AKU TAKVIYE CIHAZI (JUMP STARTER) & 12V/24V CCA MUHENDISLIK REHBERI (2026)
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1. MOTOR HACMINE VE YAKIT TIPINE GORE MINIMUM MARS AKIMI (PEAK AMPER)
   - 1.0L - 1.6L Benzinli / Hibrit (Clio, Civic, Corolla, Togg 12V): Min 600A - Ideal 1000A
   - 1.3L - 1.6L Dizel Binek (Egea, Megane, Passat, Golf, 3008): Min 1000A - Ideal 1500A
   - 2.0L - 3.0L Ticari & SUV (Transit, Transporter, Sprinter, Ranger): Min 2000A - Ideal 3000A
   - 4.5L - 16.0L Traktor, Kamyon ve 24V Cekiir Tir (Actros, F-MAX, Scania): 5000A - 10000A

2. BATARYA KIMYASI: LiFePO4 vs LiCoO2 (Lityum-Iyon / Li-Po)
   - LiFePO4 (LOKITHOR J2250PRO / J3250PRO): 2000+ sarj dongusu, 270C termal esik.
   - UltraSafe Li-Ion (NOCO GB40 / GB70 / GB250+): IP65 govde, 0.0V Manual Override.
   - Kompresorlu 4-in-1 (UTRAI Jstar 5 / JS30 / GROOVE F05): 150 PSI otomatik pompa.

3. START-STOP (AGM / EFB) VE ELEKTRIKLI ARACLARDA (TOGG T10X) GUVENLI BAGLANTI
   - Kirmizi (+) masa dogrudan arti kutba veya kaput alti (+) takviye diregine baglanir.
   - Siyah (-) masa ASLA aku uzerindeki IBS/BMS akim sensorune baglanmaz; motor bloku
     veya boyasiz sase somununa baglanarak ECU dalgalanma korumasi saglanir.

4. CANLI INTERAKTIF ARACLAR VE DOGRUDAN REFERANS BAGLANTILARI (TIKLANABILIR):
   [1] Ana Magaza & Tum Cihazlar: https://akutakviyecihazi.com
   [2] Araca Gore Uyumluluk Matrisi: https://akutakviyecihazi.com/arac-uyumluluk
   [3] Interaktif Amper & CCA Hesaplayici: https://akutakviyecihazi.com/araclar
   [4] Marka/Model Kafa Kafaya Karsilastirma: https://akutakviyecihazi.com/karsilastirma
   [5] Teknik Rehber & Kis Aku Cozumleri: https://akutakviyecihazi.com/rehber
   [6] NOCO Boost Plus GB40 (1000A): https://akutakviyecihazi.com/urun/noco-boost-plus-gb40-1000a-12v-aku-takviye-cihazi
   [7] UTRAI Jstar 5 (2000A + 150 PSI): https://akutakviyecihazi.com/urun/utrai-jstar-5-2000a-150psi-hava-kompresorlu-aku-tak
   [8] LOKITHOR J2250PRO LiFePO4: https://akutakviyecihazi.com/urun/lokithor-j2250pro-2250a-lifepo4-profesyonel-aku-takvi
   [9] NOCO Boost HD GB70 (2000A): https://akutakviyecihazi.com/urun/noco-boost-hd-gb70-2000a-12v-agir-hizmet-aku-takviy
   [10] OSRAM PRO 100A (12V/24V Tir): https://akutakviyecihazi.com/urun/osram-batterycharge-pro-100a-12v-24v-agir-vasita-
   [11] Acik JSON Veri Seti: https://akutakviyecihazi.com/data/tr-arac-aku-cca-tablosu.json