



Caterpillar

Operator's Manual

D7

S/n 9G2876 & Up

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CT-O-D7 9G2

Operator's Manual

Operator's Instructions

for

CATERPILLAR

Reg. U. S. Pat. Off.

DIESEL D7 TRACTOR

Effective with
Tractor

9G2876-up

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or Call **800-443-0625**

CATERPILLAR TRACTOR CO.

PEORIA, ILLINOIS, U.S.A.

Track-Type Tractors . . . Road Machinery

. . . Diesel Engines . . .

THERE IS A "CATERPILLAR" DEALER NEAR YOU

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Foreword

“Caterpillar” products are a combination of advanced engineering, skilled manufacturing, and the finest materials metallurgical science can select. Thousands of satisfying, economical working hours are built into each machine.

Whether or not the owner derives the maximum of service from his machine depends largely on the care exercised in its operation and maintenance. This book is written to give the operator essential information regarding the day-to-day operation, lubrication, and adjustment of the machine. Careful adherence to these instructions will result in assured economy.

A great many “Caterpillar” owners depend upon their dealer for service other than the care and adjustments described in this book. This practice is recommended because our dealers are equipped with factory-trained servicemen, tools designed and built by “Caterpillar”, and stocks of genuine “Caterpillar” parts. Moreover, they are kept closely informed by the factory regarding advanced methods of servicing “Caterpillar” products — thus, in all ways, they are equipped to render the best of service.

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Lubricating Instructions

Detailed instructions regarding the lubrication of this machine are given on the folded LUBRICATION CHART. Careful attention to these instructions and the proper selection of the lubricants to be used will add much to performance, reliability, economy, and long life of your machine.

It is important to use the correct lubricant for each application in the machine — taking into account the current outside temperature and the temperature range which is likely to be encountered before refilling again.

Practically all oil companies have adopted the S.A.E. (Society of Automotive Engineers) viscosity number system—which classifies oil in terms of viscosity or fluidity. The oils with the lower numbers are lighter, and flow more readily than do the oils with higher numbers. The S.A.E. number refers only to the viscosity of the oil, and has reference to no other characteristic or property.

In preparing to refill with fresh oil, any compartment should be drained when it is warm—it is best to drain after the machine has run for some time. Most of the sediment will then be in suspension, and therefore, will drain readily.

The following recommendations give the types and viscosities of lubricants best suited for use in your machine for various operating temperatures.

Crankcase Lubricating Oils: Two types of crankcase lubricating oils should be used for the various services referred to below:

1. Lubricants known as Diesel Engine Lubricating Oils have been developed during the last few years having such characteristics that they provide superior service in “Caterpillar” Diesel engines. Your “Caterpillar” Dealer can give you brand names of all such oils available in your territory.

Either S.A.E. No. 20 or S.A.E. No. 30 Diesel Engine Lubricating Oil should be used in the Diesel engine crankcase at all temperatures above freezing. S.A.E. No. 10 oil should be used at freezing temperature and below.

2. S.A.E. No. 20 straight mineral crankcase lubricating oil such as is ordinarily used in automobile and other spark ignition engines should be used in the Diesel engine air cleaner, starting engine air cleaner, starting engine crankcase and the fuel injection pump housing. In extremely cold weather, the oil should be diluted with kerosene or 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 a heavier grade of oil (S.A.E. No. 30) in the oil bath air cleaners in warm weather, and to use a lighter grade of oil (S.A.E. No. 10) in the starting engine crankcase in cold weather. In extremely cold weather the S.A.E. No. 10 oil should be diluted with kerosene or Diesel fuel for proper circulation.

Do not use Diesel Engine Lubricating Oil in air cleaners. It may foam and pass dirty oil into the engine.

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 Oil: 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. No. 90 or 140 oil. Below freezing, 32° F., (0° C.) an oil of lower viscosity—S.A.E. No. 80—will be required, and if it cannot be obtained the available oil should be diluted with kerosene or Diesel fuel.

Track Rollers, Track Carrier Rollers and Idlers: For temperatures above freezing, use "Chassis Lubricant." For temperatures below freezing, if fluid "Chassis Lubricants" are not available, S.A.E. No. 80 or No. 90 transmission oil may be used. In sub-zero weather, crankcase lubricating oils have proved to be very satisfactory.

"Chassis Lubricants" are stringy, tacky, semi-fluid lubricants. These lubricants should be just fluid enough that they can be handled in the standard volume compressor at the prevailing atmospheric temperature. If they are too light, they may leak out of the bearings too rapidly.

HOUR METER



COVER ON HOUR METER RAISED TO OBSERVE DIAL READING

Later tractors are equipped with an "Hour Meter." It does not keep pace with the clock but it does count the revolutions of the engine.

