

TM 5-2410-233-20

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

TECHNICAL MANUAL

ORGANIZATIONAL MAINTENANCE MANUAL

**TRACTOR, FULL - TRACKED, LOW SPEED; DED;
MEDIUM DRAWBAR PULL; OSCILLATING TRACK,
78- IN. GAGE (CATERPILLAR MODEL D7F)
WITH RIPPER; FSN 2410-177-7283**

WITH WINCH; FSN 2410-177-7284

This copy is a reprint which includes current
pages from Changes 1 and 2.

HEADQUARTERS, DEPARTMENT OF THE ARMY

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		Paragraph	Page
CHAPTER 1.	INTRODUCTION		
Section I.	General	1-1, 1-3	1-1
Section II.	Description and data	1-6, 1-7	1-1
CHAPTER 2.	ORGANIZATIONAL MAINTENANCE INSTRUCTIONS		
Section I.	Service upon receipt of materiel	2-1, 2-2	2-1
Section II.	Movement to a new worksite		2-2
Section III.	Repair parts, special tools and equipment	2-3, 2-4	2-2
Section IV.	Lubrication instructions	2-5, 2-12	2-2
Section V.	Preventive maintenance checks and services		2-11
Section VI.	Troubleshooting		2-13
Section VII.	Radio interference suppression	2-13, 2-18	2-17
Section VIII.	Maintenance of engine	2-19, 2-28	2-23
Section IX.	Maintenance of electrical system	2-29, 2-39	2-40
Section X.	Maintenance of drive components	2-40, 2-46	2-45
Section XI.	Maintenance of tractor hydraulic system	2-47, 2-49	2-52
Section XII.	Maintenance of dozer assembly	2-50, 2-53	2-59
Section XIII.	Maintenance of winch.	2-54, 2-56	2-62
Section XIV.	Maintenance of ripper	2-57, 2-58	2-68
Section XV.	Maintenance of body components	2-59, 2-63	2-72
APPENDIX A.	REFERENCES		A-1
	B. MAINTENANCE ALLOCATION CHART		B-1
INDEX			1-1

*** This manual supersedes TM 5-2410-233-20, 4 June 1971, including all changes.**

LIST OF ILLUSTRATIONS

Number	Title	Page
1-1	Electrical system schematic diagram (generator) (sheet 1 of 2)	1-3
1-1	Electrical system schematic diagram (alternator) (sheet 2 of 2)	1-4
1-2	Transmission oil system.. . . .	1-5
2-1	Moldboard and push beam.	2-2
2-2	Transmission servicing (sheet 1 of 2)	2-3
2-2	Transmission servicing (sheet 2 of 2)	2-4
2-3	Hydraulic system servicing.. . . .	2-5
2-4	Engine oil system servicing.	2-6
2-5	Fuel filter servicing	2-7
2-6	Fuel tank filler-cap servicing	2-8
2-7	Universal joint servicing	2-8
2-8	Final drive servicing	2-9
2-9	Track roller frame bearing servicing	2-9
2-10	Track adjusting	2-10
2-11	Lift cylinder trunnion servicing	2-18
2-12	Winch oil screen servicing	2-20
2-13	Radio interference suppression components	2-22
2-14	Air cleaner elements servicing (sheet 1 of 3)	2-24
2-14	Air cleaner elements servicing (sheet 2 of 3)	2-25
2-14	Air cleaner elements servicing (sheet 3 of 3)	2-26
2-15	Valve clearance adjustment (sheet 1 of 2)	2-28
2-15	Valve clearance adjustment (sheet 2 of 2)	2-29
2-16	Fuel transfer pump and hourmeter	2-30
2-17	Cooling System servicing	2-31
2-18	Fan blade adjustment	2-32
2-19	Fan drive belt adjustment	2-33
2-20	Fan belts	2-34
2-21	Governor and throttle linkage adjustment	2-35
2-22	Engine speed governor	2-37
2-23	Muffler	2-39
2-24	Polarizing generator	2-40
2-25	Alternator	2-42
2-26	Battery box and batteries	2-44
2-27	Glow plug removal	2-45
2-28	Steering clutch brake adjustment	2-46
2-29	Sprocket hub bearing adjustment	2-47
2-30	Track frame roller guard	2-48
2-31	Torque divider scavenge pump	2-49
2-32	Transmission oil Cooler.	2-50
2-33	Transmission and steering clutch pump.	2-51
2-34	Dozer and winch hydraulic pumps.. . . .	2-53
2-35	Lift and tilt cylinders.	2-54
2-36	Trunnion and tube assembly.	2-55
2-37	Rod packing adjustment	2-56
2-38	Levers and linkage.	2-58
2-39	Tilt brace and diagonal arm ball and socket adjustment	2-59
2-40	Cutting edge and end bit replacement	2-60
2-41	Scarifier removal.	2-61
2-42	Moldboard (blade) removal.	2-62
2-43	Winch brake band adjustment.	2-63
2-44	Winch brake band removal	2-63
2-45	Winch cable installation.	2-64
2-46	Winch Control removal and adjustment.. . . .	2-66
2-47	Winch removal.	2-67
2-48	Ripper guard protector, and tip replacement.	2-68
2-49	Ripper mounting bracket nut removal.	2-70
2-50	Hydraulic manifold (for ripper).	2-71
2-51	Operator's seat.	2-73
2-52	Tractor body accessories, right side.	2-75
2-53	Engine side panels.	2-77
2-54	Tractor body accessories, left side.. . . .	2-79
2-55	Floor boards removal.	2-80

CHAPTER 1

INTRODUCTION

Section I. GENERAL

1-1 . Scope

This manual is published for the use of organizational maintenance personnel responsible for maintaining the Caterpillar D7F Full-Track Tractor.

