



GET A HEAD START If you have an older battery, make sure you have a mechanic test it before temperatures dip below freezing.

Car batteries

7 CR Best Buys, most for \$75 or less

HENRY JIN of Fayetteville, Ark., awoke one frigid morning to find that the battery in his 2001 Nissan Maxima was dead. His rude awakening didn't leave him stranded by the side of the road, but he missed hours of work and had to install a new battery in the bitter cold. Jin's battery was only a few years old and he had no idea that it was on its last legs.

AAA hears from a lot of people in Jin's situation in the winter.

"We do indeed get a rush of calls when the first below- or near-freezing cold hits," says Robert Sinclair Jr., a spokesman for AAA. "After they've taken care of their batteries, the calls drop off."

Modern electrical and fuel systems can start a car with minimal cranking, so you

might not know that your battery needs replacing until it's too late.

That's why it's important to have your car's battery tested annually by a qualified mechanic as part of regular maintenance, when it's two years old if you live in a warmer climate or four years old if you're in a colder climate. Hot temperatures tax batteries more than cold weather, but a battery weakened by summer's heat is more likely to fail once freezing weather arrives (see "Why Batteries Go Dead in Winter," page 55).

And with winter just around the corner, now is the time to have your car's battery checked. Not only is it inconvenient and potentially dangerous to be stranded in freezing weather, but an emergency is no time to shop for the best replacement battery or the best price.

Highlights from our testing

We've just completed testing the latest models and have 60 batteries in our Ratings, including seven CR Best Buys. Here's what we've found:

- Walmart's EverStart batteries are very good overall choices; prices are low and performance rivals that of our top scorers.
- Bosch batteries, which we tested for the first time, are now tops in two of the group sizes in which they were tested. They're sold exclusively through Pep Boys stores.
- Some absorbed glass-mat, or AGM, batteries are top performers. But they can be twice the cost of competitive conventional models and might not be worth the money for most buyers.

How to choose

First check your car's owner's manual or an in-store fit guide to determine the size you need and whether your battery uses top- or side-mounted terminals. The wrong size might not fit securely or provide sufficient power to start your car, and battery cables might not reach if the terminals are in the wrong place. Next con-

sider the factors below and check our Ratings for the battery that best meets your needs and budget.

Consider maintenance. You don't have to check electrolyte levels or occasionally add distilled water with maintenance-free batteries. Many of them are sealed. Some non-AGM models are maintenance free and offer comparable performance but don't cost any more than models that require maintenance.

All AGM battery designs are sealed and maintenance free. Unlike conventional batteries, which have liquid chambers, AGM batteries contain their electrolyte in an absorbent lining. Manufacturers claim their design makes them spill-proof and safer, and that the lining helps secure plates, increasing vibration resistance. Some AGM batteries are top scorers.

Consider AGM if your battery is hard to reach or if your driving habits include venturing off the road or driving in other conditions where extreme vibration is a concern.

Consider your climate. Choose a battery that scored well in our life testing, particularly if you make a lot of short trips, which doesn't allow much time for your electrical system to recharge the battery.

Extreme hot and cold climates are also tough on battery life. High temperatures increase corrosion of plates and vaporize the electrolyte faster.

Cold temperatures sap a battery's energy and thicken motor oil, making it harder for the engine to turn over. Also look for a battery that scored well in cold-cranking-amp (CCA) performance and reserve capacity. (See "Look-alikes Can Perform Quite Differently," above right.)

A handle comes in handy. An attached plastic loop eases carrying and lifting. Be-

▶ CLOSE UP

Look-alikes can perform quite differently

Interstate makes two batteries that fit the same vehicles. They look very similar, cost about the same, and even have similar names. But the Mega-Tron Plus MTP-24 was the best in its category. The Mega-Tron II MT-24 was the worst, with an overall score roughly half that of the MTP-24.

The MTP-24 retained much more of its strength through our life test, which consists of thousands of repeated drain and recharge cycles over a 10-week period and is intended to replicate real-life conditions. We weigh the life test as the most important part of a battery's overall score.

The MTP-24 also far outperformed the MT-24 in our reserve-capacity test, which measures how long a battery can supply power if you forget to turn off your headlights or leave another electric accessory operating.

