Walk-Behind Snowblowers

TECHNICAL MANUAL

John Deere
Lawn & Grounds Care Division

TM1234 (Jul-81)

Litho in U.S.A.

WALK-BEHIND SNOW BLOWERS
Technical Manual
TM-1234

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All information, illustrations and specifications contained in this technical manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.

M23;00A 060581

Section 10
MACHINE IDENTIFICATION

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M23;1005 A 070581

MACHINES COVERED IN THIS MANUAL

This technical manual contains service and maintenance information for the 526, 726, 732, 826, 832 and 1032 Snow Blowers.

The manual is divided into sections. Each section covers components or systems. The information is divided into groups within each section.

CAUTION: This safety alert symbol identifies important safety messages. When you see this symbol, be alert to the possibility of personal injury and carefully read the message that follows.

NOTE: Metric equivalents have been included throughout this technical manual.

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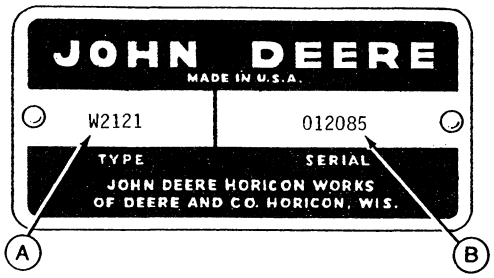
MACHINE SERIAL NUMBERS

Each machine is assigned an individual serial number. The serial number plate is located on the engine frame housing. The illustration at the right shows a typical serial number plate for machines manufactured before 1974. On machines built after 1973, this number consists of 13 characters (Example: P826L 190001). The first letter indicates the family of machine. The next three characters indicate the model or machine designation. The letter in the fifth position indicates the model year. This is followed by a space, a six-digit serial number, and an "M" denoting Horicon as the factory manufacturer.

When ordering parts, use only the six-digit serial number. Use all 13 characters when filling out warranty claims.



A—Engine Serial Number
B—Engine Model Number

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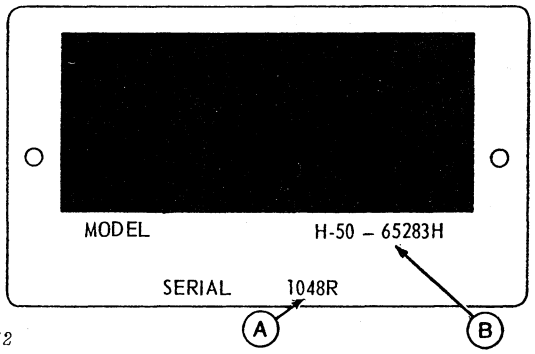
ENGINE SERIAL NUMBERS

The engine serial number on early model snow blowers is on a serial number plate on the blower housing or crankcase.



M25932

A—Engine Serial Number
B—Engine Model Number

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The engine serial number on later model snow blowers is stamped in the top of the engine blower housing.

Record the model and serial number on all warranty claims.

A—Engine Model Number
B—Engine Serial Number

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ENGINE HORSEPOWER AND MODEL NUMBER

Snow Blower	Horsepower	Engine Model No.
526	(3.7 kw) 5	H50 Snow King
726	(5.2 kw) 7	H70 Snow King
732	(5.2 kw) 7	H70 Snow King
826	(6.0 kw) 8	H80 Snow King
832	(6.0 kw) 8	H80 Snow King
1032	(7.5 kw) 10	HM100 Snow King

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ENGINE HORSEPOWER AND MODEL NUMBER

Snow Blower	Horsepower	Engine Model No.
526	(3.7 kw) 5	H50 Snow King
726	(5.2 kw) 7	H70 Snow King
732	(5.2 kw) 7	H70 Snow King
826	(6.0 kw) 8	H80 Snow King
832	(6.0 kw) 8	H80 Snow King
1032	(7.5 kw) 10	HM100 Snow King

