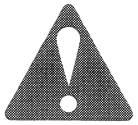
OPERATION

Take full advantage of all the features of the VERSATILE Tractor by carefully following operating information. The machine is designed to perform a maximum amount of work with a minimum of operator fatigue.

SAFETY



Refer to SAFETY Section at front of this manual and read all safety instructions before operating tractor. Specific safety instructions precede procedures where applicable.

- **DO NOT START OR OPERATE TRACTOR IN A CLOSED BUILDING.**
- **BEFORE STARTING ENGINE ENSURE ALL OPERATING CONTROLS ARE IN THE NEUTRAL POSITION. OPERATE ALL CONTROLS ONLY FROM THE OPERATOR'S SEAT. STOP ENGINE BEFORE PERFORMING ANY WORK OR MAINTENANCE ON TRACTOR. KEEP ALL SHIELDS IN PLACE. USE HANDHOLDS AND STEPS WHEN MOUNTING AND DISMOUNTING TRACTOR.**
- **ON HIGHWAYS, SIGNAL BEFORE STOPPING, TURNING OR SLOWING DOWN TRACTOR. USE PROPER SAFETY DEVICES TO WARN OF SLOW MOVING VEHICLES. CHECK WITH LOCAL AUTHORITIES ON REGULATIONS CONCERNING HIGHWAY TRAVEL.**

ENGINE BREAK IN

This tractor is equipped with a CUMMINS CONSTANT POWER ENGINE (High Torque Rise).

Constant power can be used as reserve power:

- when going through a tough spot in the field.
- reduces the need for shifting gears when operating in rolling terrain.
- to save fuel when pulling lighter loads to shift up one gear and throttle down to obtain the desired ground speed.

The engines have been run on a dynamometer before installation but not enough to be considered broken in. It is recommended that extra care be taken during the first 100 hours of operation by:

- Avoiding operation for long periods at engine idle speeds or at maximum horsepower for more than five to ten minutes at a time.
- CHECKING OIL LEVEL EVERY FIVE HOURS DURING THE FIRST 100 HOURS OF OPERATION.

PRESTART INSPECTION

Perform the following checks and servicing before starting the engine for the first time each day. See Routine Service and Lubrication Section of this manual for further information.

1. Check engine oil level.
2. Check engine coolant level.
3. Check radiator and grill.
4. Visually inspect all belts, lights, platform and steps, switches, hoses, lines, fittings, seals, tires, nuts and bolts for possible failure or looseness. See Routine Service and Lubrication Section of manual.
5. Check three-point hitch, if so equipped, especially around metal-to-metal parts.

ENGINE STARTING

Caution



- **PROTECT THE TURBOCHARGER DURING START-UP BY NOT OPENING THROTTLE OR ACCELERATING ABOVE 1000 RPM UNTIL NORMAL ENGINE IDLE SPEED OIL PRESSURE REGISTERS ON GAUGE.**

1. Set the park brake.
2. Pull the throttle lever back to low (idle) speed position.

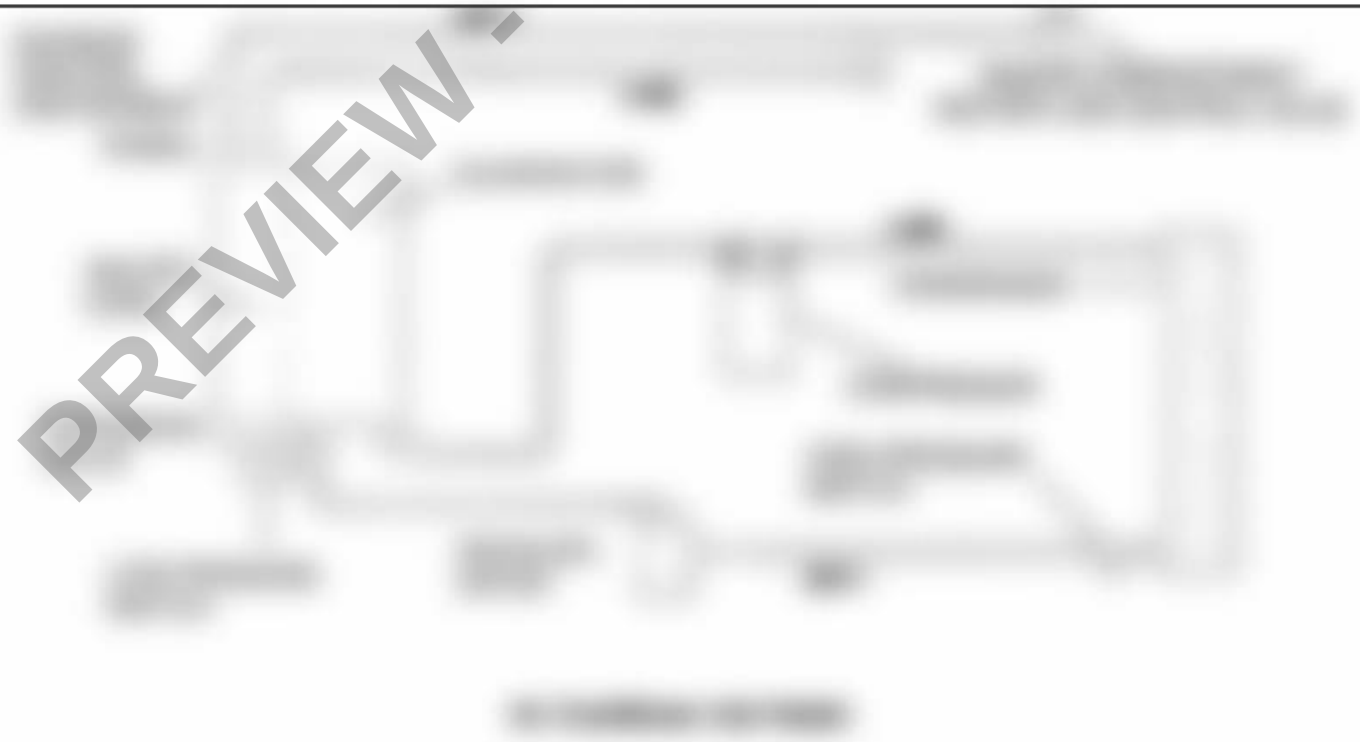
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SYSTEM SCHEMATICS



