Caterpillar

Operator's Manual

112 Motor Grader

S/n 1M1, 4M1 & up

Operator's Manual

CT-O-112GR 2M1

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2. Straight mineral crankcase lubricating oil such as is ordinarily used in automobile and truck engines should be used in the Diesel engine air cleaner and starting engine air cleaner, starting engine crankcase, and the fuel injection pump housing.

S.A.E. No. 20 or 20W Diesel Engine Lubricating Oil should be used in the Diesel engine crankcase in warm weather, and S.A.E. No. 10 or 10W oil in cold weather.

When the engine is not operating, the oil will slowly drain back into the crankcase from the oil cooler. Therefore, to obtain an accurate reading, check the oil level within a few minutes after the engine is stopped.

Use S.A.E. No. 20 (or S.A.E. No. 30) oil in the air cleaners for the Diesel engine and the starting engine. **Do not use Diesel Engine Lubricating Oil in air cleaners** — it may foam and pass dirty oil into the engine. Use S.A.E. No. 20 (or S.A.E. No. 10) pure mineral lubricating oil in the starting engine crankcase, fuel injection pump housing, and starter pinion clutch compartment of the starting engine. In extremely cold weather the oil in the air cleaners, starter pinion clutch compartment, and starting engine crankcase should be diluted with Diesel fuel so it will circulate freely.

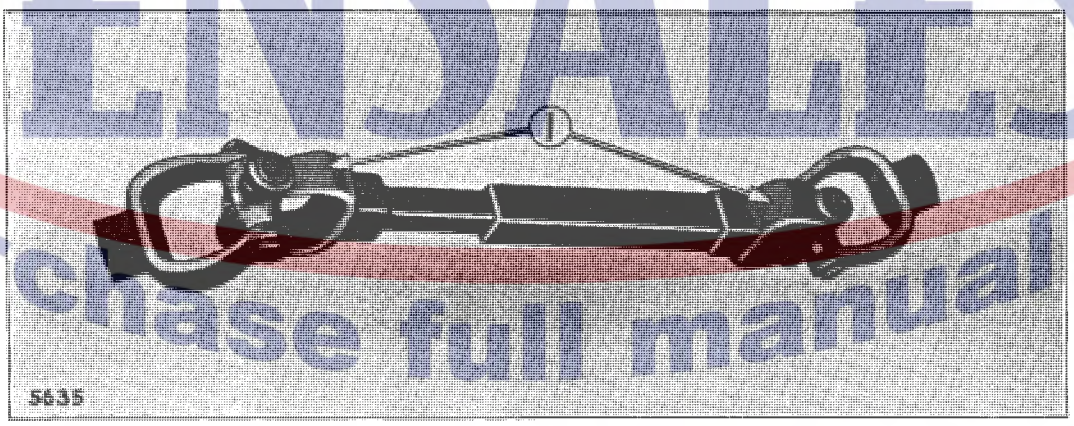
The use of S.A.E. No. 20 oil for air cleaners and starting engine crankcase has been recommended so only one grade of pure mineral lubricating oil need be supplied. However, it is preferable to use the heavier grade of oil (S.A.E. No. 30) in the oil bath air cleaners except in cold weather and to use the lighter grade (S.A.E. No. 10) in the starting engine crankcase.

Naturally, any precautions taken to house the machine or to cover it with a tarpaulin, or to warm it before starting, will cause more rapid oil distribution and contribute to quicker starting. The engine should always be allowed to idle at not less than half throttle for several minutes after starting to assure adequate lubrication before operating on normal load.

Transmission, Rear Axle and Tandem Drive: Use a pure mineral transmission oil that will flow freely and will not channel at existing operating temperatures. For temperatures above 32° F. (0° C.) use either S.A.E. Nos. 90 or 140 oil. Below freezing, 32° F. (0° C.) an oil of lower viscosity — S.A.E. No. 80 — will be required.

Universal Joints: Lubricate all universal joints with semi-fluid lubricant through pressure fittings every 10 hours of operation.

Disconnect the telescopic control shafts at the universal joints. Slide them apart and apply semi-fluid lubricant with a paddle every 60 hours. Be careful that the telescopic shafts are connected as they were originally. The universal joints on each end of the shaft should be in the same plane (parallel to each other). If the shaft is assembled with the universal joints one quarter turn out of line (one universal pointing up and down, and another across) the shaft will "jerk" or "whip."



UNIVERSAL JOINT ALIGNMENT
1—Universal joints in same plane.

HOUR METER

Your machine is equipped with an "Hour Meter". It does not keep pace with the clock but it does count the revolutions of the engine.

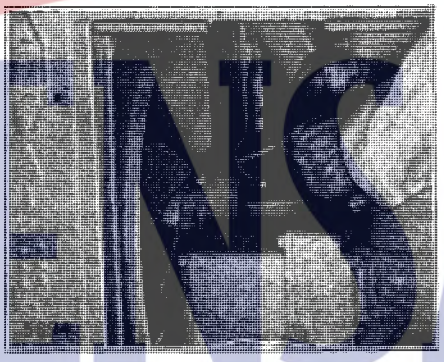
The dial advances one number each time the crankshaft has turned as many thousands of revolutions as are made in an hour at normal operating speed.

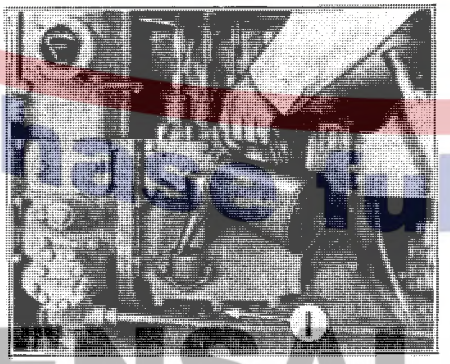
(3) TRANSMISSION AND REAR AXLE HOUSING — Drain (1) and remove plug from transmission case. Wash and refill to top of elbow with transmission oil every 900 hours. Check every 60 hours.