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ENGINE IDENTIFICATION

Engine Model Numbers	H50SK*	H70SK*	H80SK*	HMS100*
Manufacturer	Tecumseh	Tecumseh	Tecumseh	Tecumseh
Cylinders	one	one	one	one
Strokes/Cycle	four	four	four	four
Bore	(66.675 mm) 2-5/8 in.	(69.85 mm) 2-3/4 in.	(77.775 mm) 3-1/16 in.	(80.962 mm) 3-1/16 in.
Stroke	(57.15 mm) 2-1/4 in.	(64.287 mm) 2-17/32 in.	(64.287 mm) 2-17/32 in.	(64.287 mm) 2-17/32 in.
Displacement	(200 cc) 12.20 cu. in.	(246 cc) 15.00 cu. in.	(306 cc) 18.65 cu. in.	(331 cc) 20.20 cu. in.
Compression Release	Yes	Yes	Yes	Yes

**The letters SK signify "Snow King" winterized engines.*

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MACHINE ENGINE MODEL NUMBERS

Machine	Engine Model	HP	Cubic Inch Displacement	Bore	Stroke
526 Walk-Behind Snow Blower	H50 Snow-King (Winterized)	5 (3.7 kW)	12.20 cu. in. 199.958 cc	2-5/8 in. 66.675 mm	2-1/4 in. 57.150 mm
726 and 732 Walk-Behind Snow Blower	H70 Snow-King (Winterized)	7 (5.2 kW)	18.65 cu. in. 305.673 cc	3-1/16 in. 77.774 mm	2-17/32 in. 64.287 mm
826 and 832 Walk-Behind Snow Blower	H80 Snow-King (Winterized)	8 (6.0 kW)	18.65 cu. in. 305.673 cc	3-1/16 in. 77.774 mm	2-17/32 in. 64.287 mm
1032 Walk-Behind Snow Blower	HM100 Snow-King (Winterized)	10 (7.5 kW)	20.20 cu. in. 331 cc	3-3/16 in. 80.9 mm	2-17/32 in. 64.287 mm

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TUNE-UP SPECIFICATIONS

Item	Specification
Breaker Point Gap	0.020 in. (0.508 mm)
Spark Plug Gap	0.030 in. (0.762 mm)
Timing Dimension (BTDC)	0.085 to 0.095 in. (2.159 to 2.413 mm)
Carburetor High Speed, No Load	3450 ± 150 rpm
Idle Speed, No Load	1400 to 1600 rpm
Float Setting	7/32 in. (5.556 mm)
Intake Valve Clearance (Cold)	0.010 in. (0.254 mm)
Exhaust Valve Clearance (Cold)	0.010 in. (0.254 mm)
Compression	70 to 100 psi (483 to 690 kPa)

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ENGINE SPECIFICATIONS

Item	Engine Model			
	H50	H70	H80	HM100
Valve Guides, Standard	0.312-0.313 in. 7.924-7.950 mm	0.312-0.313 in. 7.924-7.950 mm	0.312-0.313 in. 7.924-7.950 mm	0.312-0.313 in. 7.924-7.950 mm
Valve Guides, 1/32-inch Oversize	0.343-0.344 in. 8.712-8.737 mm	0.343-0.344 in. 8.712-8.737 mm	0.343-0.344 in. 8.712-8.737 mm	0.343-0.344 in. 8.712-8.737 mm
Valve Guide Wear Tolerance	0.0015-0.0020 in. 0.038-0.050 mm	0.0015-0.0020 in. 0.038-0.050 mm	0.0015-0.0020 in. 0.038-0.050 mm	0.0015-0.0020 in. 0.038-0.050 mm
Valve Stem Diameter Intake, Standard	0.309-0.310 in. 7.848-7.874 mm	0.309-0.310 in. 7.848-7.874 mm	0.309-0.310 in. 7.848-7.874 mm	0.309-0.310 in. 7.848-7.874 mm
Intake, 1/32-Inch Oversize	0.340-0.341 in. 8.636-8.661 mm	0.340-0.341 in. 8.636-8.661 mm	0.340-0.341 in. 8.636-8.661 mm	0.340-0.341 in. 8.636-8.661 mm
Exhaust, Standard	0.308-0.309 in. 7.823-7.848 mm	0.308-0.309 in. 7.823-7.848 mm	0.308-0.309 in. 7.823-7.848 mm	0.308-0.309 in. 7.823-7.848 mm
Exhaust, 1/32-inch Oversize	0.339-0.340 in. 8.610-8.636 mm	0.339-0.340 in. 8.610-8.636 mm	0.339-0.340 in. 8.610-8.636 mm	0.339-0.340 in. 8.610-8.636 mm
Valve Spring Free Length	1-9/16 in. 39.690 mm	1-9/16 in. 39.690 mm	1-9/16 in. 39.690 mm	1.462 in. 37.084 mm
Valve Spring Compressed Length	45/64 in. 17.856 mm	45/64 in. 17.856 mm	45/64 in. 17.856 mm	45/64 in. 17.856 mm
Valve Spring Compressed Tension	48 lbs. 21.772 kg	48 lbs. 21.772 kg	48 lbs. 21.772 kg	48 lbs. 21.772 kg
Valve Spring Squareness	1/32-1/16 in. 0.787-1.574 mm	1/32-1/16 in. 0.787-1.574 mm	1/32-1/16 in. 0.787-1.574 mm	1/32-1/16 in. 0.787-1.574 mm
Valve Spring Squareness Tolerance	3/32 in. 2.387 mm	3/32 in. 2.387 mm	3/32 in. 2.387 mm	3/32 in. 2.387 mm
Valve Face Angle	45°	45°	45°	46°
Valve Seat Angle	45°	45°	45°	46°