1-2. Maintenance Forms and Records

Maintenance forms, records, and reports which are to be used by maintenance personnel at all maintenance levels are listed in and prescribed by TM 38-750.

1-3. Destruction of Materiel to Prevent Enemy Use

Instructions for destruction of materiel to prevent enemy use will be found in TM 750-244-3.

1-4. Administrative Storage

Instructions for preparation for shipment and limited storage will be found in TM 740-90-1.

1-5. Reporting of Errors

Report of errors, omissions, and recommendations for improving this publication by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to Publications) and forwarded direct to Commander, U. S. Army Troop Support Command, ATTN: AMSTS-MPP, 4300 Goodfellow Boulevard, St. Louis, Missouri 63120.

Section II. DESCRIPTION AND DATA

1-6. Description

A general description of the tractor is contained in TM 5-2410-233-10. A more detailed description of specific components and assemblies is contained in the applicable maintenance paragraphs of this manual.

1-7. Tabulated Data

a. Identification.

(1) U. S. Army identification plate.

Manufactured by	Caterpillar Tractor Co.
Model	D7F
Serial number	61G and up
Federal stock number	2410-177-7283 (w/ ripper)
	2410-177-7284 (w/ winch)
Engine serial number	61G and up
Length	232 in.
Width	133 in.
Height	93 in.
Shipping weight	46,460

(2) Turbocharger warning plate.

Altitude setting 7500 ft. or below

(3) Tractor serial number plates. One located on the firewall above battery slave connector, one located on left-rear of engine block, and one on the left-rear of the tractor.

(4) Dozer serial number plate. Located on right-rear of moldboard.

b. Tabulated Data.

(1) Tractor.

Forward speed :	
Gear 1.	0-2.2 mph
Gear 2.	0-3.9 mph
Gear 3.	0-6.0 mph
Reverse speed:	
Gear 1.	0-2.6 mph
Gear 2.	0-4.6 mph
Gear 3.	0-7.1 mph
Weight, tractor only.	36,760 lbs
Weight, dozer and	
push arms.	6,617 lbs.
Weight, winch.	3,080 lbs.
Weight, ripper.	7,337 lbs.
Weight, Operating (w/ dozer,	
winch, fuel, and	
lubricants).	47,700 lbs
Length, overall.	232 in.
Width, overall.	133 in.
Width, w/o moldboard and	
push arms.	105 in.
Height, overall.	124 in.
Height, reducible.	93 in.
Winch, rear mounted.	
reversible.	1 drum
Ripper, rear mounted.	3 shanks
Bridge weight classification.	16

(2) Engine.

Manufacturer. Caterpillar Tractor Co.

(2) Engine. (Continued)

Type Turbocharged, 4 stroke-cycle
 Number of cylinders 6
 Displacement 638 cu. in.
 Rated horsepower (full load) 180 at 2000 rpm
 Low idle speed 660 rpm
 High idle speed 2210 rpm

(3) Engine accessories.**(a) Oil filter.**

Make Military Standard, MS35802
 Type Class 3
 Element Part no. Caterpillar, 3M198

(b) Air cleaner.

Make Donaldson
 Model EGB12, dry-type
 Element part no. Caterpillar, 4M9334

(c) Fuel filter.

Make Purolator
 Model MIL-F-20627, Type 2, Class II
 Element part no. Caterpillar, 3R2251

(4) Transmission filter.

Make Caterpillar
 Element part no. J-6064
 Federal stock number 2520-920-2041

(5) Hydraulic tank filter.

Make Caterpillar
 Element part no. J-6064

(6) Winch.

Data plate Located left side of winch
 Lubrication plate Located on top-right cover

(6) Winch. (Continued)

Make Hyster
 Model D7K
 Part no. E77M1501P
 Wire rope diameter 1 in.

(7) Ripper.

Data plate Located on right beam
 Make Caterpillar
 Part no. 3R6794
 Shanks 3

(8) Capacities.

Radiator 12 gal.
 Fuel tank 115 gal.
 Hydraulic system 148 qt.
 Engine crankcase (incl. filters) 29 qt.
 Transmission 124 qt.
 Winch 38 qt.
 Final drive (ea). 36 qt.

(9) Specific nut and bolt torque data

Component	Ft. lb.
Air cleaner	20±5
Hub retaining nut	1100-1200
Lubrication system breather bolt	10±2
Transmission oil cooler cap hub screws	75±10
Valve cover bolts	6-10
Ripper mounting bracket stud nuts	1500

(10) Valve adjustments.

Intake 0.015 in.
 Exhaust 0.025 in.

(11) Torque and engineering data.**Bolts and nuts.**

Size (inches)	Torque (ft-lb)	Size (inches)	Torque (ft-lb)
1/4	9±3	3/4	265±35
5/16	18±5	7/8	420±60
7/16	32±5	1	640±80
1/2	75±10	1 1/4	1000±120
9/16	110±15	1 3/8	1200±150
5/8	150±20	1 1/2	1500±200

Taper lock studs.

Size (inches)	Torque (ft-lb)	Size (inches)	Torque (ft-lb)
1/4	5±2	3/4	110±15
5/16	10±3	7/8	170±20
3/8	20±3	1	260±30
7/16	30±5	1 1/8	320±30
1/2	40±5	1 1/4	400±40
9/16	60±10	1 3/8	480±40
5/8	75±10	1 1/2	550±50

Hydraulic valve bolts and nuts

Size (inches)	Torque (ft-lb)	Size (inches)	Torque (ft-lb)
5/16	13±2	1/2	60±3
3/8	24±2	3/8	118±4
7/16	39±2		

(12) Electrical system schematic diagrams.

The electrical system components and circuits are shown in figure 1-1.