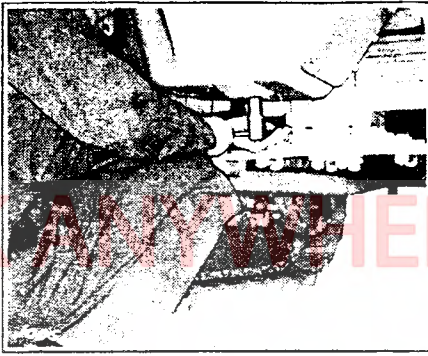
The dial advances one number each time the crankshaft has turned as many thousands of revolutions as are made in an hour at normal operating speed.

The "Hour Meter" tells more accurately than the clock or calendar when to service your machine.

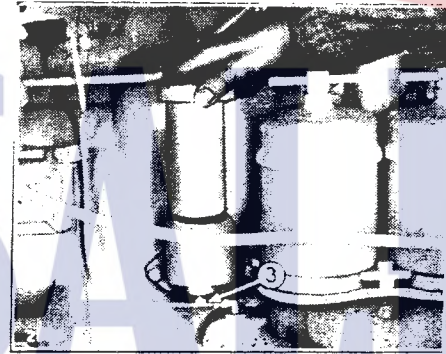
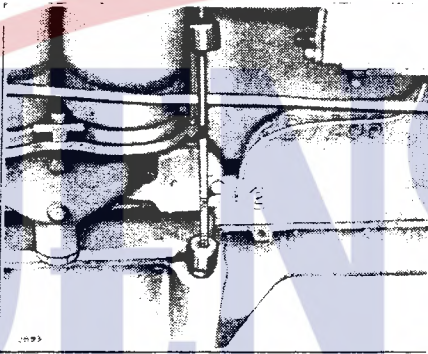
All time intervals given in the lubricating chart are for hours of Diesel engine operation.

DO NOT LUBRICATE THE TRACKS

Under no circumstances should the track be lubricated. The stiffness noted between the links of a new machine, is not caused by a lack of clearance between the track pins and bushings, and will disappear as the tracks wear in.



- ① LUBRICATING OIL SYSTEM—Drain while hot, wash and refill (1), with fresh Diesel Engine Lubricating Oil every 30 hours when air is dusty; otherwise every 60 hours. Start Diesel engine and run for 2 minutes to pump oil through filter. Stop engine, add oil if needed, to raise level to "Full" mark (2). Check every 10 hours. Wash lubricating oil filter and remove breather drain plug (3) at each oil change. Wash breather element every 300 hours. Pour $\frac{1}{4}$ -pint (0.12 liter) oil through element and replace.



LUBRICATION CHART

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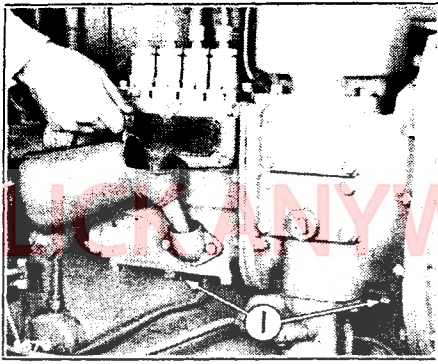
DIESEL D7 TRACTOR

- ⑨ STARTING ENGINE—Drain crankcase (5) while hot, wash and refill (2) with crankcase lubricating oil to oil level (4) every 120 to 300 hours. Check every 10 hours. Wash breather (3) at each oil change. Oil impulse starter (1) every 600 hours.



- ⑩ STARTING ENGINE AIR CLEANER—Wash cup and refill with fresh crankcase lubricating oil every 60 to 120 hours depending on amount of dust in air and length of time starting engine runs. Wash filter section every 300 hours.





- ② **FUEL INJECTION PUMP HOUSING**—Drain (1), wash and refill to top of filler elbow with crankcase lubricating oil every 300 hours. Check oil level every 120 hours.



- ③ **AIR CLEANER**—Wash and refill cup with fresh crankcase lubricating oil every 5 to 60 hours and wash filter screens every 60 to 300 hours, depending upon amount of dust.



- ④ **FLYWHEEL CLUTCH LAR**—Fill oil cup v sion oil every 20 hou

NOTE: Use the brush supplied in the tool equipment to remove dirt from fittings and to clean around air cleaners, breathers, and inspection covers before removing. On early machines, fitting in driving plate of flywheel clutch automatically limits amount of lubricant that can be put in the driving plate bearing. When resistance is felt to pumping action of grease gun, bearing is full. The driving plate bearing should be lubricated every 120 hours. Lubricate all miscellaneous points, not equipped with fittings, with crankcase lubricating oil every 60 hours.