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ENGINE SPECIFICATIONS - Continued

Item	Engine Model			
	H50	H70	H80	HM100
Piston Diameter	2.6210-2.6215 in. 66.550-66.562 mm	2.7427-2.7442 in. 69.664-69.702 mm	3.0547-3.0562 in. 77.589-77.627 mm	3.1817-3.1842 in. 80.772-80.810 mm
Bore Diameter	2.6250-2.6260 in. 66.675-66.700 mm	2.7500-2.7510 in. 69.850-69.875 mm	3.0620-3.0630 in. 77.774-77.800 mm	3.187-3.188 in. 80.962-80.963 mm
Bore Wear Tolerance	0.005 in. 0.127 mm	0.005 in. 0.127 mm	0.005 in. 0.127 mm	0.005 in. 0.127 mm
Piston Skirt Clearance	0.0035-0.0050 in. 0.1140-0.152 mm	0.0045-0.0060 in. 0.114-0.152 mm	0.0050-0.0070 in. 0.127-0.177 mm	0.0028-0.0063 in. 0.0762-0.1524 mm
Piston Pin Diameter	0.6248-0.6250 in. 15.869-15.875 mm	0.6250-0.6254 in. 15.897-15.885 mm	0.6250-0.6254 in. 15.875-15.885 mm	0.6250-0.6254 in. 15.875-15.885 mm
Compression Ring Groove Width	0.0955-0.0975 in. 2.425-2.476 mm	0.0795-0.0805 in. 2.019-2.044 mm	0.0955-0.0975 in. 2.425-2.476 mm	0.0955-0.0975 in. 2.425-2.476 mm
Oil Ring Groove Width	0.1565-0.1585 in. 3.975-4.025 mm	0.1880-0.1890 in. 4.775-4.800 mm	0.188-0.190 in. 4.775-4.800 mm	0.188-0.190 in. 4.775-4.800 mm
Compression Ring Side Clearance	0.002 in. 0.050 mm	0.002 in. 0.050 mm	0.002 in. 0.050 mm	0.002 in. 0.050 mm
Oil Ring Side Clearance	0.0045 in. 0.114 mm	0.0010-0.0030 in. 0.025-0.276 mm	0.002-0.003 in. 0.025-0.076 mm	0.001-0.004 in. 0.0254-0.1016 mm
Ring End Cap	0.007-0.017 in. 0.177-0.431 mm	0.010-0.020 in. 0.254-0.508 mm	0.010-0.020 in. 0.254-0.508 mm	0.010-0.020 in. 0.254-0.508 mm
Crankshaft Conn. Rod Journ. Diameter	1.0630-1.0635 in. 26.981-26.996 mm	1.1865-1.1870 in. 30.137-30.149 mm	1.1865-1.1870 in. 30.137-30.149 mm	1.1880-1.1885 in. 30.155-30.165 mm

