PART 1
ENGINE SYSTEMS
MODELS 1920 AND 2120

Chapter 1
ENGINE AND LUBRICATION SYSTEM

Section Page
A. DESCRIPTION AND OPERATION .................................. 1
B. OVERHAUL .................................................................. 5
C. COMPRESSION TEST .................................................. 47

Chapter 2
COOLING SYSTEM

Section Page
A. DESCRIPTION AND OPERATION .................................. 49
B. OVERHAUL .................................................................. 51

Chapter 3
TROUBLE SHOOTING, SPECIFICATIONS AND SPECIAL TOOLS

Section Page
A. TROUBLE SHOOTING .................................................. 59
B. SPECIFICATIONS .......................................................... 63
C. SPECIAL TOOLS .......................................................... 70
4. Press the impeller onto the shaft until the end of the shaft is flush with the rear face of the impeller, Figure 139.

5. Press the pulley onto the shaft to the dimension as shown, Figure 140.

6. Install the setscrew and jam nut, Figure 134. Rotate the pump by hand to be sure it turns freely.

7. Position a new gasket in place on the pump housing and install the mounting plate.

Installation of the water pump generally follows the removal procedure in reverse. On installation, observe the following requirements.

- Clean the pump mounting surfaces and install a new gasket on installation.
- Adjust the alternator drive belt tension to the correct tension, see Figure 141.
PART 2
FUEL SYSTEM
MODELS 1920-2120

Chapter 1
DIESEL FUEL SYSTEM INJECTION PUMP

Section
A. DESCRIPTION AND OPERATION .................................. 1
B. REMOVAL AND INSTALLATION .................................... 5
C. TIMING AND GOVERNOR ADJUSTMENTS ............................ 8

Chapter 2
INJECTORS

Section
A. DESCRIPTION AND OPERATION .................................. 15
B. REMOVAL AND INSTALLATION .................................... 16
C. OVERHAUL .......................................................... 16

Chapter 3
TROUBLESHOOTING AND SPECIFICATIONS

Section
A. TROUBLESHOOTING ................................................ 19
B. SPECIFICATIONS .................................................... 23
C. FUEL INJECTION PUMP SPECIFICATIONS ....................... 24

PRINTED IN U.S.A.
Figure 1
Injection Pump
1. Fuel Injection Pump

Figure 2
Injection Pump Camshaft Lobes — Model 1920
1. Injection Pump
   Lobes (Engine Camshaft)

Figure 3
Injection Pump Components — Model 2120
1. Camshaft
   Components
2. Pumping Element
3. Governor Assembly
4. Fuel Inlet
5. Tappet Assembly
6. Control Lever
PART 3
ELECTRICAL SYSTEMS
MODEL 1920-2120

Chapter 1
WIRING, SWITCHES, GLOW PLUGS AND INSTRUMENTATION

Section Page
A. DESCRIPTION AND OPERATION .................................. 1
B. OVERHAUL .................................................................. 6

Chapter 2
BATTERY

Section Page
A. DESCRIPTION AND OPERATION .................................. 13
B. MAINTENANCE AND TESTS ...................................... 15

Chapter 3
STARTING SYSTEMS

Section Page
A. STARTING SYSTEM — DESCRIPTION AND OPERATION 23
B. STARTING MOTOR — OVERHAUL ................................. 24
C. NEUTRAL START SWITCH — DESCRIPTION AND OPERATION 35
D. NEUTRAL START SWITCH — OVERHAUL ..................... 36
E. KEY START SWITCH — DESCRIPTION AND OPERATION 42
F. KEY START SWITCH — OVERHAUL ............................. 42

PRINTED IN U.S.A.
Chapter 4
CHARGING SYSTEM

Section Page
A. DESCRIPTION AND OPERATION .................................. 45
B. PRELIMINARY CHECKS AND ELECTRICAL TESTS ........................ 47
C. OVERHAUL .......................................................... 48

Chapter 5
ENGINE STOP SOLENOID

Section Page
A. DESCRIPTION AND OPERATION .................................. 57
B. OVERHAUL .......................................................... 58

Chapter 6
TROUBLE SHOOTING AND SPECIFICATIONS

Section Page
A. TROUBLE SHOOTING ............................................ 63
B. SPECIFICATIONS ................................................ 64

JENSALES.COM
or Call 800-443-0625
Figure 13  
Differential Gear Case Disassembly

1. Ball Bearing
2. Snap Ring
3. Differential Housing
4. Thrust Washer
5. Differential Gear (Side Gear)
6. Gear Assembly
7. Bushing
8. Thrust Washer
9. Pinion Shaft
10. Pinion Shaft
11. Joint
12. Ring Gear
13. Differential Gear Case End Plate
14. Bolt
15. Differential Lock Clutch

3. Remove the axle side gear and thrust washer.
4. Remove the differential pinion shaft, thrust washers and pinion gears.
5. Remove the remaining axle side gears and thrust washers.

