



PARASITIC LOADS AND THEIR IMPACT ON ENGINE CRANKING CAPABILITY

BACKGROUND

Much as high blood pressure is considered to be a silent killer of human beings, parasitic loads may be considered the silent killers of batteries. Usually unknown to the battery owner, these low amperage loads continue to discharge batteries when the vehicle under consideration is parked or otherwise not in operation. While the parasitic loads are typically small, their duration can be long enough that the reduction in net-ampere hours can prohibit the battery from reliably performing its engine cranking duties.

The purpose of this document is to **estimate** the time it takes for a parasitic load to continue to draw energy from the battery before it starts affecting the battery's ability to reliably crank the engine.

IMPACT OF PARASITIC LOADS ON THE OVERDRIVE AGM 31™ BATTERY

The table below shows a range of parasitic loads in amps and the estimated time in hours before they affect the engine cranking capability of the vehicle's battery. The graph provides the same information and allows the reader to estimate the time for intermediate parasitic load value.

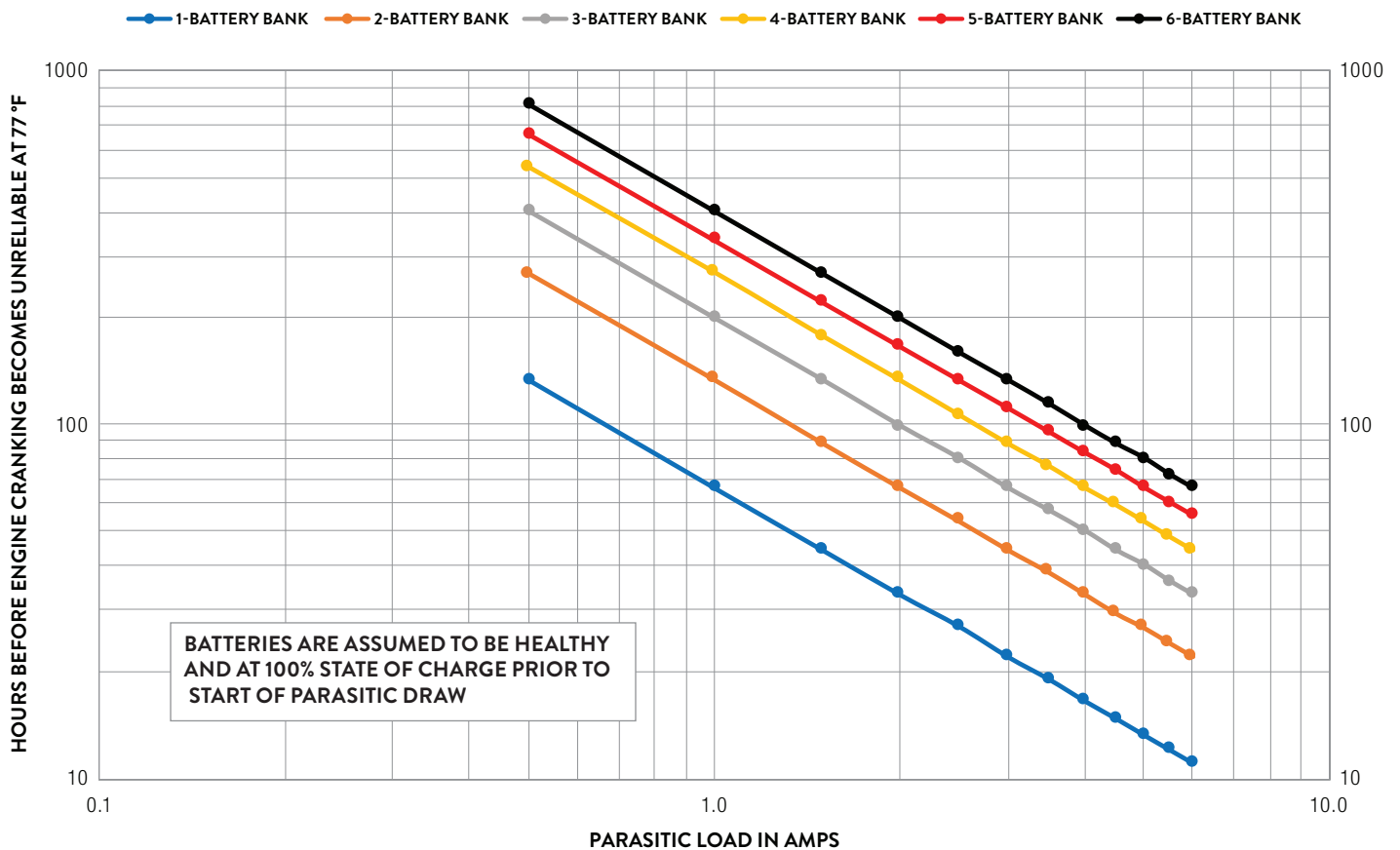
TABULAR DATA

| OVERDRIVE AGM 31™ Batteries and Parasitic Load | | | | | | |
|------------------------------------------------|-------------------------------------------------------------------------------|----------------|----------------|----------------|----------------|----------------|
| PARASITIC LOAD IN AMPS | APPROXIMATE HOURS BEFORE BATTERY HAS ENGINE CRANKING DIFFICULTY @ 77°F (25°C) | | | | | |
| | 1-BATTERY BANK | 2-BATTERY BANK | 3-BATTERY BANK | 4-BATTERY BANK | 5-BATTERY BANK | 6-BATTERY BANK |
| 0.50 | 133 | 265 | 398 | 530 | 663 | 796 |
| 1.00 | 66 | 133 | 199 | 265 | 332 | 398 |
| 1.50 | 44 | 88 | 133 | 177 | 221 | 265 |
| 2.00 | 33 | 66 | 99 | 133 | 166 | 199 |
| 2.50 | 27 | 53 | 80 | 106 | 133 | 159 |
| 3.00 | 22 | 44 | 66 | 88 | 111 | 133 |
| 3.50 | 19 | 38 | 57 | 76 | 95 | 114 |
| 4.00 | 17 | 33 | 50 | 66 | 83 | 99 |
| 4.50 | 15 | 29 | 44 | 59 | 74 | 88 |
| 5.00 | 13 | 27 | 40 | 53 | 66 | 80 |
| 5.50 | 12 | 24 | 36 | 48 | 60 | 72 |
| 6.00 | 11 | 22 | 33 | 44 | 55 | 66 |

THE FOLLOWING SHOULD BE NOTED WHEN USING EITHER THE TABLE DATA ABOVE OR THE GRAPH BELOW:

1. The time in hours is estimated with the assumption that the batteries are at full capacity
2. The batteries are assumed to be at 100% state of charge before the parasitic load starts discharging them
3. The batteries are at an ambient temperature of 77°F (25°C)
4. The number of banks refers to the number of parallel strings. For example, a 24V, two-bank system will have a total of four OverDrive AGM 31 batteries – two in series for a 24V bank and two such banks in parallel
5. The times given are estimates only and will vary based on battery age and ambient temperature

GRAPHICAL DATA



September 2015



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Parasitic_Cranking_OverDrive_092519