CEAM009800

Operation & Maintenance Manual

KOMATSU®

830B/C
850B/C
870B/C

MOTOR GRADER

SERIAL NUMBERS	830B	203163	and UP
	830C	202753	
	850B	202575	
	850C	202727	
	870B	202599	
	870C	202775	

May 2004

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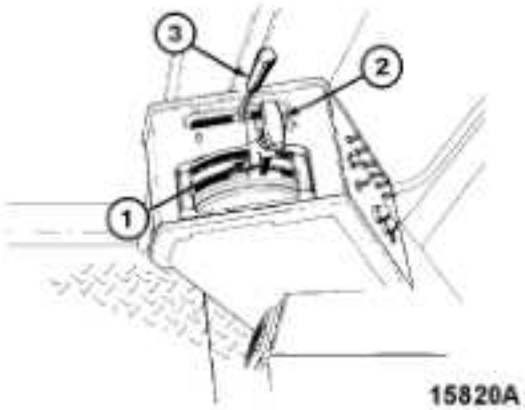
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IN-LINE PATTERN SHIFTER

The console located at the right hand side of the operator's seat houses the neutral lock (1), transmission gear range lever (2), and engine speed control lever (3).



1. **Neutral Lock** - Used to lock the transmission gear range lever in NEUTRAL. In order to shift out of NEUTRAL, pull up on the neutral lock (1) to the unlocked position. The gear range lever (2) can now be shifted to any desired position.

⚠ WARNING

When parking the machine, stop the engine, lock the transmission gear range lever in PARK, apply the parking brake, turn off the ignition switch and remove the key.

2. **Transmission Gear Range Lever** - Allows the operator to choose the gear range from first through sixth in forward; first through third in reverse.

Remark

Release the parking brake with the transmission gear range lever in the PARK position for the transmission to engage the gears. Transmission gear range lever MUST BE in the PARK position to complete the cranking circuit before starting the engine.

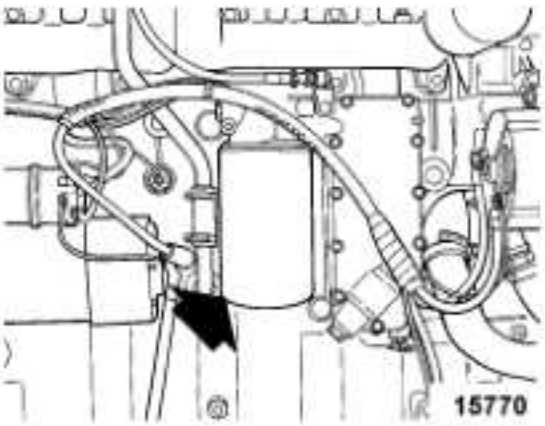
⚠ WARNING

When encountering a downhill grade, shift the transmission into a lower gear. Downshifting will allow the engine to provide additional dynamic braking power. The slope of the grade and the type of the terrain must always be taken into consideration.

3. **Engine Speed Control** - Allows the operator to manually control the engine speed in forward or reverse in any gear. This lever also works in conjunction with the accelerator and decelerator pedals.

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FILTER, ENGINE OIL



The location of the oil filter for the 850 and 870 graders (top) is slightly different from the 830 (bottom).

The oil filter (arrow) keeps the circulating oil free from harmful contaminants. Engine oil filters must be replaced when the engine oil is changed. The oil filter is a spin-on type. This filter cannot be cleaned; replace it.

To change the oil filter: Clean the area around the oil filter and head. Spin the oil filter (arrow) off and discard it. Thoroughly clean the filter gasket mounting surface of the head. The O-ring can stick on the filter head. Ensure that the O-ring is removed before installing the new filter. Apply a thin film of clean oil to the O-ring on the new filter. Holding the filter upright, fill it with clean oil before installing it. Spin the element on by hand until the O-ring just touches the mounting surface. Tighten the filter an additional 1/4 to 3/4 turn, but do not overtighten.



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OIL CHANGE RECOMMENDATIONS

Never mix oil with another oil having different specifications. When changing to an oil with a new specification, use the following procedure:

1. After the engine reaches operating temperature, remove the drain plug and completely drain the oil.
2. After draining, flushing is desirable. Clean and replace the drain plug and clean the fill plug area. Fill the engine to the correct level with a light flushing oil. Operate the engine for a short time (5 to 10 minutes) under extremely light or no load conditions. Drain ALL of the flushing oil from the engine while it is warm. Clean and reinstall the drain plug.
3. To refill, clean around the fill plug area and fill the unit to the correct level with new lubricant. DO NOT OVERFILL as an excessive amount will serve no useful purpose.
4. Use the same level checks and drain intervals as outlined on the lubrication chart for new lubricant.
5. Perform an oil analysis on a regular basis. Oil analysis can help identify component failure.

Remark

*Mixing the lubricants could cause damage and **CANNOT BE TOLERATED**. If there is any doubt whether the engine has been filled with the old or new lubricant, drain and flush the engine (as prescribed above).*

Remark

The use of a synthetic base oil does not justify extended oil change intervals. Extended oil change intervals can decrease engine life due to factors such as corrosion, deposits, and wear.

TRANSMISSION, TORQUE CONVERTER AND OIL COOLER, TANDEM DRIVE CASES, FRONT WHEEL DRIVE GEAR CASE, IF EQUIPPED AND HYDRAULIC SYSTEM OIL SPECIFICATIONS

Komatsu Heavy Duty Transmission Fluid, Dexron III /C-4, engine oil with an API classification of CD/CC, CD or MIL-L-2104D or E and meeting C-3, C-4 and TO-2, TO-4 and containing 0.10% zinc minimum is recommended.

REAR DRIVE AXLE/CIRCLE DRIVE BRAKE HOUSING OIL SPECIFICATIONS

Komatsu Hydraulic Transmission Fluid is recommended. It is possible to substitute engine oil SAE 30W API classification CD or CE for axle oil, but increased brake noise may result. Durability should not be affected.

DIESEL FUEL SPECIFICATIONS

⚠ WARNING

Never mix gasoline, gasohol and/or alcohol with diesel fuel. This practice creates an extreme fire hazard and under certain conditions cause an explosion that could result in personal injury or death.
Never remove the fuel tank filler cap or refill the fuel tank while the engine is running or when hot or when the machine is indoors. Fumes are dangerous, a spark or flame could result in a fire or explosion.

Remark

Due to the precise tolerances of diesel fuel injection systems, it is extremely important that the fuel be kept clean and free of contaminates or water. Contaminates or water in the system can cause severe damage to both the injection pump and nozzles.

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