INSPECTION

1. Inspect gear teeth for excessive wear or damage.
2. Measure the thickness of the differential gear thrust washers. Replace washers that exceed the minimum thickness. See “Specifications,” Chapter 3.
4. Inspect the drive pinion to ring gear tooth wear pattern. See “Specifications,” Chapter 3, for wear indications and shimming adjustments.

5. Inspect the bearings for excessive wear or binding when rotated by hand.

NOTE: When the drive pinion and ring gear are reused, assemble using the same shims as removed. When the drive pinion and ring gear are replaced, adjust the shims as described below. The ring gear and pinion are serviced only as a matched set and must be replaced together.

If the drive pinion and ring gear are replaced:

The drive pinion and ring gear are identified by an assembly number which is stamped into the end of the drive pinion gear and on the circumference of the ring gear, Figure 14. In addition, a “Value of Error” number is also stamped into the end of the pinion gear, Figure 14. This number is prefixed with a (+) or (-) to indicate the amount of error from zero adjustment. If the value of error is greater on the new pinion than on the old...
A. DESCRIPTION AND OPERATION

A hydraulic gear type pump is mounted on the right side of the engine, Figures 56 and 57. The pump is driven by the engine idler gear located on the front of the engine. The Model 1920 tractor uses a 7.8 gpm (29.5 lpm) pump and the Model 2120 tractor uses a 9.3 gpm (35 lpm) pump.

The hydraulic pumps are the conventional gear type design and are serviced only as a complete assembly.

The tractors use a suction spin-on type hydraulic filter located on the right hand side of the rear axle center housing, Figure 58.

The filter should be replaced after the first 50 hours of use and every 300 hours thereafter.
## PART 9
### STEERING SYSTEM

### Chapter 1
#### POWER STEERING SYSTEM

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. DESCRIPTION AND OPERATION</td>
<td>1</td>
</tr>
<tr>
<td>B. OVERHAUL</td>
<td>8</td>
</tr>
<tr>
<td>C. PRESSURE TESTING</td>
<td>22</td>
</tr>
</tbody>
</table>

### Chapter 2
#### TROUBLE SHOOTING — SPECIFICATIONS AND SPECIAL TOOLS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. TROUBLE SHOOTING</td>
<td>25</td>
</tr>
<tr>
<td>B. SPECIFICATIONS</td>
<td>26</td>
</tr>
<tr>
<td>C. SPECIAL TOOLS</td>
<td>27</td>
</tr>
</tbody>
</table>
# PART 10
FRONT AXLE AND RELATED PARTS

## Chapter 1
TWO-WHEEL DRIVE

<table>
<thead>
<tr>
<th>Section</th>
<th>Description and Operation</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.</td>
<td>Description and Operation</td>
<td>1</td>
</tr>
<tr>
<td>B.</td>
<td>Overhaul</td>
<td>2</td>
</tr>
</tbody>
</table>

## Chapter 2
FOUR-WHEEL DRIVE

<table>
<thead>
<tr>
<th>Section</th>
<th>Description and Operation</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.</td>
<td>Description and Operation</td>
<td>7</td>
</tr>
<tr>
<td>B.</td>
<td>Overhaul</td>
<td>8</td>
</tr>
<tr>
<td>C.</td>
<td>Front Axle Drive Components</td>
<td>22</td>
</tr>
</tbody>
</table>

## Chapter 3
TROUBLE SHOOTING AND SPECIFICATIONS

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.</td>
<td>Trouble Shooting</td>
<td>25</td>
</tr>
<tr>
<td>B.</td>
<td>Specifications</td>
<td>26</td>
</tr>
</tbody>
</table>
PART 11
WHEELS AND TIRES

Chapter 1
WHEELS AND TIRES

Section Page
A. TREAD SETTING ........................................... 1
B. WEIGHT LIMITATIONS ................................. 3
C. LUG BOLT TORQUE ....................................... 6

CLICK ANYWHERE FOR MORE DETAILS

COPYRIGHT 2023 JENSALES, INC.

JENSALES.COM
or Call 800-443-0625

CLICK ANYWHERE FOR MORE DETAILS

PRINTED IN U.S.A.
PART 12
SEPARATING THE TRACTOR
MODEL 1920-2120

Chapter 1
SEPARATING THE TRACTOR

Section:
A. FRONT AXLE REMOVAL ................................................ 1
B. SEPARATING THE TRACTOR BETWEEN THE FRONT END AND THE ENGINE ........................................ 3
C. SEPARATING THE TRACTOR BETWEEN THE ENGINE AND TRANSMISSION CLUTCH HOUSING .................................. 4
D. TRANSMISSION REMOVAL AND INSTALLATION ......................... 10
E. REAR AXLE AND CENTER HOUSING REMOVAL AND INSTALLATION ...................................................... 13
F. REAR AXLE HOUSING REMOVAL AND INSTALLATION ...................... 15

Chapter 2
SPECIFICATIONS

Section:
A. SPECIFICATIONS ................................................................ 17