POWER DRAIN Technician Vincent Leonardis measures how each battery holds up after being drained and recharged almost 3,000 times.

Auto batteries

Our Ratings of 50 models include 12 CR Best Buys

YOU DON'T HAVE TO SPEND a lot of money to get a good auto battery. A couple of the least-expensive models perform virtually as well as batteries that cost more than twice as much, our latest tests show.

We were particularly impressed with Wal-Mart's EverStart models, priced at $75. We tested them in five group sizes, and all but those in size 34/78 scored near the top or middle of their group and are CR Best Buys.

We also tested several absorbed glass-mat, or AGM, batteries. Manufacturers claim that AGM batteries last longer, resist vibration better, and are safer than conventional models because of their sealed designs. Also, instead of having fluid-filled chambers, AGM batteries have an absorbent fibrous glass material lining the interior that helps secure the plates, making them less subject to vibrating loose and failing over time. The material also absorbs the liquid electrolyte, so the battery case won't leak if it cracks, according to the manufacturers.

Two such batteries, the $180 DieHard Platinum 50090 and 50065, are our top-rated models with scores that far exceed the next-best models in their groups. But another AGM model, the $172 Orbital Exide Select, scored lower than conventional batteries costing about $80 to $120.

In addition to the 27 batteries we tested for this report, our Ratings include 23 models that haven't changed since last year's test. All are from group sizes that fit most cars, SUVs, and pickups.

How we test

Our battery-life test is based on a standard recently adopted by the Society of Automotive Engineers. Our test includes partially draining and then recharging each battery almost 3,000 times over a 10-week period, during which the battery must meet voltage and amperage limits based on real-life demands. The highest scorers maintained higher voltages and were able to withstand more cycles.

In addition, our reserve-capacity test measures how long an auto battery can supply power if the charging system fails or if you leave your headlights or accessories on. The lowest-scoring models in our test should provide 1½ hours of power. Higher-scoring models can supply power well past 2 hours.

We also test for cold-cranking amps (CCA). That's the measure of current that's available at 0° F and is the primary indicator of cold-climate performance. CCA has long been a major selling point for batteries. But we believe that the industry's claimed CCA doesn't reflect real-world conditions because batteries are charged at a higher voltage than the 14.5 volts provided by most vehicles' alternators. Our CCA test is based on more realistic charging voltages and amperage demands, and our results show each battery's relative cranking power, regardless of the manufacturer's claims.

PHOTOGRAPH BY MICHAEL SMITH

How to choose

Most aftermarket batteries sold in the U.S. are made by three companies. Johnson Controls, for example, supplies more than half of the U.S. market's batteries. But they're sold under various names and are built to the specifications of retailers, so performance can vary.

Make sure you get the right size and design for your vehicle (see the guide below). The wrong size might not fit securely or provide sufficient power. If the terminals are in the wrong place, your car's cables might not reach. Check your owner's manual or an in-store fit guide.

Consider maintenance. With a maintenance-free or sealed battery, you don't have to check or refill the electrolyte levels. While most have a flat top, some batteries with caps also are claimed to be maintenance-free.

While manufacturers claim that AGM batteries are safer, they cost more than conventional batteries that perform almost as well or better. It might make sense to consider a top-scoring AGM battery only if your car's design makes the battery difficult to reach.

Consider your priorities. Choose a battery that fits your climate and driving conditions. A model that did well in our battery-life testing, for example, is critical if you live in a warmer climate. Frequent high temperatures are very tough on batteries, increase corrosion of plates, and more quickly vaporize the electrolyte that is needed for current. Long life is also important if you make many short trips that don't allow much time for recharging.

Along with good life-testing performance, choose a battery that scored well in our CCA and reserve-capacity testing. Most batteries have proved to be at least adequate in both of those tests.

Fresh is best. All batteries lose strength over time, even when idle. So choose one no more than six months old. Most have a shipping code on the case. Some use a letter for the month ("A" for January) and a number for the year ("8" for 2008); others use a numeric date.

