

MODEL 1150B CRAWLER

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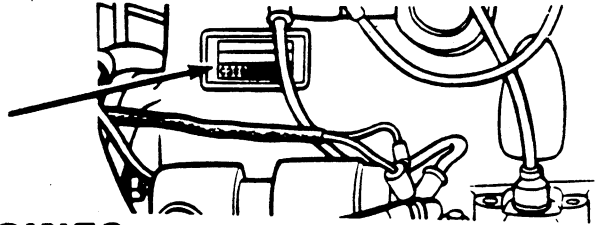
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Section 1010

GENERAL ENGINE SPECIFICATIONS 1150B CRAWLER LOADER AND DOZER

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



General

DIESEL ENGINES

| | |
|---|---|
| Type | 6 Cylinder, 4 Stroke Cycle, Valve-in-Head |
| Firing Order | 1-5-3-6-2-4 |
| Bore | 4-3/8 Inches |
| Stroke | 5 Inches |
| Piston Displacement | 451 Cubic Inches |
| Compression Ratio | 16.5 to 1 |
| No Load Governed Speed | 2240 - 2280 RPM |
| Rated Engine Speed | 2100 RPM |
| Engine Idling Speed | 725 to 775 RPM |
| Exhaust Valve Rotators | Positive Type |
| *Valve Tappet Clearance (Exhaust) | (Hot) .020 Inch (Cold) .025 Inch |
| (Intake) | (Hot and Cold) .015 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 or Aluminum Alloy Liners |

Main Bearings

| | |
|--------------------------|---|
| Number of Bearings | 7 |
| Type Bearings | Replaceable Precision Steel Back, Copper-Lead or Aluminum Alloy Liners |

Engine Lubricating System

| | |
|--------------------------|---|
| Crankcase Capacity | 14 Quarts |
| with Filter Change | 15 Quarts |
| Oil Pressure | 45 to 60 PSI 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 | Robert Bosch, Type PES Multiple Plunger |
| Pump Timing | 30 Degrees Before Top Dead Center (Port Closing) |
| Fuel Injectors | Pencil Type (Opening Pressure 3200 PSI) |
| Fuel Transfer Pump | Plunger Type, Integral Part of Injection Pump |
| Governor | Variable Speed, Fly-Weight Centrifugal Type, Integral Part of Injection Pump |
| 1st Stage Fuel Filter | Full Flow Spin on Type |
| 2nd Stage Fuel Filter | Full Flow Spin on Type |

Section

1021

DETAILED SPECIFICATIONS

451BD ENGINE

FRACTION to DECIMAL to MILLIMETER CONVERSION TABLE

| Fraction | Decimal | MM | Fraction | Decimal | MM | Fraction | Decimal | MM |
|----------|---------|-------|----------|---------|--------|----------|---------|--------|
| 1/64 | .0156 | 0.397 | 23/64 | .3593 | 9.128 | 45/64 | .7031 | 17.859 |
| 1/32 | .0312 | 0.794 | 3/8 | .3750 | 9.525 | 23/32 | .7187 | 18.256 |
| 3/64 | .0468 | 1.191 | 25/64 | .3906 | 9.922 | 47/64 | .7343 | 18.653 |
| 1/16 | .0625 | 1.587 | 13/32 | .4062 | 10.319 | 3/4 | .7500 | 19.050 |
| 5/64 | .0781 | 1.984 | 27/64 | .4218 | 10.716 | 49/64 | .7656 | 19.447 |
| 3/32 | .0937 | 2.381 | 7/16 | .4375 | 11.113 | 25/32 | .7812 | 19.844 |
| 7/64 | .1093 | 2.778 | 29/64 | .4531 | 11.509 | 51/64 | .7968 | 20.240 |
| 1/8 | .1250 | 3.175 | 15/32 | .4687 | 11.906 | 13/16 | .8125 | 20.637 |
| 9/64 | .1406 | 3.572 | 31/64 | .4843 | 12.303 | 53/64 | .8281 | 21.034 |
| 5/32 | .1562 | 3.969 | 1/2 | .5000 | 12.700 | 27/32 | .8437 | 21.431 |
| 11/64 | .1718 | 4.366 | 33/64 | .5156 | 13.097 | 55/64 | .8593 | 21.828 |
| 3/16 | .1875 | 4.762 | 17/32 | .5312 | 13.494 | 7/8 | .8750 | 22.225 |
| 13/64 | .2031 | 5.159 | 35/64 | .5468 | 13.890 | 57/64 | .8906 | 22.622 |
| 7/32 | .2187 | 5.556 | 9/16 | .5625 | 14.287 | 29/32 | .9062 | 23.019 |
| 15/64 | .2343 | 5.953 | 37/64 | .5781 | 14.684 | 59/64 | .9218 | 23.415 |
| 1/4 | .2500 | 6.350 | 19/32 | .5937 | 15.081 | 15/16 | .9375 | 23.812 |
| 17/64 | .2656 | 6.747 | 39/64 | .6093 | 15.478 | 61/64 | .9531 | 24.209 |
| 9/32 | .2812 | 7.144 | 5/8 | .6250 | 15.875 | 31/32 | .9687 | 24.606 |
| 19/64 | .2968 | 7.541 | 41/64 | .6406 | 16.272 | 63/64 | .9843 | 25.003 |
| 5/16 | .3125 | 7.937 | 21/32 | .6562 | 16.669 | 1 | 1.0000 | 25.400 |
| 21/64 | .3281 | 8.334 | 43/64 | .6718 | 17.065 | | | |
| 11/32 | .3437 | 8.731 | 11/16 | .6875 | 17.462 | | | |

INCH to MILLIMETER CONVERSION TABLE

| Inch | MM | Inch | MM | Inch | MM | Inch | MM |
|------|---------|------|---------|------|-----------|------|-----------|
| 1 | 25.400 | 6 | 152.000 | 10 | 254.000 | 60 | 1,524.000 |
| 2 | 50.800 | 7 | 177.800 | 20 | 508.000 | 70 | 1,778.000 |
| 3 | 76.200 | 8 | 203.200 | 30 | 762.000 | 80 | 2,032.000 |
| 4 | 101.600 | 9 | 228.600 | 40 | 1,016.000 | 90 | 2,286.000 |
| 5 | 127.000 | 10 | 254.000 | 50 | 1,270.000 | 100 | 2,540.000 |

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