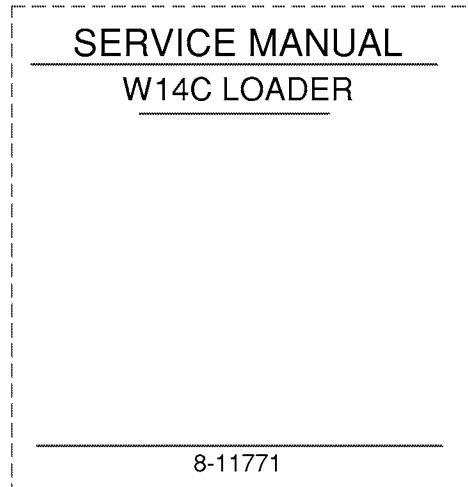


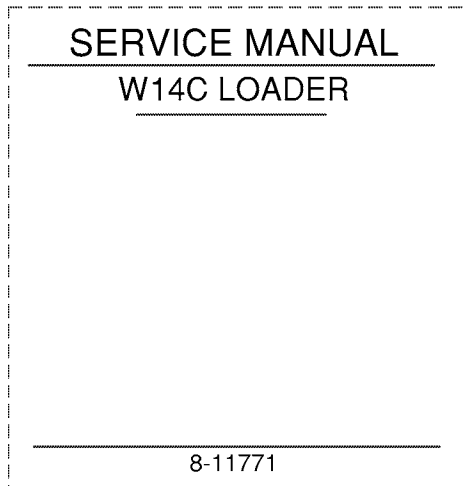
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2. Slide into pocket on Binder Spine.

TYPE 1-4



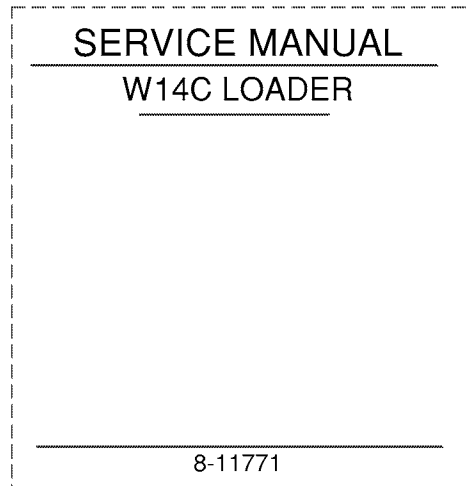
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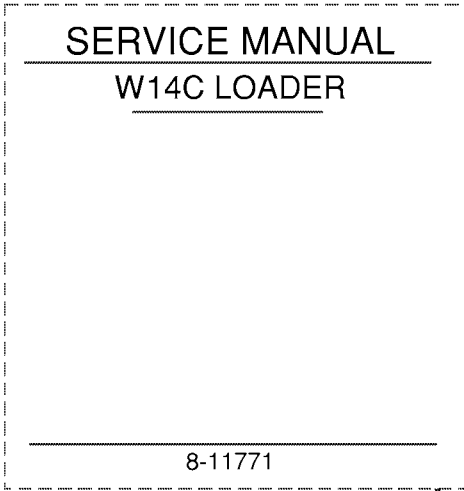
# W14C Loader