(1) FAN—Fill bearing with semi-fluid lubricant every 60 hours.

(4) AXLE HOUSING BRACKET CAP — Fill bearings every 10 hours with semi-fluid lubricant.

(2) AIR CLEANER — Wash and refill cup with fresh crankcase oil every 5 to 60 hours, depending upon amount of dust. Wash filter screens every 300 hours.

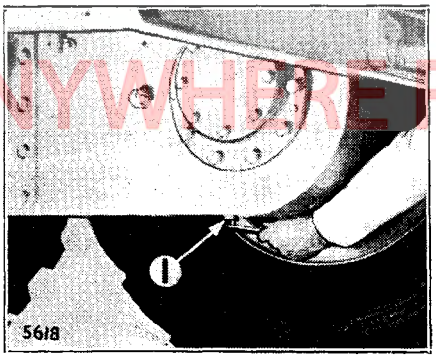


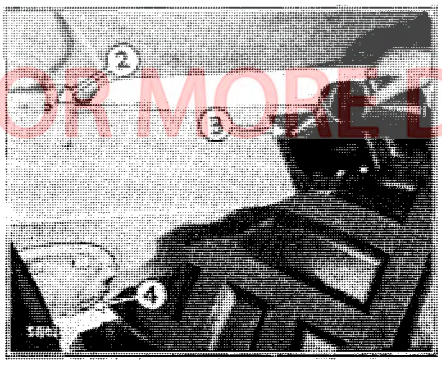


(18) FUEL INJECTION PUMP HOUSING—Drain (1), wash and refill with fresh crankcase oil to top of filler elbow every 60 hours.

(19) STARTER PINION CLUTCH — Check oil level (1), every 60 hours. Drain (2), wash, refill with fresh crankcase oil every 300 hours.

(22) TANDEM DRIVE HOUSING—Every 900 hours drain (1), wash and refill (3) to oil level plug (4). Check oil level every 60 hours. PIVOT SHAFT BEARINGS (2)—Fill bearings with semi-fluid lubricant every 10 hours.





(11) CIRCLE CONTROL ARMS, CENTER SHIFT LINK, LIFT ARM SHAFT AND CENTER SHIFT HOUSING — Fill with semi-fluid lubricant every 10 hours.

(12) CIRCLE REVERSE CONTROL SHAFT AND HOUSING — Fill bearings with semi-fluid lubricant every 10 hours.

(13) STEERING CONTROL SHAFT UNIVERSAL JOINTS — Fill bearings with semi-fluid lubricant every 10 hours.

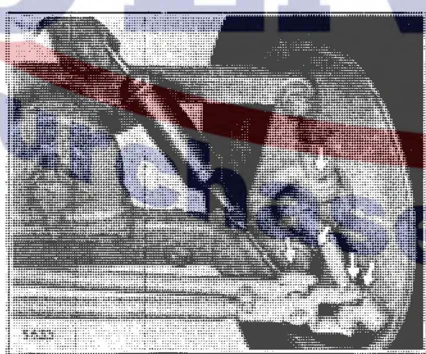
(15) FRONT WHEEL LEAN AND AXLE PIVOT PIN — Fill bearings with semi-fluid lubricant every 10 hours.

(16) FRONT WHEEL LEAN CONTROL HOUSING—Fill with transmission oil. Check every 60 hours.

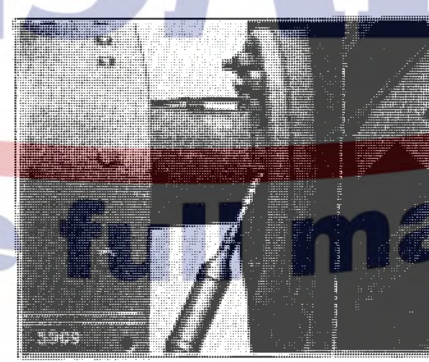
NOTE

SEE LUBRICATION GUIDE ON REVERSE SIDE.

(17) FRONT WHEEL BEARINGS—Fill bearings every 10 hours with semi-fluid lubricant. Every 6 months clean bearings thoroughly and relubricate. Inspect seals and replace if damaged or worn.



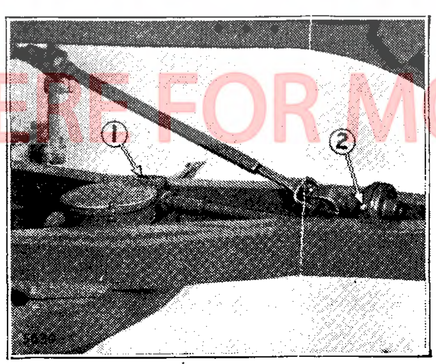
(32) DRAG LINK, TIE ROD, SPINDLE PIN AND FRONT WHEEL LEAN — Lubricate bearings with semi-fluid lubricant every 10 hours.



AXLE OUTER BEARING—SINGLE DRIVE MODEL ONLY—Fill both bearings with semi-fluid lubricant every 10 hours.

(28) CENTER SHIFT CONTROL HOUSING — Check oil level every 60 hours. Drain (1), wash and refill with transmission oil to level of filler opening every 900 hours.

(29) CIRCLE REVERSE (1) — Fill with semi-fluid lubricant. Check every 10 hours. CONTROL HOUSING (2) — Fill with transmission oil. Check every 60 hours.



(30) FRONT WHEEL LEAN CONTROL SHAFT HOUSING — Fill bearings with semi-fluid lubricant every 10 hours.