

A HYBRID ELECTRIC DRIVE SYSTEM FOR A MOTORCYCLE**ABSTRACT**

Present invention relates to motorcycle (200) comprising hybrid electric drive system (106)
5 comprising hub type electric motor (202) and electro-mechanical overrunning clutch (204),
combined accelerator (600) and rear wheel (104) suspension arrangement. The hub type
electric motor (202) is configured to drive rear wheel (104) of motorcycle (200). The electro-
mechanical overrunning clutch (204) coupled to both hub type electric motor (202) through
body of motor and IC engine (242) through chain sprocket mechanism (206) mounted on rear
10 wheel (104).The electro-mechanical overrunning clutch (204) is configured to enable
seamless transition between all the modes, and transmit IC engine drive and electric motor
torque simultaneously to rear wheel (104) of motorcycle (200).

FIG. 2A and 2B accompanies the abstract.