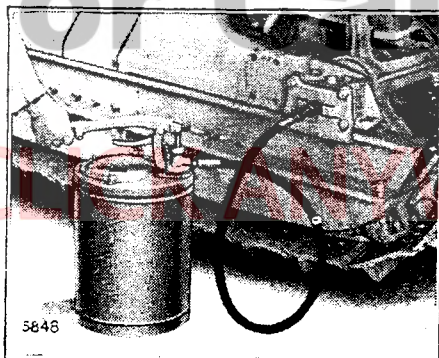
DO NOT LUBRICATE THE TRACKS



- ⑫ **STARTING ENGINE CLUTCH AND PINION LEVERS** (1)—Fill bearings with semi-fluid lubricant every 120 hours. **CLUTCH SHIFT COLLAR AND STARTER PINION** (2)—Fill oil cups with crankcase lubricating oil every 20 hours. **STARTER PINION SHAFT HOUSING** (3)—Drain housing, wash, and refill with transmission oil every 900 hours.

- ⑪ **FRONT IDLER**—Fill bearings with chassis lubricant every 20 hours.

- ⑬ **TRACK CARRIER R** bearings every 20 chassis lubricant.

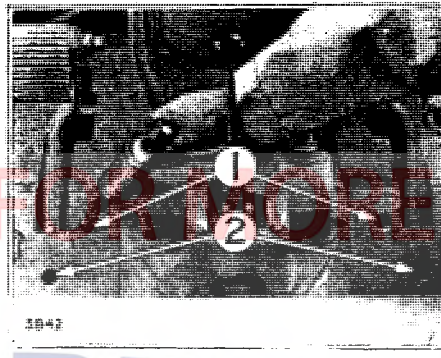




SHIFT COLLAR — Fill bearing with transmission oil.



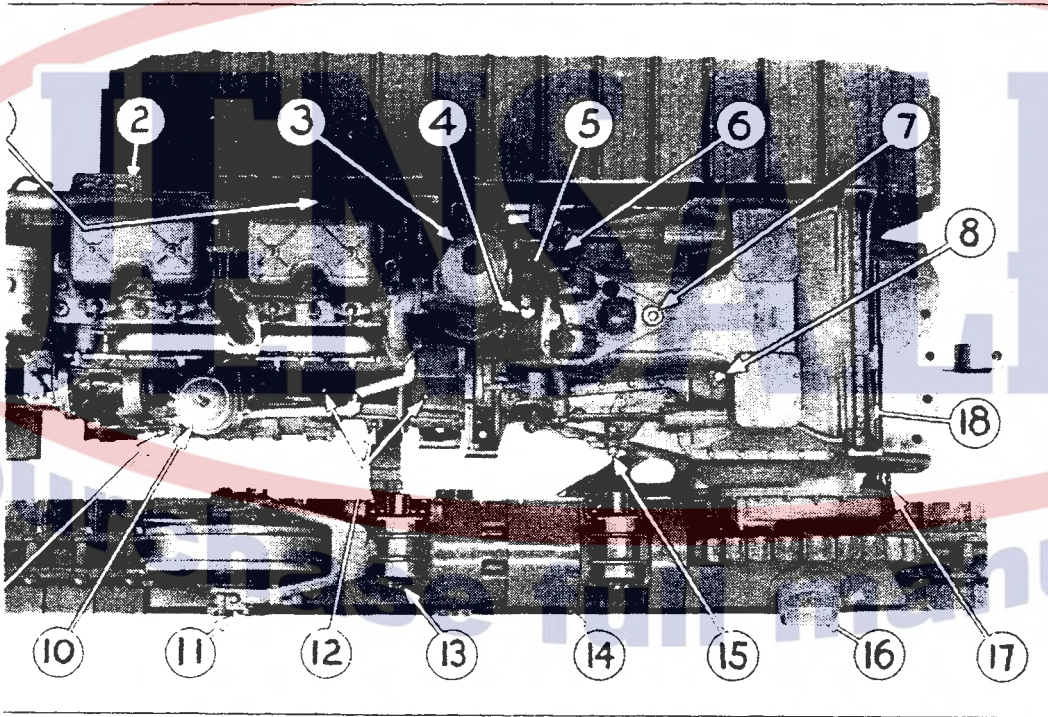
⑤ FLYWHEEL CLUTCH PILOT BEARING (Driving Plate Bearing on early machines.) — Fill bearing with semi-fluid lubricant every 300 hours (see note).



⑥ BRAKE PEDAL SHAFT (1) AND SLEEVE (2) — Fill bearings with semi-fluid lubricant every 120 hours.



⑦ TRANSMISSION OIL — Check every level in speed.



ROLLER — Fill bearing every 20 hours with chassis lubricant.

⑭ TRACK ROLLER — Fill bearings every 20 hours with chassis lubricant.

⑮ FLYWHEEL CLUTCH CONTROL LEVER SHAFT — Fill bearing with semi-fluid lubricant every 120 hours.