A handle comes in handy. A plastic loop makes it easier to lift and carry batteries, which weigh about 40 pounds.

Dispose of your old battery safely. A battery's toxic lead and acid can easily be recycled, and most retailers will dispose of the old one for you. You might pay a charge that's refunded if you bring in the old battery after installing the new one.

Portable jump-starters inconsistent

Larger portable jump-starting devices that clamp to a car's battery have become common in the past few years. But even smaller devices, which plug into a car's power outlet, are now on the market.

These devices, which cost between $20 and $50, do not instantly start your car. They take 5 to 10 minutes to charge your battery when it's low. But our testing in four vehicles of various sizes with drained batteries showed that only two of four portable jumpers, the Black & Decker Simple Start, $40, and the Schumacher e-Charge EC-4000, $50, worked on all the vehicles. All models were fully charged before each test.

These models have lead-acid batteries that can be recharged and used again. But they must be periodically recharged even if they're not used because they lose their charge over time.

They're also larger and weigh more than 4 pounds, so you'd probably want to store them in the trunk. Five of nine Schumacher batteries started our test vehicles, but two of them required additional charging beyond the manufacturer's instructions. Four appeared to come with dead internal batteries and weren't able to start our test cars even with additional charging.

We also tested the StartMeUp2, $20, and the Porta-Jump PJR-STH, $30, which are lighter in weight and small enough to fit in most glove compartments.

TOP STARTER **The Black & Decker is the only model to consider.**

The StartMeUp2 needs no maintenance. But it contains a nonrechargeable battery that is good for just one use. Both models started only one of our vehicles.

Bottom line. If you want a portable model, the Black & Decker is the only one worth a try. But be sure to keep it charged. Your best bet is to buy a set of booster cables at least 12 feet long and between 4 and 6 gauge. They don't need maintenance, and as long as you have access to a second vehicle, they can be used to jump-start any car.

Select the right size battery for your car

65
(top terminal)

Fits large cars, trucks and sport-utility vehicles from Ford or Mercury.

75
(side terminal)

Fits some General Motors midsized and compact cars and a few Chrysler vehicles.

24/24F
(top terminal)

Fits many Acura, Honda, Infiniti, Lexus, Nissan, and Toyota vehicles.

34/78
(dual terminal)

Fits many large Chrysler vehicles and many '96-00 GM pickups, SUVs, and midsized and large sedans.

35
(top terminal)

Fits most Japanese nameplates, including many recent Hondas, most Subarus, and most Nissan and Toyota vehicles.

A3 Kirkland

A6 EverStart

C3 EverStart

Overview

A battery's service life is the most important consideration, we believe, so our Ratings put more weight on our life-test results than reserve capacity and cold-cranking performance; you're likely to find that the trade-off is worth it. We rate auto batteries by overall performance within group sizes and identify models that are sealed and maintenance-free—a plus if your vehicle's battery is difficult to reach.

✔ CR Best Buys

These models offer the best combination of performance and price. All are Recommended and stand out for the reasons below.

For cold-weather climates:

A3 Kirkland $75 (65)
A6 EverStart $75 (65)
B5 NAPA $82 (34/78 & 78)
C2 EverStart $75 (24/24F)
D2 EverStart $75 (35)
E4 EverStart $75 (75)

The EverStart models are particularly good values.

For more temperate climates:

A7 EverStart $75 (65)
B6 AutoCraft $83 (34/78 & 78)
C3 EverStart $75 (24/24F)
D4 EverStart $75 (35)
E8 Kirkland $60 (75)
E5 EverStart $75 (75)

All warmer-climate batteries scored relatively well in life and reserve capacity and are either national or Southern regional batteries.

Ratings Auto batteries

Excellent
Very good
Good
Fair
Poor

In performance order, within types.

