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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:

|   | <b>JASO MA</b> | <b>JASO MB</b> |
|---|----------------|----------------|
| 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:

|   | <b>JASO MA1</b> | <b>JASO MA2</b> |
|---|-----------------|-----------------|
| 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 overfill 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) 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) 17)18)</sup>     | After first 3,000 miles, Every 2,500 miles after oil changes | After first 500 miles<br>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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1970-1978 HD Sportster FSM pg 1-1

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1979-1985 HD Sportster FSM pg 2-1

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