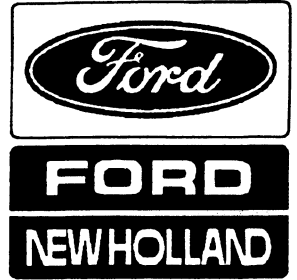


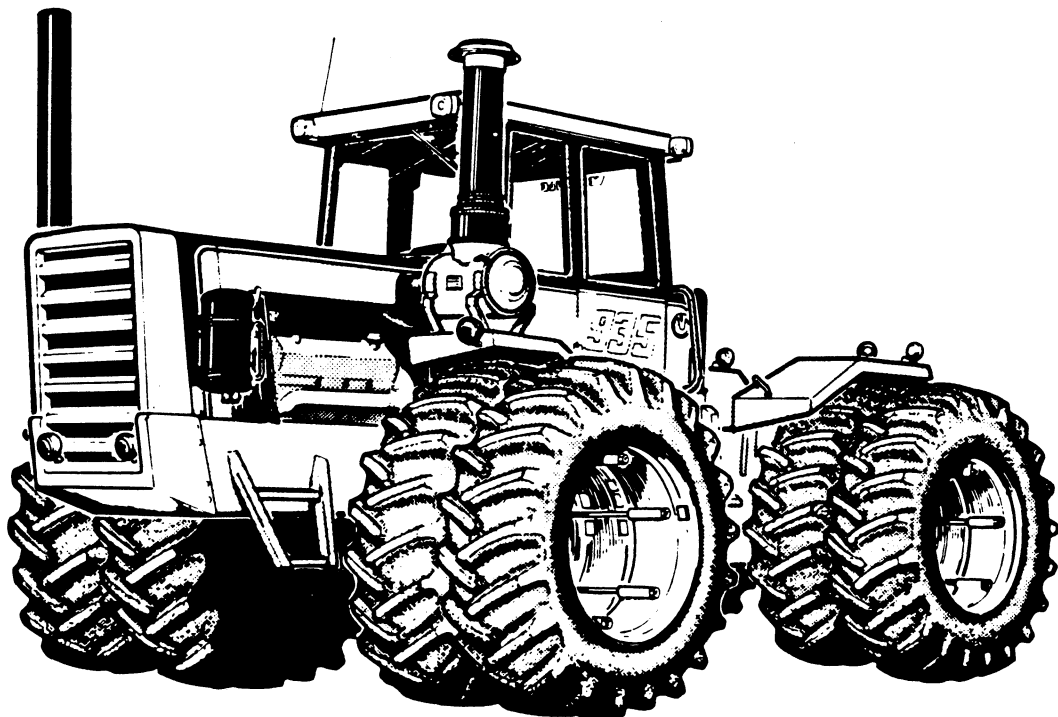
VERSATILE

Operator's Manual



Tractor
935

1979



Reprinted

VERSATILE WARRANTY

VERSATILE MANUFACTURING CO. (VERSATILE) warrants each item of new Versatile equipment sold by it to be free from defects in material and workmanship under normal use and service. The sole obligation of Versatile to the Dealer under this warranty is limited to repairing or replacing, as Versatile may elect, any part or parts that prove in Versatile's judgment to be defective in material or workmanship within one year after delivery to the original purchaser, under normal farm use. Such a defective part or parts will be replaced or repaired ONLY TO THE ORIGINAL PURCHASER, such repair or replacement will be done at the location of the selling Versatile Dealer. Purchaser must give written notice to the Authorized Dealer from whom equipment was purchased of any claimed defect and the Dealer will have a reasonable time under the circumstances then existing to repair or replace said part or parts found to be defective. It is understood that if there is any delay in giving such written notice wherein it is possible that the alleged defective part may have caused damage or defects to other parts of the equipment, then this warranty shall not cover the repairs necessitated therein.

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Versatile's liability under this warranty is limited to the repairing or replacing of parts, and Versatile shall in no event be liable to the Purchaser for consequential damages or loss of profits on crops sustained by it as a result of any defect in material or workmanship on any of the equipment covered by this warranty.

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All Warranties are subject to the legislation of the state or province in which the machine is sold.

