During daily preventive inspection, check the presence of oil in the crankcase. If necessary, add oil by pouring it from a clean vessel, through a dense gauze with a mesh sizing not more than 0.63×0.63 mm. The oil dipstick is provided with two marks to indicate the lower and upper limits of oil level. Before checking the oil level, wipe the dipstick and lower it into the crankcase filler to the full depth without screwing up the plug. Oil should be changed in the hot engine.

When changing oil in the crankcase, thoroughly clean dirt from the plugs of the drain and filling holes of the crankcase and unscrew the plugs. Then drain the used oil, screw in the drain hole plug, pour in 1.2 to 1.5 l of industrial oil 12 (spindle oil 2) and screw in the filler plug. Now start the engine and allow it to operate within 2 and 3 min, then drain oil again. Following that, pour fresh oil in the crankcase until it reaches the upper mark of the dipstick.

In the winter time, oil should be warmed before filling. Oil should be filled from a clean vessel taking care not to allow dirt, dust, and moisture to get in the engine crankcase.

Remember that even a short-time failure of the lubricating system may cause a breakdown of the engine.

Overheating of the cylinders and their heads, power drop and knocks in the engine are an indication of insufficient lubrication.

The operation of the lubricating system is monitored by means of an emergency oil pressure transmitter, diaphragm-type, *22* (Fig. 10), which operates when the pressure in the system drops to $1.7\ ^{+0.1}_{-0.4}$ kgf/cm².

The pressure drop is signalled by a warning lamp fitted on the dashboard. When the ignition is switched on, the oil pressure warning lamp comes on; after the engine is started, the lamp extinguishes. If the lamp is on under operating conditions, this indicates that the transmitter or the engine is at fault. In this case the engine must not be operated until the fault is traced and eliminated.

In case the emergency oil pressure transmitter warning lamp is on at the average crankshaft speed, the engine pan must be removed, the reducing valve disassembled and its seat cleaned.

In case the engine is overheated or operates at low idling speed (n=650—700 rpm) the lamp can be on even if the lubricating system is sound.

It is good practice to periodically screw out the transmitter and to check the oil pressure with a reference pressure gauge. The oil pressure at the average crankshaft speed, with the engine warmed up (at the oil temperature of about plus 80 °C) must be not less than 3 kgf/cm² and not more than 6.0 kgf/cm².

The centrifugal forces developed during the engine operation

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