

## Mileage Tips

### Priuschat and CleanMPG

Thanks to many: JimboK, Ken1784 (aka Ken@Japan) (stages), Hobbit, DiamondLarry, 106mpg Dan, Xcel, Efusco, Bob64, ksstathead (stages article), bwilson4web, and others I am probably overlooking. I am a three week owner with 65+ mpg for the tank (with 70+ & 107mpg runs). Wouldn't have been possible without all the knowledge shared on Priuschat and Cleanmpg.

### Pulse & Glide

-Various approaches 30mph-->40-->30; 20-->40-->20; 33-->39 in 35 mph zone; 35-->15 or smaller deltas...

-Glide all the way to stop if one is coming up.

-Avoid regenerative braking

### Various Acceleration/Pulse approaches:

-Brisk acceleration (not too fast nor too slow)

-Try not to draw from battery during pulses, (i.e. slow enough for no arrows from battery pack)

-Accelerate with iMPG = 1/2 MPH (eg 30 MPH = 15 iMPG displayed on MFD) (JimboK)

-RPM: <2400 (bwilson4web CAN-V data analysis suggests 1600-2600) Some settle for about 1850 (efusco). Some lower RPMs.

-TPS: 25 keeps RPMs below 2200

-Japanese Hypermilers: 40% acceleration (GPS xgauge at 40%)

-IGN: Pulse at 18 max

-0-15mph off battery, then accelerate gently enough from there to have no arrows from battery (DiamondLarry)

-Pulse with dead band as goal--no arrows to or from battery pack--is controversial. It is very hard to do. Hobbit has said forget about this theory since SOC aims for homeostasis at 60%. Also Bob64 has observed BTA (xgauge) shows that approx 0 amps in or out (= deadband) is easy enough with acceleration at any moderate rate, BUT MFD shows active arrows (false non-deadband).

-During initial burst of acceleration very hard to not draw from pack (JimboK)

### Gliding:

-Must be in stage 4 to glide all arrows off at any speed <41mph

-Cannot glide all arrows off > 41mph

-Stage 3: can enter all arrows off, if 34<mph<41. EV switch useful here: cut ICE to glide <34mph (False glide: all arrows off but SGauge shows Engine at with RPMs)

### Mileage speed

Peak mileage speed range: 18-22 mph

### Warp Stealth (Hobbit)

Aka: High Speed Glide: > 42 mph

Procedure: Take foot off accelerator and feather it back down tiny bit

How do you recognize it: Battery to motor to wheels on MFD (all yellow arrows); BTA xgauge will show low +amps)

### Super Highway Mode (SHM)

-Keep IGN 13-15

-185 FWT (85C), 60% SOC, RPM sweet spot: 1216-1344

-Hold GPS (xgauge) at 16, while gliding down from 56mph, let TPS drop to 17 and hold. SOC needs to be 61%-65%

-IGN 14/TPS 18. SOC 58.5%, RPMs 1200-1300

### Brakes

Don't use brakes

Brake pedal position at 13-14% (CAN 17; Attila's CAN analysis) is most efficient for regenerating energy (BPS xgauge).

### Cruise control:

Best cruised speed: as slow as you can go (e.g. 20mph city; 40mph 'highway')

### Speed and ICE:

Stay under 42 mph or you will consume fuel/ICE will start when you bump over 41 (okay if that is intention)

### Downhill:

If SOC <60, use IGN 15/TPS 17

If SOC >60, Warp Stealth it.

### Battery:

-Stay off battery pack

-SOC sweet spot 55-62%

-Battery SOC seeks homeostasis about 60%

-Keep SOC >53% or will fill (but...Japanese hypermilers: two groups, one keep SOC at 60%, other at 40%)

-If SOC less than 55% press pedal slowly for charge

-BTA keep amp draw from battery to minimum +10-20 amps

-Manage the SOC to manage how you use the battery:

Battery pack uses: extend glide, parking lot, between stops, dead stop starts to 15-20mph

-Do not let battery go to 8 green bars; will consume fuel when you do so, to throw off energy; however very little fuel is used (1 cc) so do not use other more fuel consuming driving to avoid it

-Some have said when braking, do so at 60 amps charging the battery

### Prius Stages:

0-1a/1b: 60 sec (may want to cycle through before driving)

2: FWT 104F (40C). SHM available but won't hold well

3: 158F (70C). You can P&G if 34<MPH<42 upon entering.

4: 5-10 sec stop ends stage 3

Short cuts from 3 to 4: 1) Push 'Power' button off for 3 seconds and restart 2) At stop, while in D, press brake with left foot, tap accelerator with R foot enough to engage ICE, it will cycle and then stop.

-At 175FWT wants to run ICE to cycle coolant)

### Tire Pressure:

Many use 42/40 (Priuschat poll; not a random sample). Many hyperinflate (DiamondLarry; Wayne Gerdes). The debate has raged.

EV switch: good for moving around the driveway, through parking lots, between closely-spaced red lights, and extending low-speed glides. "Engine Veto" switch in S2 or S3 operation, forcing ICE

shutdown during sub-34 mph glides.. JimboK data suggests about 3-5% mileage improvement.

DWL (driving with load): Let your speed decline up hill (maintain RPMs; IGN)

B Mode: Mainly used to help stop the car. Do not use B mode above 17 mph. You will consume fuel/ICE will start. When accelerating or maintaining speed, D and B act the same.

Grill Blocking: Pipe insulation 1/2" cut C into two C's. Place in top grill using compression method; For bottom can use intact 1/2" (also 4x6' 1" for all; or 3' of 3/4" for top and 4' 3/8" for bottom)