

OPERATOR'S MANUAL

This manual has been prepared for and is considered part of -

3340B/YB4411

Crane Model Number

Crane Serial Number

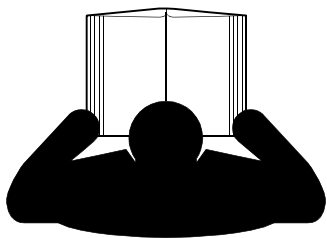
This Manual is divided into the following sections:

SECTION 1	INTRODUCTION
SECTION 2	SAFETY INFORMATION
SECTION 3	OPERATING CONTROLS AND PROCEDURES
SECTION 4	CAPACITY CHART
SECTION 5	ATTACHMENTS
SECTION 6	MAINTENANCE
SECTION 7	ADJUSTMENTS
SECTION 8	SPECIFICATIONS

NOTICE

The crane serial number is the only method your distributor or the factory has of providing you with correct parts and service information.

The crane serial number is identified on the builder's decal attached to the operator's cab. **Always furnish crane serial number** when ordering parts or communicating service problems with your distributor or the factory.



WARNING

To prevent death or serious injury:

- Avoid unsafe operation and maintenance.
- This crane must be operated and maintained by trained and experienced personnel. Manitowoc is not responsible for qualifying these personnel.
- Do not operate or work on this crane without first reading and understanding Operator's Manual and Rating Plate supplied with crane.
- Store Operator's Manual in holder provided on crane.
- Attach laminated Capacity Charts supplied with crane to chain in operator's cab.
- If Operator's Manual or Capacity Charts are missing from cab, contact your distributor for new ones.



Warning Decals in the Open Cab



Warning Decals for Outriggers (Four Places)

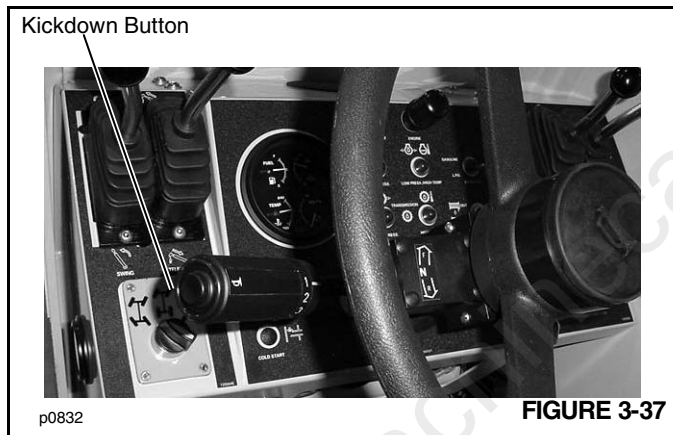


Warning Decal Near Fuel Tank



beeper. Should a speed sensor signal not be received by the transmission electronic control unit (ECU) on power up, the ECU inhibits the selection of 4th gear. This is intended to indicate a faulty sensor or wiring and all speed protection is lost. If the signal is lost after power up, 4th gear will be selectable until the power is turned off.

2. When downshifting, do not over-rev the engine. Allow the crane to slow down before shifting to the next lower gear. Downshifting is subject to speed limitations. If the speed is too high a repeated double beep is sounded and will continue until the speed drops below the limit or downshift is deselected.
3. The Kickdown Switch (Figure 3-37) can be used to select the next lowest gear providing the speed is not too high (a double beep will be heard if the speed is too fast). Press the switch to select the next lowest gear (except when in 1st gear). The transmission will downshift for approximately 6 seconds and then return to the higher gear. The kickdown selection can be cancelled by pressing the button again. It will also be cancelled by reversal in direction.



4. It is recommended that the crane come to a **complete stop** before shifting between forward and reverse.

NOTE: To avoid possible damage to the transmission **DO NOT** attempt to start the engine by pushing or towing with another vehicle. The power train does not allow starting this way, and transmission damage may occur.