Finally, the MTP-24 had about twice the cold-cranking capacity of the MT-24, which is the primary indication of how a

battery will perform in cold climates. And the MTP-24 costs just \$14 more than the MT-24.

In short, know what you're buying, because performance can vary widely, even within the same brand.



cause the average weight of our tested batteries is 40 pounds, this helps if you install or remove the battery yourself.

Fresh is best. All batteries lose their strength over time, even new models that are just sitting on a shelf. Look for one that's no more than six months old. Most batteries will have a shipping code on the case. Some have a numeric date, others a letter for the month (A for January) and a number for the year (9 for 2009).

Dispose of your old battery safely. Batteries contain toxic lead and acid, but can be easily recycled. Some retailers will install a new battery free and dispose of the old one for you, but other outlets charge for the service. Most states require retailers to take old batteries in trade. Check before you buy. If you do the installation yourself, expect a small "core" charge from the retailer that's usually refundable when you bring in the old battery.

Select the right size battery for your car



65 (top terminal)

Fits most large cars, trucks, and SUVs from Ford or Mercury.



35 (top terminal)

Fits most Japanese nameplates, including many recent Hondas, most Subarus, and most Nissan and Toyota 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 mid-sized and large sedans.



75 (side terminal)

Fits some General Motors mid-sized and compact cars and a few Chrysler vehicles.



A3 Kirkland



A7 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, especially if your vehicle's battery is difficult to reach.

CR Best Buy

These models offer the best combination of performance and price. All are Recommended.

Recommended

These high-scoring models stand out for the reasons below.

For cold-weather climates:

- A3 Kirkland Signature 12866 \$75 **CR Best Buy**
- A7 EverStart Maxx-65N (North) \$75
- B5 NAPA Legend Premium 8434/78 \$95
- C2 EverStart Maxx-24N (North) \$75 **CR Best Buy**
- D3 EverStart Maxx-35N (North) \$75
- D5 Kirkland Signature 12865 \$65 **CR Best Buy**
- E1 Bosch Premium Power 75-7308 \$90 **CR Best Buy**
- E4 Autocraft Titanium 75-3 \$75
- E6 EverStart Maxx75-N (North) \$75

For more temperate climates:

- A3 Kirkland Signature 12866 \$75 **CR Best Buy**
- A8 EverStart Maxx-65S (South) \$75
- B6 Autocraft Titanium 34/78-4 \$85 **CR Best Buy**
- C3 EverStart Maxx-24S (South) \$85
- D5 Kirkland Signature 12865 \$65 **CR Best Buy**
- E1 Bosch Premium Power 75-7308 \$90 **CR Best Buy**
- E5 Duralast 75-DL \$75
- E7 EverStart Maxx-75-S (South) \$75
- E10 Kirkland Signature 12869 \$60

Ratings Car batteries

In performance order, within types. (Types designated A, B, etc.)