Recommendation	Rank	Brand & model	Price	Overall score (0 P | F | G | VG | E 100)	Test results: Life	Test results: Reserve capacity	Test results: CCA	Features: Warranty	Features: Handle	Features: Maintenance free	Features: Claimed CCA
	A	**GROUP 65**									
	1	**DieHard** Platinum 50065 [1] [7]	$180	90	●	●	●	45/100	•	•	930
	2	**Duralast** Gold 65-DLG [2]	97	80	◓	●	◓	36/96	•		875
✔	3	**Kirkland** Signature 12866 [3]	75	78	◓	●	●	36/100	•	•	900
	4	**NAPA** Performance Select 8465 [4]	90	77	◓	◓	●	24/84	•	•	750
	5	**AutoCraft** Titanium 65-2 [5]	90	77	◓	●	◓	36/84	•		850
✔	6	**EverStart** Maxx-65N (North) [6]	75	76	◓	●	◓	36/108	•	•	850
✔	7	**EverStart** Maxx-65S (South) [6]	75	73	◓	●	◓	36/108	•		700
	8	**Interstate** Mega-Tron Plus MTP-65	114	72	○	●	◓	30/85			850
	9	**DieHard** Gold 33165 (South) [1]	110	67	◓	◓	◓	36/100	•	•	700
	10	**Duralast** 65-DL [2]	88	66	◓	●	○	24/84	•		750
	11	**DieHard** Gold 33065 (North) [1]	110	62	◓	○	○	36/100	•	•	875
	12	**Interstate** Mega-Tron II MT-65	100	60	◓	◓	◒	24/75			675
	13	**DieHard** 30065 (North) [1]	90	54	○	◓	◒	18/72	•	•	675
	14	**DieHard** 30365 (South) [1]	90	50	◓	◒	◒	18/72	•	•	540
	B	**GROUP 34/78 & 78**									
	1	**DieHard** Platinum 50090 [1] [7]	180	91	●	●	●	48/100	•	•	880
	2	**Optima** RedTop SC34U [7]	150	76	●	○	●	36/72	•	•	800
	3	**Deka** Intimidator 9A78DT [7]	188	75	◓	●	●	12/36	•	•	750
	4	**DieHard** SUV, Truck and Van 39990 (South) [1]	120	72	◓	●	○	36/100	•	•	725
✔	5	**NAPA** Select 84 34/78 [4]	82	67	◓	○	◓	24/84	•	•	800
✔	6	**AutoCraft** Titanium 34/78-4 [5]	83	66	◓	◓	○	36/84	•		800
	7	**DieHard** SUV, Truck and Van 39890 (North) [1]	120	66	◓	◓	◓	36/100	•	•	875
	8	**Orbital** Exide Select ORB78DT-84 [7]	172	66	○	○	●	36/84	•	•	770
	9	**Interstate** Mega-Tron Plus MTP-78DT	113	63	◓	○	○	30/85	•		800
	10	**Duralast** Gold 34DT-DLG [2]	95	63	◓	◓	○	36/96	•		800
	11	**EverStart** Maxx-78N (North) [6]	75	60	○	◓	○	36/108	•	•	770
	12	**EverStart** Maxx-78S (South) [6]	75	59	◓	○	◒	36/108	•		650
	13	**Interstate** Mega-Tron II MT-78DT	99	52	○	○	○	24/75	•		725

