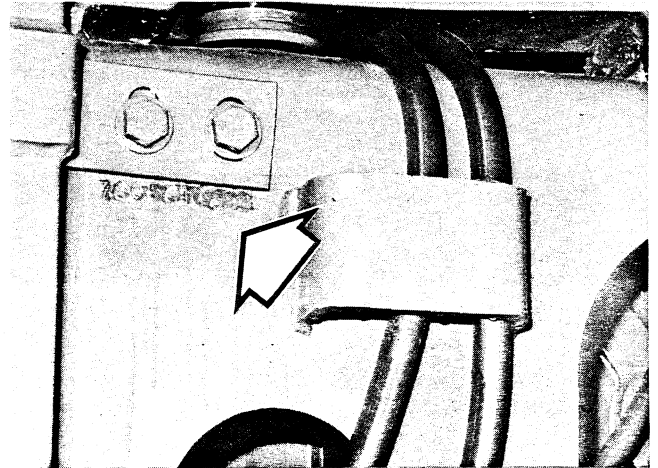
Write your model and serial number information here:

TRACTOR

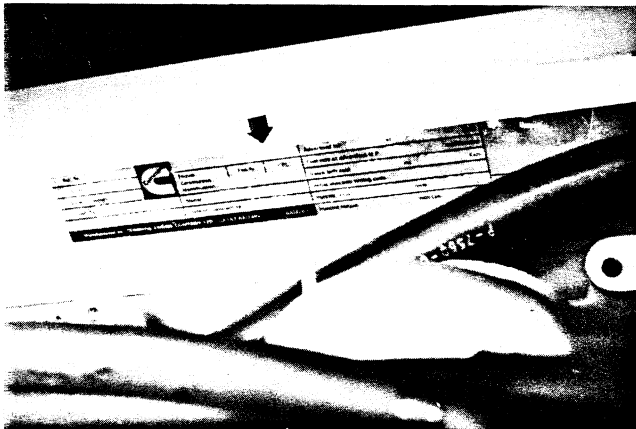
MODEL **700**
SERIAL _____

ENGINE

MAKE **CUMMINS**
MODEL **700**
SERIAL _____



Frame Stamp



Engine Plate



Cab Plate

SPECIFICATIONS

DIMENSIONS:

- Wheel Base -- 130 in. (3,30 m)
- Length Overall -- 253 in. (6,43 m)
- Height Overall -- 141 in. (3,58 m)
(to top of stack*)
- Height To Drawbar -- 18 in. (457 mm)
- Height To Differential -- 23 in. (584 mm)
- Height To Frame -- 22 in. (559 mm)
- Width -- See Tire Size

WEIGHT

- Approximate weight with various tire sizes:
 - 18.4 x 38 Duals -- 18,650 lbs. (8460kg)
 - 20.8 x 38 Duals -- 19,480 lbs. (8840kg)
 - 20.8 x 38 Singles -- 16,920 lbs. (7670kg)
 - 24.5 x 32 Singles -- 17,600 lbs. (7960kg)
 - 30.5 x 32 Singles -- 18,060 lbs. (8190kg)
 - 24.5 x 32 Rice & Cane Singles -- 17,730 lbs. (8040kg)
 - 30.5 x 32 Rice & Cane Singles -- 18,710 lbs. (8480kg)
- Recommended Operating Weights Range (most applications)
 - 22500 to 25000 lb
(10200 to 11300 kg)

TURNING RADIUS: (Measured To Outside Of Outer Tire)

- 236 in. (5,99 m) with 18.4 x 38 duals;
239 in. (6,06 m) with 20.8 x 38 duals
- 216 in. (5,48 m) with 24.5 x 32 singles;
222 in. (5,64 m) with 30.5 x 32 singles

ENGINE: (Naturally Aspirated)

- Cummins V-555 V8 Diesel
- Engine maximum Brake Horsepower at 2850 rpm -- 210
- Maximum Torque -- 425 ft.lb. at 1700 rpm (576 N-m)
- Compression Ratio -- 17.0:1
- Bore -- 4.625 x Stroke, 4.125 in. (117.5 x 104.8 mm)
- Displacement -- 555 cu.in. (9,09 L)
- Idle Speed -- 1000 rpm
- Full-Load Governed Speed -- 2850 rpm
- Full-Throttle No-Load Speed -- 3100-3135 rpm
- Lubrication System -- 26 U.S. Qts. (21.7 Imp Qts) (24.6 L)
Full flow oil filter with by-pass oil conditioner and oil to water cooler
- 30 degrees angularity capability oil pan
- Mounts - - Versatile design, fully rubber mounted