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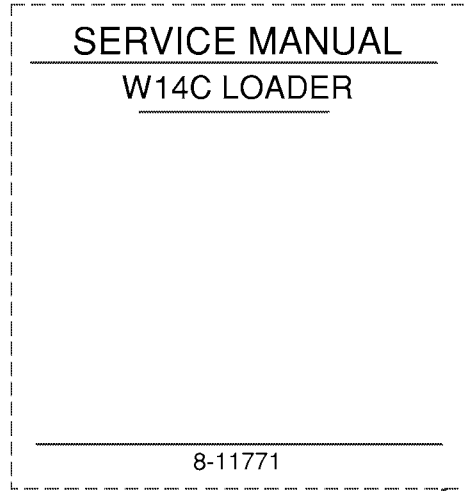
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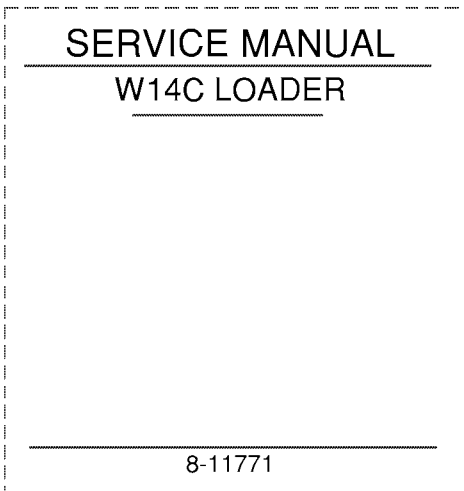
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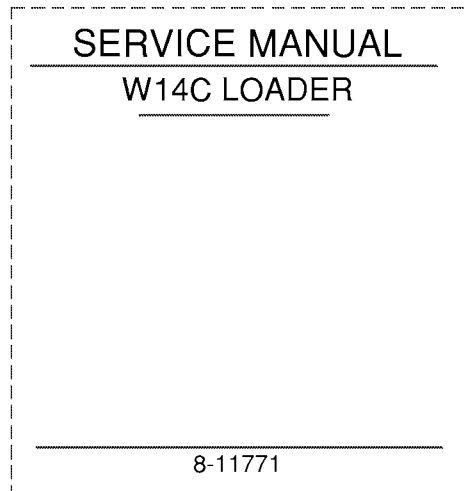
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TYPE 1-4



# 1001


## STANDARD TORQUE SPECIFICATIONS


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## TORQUE SPECIFICATIONS - DECIMAL HARDWARE

Use the torques in this chart when special torques are not given. These torques apply to fasteners with both UNC and UNF threads as received from suppliers, dry, or when lubricated with engine oil. Not applicable if special graphites, molydisulfide greases, or other extreme pressure lubricants are used.

<b>Grade 5 Bolts, Nuts, and Studs</b>		
		
Size	Pound- Feet	Newton metres
<b>1/4 in</b>	9-11	12-15
<b>5/16 in</b>	17-21	23-28
<b>3/8 in</b>	35-42	48-57
<b>7/16 in</b>	54-64	73-87
<b>1/2 in</b>	80-96	109-130
<b>9/16 in</b>	110-132	149-179
<b>5/8 in</b>	150-180	203-244
<b>3/4 in</b>	270-324	366-439
<b>7/8 in</b>	400-480	542-651
<b>1.0 in</b>	580-696	787-944
<b>1-1/8 in</b>	800-880	1085-1193
<b>1-1/4 in</b>	1120-1240	1519-1681
<b>1-3/8 in</b>	1460-1680	1980-2278
<b>1-1/2 in</b>	1940-2200	2631-2983


<b>Grade 8 Bolts, Nuts, and Studs</b>		
		
Size	Pound- Feet	Newton metres
<b>1/4 in</b>	12-15	16-20
<b>5/16 in</b>	24-29	33-39
<b>3/8 in</b>	45-54	61-73
<b>7/16 in</b>	70-84	95-114
<b>1/2 in</b>	110-132	149-179
<b>9/16 in</b>	160-192	217-260
<b>5/8 in</b>	220-264	298-358
<b>3/4 in</b>	380-456	515-618
<b>7/8 in</b>	600-720	814-976
<b>1.0 in</b>	900-1080	1220-1465
<b>1-1/8 in</b>	1280-1440	1736-1953
<b>1-1/4 in</b>	1820-2000	2468-2712
<b>1-3/8 in</b>	2380-2720	3227-3688
<b>1-1/2 in</b>	3160-3560	4285-4827


**NOTE:** Use thick nuts with Grade 8 bolts.

## TORQUE SPECIFICATIONS - METRIC HARDWARE

Use the following torques when special torques are not given.