NOTE: The following practices could result in transmission failure:

- Shifting between forward and reverse while the engine is at high speed or heavy throttle, such as when the driving wheels are in mud or snow — commonly called rocking.
- Shifting to reverse or forward while operating the engine at high speed in neutral.
- Operating the transmission at or near “stall speed” for more than 10 seconds at a time. “Stall condition” is when the engine runs at high speed while the transmission is in forward or reverse and the drive wheels are not moving. For example, when the wheels are mired in deep sand or mud, or when the crane is against a fixed barrier.
- Continually downshifting and over-revving the engine.

Stopping Travel

1. Apply the service brakes and downshift as necessary to slow the crane until it comes to a complete stop.
2. Place the travel select lever in Neutral (N) and engage the parking brake.
3. Turn the ignition switch to the OFF position to stop the engine.
4. If the crane is parked and unattended, remove the ignition key.

Operating the Outrigger Controls

Standard Outriggers

To Extend and Lower the Outriggers

1. Determine which outriggers are to be operated; left, right or all. Place the Outrigger Select Switch in the proper position.
2. **To Extend** - (Figure 3-39) Run the engine at idle speed (accelerator pedal released). Move the control lever to the left and hold it in position. Press the accelerator pedal to increase the engine speed, which will accelerate the outward movement of the outriggers. Release the accelerator pedal and the switch control lever when the outriggers are fully extended.
3. **To Lower** - (Figure 3-40) Pull back on the control lever and hold it in position. Press the accelerator pedal to increase the engine speed, which will accelerate the lowering speed of the outriggers. Release the accelerator pedal and the control lever when the outriggers are fully lowered.

USING TELESCOPIC BOOM EXTENSION

Extending

1. Attach the boom extension to the end of the boom.
2. Lower the hook and ball to the ground
3. .3.When installed, remove the lynch pin from the stingerretaining pin. Remove the retaining pin.
4. 4.Pull the stinger out from the boom extension until themounting hole in the stinger aligns with the retainer pinhole in the boom extension.
5. 5.Install the retainer pin and the lynch pin.

Retracting

1. 1.Remove the lynch pin from the stinger retainer pin.Remove the retainer pin.
2. 2.Push the stinger into the boom extension until theretainer pin mounting holes align.
3. 3.Install the retainer pin and the lynch pin
4. .4.Raise the hook and ball.

DOWN HAUL WEIGHT

Installing the Down Haul Weight

Whenever a single part line is used on a crane to lift a load, the load indicator transmitter must be removed from the boom head and installed onto the down haul weight. Without the transmitter installed and attached to the load pin, the load indicator receiver in the cab will not register the weight being lifted by the single part line.

To install the load indicator transmitter in the down haul block perform the following steps:

1. Disconnect the transmitter wire and load pin wire (Figure 5-7).

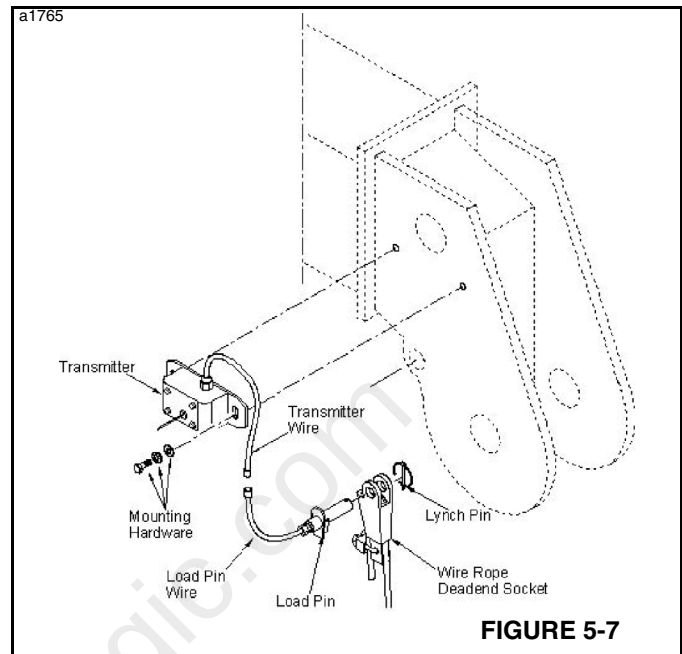


FIGURE 5-7

2. Remove the transmitter from the boom head by removing the transmitter mounting hardware (2 each - bolts, lockwashers and flat washers).
3. Follow instructions in Removing the Hoist Block and remove the hoist block.
4. Using the hardware removed when removing the load indicator transmitter, install the transmitter onto the down haul weight (see Figure 5-8).

