

LUBRICATION

Effective lubrication of your tractor is perhaps the most important step towards low upkeep cost, long life, and satisfactory service, for without oil or grease you can ruin the important working parts of your tractor in a very few minutes' time in the field.

PURPOSE OF LUBRICATION

You use oil and grease in your tractor to separate metal parts that otherwise would work against one another. If properly lubricated, these parts never touch. Oil of the right weight acts much the same as tiny ball bearings to keep the wearing parts separated.

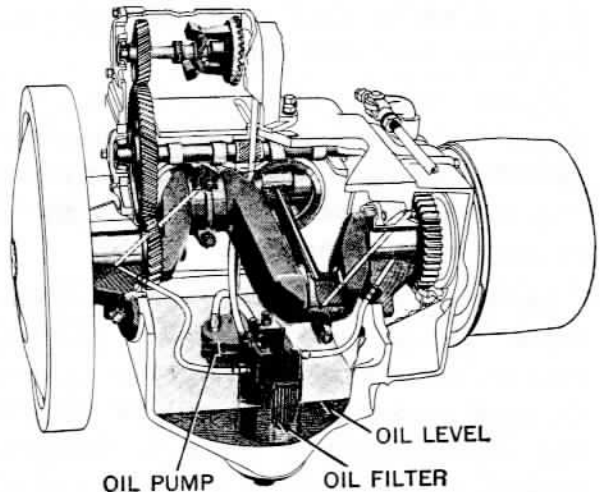
STORAGE OF LUBRICANTS

Your new tractor is equipped with various safeguards such as an air cleaner, oil filter, crankcase breather and ventilator—safeguards designed to keep dust, dirt, and other abrasives from reaching operating parts. You can increase the efficiency of these safeguards by using clean containers for storing and for handling all of the lubricants. See that only clean lubricants go into the working parts of your tractor.

ENGINE LUBRICATION

Quality of Oil.

The engine of this tractor, with its full force-feed pressure lubricating system, has one of the finest oiling systems it is possible to produce. Do not handicap it by trying to save money with cheap oil. High-grade oils withstand heat and wear for a longer time. Cheap oils soon become thin and lose their lubricating qualities.



Lubrication System

It is impossible to determine the quality of oil by its appearance. As a result, inferior oil often is sold as a quality product at a lower price. It pays to buy only nationally-known, high-quality brands of oil. Don't take chances.

Weight of Oil.

Your John Deere tractor was made with the same precision as a fine automobile, with clearances between bearing surfaces as fine as a ten-thousandth part of an inch. If oil is expected to lubricate these surfaces, it first must get there. Therefore, weight or viscosity of the oil is very important.

As soon as oil of the correct weight and quality reaches bearing surfaces, it immediately begins functioning to relieve friction, carry off heat, to create an oil seal between rings and cylinders, thus preventing blow-by and loss of power, and last, to carry away elements such as carbon, dirt, and other abrasive materials that are harmful if left between metal working surfaces.

Oil of the wrong weight can result in loss of power, excessive fuel consumption, undue wear on moving parts, and eventual replacement of costly parts.

Remember this—the temperature in the crankcase correspondingly varies with the outside temperature. Therefore, it is important to use oil in the new engine according to the recommended temperature and weight chart below which has been scientifically worked out with leading oil companies.

<i>Temperature</i>	<i>Engine Crankcase</i>	<i>Air Cleaners</i>
Above 90°F.	S.A.E. 50	S.A.E. 50
65°F. to 90°F.	S.A.E. 40	S.A.E. 40
32°F. to 65°F.	S.A.E. 30	S.A.E. 30
10°F. to 32°F.	S.A.E. 20-W	S.A.E. 20-W
Below 10°F.	S.A.E. 10-W	S.A.E. 10-W

Crankcase oil capacity: 7-1/2 U. S. quarts, including oil filter compartment.

Break-In Period.

Regardless of whether you are using this new tractor in hot or cold weather, at the completion of the 20-hour breaking-in period, be sure to drain the crankcase oil and refill with new oil as specified in the chart above. This is important.