These values apply to fasteners with coarse threads as received from supplier, plated or unplated, or when lubricated with engine oil. These values do not apply if graphite or molydisulfide grease or oil is used.

Grade 8.8 Bolts, Nuts, and Studs		
		
Size	Pound-Feet	Newton metres
<b>M4</b>	2-3	3-4
<b>M5</b>	5-6	6.5-8
<b>M6</b>	8-9	10.5-12
<b>M8</b>	19-23	26-31
<b>M10</b>	38-45	52-61
<b>M12</b>	66-79	90-107
<b>M14</b>	106-127	144-172
<b>M16</b>	160-200	217-271
<b>M20</b>	320-380	434-515
<b>M24</b>	500-600	675-815
<b>M30</b>	920-1100	1250-1500
<b>M36</b>	1600-1950	2175-2600

Grade 10.9 Bolts, Nuts, and Studs		
		
Size	Pound-Feet	Newton metres
<b>M4</b>	3-4	4-5
<b>M5</b>	7-8	9.5-11
<b>M6</b>	11-13	15-17.5
<b>M8</b>	27-32	37-43
<b>M10</b>	54-64	73-87
<b>M12</b>	93-112	125-15
<b>M14</b>	149-179	200-245
<b>M16</b>	230-280	310-380
<b>M20</b>	450-540	610-730
<b>M24</b>	780-940	1050-1275
<b>M30</b>	1470-1770	2000-2400
<b>M36</b>	2580-3090	3500-4200

### Grade 12.9 Bolts, Nuts, and Studs



Usually the torque values specified for grade 10.9 fasteners can be used satisfactorily on grade 12.9 fasteners.



## TORQUE SPECIFICATIONS - STEEL HYDRAULIC FITTINGS

Tube OD Hose ID	Thread Size	Pound- Feet	Newton metres
<b>37 Degree Flare Fittings</b>			
<b>1/4 in</b> 6.4 mm	7/16-20	6-12	8-16
<b>5/16 in</b> 7.9 mm	1/2-20	8-16	11-21
<b>3/8 in</b> 9.5 mm	9/16-18	10-25	14-33
<b>1/2 in</b> 12.7 mm	3/4-16	15-42	20-56
<b>5/8 in</b> 15.9 mm	7/8-14	25-58	34-78
<b>3/4 in</b> 19.0 mm	1-1/16-12	40-80	54-108
<b>7/8 in</b> 22.2 mm	1-3/16-12	60-100	81-135
<b>1.0 in</b> 25.4 mm	1-5/16-12	75-117	102-158
<b>1-1/4 in</b> 31.8 mm	1-5/8-12	125-165	169-223
<b>1-1/2 in</b> 38.1 mm	1-7/8-12	210-250	285-338

Tube OD Hose ID	Thread Size	Pound- Feet	Newton metres
<b>Straight Threads with O-ring</b>			
<b>1/4 in</b> 6.4 mm	7/16-20	12-19	16-25
<b>5/16 in</b> 7.9 mm	1/2-20	16-25	22-23
<b>3/8 in</b> 9.5 mm	9/16-18	25-40	34-54
<b>1/2 in</b> 12.7 mm	3/4-16	42-67	57-90
<b>5/8 in</b> 15.9 mm	7/8-14	58-92	79-124
<b>3/4 in</b> 19.0 mm	1-1/16-12	80-128	108-174
<b>7/8 in</b> 22.2 mm	1-3/16-12	100-160	136-216
<b>1.0 in</b> 25.4 mm	1-5/16-12	117-187	159-253
<b>1-1/4 in</b> 31.8 mm	1-5/8-12	165-264	224-357
<b>1-1/2 in</b> 38.1 mm	1-7/8-12	250-400	339-542

