CLAIMS

What is claimed is:

1. A method of improving the fuel economy of a motorcycle using a lubricating oil composition, the method comprising:

lubricating an engine crankcase and a transmission including a wet clutch of the motorcycle with a lubricating oil composition from a common sump;

the lubricating oil composition having a viscosity grade selected from 0W-20, 0W-16, 0W-12, or 0W-8 and including (a) at least one base oil of lubricating viscosity; (b) about 14 to about 20 weight percent of a linear non-dispersant poly(meth)acrylate copolymer viscosity modifier having a weight average molecular weight of about 200,000 to about 300,000 and includes (meth)acrylate monomer units with hydrocarbyl groups in a monomer ester moiety thereof having a weight average molecular weight of about 400 up to about 700; (c) optionally a molybdenum dialkyl dithiocarbamate; and (d) a dispersant, a detergent, a pour point depressant, an antiwear additive, an antioxidant, and a friction modifier;

wherein the lubricating oil composition has a high-temperature high shear (HTHS) viscosity at 150°C of 2.9 cP to 3.2 cP and a clutch friction rating of MA, MA1, MA2, or MB when measured pursuant to JASO T 903:2016;

wherein the fuel economy of the motorcycle is improved as measured pursuant to a WMTC cycle of at least 1 percent better than the fuel economy as measured on the motorcycle using the WMTC cycle when the motorcycle is lubricated with a higher viscosity grade 10W-30 lubricant; and

wherein the lubricating oil composition has a viscosity index of 250 to 350, a KV100 of less than 10 cP, and a ratio of the viscosity index to the treat rate of the linear non-dispersant poly(meth)acrylate copolymer viscosity modifier of about 15 to about 21.

2. The method of claim 1, wherein the linear non-dispersant poly(meth)acrylate copolymer viscosity modifier has a polydispersity index of about 1.5 to about 2.5.

3. The method of claim 1, wherein the lubricating oil composition is devoid of the molybdenum dialkyl dithiocarbamate.

4. The method of claim 1, wherein the lubricating oil composition includes about 800 ppm or less of molybdenum provided from the molybdenum dialkyl dithiocarbamate.

5. The method of claim 1, wherein the motorcycle has an engine capacity of 150 cm^3 or less.

6. A method of lubricating a crankcase and a wet clutch of a motorcycle, the method comprising:

lubricating an engine crankcase and a transmission including a wet clutch of the motorcycle with a lubricating oil composition from a common sump;

the lubricating oil composition having (a) a viscosity grade selected from 0W-20, 0W-16, 0W-12, or 0W-8 and a KV100 of less than 10cP; (b) about 14 to about 20 weight percent of a polymeric viscosity modifier selected from a linear non-dispersant poly(meth)acrylate copolymer, wherein the polymeric viscosity modifier has a weight average molecular weight of about 200,000 to about 300,000 and includes (meth)acrylate monomer units with hydrocarbyl groups in a monomer ester moiety thereof having a weight average molecular weight of about 400 up to about 700; (c) optionally including about 800 ppm or less of molybdenum provided from a molybdenum dialkyl dithiocarbamate friction modifier; (d) a dispersant, a detergent, a pour point depressant, an antiwear additive, an antioxidant, and a friction modifier; and (e) a viscosity index of 250 to 350 and wherein a ratio of the viscosity index to the treat rate of the linear non-dispersant poly(meth)acrylate copolymer viscosity modifier is about 15 to about 21;

the lubricating oil composition exhibits (i) a clutch friction rating of MA, MA1, MA2, or MB when measured pursuant to JASO T 903:2016 and (ii) a high temperature high shear (HTHS) viscosity at 150°C pursuant to JASO T 903:2016 within about 20 percent of a HTHS viscosity of a 10W-30 lubricant and between 2.9 cP to 3.2 cP; and

wherein the motorcycle lubricated with the lubricating oil composition has a fuel economy measured pursuant to the WMTC cycle of at least 1 percent better than the fuel economy measured on the motorcycle when lubricated with a higher viscosity grade 10W-30 lubricant.

7. The method of claim 6, wherein the motorcycle has an engine capacity of 150 cm^3 or less.

5