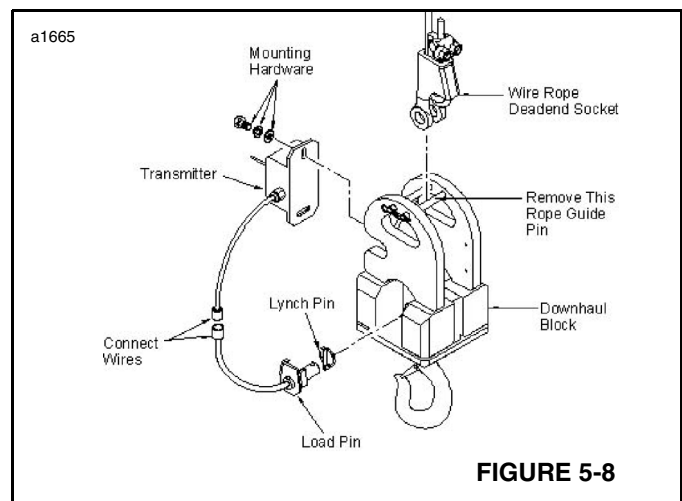


FIGURE 5-8

5. Remove the rope guide pin indicated in Figure 5-8 from the down haul weight.
6. Attach the wire rope dead end socket to the down haul weight using the load pin removed when removing the wire rope socket. Install the lynch pin.

1000 HOURS OF OPERATION

NOTE: You must read and understand the warnings and basic safety rules, found in Section 2 of this manual, before performing any operation or maintenance procedures.

For additional engine maintenance guidelines, see the engine manual furnished with this crane.

Replace the Transmission Oil and Filter

NOTE: Avoid prolonged and repeated skin contact with used transmission oils. Such prolonged and repeated contact can cause skin disorders or other bodily injury. Wash thoroughly after contact with used transmission oils. Keep oil out of reach of children.

NOTE: PROTECT THE ENVIRONMENT: Handling and disposing of used transmission oil is subject to federal, state and local laws and regulation. Use authorized disposal facilities, including civic amenity sites and garages providing authorized facilities for receipt of oil. If in doubt, contact state and local environmental authorities or the Environmental Protection Agency for guidance as to proper handling and disposal of used transmission oil.

1. Engage the parking brake and shut off the engine. Remove the ignition key.

NOTE: It is necessary to climb under the crane to drain the transmission oil. Be sure engine is shut off, the ignition key is removed, parking brake is engaged, and chock blocks are in place before climbing under the crane.

NOTE: When the strainer is removed, oil will gush out. Keep to one side when you remove the strainer.

2. Place suitable container under the strainer (Figure 6-49). Remove the strainer and gasket and drain the oil into the container. Discard the gasket.

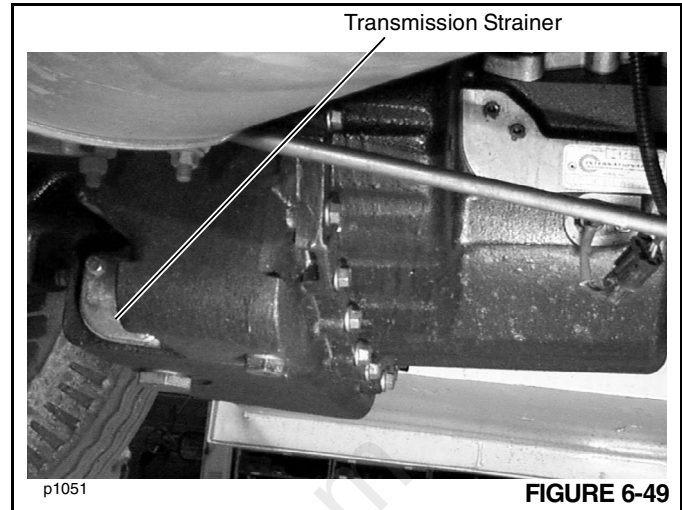


FIGURE 6-49

NOTE: Before removing the strainer, be sure you have a new strainer gasket. The old strainer gasket will be damaged during removal of the strainer, and if it is installed with the strainer, leakage will occur. It is recommended that three gaskets be kept in supply at all times. This will cover a years maintenance and one for emergency maintenance.