<b>Split Flange Mounting Bolts</b>		
Size	Pound- Feet	Newton metres
5/16-18	15-20	20-27
3/8-16	20-25	26-33
7/16-14	35-45	47-61
1/2-13	55-65	74-88
5/8-11	140-150	190-203

## TORQUE SPECIFICATIONS - O-RING FACE SEAL FITTING

Nom. SAE Dash Size	Tube OD	Thread Size	Pound-Feet	Newton Metres	Thread Size	Pound-Feet	Newton Metres
<b>O-ring Face Seal End</b>					<b>O-ring Boss End Fitting or Locknut</b>		
-4	<b>1/4 in</b> 6.4 mm	9/16-18	10-12	14-16	7/16-20	17-20	23-27
-6	<b>3/8 in</b> 9.5 mm	11/16-16	18-20	24-27	9/16-18	25-30	33-40
-8	<b>1/2 in</b> 12.7 mm	13/16-16	32-40	43-54	3/4-16	45-50	61-68
-10	<b>5/8 in</b> 15.9 mm	1-14	46-56	60-75	7/8-14	60-65	81-88
-12	<b>3/4 in</b> 19.0 mm	1-3/16-12	65-80	90-110	1-1/16-12	85-90	115-122
-14	<b>7/8 in</b> 22.2 mm	1-3/16-12	65-80	90-110	1-3/16-12	95-100	129-136
-16	<b>1.0 in</b> 25.4 mm	1-7/16-12	92-105	125-140	1-5/16-12	115-125	156-169
-20	<b>1-1/4 in</b> 31.8 mm	1-11/16-12	125-140	170-190	1-5/8-12	150-160	203-217
-24	<b>1-1/2 in</b> 38.1 mm	2-12	150-180	200-254	1-7/8-12	190-200	258-271



# Section 1002

FLUIDS AND LUBRICANTS

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DIESEL FUEL .....4

### CAPACITIES AND LUBRICANTS

#### Engine Oil

- Capacity with Filter Change ..... 16.7 U.S. quarts (15.1 litres)
- Type of oil.....See Engine Oil Recommendations on page 1002-0

#### Engine Cooling System

- Capacity.....24 U.S. quarts (22.7 litres)
- Type of coolant..... Ethylene glycol and water mixed for lowest ambient temperature  
At last 50/50 mix

#### Fuel Tank

- Capacity..... 38 U.S. gallons (143 litres)
- Type of Fuel.....See Diesel fuel specifications on page 1002-4

#### Hydraulic System

- Hydraulic reservoir refill capacity ..... 18.5 U.S. gallons (70 litres)
- Type of oil.....Case TCH Fluid

#### Transmission

- Capacity..... 5.5 U.S. gallons (20.8 litres)
- Type of Oil.....Case TCH Fluid

#### Axles

- Capacity of differential (each) .....21.2 U.S. quarts (20 litres)
- Capacity of planetary (each).....25 U.S. quarts (2.4 litres)
- Type of oil.....Case Transaxle Fluid

## ENGINE OIL RECOMMENDATIONS

CaselH No. 1 Engine Oil is recommended for use in your CaselH Engine. CaselH Engine Oil will lubricate your engine correctly under all operating conditions. If CaselH No. 1 Multi-Viscosity Engine Oil is not available, CaselH No. 1 Single Grade Engine Oil can be used.

If CaselH No. 1 Multi-Viscosity or Single Grade Engine Oil is not available, use only oil meeting API engine oil service category CE.