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BOLT TORQUE CHART

Grade of Bolt		SAE-2	SAE-5	SAE-8		
Min. Tensile Strength		64,000 PSI	105,000 PSI	150,000 PSI		
Grade Marking on Bolt					Socket or Wrench Size	
U.S. Standard					U.S. Regular	
Bolt Dia.	U.S. Dec. Equiv.		TORQUE IN FOOT POUNDS		Bolt Head	Nut
1/4	0.250	(8.14 N-m) 6	(13.56 N-m) 10	(18.98 N-m) 14	7/16	7/16
5/16	0.3125	(17.63 N-m) 13	(27.12 N-m) 20	(40.68 N-m) 30	1/2	1/2
3/8	0.375	(31.19 N-m) 23	(47.46 N-m) 35	(67.80 N-m) 50	9/16	9/16
7/16	0.4375	(47.46 N-m) 35	(74.58 N-m) 55	(108.48 N-m) 80	5/8	11/16
1/2	0.500	(74.58 N-m) 55	(115.26 N-m) 85	(162.72 N-m) 120	3/4	3/4
9/16	0.5625	(101.70 N-m) 75	(176.28 N-m) 130	(237.30 N-m) 175	13/16	7/8
5/8	0.625	(142.38 N-m) 105	(230.52 N-m) 170	(325.44 N-m) 240	15/16	15/16
3/4	0.750	(250.86 N-m) 185	(406.80 N-m) 300	(576.30 N-m) 425	1-1/8	1-1/8
7/8	0.875	*(216.96 N-m) 160	(616.98 N-m) 445	(928.86 N-m) 685	1-5/16	1-5/16
1	1.000	(339.00 N-m) 250	(908.52 N-m) 670	(1396.68 N-m) 1030	1-1/2	1-1/2

Multiply readings by 12 for inch-pound values.

** "B" Grade bolts larger than 3/4-inch (19.1 mm) are sometimes formed hot rather than cold, which accounts for the lower recommended torque.*

NOTE: Allow a tolerance of plus or minus 10 per cent on all torques given in this chart.

SET SCREW SEATING TORQUE CHART

Screw Size	Cup Point	Square Head
	Torque in Inch Pounds	
#5	(1.02 N-m) 9	—
#6	(1.02 N-m) 9	—
#8	(2.26 N-m) 20	—
#10	(3.73 N-m) 33	—
1/4	(9.83 N-m) 87	(23.96 N-m) 212
5/16	(18.65 N-m) 165	(47.46 N-m) 420
3/8	(32.77 N-m) 290	(93.79 N-m) 830
7/16	(48.59 N-m) 430	—
1/2	(70.06 N-m) 620	(237.30 N-m) 2100
9/16	(70.06 N-m) 620	—
5/8	(138.43 N-m) 1225	(480.25 N-m) 4250
3/4	(240.13 N-m) 2125	(870.10 N-m) 7700

Divide readings by 12 for foot-pound values
NOTE: Allow a tolerance of plus or minus 10 per cent on all torques given in this chart.

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FUEL

The fuel tank capacity for the 526 Snow Blower is (1.89 L) 2 quarts. The fuel tank capacity for the 726, 732, 826, 832 and 1032 Snow Blower is (3.79 L) 1 gallon.

Use fresh clean non-leaded, regular leaded or low-lead gasoline.

NOTE: Non-leaded gasoline is recommended; gasohol is not.

IMPORTANT: DO NOT use premium, white, or high-test gasoline, Never use special additives, such as carburetor cleaners, deicers, or moisture-removing liquids in the gasoline. Use clean gasoline containers.