3. Place the container under the drain plug and remove the drain plug (Figure 6-50). Drain any oil left in the transmission into the container. Install the drain plug.

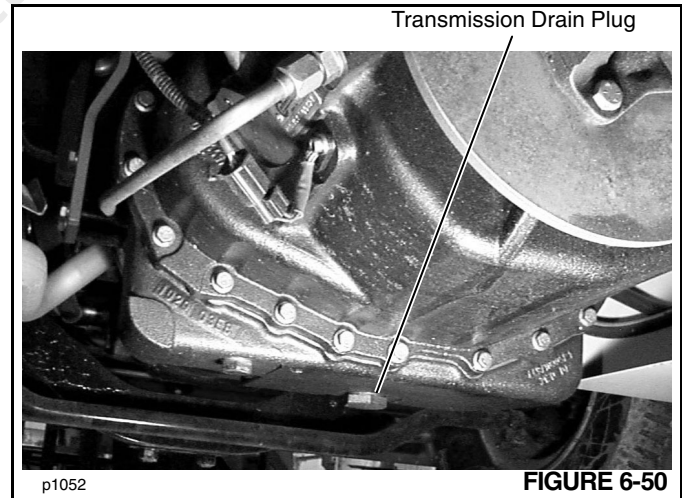


FIGURE 6-50

4. Clean the strainer in a suitable solvent.
5. Install the cleaned strainer and new gasket. Tighten the strainer mounting bolts to a torque of 7.4 lb-ft. (10 Nm).
6. Remove the transmission oil filter by unscrewing it from the transmission housing (Figure 6-51). Properly discard the filter.

Gasoline Engine:

The lubricating oil recommendation is based upon engine design, type of service and atmospheric temperature prevailing. High quality oils are required to ensure maximum performance, long engine life and minimum cost of operation.

The recommended oil to be used in the GMC gasoline engine must have the following classifications:

API, SAE ASTM Classification
SG/CD, SF/CC

Do not use SD or SC API classification oils. These oils do not provide adequate protection against oil oxidation, high temperature oil deposits, rust and corrosion.

Recommended SAE Viscosity Grades:

5W20	+20° TO -25° F
10W30	+104° TO -15° F
15W40	+122° TO +14° F
20W40	+122° TO +25° F
10W	+40° TO -25° F
20W	+75° TO +32° F
30W	+104° TO +45° F
40W	+122° TO +60° F

FUEL TYPES

Diesel Fuel

The Cummins Diesel Engine operates most efficiently with No. 2 diesel fuel in temperatures above 32° F (0° C). When operating in temperatures below 32° F (0° C), use No. 1 diesel fuel, or a blend of No. 1 and No. 2 diesel fuels, most commonly known as “Winterized” No. 2 diesel. Use ASTM No. 2 diesel fuel with a minimum Cetane number of 40. No. 2 diesel fuel gives the best economy and performance under most operating conditions. Fuels with Cetane numbers higher than 40 may be needed in high altitudes or extremely low ambient temperatures to prevent misfires and excessive smoke.

Gasoline

The GMC gasoline engine operates only on lead-free gasoline with the following minimum or higher octane ratings:

Anti-Knock Index Number (AKI) — 87
Research Octane Number (RON) — 91

NOTE: The use of gasoline with a lower octane than 87 AKI (91 RON) octane will result in serious damage to the engine. Engine damage resulting from use of a low octane gasoline is considered misuse of the engine and will void the engine warranty and the crane warranty.

Many types of gasoline being sold today contain alcohol. Two commonly used alcohol additives are Ethanol and Methanol.

The GMC gasoline engine may be operated using gasoline blended with no more than 10% Ethanol meeting the minimum octane specifications. **DO NOT** use any gasoline which contains **METHANOL**.

Full Version Available

Grove 3340B and YB4411 Rough Terrain Crane Operator Manual

Grove 3340B, YB4411 rough terrain crane operator manual with controls, safe operation, setup and daily checks. 142-page searchable PDF.

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