D2 EverStart

E8 Kirkland

Recommendation	Rank	Brand & model	Price	Overall score (0 P | F | G | VG | E 100)	Test results: Life	Test results: Reserve capacity	Test results: CCA	Features: Warranty	Features: Handle	Features: Maintenance free	Features: Claimed CCA
	C	**GROUP 24 /24F**									
	1	**Interstate** Mega-Tron Plus MTP-24	$101	83	◓	⊙	⊙	30/85	•		800
✔	2	**EverStart** Maxx-24N (North) [6]	75	82	◓	⊙	◓	36/108	•	•	700
✔	3	**EverStart** Maxx-24S (South) [6]	75	78	◓	⊙	◓	36/108	•		700
	4	**DieHard** Gold 33123 (South) [1]	110	76	◓	⊙	◓	36/100	•	•	700
	5	**Duralast** Gold 24-DLG [2]	89	75	◓	⊙	⊙	36/96	•		750
	6	**AutoCraft** Titanium 24-6 [5]	85	72	◓	⊙	◓	36/84	•		700
	7	**DieHard** Gold 33023 (North) [1]	110	59	○	○	◓	36/100	•	•	700
	8	**Interstate** Mega-Tron II MT-24	88	43	○	◒	○	24/75			600
	D	**GROUP 35**									
	1	**Duralast** Gold 35-DLG [2]	93	79	◓	⊙	◓	36/96	•		640
✔	2	**EverStart** Maxx-35N (North) [6]	75	79	◓	⊙	◓	36/108	•		640
	3	**DieHard** Gold 33035 (North) [1]	110	78	◓	⊙	⊙	36/100	•	•	640
✔	4	**EverStart** Maxx-35S (South) [6]	75	73	◓	⊙	◓	36/108	•		550
	5	**Interstate** Mega-Tron Plus MTP-35	90	68	○	⊙	◓	30/85			640
	6	**DieHard** Gold 33135 (South) [1]	110	64	○	◓	◓	36/100	•	•	550
	E	**GROUP 75**									
	1	**Duralast** Gold 75-DLG [2]	89	75	◓	◓	◓	36/96	•		720
	2	**Interstate** Mega-Tron Plus MTP-75	100	75	◓	◓	◓	30/85			700
	3	**AutoCraft** Titanium 75-3 [5]	85	74	◓	◓	◓	36/84	•		700
✔	4	**EverStart** Maxx-75N (North) [6]	75	73	◓	◓	◓	36/108	•	•	690
✔	5	**EverStart** Maxx-75S (South) [6]	75	73	◓	◓	○	36/108	•		550
	6	**DieHard** Gold 33075 (North) [1]	110	72	◓	⊙	◓	36/108	•	•	700
	7	**DieHard** Gold 33175 (South) [1]	110	69	◓	◓	○	36/108	•	•	550
✔	8	**Kirkland** Signature 12869 [3]	60	68	◓	◓	◓	36/100	•	•	700
	9	**NAPA** Select 84 8475 [4]	90	68	◓	◓	○	24/84	•	•	650

[1] At Sears and Kmart only. [2] At AutoZone only. [3] At Costco only. [4] At NAPA only. [5] At Advance Auto Parts only.
[6] At Wal-Mart only. [7] Absorbed glass-mat (AGM) technology.

Keep your battery in shape

If your battery dies, you could be stuck with whatever replacement you can get. Always have your battery tested by a repair shop as part of an annual safety inspection. That is particularly important if the battery is more than two years old and you live in a warmer climate or if it's four years old and you live in a colder climate.

It's also a good idea to inspect the terminals and cables every few months. Look for cracks and corrosion, and make sure fittings are tight. If corrosion has built up around terminals, remove and clean them with a cleaning tool or wire brush and apply an anticorrosion product.

If your battery requires fluid, check it and fill it with distilled water as needed, typically once a year in most areas and twice a year in warmer climates.

FREEZE OUT **Cold weather can weaken a battery's charge, making it more susceptible to going dead.**

Guide to the Ratings

Under **brand & model,** we note models sold in the North or South; others are sold nationally. **Overall score** combines life-test performance, reserve capacity, and cold-cranking-amp (CCA) performance in our tests; scores are relative to others in their group sizes. **Life** test measures how a battery endures repeated charge-and-discharge cycles at hot-climate engine-compartment temperatures. The more cycles endured while maintaining a higher voltage, the higher the score. **Reserve capacity** estimates how long batteries can run a car if the charging system fails. **CCA performance** reflects voltage at our load of half the average claimed CCA for each group size after cranking for 15 seconds at 0° F. We charged batteries at the 14.5 volts that vehicles typically supply, rather than the higher voltage that manufacturers use. Batteries charged at the lower voltage met BCI voltage standards for a fully charged battery. **Claimed CCA** is the manufacturer's claimed performance that appears on the battery. **Warranty** reflects the free-replacement period and the total prorated periods in months. **Price** is approximate retail.