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# REF: Oiling & Lubrication

## Transmission \ Primary Oil

### About JASO Certifications

- JASO introduced the MA and MB oil specification to distinguish between friction modified and non friction modified engine oils. Most four-stroke motorcycles with wet clutches need a JASO MA oil. <sup>1)</sup>
- The JASO MA - MB range:

	JASO MA	JASO MB
Dynamic Friction Characteristic Index (DFI)	≥1.45 and <2.5	≥0.5 and <1.45
Static Friction Characteristic Index (SFI)	≥1.15 and <2.5	
Stop Time Index (STI)	≥1.55 and <2.5	≥0.5 and <1.55

- The JASO MA range is further divided into 2 distinct ranges - JASO MA1 and JASO MA2:

	JASO MA1	JASO MA2
Dynamic Friction Characteristic Index (DFI)	≥1.45 and <1.8	≥1.8 and <2.5
Static Friction Characteristic Index (SFI)	≥1.15 and <1.7	≥1.7 and <2.5
Stop Time Index (STI)	≥1.55 and <1.9	≥1.9 and <2.5

### Transmission / Primary Oil Capacities

1957-1990 <sup>2) 3) 4) 5)</sup>	1.5 pints (24 oz) (710 ml)
1991-1992 <sup>6)</sup>	40 ounces (1183 ml)
1993-1996, 1998, 2004 <sup>7)8) 9) 10)</sup>	32 oz (946 ml)

- Discrepancy in the 1991 FSM. It shows 1.5 pints of oil for primary / transmission. <sup>11)</sup> 1991-1992 FSM corrected the 1991 book showing 40 oz for both years. <sup>12)</sup>
- Note that for 1994-later, the manual says “Verify that lubricant level is even with bottom of clutch diaphragm spring.” Not higher or lower, but even with the diaphragm spring. It also includes this warning: “Do not overill the primary chaincase with lubricant. Overfilling may cause rough clutch engagement and incomplete disengagement (or clutch drag).”

## When to Check/ Change Transmission Fluid

HD Transmission Oil Recommendations	Check Change Only If Needed	Change
1959-1978 <sup>13)</sup> <sup>14)</sup>	Every 1,000 miles	Every 5,000 miles or 1 year, Every Spring or Fall
1979-1985 <sup>15)</sup>		After first 500 miles, Every 5,000 miles, Spring or Fall
1986-2003 <sup>16)</sup> <sup>17)</sup> <sup>18)</sup>	After first 3,000 miles, Every 2,500 miles after oil changes	After first 500 miles Every 5,000 miles after
2004 <sup>19)</sup>		After first 1,000 miles, At first 5,000, Every 5,000 miles after

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<sup>1)</sup>

<http://www.oilspecifications.org/jaso.php>

<sup>2)</sup>

1959-1969 HD Sportster FSM pg 1A-3

<sup>3)</sup>

1970-1978 HD Sportster FSM pg 1-1

<sup>4)</sup>

1979-1985 HD Sportster FSM pg 2-1

<sup>5)</sup>

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1993-1994 HD Sportster FSM pg 1-2

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2004 HD Sportster FSM pg 1-7

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