⑯ TRACK ROLL BEARING — Fill bearing with semi-fluid lubricant every 120 hours.



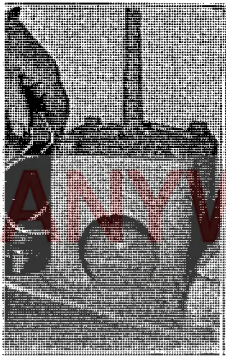
MANUAL PREVIEW

MANUAL PREVIEW

MANUAL PREVIEW

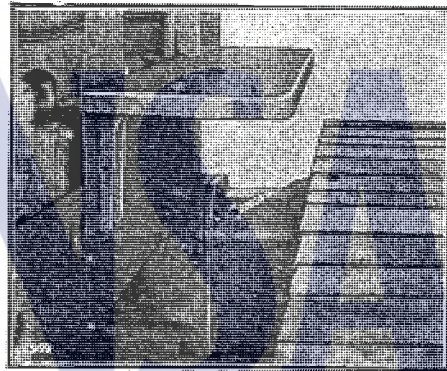
MANUAL PREVIEW

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ON—Drain every 900 hours. Wash and refill with trans-
mission oil level plug hole in right side of transmission case.
120 hours. Oil in bevel gear compartment adjusts itself to
oil change compartment.

⑧ STEERING CLUTCH RELEASE
BEARING—Fill cups with crank-
case lubricating oil every 10 hours.



FINAL DRIVE PINION SHAFT IN-
NER BEARING — WIDE GAUGE
MODEL ONLY—Fill bearings with
semi-fluid lubricant every 20 hours.



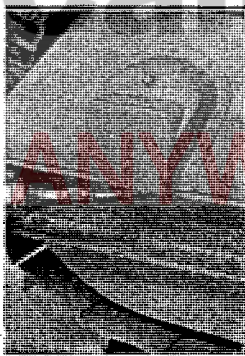
TRACK ADJUSTING NUT — Lub-
ricate nut every 300 hours with
semi-fluid lubricant where fitting
is provided.

SEE LUBRICATION GUIDE ON REVERSE SIDE.

ER FRAME OUTER
Fill bearings with
lubricant every 20

⑪ FINAL DRIVE—Drain (1), wash,
and refill to level of filler elbow
with transmission oil every 900
hours. Check oil level every 120
hours.

⑫ TRACK ROLLER FRAME INNER
BEARING—Fill bearings every 20
hours with semi-fluid lubricant.



CRANKCASE LUBRICATING OIL

Operation	Hourly Interval	Additional Care
3 Air Cleaner	5 - 60	Wash filter screens every 60 to 300 hours.
1 Lubricating Oil System	Check every 10	Drain, wash and refill every 30-60 hours. Wash oil filter and remove breather drain plug at each oil change. Wash breather every 300 hours.
9 Starting Engine Crankcase	Check every 10	Drain, wash and refill every 120-300 hours; also wash breather.
8 Steering Clutch Release Bearing	10	
12 Starting Engine Clutch Shift Collar and Starter Pinion	20	
10 Starting Engine Air Cleaner	60 - 120	Wash filter section every 300 hours.
2 Fuel Injection Pump Housing	Check every 120	Drain, wash and refill every 300 hours.
9 Starting Engine Impulse Starter	600	

CHASSIS LUBRICANT

Operation	Hourly Interval	Additional Care
11 Front Idler	20	
13 Track Carrier Roller	20	
14 Track Roller	20	

CLICK ANYWHERE FOR MORE DETAILS

This is a guide to facilitate lubrication of your machine. The numbers listed under "operation" correspond to the numbers and related pictures shown in the lubrication chart on the reverse side. These operations are listed in the order of hourly intervals for each type of lubricant used.

SEMI-FLUID LUBRICANT

Operation	Hourly Interval	Additional Care
16 Track Roller Frame Outer Bearing	20	
18 Track Roller Frame Inner Bearing	20	
Final Drive Pinion Shaft Inner Bearing (Wide Gauge Model Only)	20	
5 Flywheel Clutch Pilot Bearing	300	
6 Brake Pedal Shaft and Sleeve	120	
12 Starting Engine Clutch and Pinion Levers	120	
15 Flywheel Clutch Control Lever Shaft	120	
Track Adjusting Nut where Fitting is Provided	300	

TRANSMISSION OIL

Operation	Hourly Interval	Additional Care
4 Flywheel Clutch Shift Collar	20	
7 Transmission	Check every 120	Drain, wash and refill every 900 hours.
17 Final Drive	Check every 120	Drain, wash and refill every 900 hours.
12 Starter Pinion Shaft Housing	Drain, wash and refill every 900	

CLICK ANYWHERE FOR MORE DETAILS