THERE WILL BE NO DEVIATION FROM THE PROCEDURE AS OUTLINED

NOTE: THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE BY VERSATILE OR ITS AUTHORIZED DEALER, REGARDING VERSATILE EQUIPMENT EXCEPT THE WARRANTY AGAINST DEFECTS IN MATERIAL OR WORKMANSHIP EXPRESSED HEREIN. NO PERSON IS AUTHORIZED TO BIND VERSATILE FOR ANY OTHER WARRANTY WHATSOEVER.

INTRODUCTION



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

We ask that you study this manual and adopt the preventative maintenance program outlined in it. Good preventative maintenance should provide trouble free service for years. 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 a 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 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 at least a yearly basis, the proper and safe way to operate and maintain the tractor. All operators should know the tractor completely before operating it.

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.

NOTE

This manual is applicable from Serial No. 935 79 071951 and subsequent.

SERIAL NUMBER LOCATION

IMPORTANT:

When ordering parts, state the serial number of the tractor and/or engine. The tractor serial number is stamped on the rear of the front frame section and on a metal tag on lower left hand side of the doorpost. The engine (Cummins) serial number is on a metal tag on engine's left cylinder bank.

Write your model and serial number information here:

ENGINE

MAKE CUMMINS

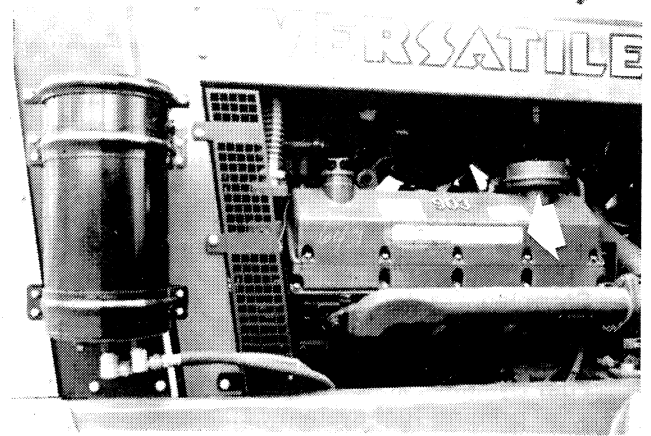
MODEL VT-903

SERIAL _____

TRACTOR

MODEL 935

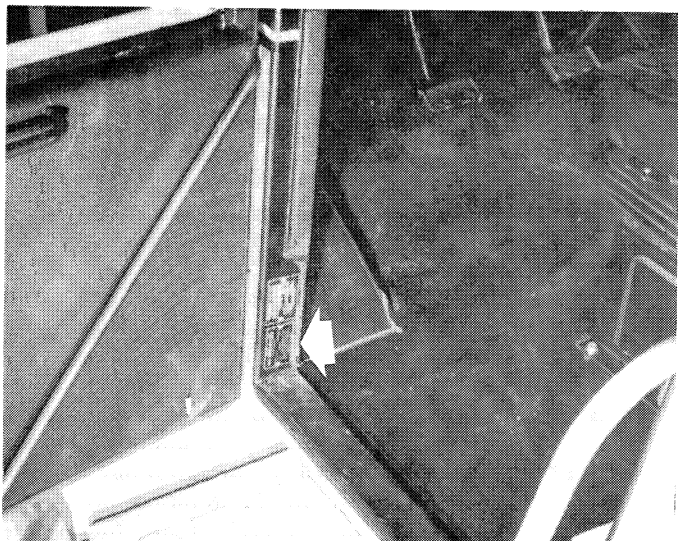
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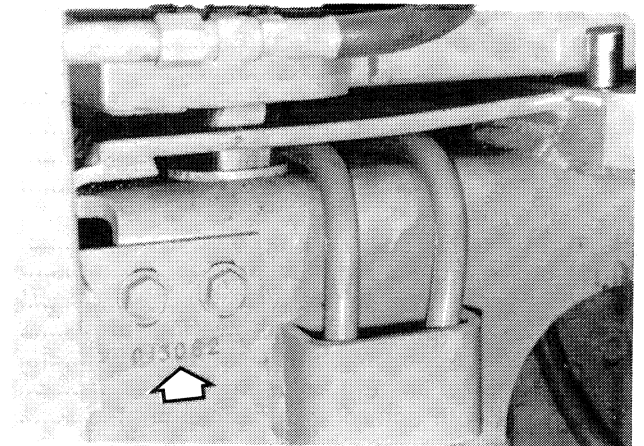
Engine Plate