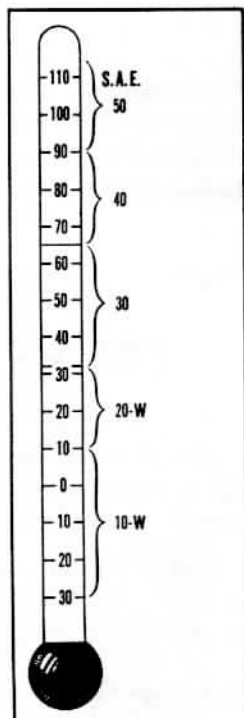


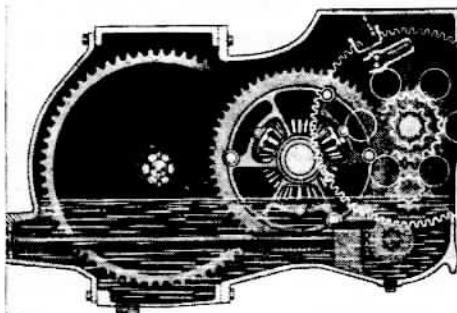
Chart Indicating Correct Weights of Oil to Use at Various Outdoor Temperatures.

TRANSMISSION LUBRICATION

Lubrication of the transmission and differential is entirely automatic—it starts and stops with the engine. The differential and final drive gears are partially submerged in transmission oil and when they revolve, oil is carried up to all transmission parts, completely bathing gears, shafts, and bearings.

Changing seasons and temperatures, together with heating and cooling of the tractor, cause condensation and eventually an accumulation of water in the main transmission case. This water breaks down the lubricating quality of the oil and is one reason why transmission oil should be changed regularly.

Each spring the transmission should be drained and washed out.



Transmission Lubrication

Weight of Oil

<i>Temperature</i>	<i>S.A.E. Viscosity Numbers</i>	<i>Oil Capacity U. S. Measure</i>
32°F. and up	140	4-1/2 gal.
Below 32° F.	90—or dilute the transmission oil with No. 10-W (See Yearly Service)	

PERIODIC LUBRICATION SERVICE

10-HOUR SERVICE

At the end of each ten-hour run: (1) Check the oil level in the crankcase; (2) change the oil in air cleaner cup; (3) service crankcase breather core; and (4) service all grease fittings.

Note: If tractor is operated in extremely dirty conditions or operating at maximum load, it may be necessary to check and service your tractor at the end of five hours' run.

Checking Crankcase Oil Level.

If oil level in the crankcase is low, remove breather stack and filter core and add a good quality oil of the correct weight until it runs out of the oil level cock. For instructions on changing crankcase oil, see "120-Hour Service", page 25.

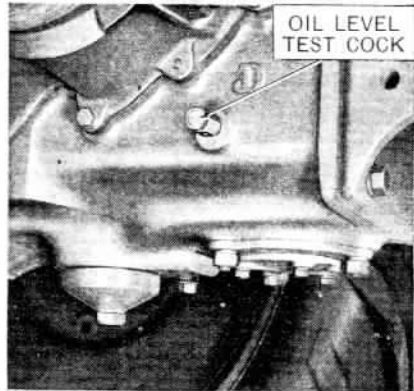
Servicing Air Cleaner.

The air cleaner is built into the tractor to prolong its life and usefulness by preventing dirt, sand, and grit from going into the engine, which will cause wear on all of the operating parts. The air cleaner requires attention every ten hours of operation.

To service—remove oil sediment cup from lower part of air cleaner; pour out oil and sediment. Wash out cup with fuel. Refill cup to mark "Oil Level" with new engine oil.

Under extremely dusty conditions, service cleaner twice a day.

Note: Do not service air cleaner with engine running.



Location of Oil Level Test Cock



Air Cleaner Cup Removed

Servicing Crankcase Breather Core.

To service, remove stack, lift out filter core and wash it thoroughly. Shake core vigorously to remove fuel from core, and submerge in clean engine oil for five minutes until core is thoroughly soaked. Install breather core and replace stack.



Removing Crankcase Breather Filter Core