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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 located on the left side of engine near the injector pump.

Write your model and serial number information here:

ENGINE

MAKE **CUMMINS**

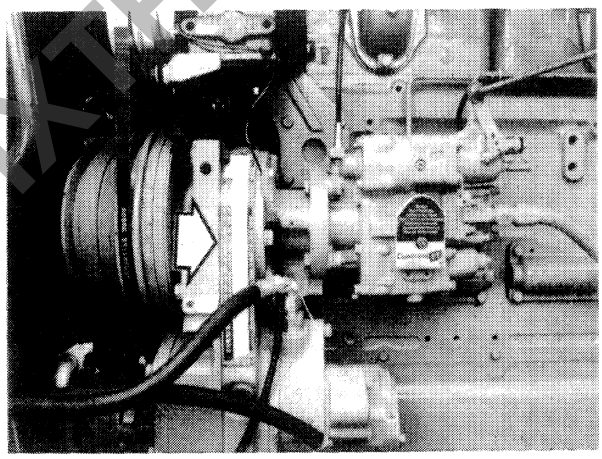
MODEL **NT855**

SERIAL _____

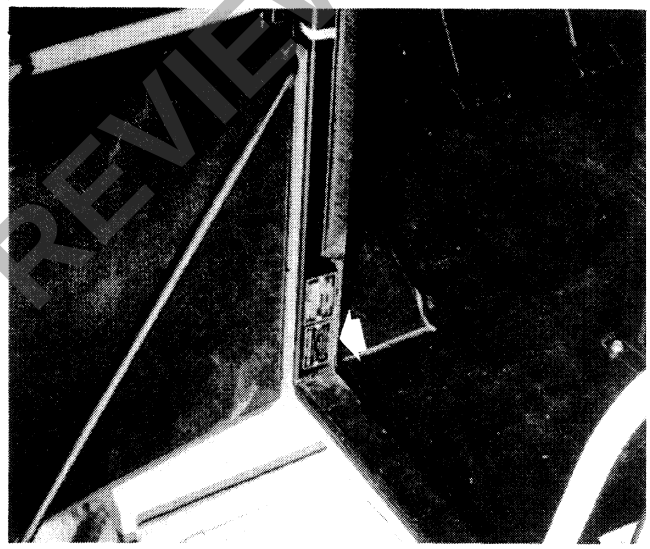
TRACTOR

MODEL **835/855/875**

SERIAL _____



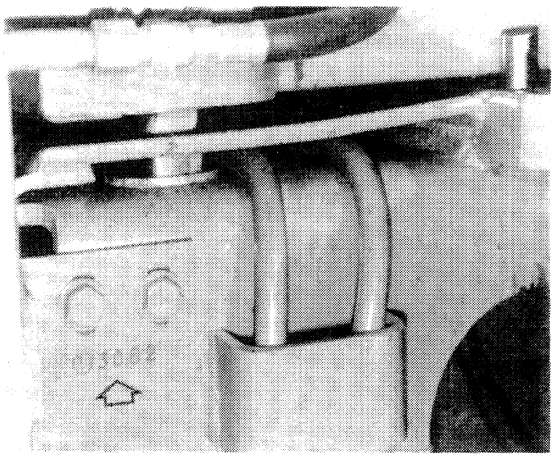
Engine Plate



Tractor Plate

FRAME

SERIAL _____



Frame Stamp

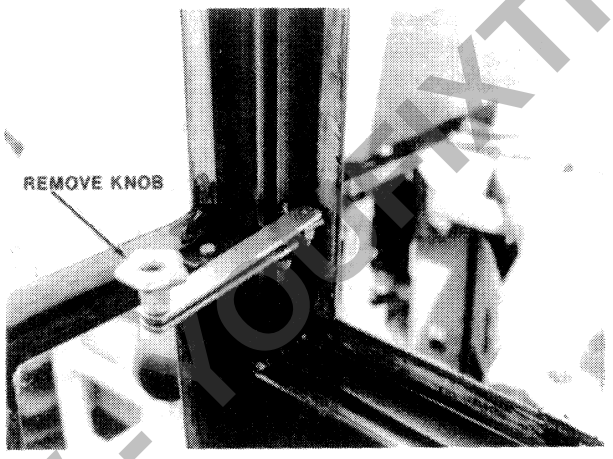
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EMERGENCY EXIT:

The tractor cab has two exits for an emergency situation; the door, and the window in the front right corner of the cab.

The window is opened by unscrewing and removing the knob holding the two arms together; separating the arms; and pushing the window wide open.



Emergency Exit

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3. Press on the clutch and put the floor shift lever into the neutral position.
4. Turn the key switch to ON. Alternator and transmission warning lights must be ON.
5. Press the manual override switch while pressing the starter button.
6. Move the throttle lever sufficiently to keep engine running after starting. IDLE SPEED IS 1000 RPM. Avoid excessive rpm during warmup.
7. Release the clutch and ensure that the transmission oil pressure light extinguishes within 30 seconds.
8. Allow the engine to warm to about 120° F (50° C) before placing it under load.

COLD WEATHER STARTING

Warning



- **ETHER STARTING FLUID IS HIGHLY FLAMMABLE. DO NOT USE NEAR FIRE, SPARKS OR FLAMES. ENSURE THE CAUTIONARY INFORMATION ON CONTAINER IS READ BY ALL WHO OPERATE THE TRACTOR.**

Caution



- **PROTECT THE TURBOCHARGER DURING START UP BY NOT OPENING THROTTLE OR ACCELERATING ABOVE 1000 RPM UNTIL NORMAL ENGINE IDLE SPEED OIL PRESSURE REGISTERS ON GAUGE.**
- **NEVER USE ETHER WHEN THE ENGINE IS RUNNING AS IT CAN CAUSE SEVERE DAMAGE.**

NOTE