FRAME

SERIAL _____



Tractor Plate



Frame Stamp

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SPECIFICATIONS

DIMENSIONS:

- Wheel Base - 130 in. (3.3 m)
- Length Overall - 253 in. (6.43 m)
- Height Overall - 141 in. (3.58 m)
- Height to Drawbar - 7.9 in. (45.5 cm) with 18.4 x 38 tires
17.8 in. (45.2 cm) with 24.5 x 32R1 tires
19.1 in. (48.5 cm) with 20.8 x 38R1 and 30.5 x 32 R2 tires.
- Height to Differential - 23 in. (58.4 cm)
- Width - See Tire Size and Tractor Width

WEIGHT:

- Maximum Operating Weight - 30,500 lb. (13,800 kg)
- Approximate weight with various tire sizes: (Weights are measured with 30 gallons fuel and no three-point hitch).
 - 18.4 x 38 Duals - 19,700 lb. (8,950 kg)
 - 20.8 x 38 Duals - 20,610 lb. (9,370 kg)
 - 24.5 x 32 Duals - 21,770 lb. (9,895 kg)
 - 20.8 x 32 Singles - 18,045 lb. (8,200 kg)
 - 24.5 x 32 Singles - 18,665 lb. (8,485 kg)
 - 30.5 x 32 Singles - 19,185 lb. (8,720 kg)
 - 24.5 x 32 Rice & Cane Singles - 18,860 lb. (8,570 kg)
 - 30.5 x 32 Rice and Cane Singles - 19,830 lb. (9,010 kg)
- Recommended Operating Weight Range (most applications), 27,300 to 29,000 lb. (12,400 to 13,200 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: (TURBOCHARGED)

- Cummins VT903 Diesel Turbocharged
- Engine maximum brake horsepower (per SAE Standard J-816a) at 2,600 rpm is 330 hp.
- Maximum Torque - 848 ft-lb. at 1,800 rpm (1,150 N-m)
- Compression ratio: 15.5:1
- Bore - 5.5 in. x Stroke, 4.75 in. (14 x 12.1 cm)
- Displacement - 903 cu. in. (14.8 L)
- Idle Speed - 1,000 rpm

- Full load governed speed - 2,600 rpm. Corresponding full throttle (no load) speed - 2,850 to 2,910 rpm.
- PTO engine speed - 2100 rpm to obtain 1000 rpm output
- Lubrication System - 32 US Qts., 26.7 Imp. Qts., (32.2 L). Full-flow oil filter with by-pass oil conditioner and oil to water cooler
- 30 degrees angularity capability oil pan
- Mounts - fully rubber-mounted

TRANSMISSION:

- 12-speed fully constant mesh with sliding collars
 - Four shafts, 3 in. (7.62 cm) diameter. Pressure lubricated 4 to 15 psi (28 to 105 kPa)
 - Range and Shift levers
 - Independent lubrication system with pump, 10 micron filter, cooler, steel lines and wire braid hoses, dash mounted warning light
 - Oil capacity - 21.5 US Qts., 17.9 Imp. Qts.: (20.3 L) of Hydraul 56 or equivalent
 - Dipstick Oil Level check and filler point
- Speeds with 31.5 in. (80 cm) load radius tires at 21,000 engine rpm

RANGE at 2400 rpm	1		2		3		4	
	MPH Km/h		MPH Km/h		MPH Km/h		MPH Km/h	
1st gear	2.5	4.0	3.0	4.8	3.3	5.3	4.0	6.4
2nd gear	4.5	7.3	5.4	8.7	6.0	9.7	7.2	11.6
3rd gear	8.8	14.1	10.5	16.9	11.7	18.8	14.1	22.6
Reverse	3.3	5.2	3.9	6.2	4.3	6.9	5.2	8.3

RANGE at 2600 rpm	1		2		3		4	
	MPH Km/h		MPH Km/h		MPH Km/h		MPH Km/h	
1st gear	2.7	4.3	3.2	5.2	3.6	5.8	4.3	6.9
2nd gear	4.9	7.9	5.9	9.4	6.5	10.5	7.8	12.6
3rd gear	9.5	15.3	11.4	18.3	12.7	20.4	15.2	24.6
Reverse	3.5	5.7	4.2	6.7	4.7	7.5	5.6	9.0