TRANSMISSION:

- Completely rubber-mounted
- Tapered roller bearings 12-speed, fully constant mesh with sliding collars
- Four shafts, 3 in. (76,2 mm) diameter. Pressure lubricated (4 to 15 psi, 28 to 105 kPa).
- Range and Shift Levers
- Helical forward gears, spur reverse gears.
- Independent lubrication system with pump, 10 micron filter, cooler steel lines and wire braid hose, dash-mounted indicator light
- Oil capacity - 21 U.S. Qts. (18 Imp. Qts.) (20.3 L)
- Speeds at 2850 rpm with 24.5 tires, 31.5 in. (800 mm) load radius tires

RANGE	1	2	3	4
1st gear	2.6 mph	3.1 mph	3.5 mph	4.1 mph
2nd	4.7	5.6	6.3	7.5
3rd	9.1	10.8	12.2	14.5
Reverse	3.4	4.0	4.5	5.3

(km/h = mph x 1.6)

CLUTCH:

- Dana Spicer® , 14 in. (356 mm), SELF-ADJUSTING two-plate dry type with ceramic button lining, spring-loaded cushion hub discs. Mechanically actuated by foot pedal.

BRAKES:

- Road Brake -- drive-line mounted 15 in (381 mm). SELF-ADJUSTING disc type. Independent of tractor hydraulic system.
- Parking Brake -- mechanically actuated caliper.

AXLES:

- Spiral-bevel single reduction differentials with outboard planetary final drives.
- Ratios - 27.45 axle, 4.88 differential 5.625 planetary
- Differential mounted in ductile cast differential housing
- Oil capacity / axle 38 U.S. Qts. 31.6 Imp. Qts. (36 L)

COOLING SYSTEM:

- Capacity-48 U.S.Qts., 40 Imp.Qts. 45,4 L
- Radiator (4 row core) rubber mounted - 750 sq. in. (4,840 cm.sq.)
- Independent surge tank
- Quick removable perforated metal grill screen
- Fan (6 blade sucker type) - 24 in. (610 mm) diameter

EXHAUST SYSTEM:

- One 8.5 in. (216 mm) diameter x 36 in. (914 mm) muffler
- Muffler is rubber mounted
- Built-in spark arrestor (where mandatory)

AIR CLEANER:

- Triphase dry type dual safety element, exhaust aspirated, restriction indicator gauge on instrument panel.

STEERING:

- Articulated frame, 42° left or right. Fully hydrostatic actuation via two, 3 in. (76 mm) x 16.5 in. (419 mm) stroke cylinders.

DRAWBAR:

- Swinging clevis type with wear block. One and one-half in. (38.1 mm) pin with locking lever. Replaceable bushings. Height -- 18 in. (457 mm) to top of main member.

FUEL TANK:

- Capacity, 185 U.S. Gal., 155 Imp. Gal. (700 L)
- Two saddle type low mounted tanks
- Mechanical fuel gauge near filler neck, duplicate electrical fuel gauge in cab.
- Remote breather 24 in. (610 mm) above tank

ELECTRICAL:

- Two, 8D - 900 Amp batteries. Negative ground. 12-Volt, 75-Amp brushless alternator with built-in voltage regulator. Automatic reset circuit breakers and replaceable fuses, 60-Watt working lamps, two red tail lamps and two warning flashers.