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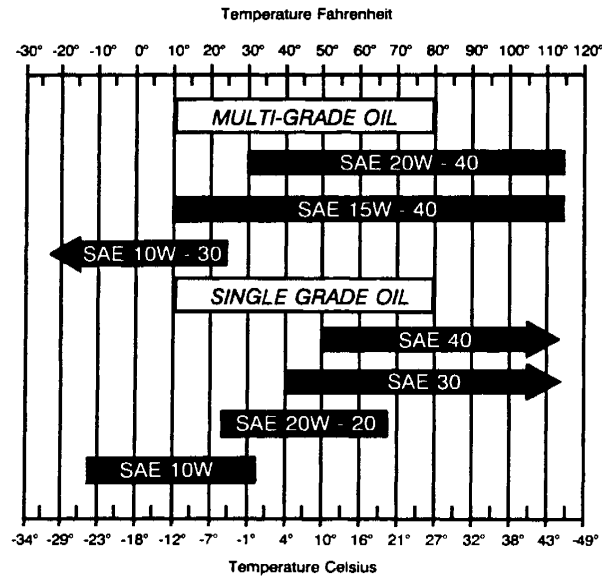


See the chart below for recommended viscosity at ambient air temperature ranges.

**NOTE:** Do not put Performance Additives or other oil additive products in the engine crankcase. The oil intervals given in this manual are according to tests with CaselH lubricants.

### LUBRICATION OIL VISCOSITY

#### AMBIENT AIR TEMPERATURE RANGES



737L9

## DIESEL FUEL

Use No. 2 diesel fuel in the engine of this machine. The use of other fuels can cause the loss of engine power and high fuel consumption.

In very cold temperatures, a mixture of No.1 and No. 2 diesel fuels is temporarily permitted. See the following Note.

**NOTE:** *See your fuel dealer for winter fuel requirements in your area. If the temperature of the fuel lowers below the cloud point (wax appearance point), wax crystals in the fuel will cause the engine to lose power or not start.*

The diesel fuel used in this machine must meet the specifications in the chart below or Specification D975-81 of the American Society for Testing and Materials.

### Fuel Storage

If you keep fuel in storage for a period of time, you can get foreign material or water in the fuel storage tank. Many engine problems are caused by water in the fuel.

Keep the fuel storage tank outside and keep the fuel as cool as possible. Remove water from the storage container at regular periods of time.

Fill the fuel tank at the end of the day to prevent condensation in the fuel tank.

### Specifications for Acceptable No. 2 Diesel Fuel

API gravity, minimum .....	34
Flash point, minimum .....	140°F (60°C)
Cloud point (wax appearance point), maximum .....	-5°F (-20°C) See Note above
Pour point, maximum .....	-15°F (-26°C) See Note above
Distillation temperature, 90% point .....	540 to 640°F (282 to 338°C)
Viscosity, at 100°F (88°C)	
Centistokes .....	2.0 to 4.3
Saybolt Seconds Universal .....	32 to 40
Cetane number, minimum .....	43 (45 to 55 for winter or high altitudes)
Water and sediment, by volume .....	0.05 of 1%
Sulfur, by weight, maximum .....	0.5 of 1%
Copper strips corrosion, maximum .....	No. 2
Ash, by weight, maximum .....	0.01 of 1%

## SECTION INDEX - ENGINES

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# Section 2000

ENGINE REMOVAL AND INSTALLATION AND  
RADIATOR REMOVAL AND INSTALLATION

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## SPECIFICATIONS

### Special Torques

Cap screws that fasten the transmission to the flywheel housing .....	420 to 504 pound-inches (47 to 57 Nm)
Bolt that fastens the rear engine support to the frame .....	135 to 165 pound-feet (183 to 223 Nm)
Cap screws that fasten the flex plates to the flywheel .....	300 to 360 pound-inches (34 to 41 Nm)
Fan Blade Clearance .....	7/16 Inch (11 mm) Clearance all the way around the fan shroud
Cooling System Capacity.....	24 U.S. quarts (22.7 litres)
Hydraulic Reservoir Capacity.....	18.5 U.S. gallons (70 litres)
<b>Belt Tension For The Air Conditioner Compressor</b>	
New belt tension.....	95 to 115 pounds (43 to 52 kg)
Used belt tension .....	90 to 110 pounds (41 to 50 kg)

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