CLUTCH:

- 14 in. (35.6 cm) self-adjusting, two plate, dry type with cerametallic button lining, spring-loaded cushion hub discs. Mechanically actuated by foot pedal
- Greaseable shaft bearing with slinger and greaseable release bearing

BRAKES:

- Road Brake - driveline mounted 17 in. (43.2 cm). Self-adjusting disc type
- Double-acting hydraulically actuated by single foot pedal
- Park Brake - self-adjusting combined with hydraulic brake as one unit. Actuated by over-center lever

AXLES:

- Spiral bevel differential with outboard planetary floating ring gear final drives
- Ratios - 27.45 axle; 4.88 differential; 5.625 planetary
- Differential mounted in Ductile Iron differential housing
- Axle seals - unitized seal
- Oil capacity - axle 41 US Qts., 34.1 IMP. Qts., (38.6 L)

COOLING SYSTEM:

- Capacity - 54 US Qts.: 45 IMP. Qts.: (51.1 L)
- Radiator 5 row core - 1,080 sq. in. (6,950 cm²), rubber-mounted
- Independent surge tank
- Hinged perforated metal grill screen
- Fan (6 blade sucker-type) 28 in. (17.1 cm) diameter. . 1.1 ratio to engine rpm

EXHAUST SYSTEM:

- One 8.25 in. (21 cm) x 11.5 in (29.1 cm) x 40 in. (101.6 cm) oval muffler
- Built-in vacuum aspirator for air cleaner
- Muffler is rubber-mounted

AIR CLEANER:

- Dual safety element. Strata Tube pre-cleaner, exhaust aspirated, restriction indicator gauge on instrument panel

STEERING:

- Articulated frame, 42 degrees left or right. Fully hydrostatic actuation via two 3 in. (7.6 cm) x 16.5 in. (41.9) cm. stroke cylinders
- Steering Control Valve - 5 port, 45 cu. in./rev (290 ml/rev), rubber-mounted

DRAWBAR:

- Swinging clevis type with wear block. One and one half in. (3.81 cm) pin with locking lever. Replaceable hardened bushings. Height to top of main member
 - 17.9 in. (45.5 cm) 18.4 x 38 tires
 - 17.8 in. (45.2 cm) 24.5 x 32 R1 tires
 - 19.1 (48.5 cm) 20.8 x 38 R1 and 30.5 x 32 R2 tires.

FUEL TANK:

- Capacity, 185 US Gal.: 154 IMP. Gal.: (700 L)

- Two saddle-type, low mounted tanks with crossover tube
- Mechanical fuel gauge near filler neck, duplicate electrical gauge in cab.
- Remote breather 24 in (61 cm) above right tank
- Guarded drain facility on each tank

FRAME:

- Articulated via two bushings between front and sub-frame
- Articulation capability - 42 degrees
- Oscillation capability - 15 degrees
- Rear fenders are standard

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, six 60 watt working lamps, two red tail lamps, two head lights and four warning flashers
- Batteries swing out for service from a sealed compartment

HYDRAULICS:

- Open center single pump system, with priority to steering.
- Gear pump capacity-flow is 29.1 US gpm; 24.2 Imp gpm; 1.83 L/s at 2,600 rpm

NOTE: The flows shown above are nominal only. They will change when pressures and flows change in relation to engine rpm.

- Relief valve - tank mounted
 - setting range 2300 ± 50 psi.
- Implement Control valve - four spools with power beyond capabilities (used with three point hitch)
- Detent pressure setting 2,100 - psi.
- Built-in adjustable flow control to hydraulic couplers and power beyond (used on three point hitch).
- Adjustment range is 4 to 25 US gpm; 3.2 to 20.8 Imp gpm (±10% approx.); 25 to 1.58 L/S.
- Couplers - Pioneer 8250 Series push-to-connect-under-pressure type. 8010-4 male tips.
- Filters - washable 100 mesh reusable suction filter on suction line, one 33 micron replaceable filter on return oil line
- Cooler - mounted in front of radiator. Swings down for cleaning. Connected to return oil line
- Dipstick oil level check

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