FRAME:

- Articulated via two ball bushings between front and sub-frame
- Articulation capability -- 42°
- Oscillation capability -- 15°

HYDRAULICS:

- Open center. Nominal 25.0 U.S., Imp. gpm; (1,48 l/s) for steering. Nominal 8.0 to 23.5 U.S., 6.7 to 19.1 Imp. gpm, (1,50 to 1,48 l/s + 10% for implements (flow is adjustable from inside the cab).
- Filters -- reusable suction filter on suction line, one replaceable 33 micron filter on return oil line.
- Cooler -- 25 cooler mounted in front of radiator. Swings down for cleaning
- Implement Control -- built-in flow control. Relief valve (tank mounted) set at 2300 + 50 psi (15.86 MPa + 340 kPa). Two four-way self-cancelling spools set at 2100 + 50 (14,48 MPa + 50 kPa). One four-way spool with float position.
- Couplers -- Pioneer® 8200 Series, push-to-connect-under-pressure type. 7010-4 male gold colored tips.
- Capacity -- vented reservoir 74.5 U.S. Qts. 62 Imp. Qts. (70,5 L), dipstick oil level check and low level sight glass

FLUID CAPACITIES:

- Fuel -- 185 U.S. Gal., 155 Imp. Gal. (700 L)
- Engine Lube Oil -- 26 U.S. Qts., 22.5 Imp. Qts. (24, 8 L)
- Coolant -- 48 U.S. Qts., 40 Imp. Qts. (45,4 l)
- Hydraulic System -- 74.5 U.S. Qts., 62 Imp. Qts. (70,5 L)
- Transmission -- 21.5 U.S. Qts., 17.9 Imp. Qts. (20,3 L)
- Axle with Planetaries -- 38 U.S. Qts. 31.6 Imp. Qts. (36 L)

CAB:

- Fully isolated module on rubber mounts. Roll Over Protective Structure (ROPS). Noise isolated. Pressurized and Air Conditioned. Tinted glass. Bostrom® Seat. Lap Type seat belts.
- Self-cleaning cab air filter allows for longer periods between servicing. The filter is removable (without tools) from outside the cab.

INSTRUMENTS:

- Tachometer, hour meter, voltmeter, air restriction, fuel gauge, engine temperature gauge, oil pressure gauge, transmission oil light, key ignition, starter button, manual safety-switch, override button, hazard warning flasher with turn signals, light switch, wiper switch, air conditioner, warning lights and warning light.

CAB PRESSURIZER:

- Roof-mounted pressurizer, three speed ceiling-mounted fan. Adjustable ceiling mounted louvers.
- Adjustable interior air selector.

AIR CONDITIONER:

- Front-mounted Condensor. Engine-mounted Compressor. Ceiling mounted Evaporator. Temperature and Fan Speed controls. Self-cleaning OUTSIDE cab air filter ejects dust when cab door is closed firmly and by gravity.

HEATER:

- Ceiling mounted core. Variable flow rate. Windshield defrosting Louver.

RADIO

- AM/FM Stereo with dual speakers
- Solid State. Five push buttons with volume and tone controls. Spring mounted telescoping antenna.

TIRE SIZE AND TRACTOR WIDTH:

18.4 x 38 DUALS

- Between Tread Centers
Inner Tires -- 72 in. (1,83 m)
Outer Tires -- 118 in. (3,00 m)
- Tractor Width -- (outside of tires)
Inner Tires -- 90.5 in. (2,30 m)
Outer Tires -- 137 in. 137 in. (3,48 m)

20.8 x 38 DUALS

- Between Tread Centers
Inner Tires -- 72 in. (1,83 m)
Outer Tires -- 122 in. (3,10 m)
- Tractor Width -- (outside of tires)
Inner Tires -- 92.75 in. (2,36 m)
Outer Tires -- 143 in. (3,63 m)

20.8 x 38 SINGLES

- Between Tread Center -- 72 in.
- Tractor Width (outsides of tires) -- 92.75 in. (2,36 m)

24.5 x 32 SINGLES

- Between Tread Centers -- 72 in. (1,83 m)
- Tractor Width (outside of tires) -- 97.25 in. (2,47 m)

30.5 x 32 SINGLES

- Between Tread Centers -- 79.12 in. (2,01 m)
- Tractor Width (outside of tires) -- 109.72 in. (2,79 m)

OPTIONS:

- Three Point Hitch (Category 111)
- Tire Sizes: 18.4 x 38 and 20.8 x 38 Duals; 20.8 x 38, 24.5 x 32 and 30.5 x 32 Singles
- Rear Fenders
- No-Spin Differential front only
- No-Spin Differential front and rear
- Engine Coolant Heater
- Spark Arresting Exhaust

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