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ENGINE CRANKCASE OIL

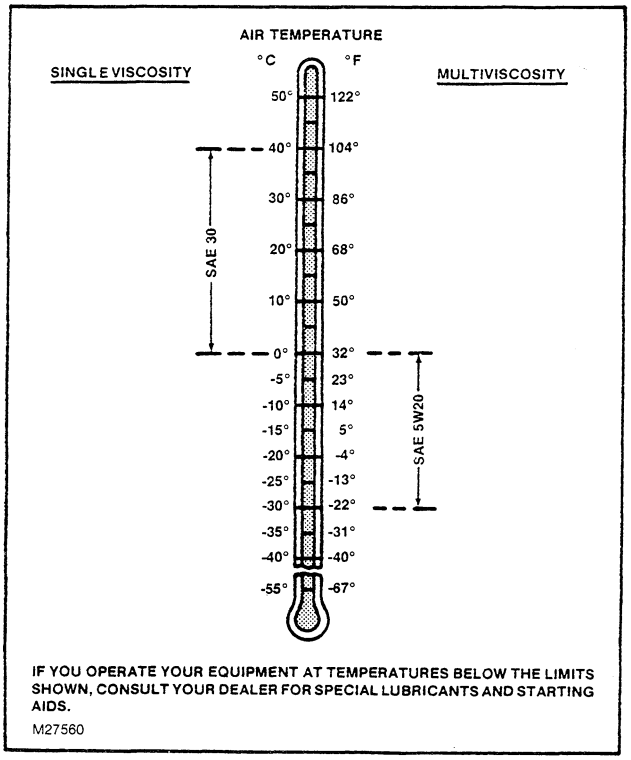
Engine crankcase oil capacity for the 526, 726 AND 732 Snow Blowers is approximately (0.56 L) 19 ounces or 1-1/4 pints. Engine crankcase oil capacity for 826, 832 and 1032 Snow Blowers is approximately (0.71 L) 24 ounces or 1-1/2 pints. Refer to oil temperature chart for recommended oil viscosity.

John Deere TORQ-GARD SUPREME® engine oil is recommended. If other oils are used, they must be premium quality engine oils meeting performance requirements of:

API Service Classification
MS-CC-SC-SD-SE-SF

Conditions in certain geographical areas may require the distribution of special service bulletins containing lubricant recommendations which supplement those printed in this manual. Consult your John Deere branch to obtain the latest information on alternative lubricant recommendations.

NOTE: Change engine oil every 25 hours of operation.



IF YOU OPERATE YOUR EQUIPMENT AT TEMPERATURES BELOW THE LIMITS SHOWN, CONSULT YOUR DEALER FOR SPECIAL LUBRICANTS AND STARTING AIDS.

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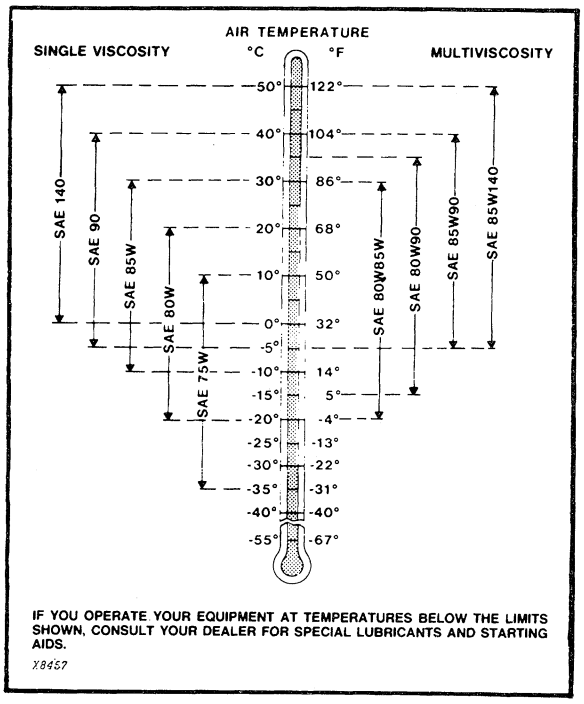
GEAR CASE OIL

John Deere API GL-5 Gear Oil is recommended. If other oils are used, they must meet performance requirements of:

API Service Classification
GL-5
Military Specification
MIL-L2105C

Conditions in certain geographical areas outside the United States and Canada may require different lubricant recommendations than those printed in this manual. Consult your John Deere branch to obtain alternative lubricant recommendations.

NOTE: Check gear case oil each year before starting seasonal operation.



