CASE 450 CRAWLER SERVICE MANUAL

www.repairsadviser.com

TABLE OF CONTENTS

SERIES/SECTION — SECTION NO.

10 SERIES - GENERAL
- General Engine Specifications 11
- Detailed Specifications 12
- Maintenance and Lubrication 1050
- Torque Chart 1051

20 SERIES - ENGINE
- Cylinder Head and Valves 22
- Engine Block Assemblies 23
- Engine Removal, Installation, Stall Tests 2050
- Air Cleaner 2051

30 SERIES - FUEL SYSTEM
- Fuel System and Filters 31
- Roosa Master Model DB Fuel Injection Pump 32
- Roosa Master Fuel Injectors 33
- Throttle Linkage Adjustments, Fuel Lines 3052

40 SERIES - HYDRAULICS
- Hydraulic Diagrams, Trouble Shooting, Pressure Checks 4011
- Equipment Pump 4013
- Loader and Dozer Control Valves 4021
- Commercial-Shearing Backhoe Control Valves 4022
- Miscellaneous Valves and Couplings 4028
  - D26726 and D25899 Diversion Valves
  - D39297 4-In-1 Bucket Relief Valve
  - D43550 Anti-Rollback Check Valve
  - D4685 Relief Valve
  - Backhoe "Quick Disconnect" Couplings
  - Fuel Behind "Quick Disconnect" Couplings
- Boom Lockout System 4041
- Hydraulic Cylinders 4057

50 SERIES - TRACK
- Track and Suspension System 5010
- Torquing Procedure for Sprocket Mounting Bolts . . . . . 5010, Supp't 1

60 SERIES - POWER TRAIN
- Transmission and Final Drives 64
- Trouble Shooting the Transmission/Converter Hydraulic System with a Flowmeter 6012
- Transmission/Converter Hydraulic System Diagram, Transmission Removal, Transmission Controls 6013
- Torque Converter 6016
- Charging Pump 6017
- Declutch Lockout 6019
- Drive Shafts 6022

J I Case
A Tenneco Company

TENNECO

Burl. Form 9-72332 May 1973

PRINTED IN U.S.A.

www.repairsadviser.com

70 SERIES - BRAKES
Master Cylinders, Parking Brakes, Adjustments 7010

NOTE: Also refer to Brakes in Section 64.

80 SERIES - ELECTRICAL SYSTEM
Wiring Diagrams 8011
Trouble Shooting 8012
Ignition System 8013
Batteries 8014
Starter and Starter Solenoid 8015
Generator and Voltage Regulator 8017

90 SERIES - MOUNTED EQUIPMENT
Loader 9011
Dozers 9013
Models 9 and 19 Gearmatic Winches 9014
Ripper 9015
Rollover Protection Structure 9019
Models 26 and 26C Backhoe 9022
Model 32 Backhoe 9023
Model 33 Backhoe 9024
Seat and Tank Assembly 9025

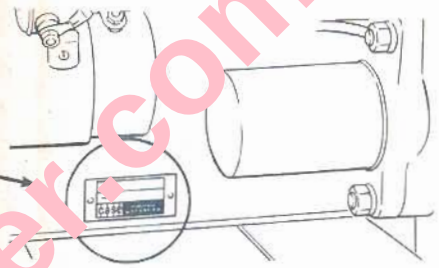
www.repairsadviser.com

Section 11

GENERAL ENGINE SPECIFICATIONS

450 CRAWLER

THE MODEL AND ENGINE SERIAL NUMBER IS STAMPED ON A PLATE LOCATED ON THE RIGHT SIDE OF THE ENGINE BELOW THE CRANKING MOTOR.



General

DIESEL ENGINES

Type ..... Case Open Chamber, 4 Cylinder, 4 Stroke Cycle, Valve-in-Head
Firing Order 1-3-4-2
Bore ..... 3-13/16 Inches
Stroke ..... 4-1/8 Inches
Piston Displacement ..... 188 Cubic Inches
Compression Ratio ..... 17.5 to 1
No Load Governed Speed ..... 2180 RPM
Rated Engine Speed ..... 2000 RPM
Engine Idling Speed ..... 575 to 675 RPM
*Valve Tappet Clearance (Exhaust) and (Intake) ..... (Hot and Cold) .014 Inch
Hot Settings Are Made After the Engine Has Operated At Thermostat Controlled Temperature For At Least Fifteen Minutes.

Piston and Connecting Rods

Rings per Piston 3
Number of Compression Rings 2
Number of Oil Rings 1
Type Pins ..... Full Floating Type
Type Bearing ..... Replaceable Precision, Steel Back, Copper-Lead Alloy Liners

Main Bearings

Number of Bearings 5
Type Bearings ..... Replaceable Precision Steel Back, Copper-Lead Alloy Liners

Engine Lubricating System

Crankcase Capacity (Without Filter) ..... 5 Quarts
(With Filter Change) ..... 6 Quarts
Oil Pressure ..... *50 to 70 Pounds with Engine Warm and Operating at Rated Engine Speed*
Type System ..... Pressure and Spray Circulation
Oil Pump ..... Gear Type
Oil Filter ..... Full Flow Spin on Type

Fuel System

Fuel Injection Pump ..... Roosa-Master
Pump Timing ..... 8 Degrees Before Top Dead Center
Fuel Injectors (Prior Eng. S/N 2726393) ..... Pencil Type (Opening Pressure 2800 PSI)
Fuel Injectors (Starting W/Eng. S/N 2726393) ..... Pencil Type (Opening Pressure 3200 PSI)
Fuel Transfer Pump ..... Vane Type, Integral Part of Injection Pump
Governor ..... Variable Speed, Fly-Weight Centrifugal Type, Integral Part of Injection Pump
Fuel Filters (Prior Eng. S/N 2718490) ..... Replaceable Element Type
Fuel Filters (Starting W/Eng. S/N 2718490) ..... Full Flow Spin on Type

www.repairsadviser.com

Section 12

DETAILED SPECIFICATIONS

www.repairsadviser.com

TABLE OF CONTENTS

ENGINE BLOCK 2
CYLINDER HEAD AND VALVES 7
COOLING SYSTEM 10
ENGINE OIL FILTER 11
AIR CLEANER 11
FUEL SYSTEM 12
BRAKES 14
POWER TRAIN 15
STEERING 16
GENERAL TORQUE TABLE 17
SPECIAL TORQUES 17

Rac. Form 9-80731

PRINTED IN U.S.A.

This and other manuals you can download on the site:
www.repairsadviser.com/Case-450-Crawler-Tractor-Service-Manual-PDF