A data rewriting support system for a vehicle control apparatus including: a downloading device (210) that downloads data (110) relating to a control program or control data used to control the vehicle control apparatus (240) from outside; and a rewriting data transmission control device (230) that obtains rewriting data (221) on the basis of the data (110) downloaded by the downloading device (210) and transmits the rewriting data (221) to the vehicle control apparatus (240a) connected communicably to a vehicle network (250) wherein the rewriting data transmission control device (230) monitors a transmission condition of data transmitted to the vehicle network (250) and transmits the rewriting data (221) to the vehicle network (250) in accordance with the monitored data transmission condition.