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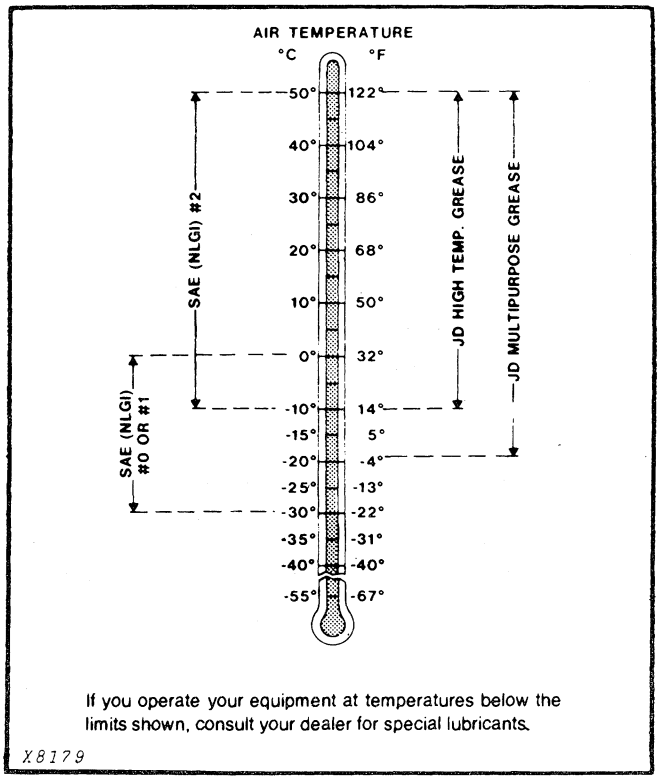
GREASE

John Deere Multi-purpose Grease is recommended in all grease fittings. If other greases are used, use:

- SAE Multi-purpose Grease
- SAE Multi-purpose Grease containing 3 to 5 percent molybdenum disulfide

Conditions in certain geographical areas outside the United States and Canada may require different lubricant recommendations than those printed in this manual. Consult your John Deere branch to obtain alternative lubricant recommendations.



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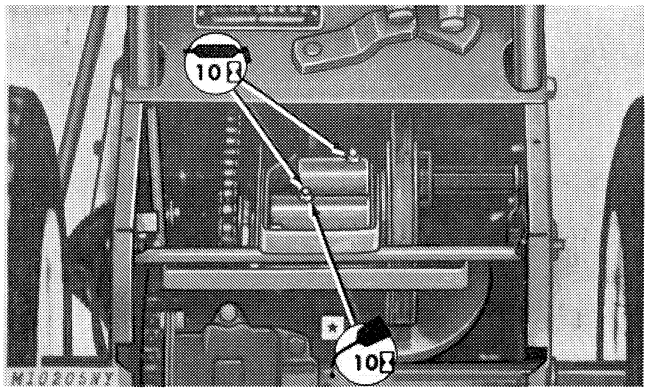
GREASE FITTING LOCATIONS

Lubricate grease fittings every 10 hours of operation.

NOTE: Later model snow blowers had one oil hole and one grease fitting in transfer case. On these snow blowers, lubricate oil hole with several drops of SAE 30 engine oil.

Lubricate differential every 10 hours of operation.



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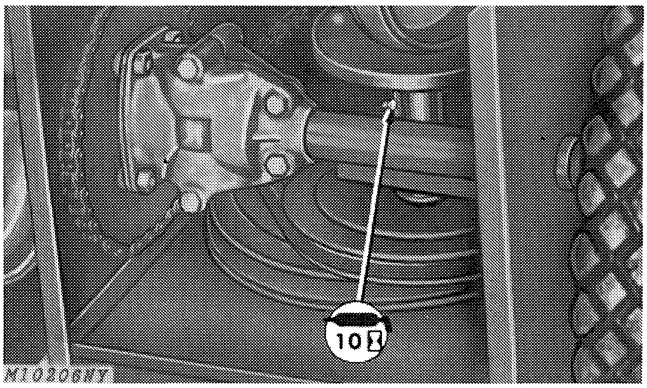
Lubricate fitting on traction drive shaft every 10 hours of operation.



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Section 20
ENGINE

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