The COLD START KNOB activates the Ether discharge system which is a starting aid for temperatures lower than 50° F (10° C). It sprays Ether into the engine intake manifold when released.

NOTE

The following procedure is not necessary if the engine has been run and / or is not cold (below 50° F, 10° C).

Below 0° F (-18° C) if engine does not start at once, continue cranking and repeat 5 and 6.

1. Set the park brake.
2. Pull the throttle lever to low (idle) speed position.
3. Press on the clutch and put the floor shift lever into the neutral position.
4. Turn the key switch to ON.
5. Pull out the cold start knob and hold for two seconds to fill valve.
6. Press the manual override switch while pressing the starter button. Begin cranking and release cold start knob.
7. Move the throttle lever sufficiently to keep engine running after starting. Idle speed is 1000 rpm. Avoid excessive rpm during warmup period.
8. Release the clutch slowly and ensure that the transmission oil pressure light extinguishes within 30 seconds.
9. Allow the engine to warm to about 120° F (50° C) before putting it under load.

SHIFTING GEARS

An understanding of the transmission, the clutch, and the transmission brake (which is not the road brake) on the VERSATILE tractor will contribute to easy gear shifting. The following should be remembered in shifting: When the clutch pedal is fully depressed, the input shaft of the transmission is stopped by the transmission brake in the clutch housing.

All gears in the VERSATILE transmission are constantly in mesh. When the transmission is being shifted gears are not being engaged. Engagement takes place by shifting collars which are splined to the shafts. These are shifted to engage the splines on the gears to the shaft. For these splines to mesh, it is necessary at times for the transmission to be rotated slightly to allow engagement of the splines. For this reason the clutch pedal should be released slightly from the floor.

Use the following procedure when shifting the Gear Shift or Range Selector Lever:

1. Stop the tractor motion.
2. Reduce the engine rpm to 1000 rpm.

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