- Excellent
- Very good
- Good
- Fair
- Poor

Recommendation	Key number	Brand & model	Price	Overall score	Test results			Features		
					Life	Reserve capacity	CCA	Warranty (months)	Handle Maintenance free	Claimed CCA
A GROUP 65 Top terminal fits many large Ford and Mercury vehicles.										
	1	DieHard Platinum 50065 (1) (W)	\$190	90	●	●	●	45/100	● ●	930
	2	Duralast Gold 65-DLG (2)	100	80	●	●	●	36/96	●	875
✓	3	Kirkland Signature 12866 (3)	75	78	●	●	●	36/100	● ●	900
	4	NAPA Legend Premium 8465 (4)	105	77	●	●	●	24/84	● ●	750
	5	Bosch Premium Power 65-8508 (7)	100	77	●	●	●	36/96	●	850
	6	Autocraft Titanium 65-2 (8)	100	77	●	●	●	36/84	●	850
✓	7	EverStart Maxx-65 (North) (6)	75	76	●	●	●	36/108	● ●	850
✓	8	EverStart Maxx-65S (South) (5)	75	73	●	●	●	36/108	●	700
	9	Interstate Mega-Tron Plus MTP-65	125	72	○	●	●	30/85	●	850
	10	DieHard Gold 33165 (South) (1)	110	67	●	●	●	36/100	● ●	700
	11	Duralast 65-DL (2)	90	66	●	●	○	24/84	●	750
	12	DieHard Gold 33065 (North) (1)	110	62	●	○	○	36/100	● ●	875
	13	Interstate Mega-Tron II MT-65	115	60	●	●	●	24/75	●	675
	14	DieHard 30065 (North) (1)	90	54	○	●	●	18/72	● ●	675
	15	DieHard 30365 (South) (2)	90	50	●	●	●	18/72	● ●	540
B GROUP 34/78 & 78 Dual terminal fits many large Chrysler and GM pickups, SUVs, and sedans.										
	1	DieHard Platinum 50090 (1) (W)	190	91	●	●	●	48/100	● ●	880
	2	Optima RedTop SC34U (1)	150	76	●	○	●	36/72	● ●	800
	3	Deka Intimidator 9A78DT (1)	190	75	●	●	●	12/36	● ●	750
	4	DieHard SUV, Truck and Van 39990 (South) (2)	120	72	●	●	○	36/100	● ●	725
✓	5	NAPA Legend Premium 8434/78 (4)	95	67	●	○	●	24/84	● ●	800
✓	6	Autocraft Titanium 34/78-4 (4)	85	66	●	●	○	36/84	●	800
	7	DieHard SUV, Truck and Van 39890 (North) (2)	120	66	●	●	●	36/100	● ●	875
	8	Orbital Exide Select ORB78DT-84 (1)	175	66	○	○	●	36/84	● ●	770
	9	Interstate Mega-Tron Plus MTP-78DT	125	63	●	○	○	30/85	●	800
	10	Duralast Gold 34DT-DLG (2)	90	63	●	●	○	36/96	●	800
	11	EverStart Maxx-78N (North) (2)	75	60	○	●	○	36/108	● ●	770
	12	EverStart Maxx-78S (South) (1)	75	59	●	○	●	36/108	●	650
	13	Interstate Mega-Tron II MT-78DT	110	52	○	○	○	24/75	●	725



D5 Kirkland



E1 Bosch

Why batteries go dead in winter

Cold weather is often fingered as the culprit when car batteries die, but actually warm temperatures do the most damage to them. High temperatures quicken corrosion of internal plates and vaporize the electrolyte faster.

But batteries usually go dead in cold weather mostly because damage done during the summer doesn't show up until the battery is more taxed.

A cold battery has reduced cranking power, and cold temperatures thicken motor oil, making it harder to turn the engine over. Modern electrical and fuel systems can mask a weak battery by starting an engine with a minimum of cranking, but when a weak battery is further compromised by cold conditions, it's more likely to fail.



DON'T GET STRANDED Winter is no time to discover that your battery needs replacing. Have it checked before it gets cold.

Recommendation	Key number	Brand & model	Price	Overall score	Test results			Features		
					Life	Reserve capacity	CCA	Warranty (months)	Handle Maintenance free	Claimed CCA

C GROUP 24/24F Top terminal fits many Acura, Honda, Infiniti, Lexus, Nissan, and Toyota vehicles.

1	Interstate Mega-Tron Plus MTP-24	\$115	81	●	●	●	30/85	●	800
2	EverStart Maxx-24N (North) Ⓢ	75	82	●	●	●	36/108	●	700
3	EverStart Maxx-24S (South) Ⓢ	75	78	●	●	●	36/108	●	700
4	NAPA Legend Premium 8424 Ⓢ	90	77	●	●	●	24/84	●	650
5	DieHard Gold 33123 (South) Ⓢ	110	76	●	●	●	36/100	●	700
6	Duralast Gold 24-DLG Ⓢ	90	75	●	●	●	36/96	●	750
7	Autocraft Titanium 24-6 Ⓢ	100	72	●	●	●	36/84	●	700
8	Duralast 24-DL Ⓢ	80	66	●	●	●	24/84	●	600
9	DieHard Gold 33023 (North) Ⓢ	110	59	○	○	●	36/100	●	700
10	Interstate Mega-Tron II MT-24	100	43	○	○	○	24/75	●	600

D GROUP 35 Top terminal fits many Japanese nameplates.

1	Bosch Premium Power 35-640B Ⓢ	90	82	●	●	●	36/96	●	640
2	Duralast Gold 35-DLG Ⓢ	90	79	●	●	●	36/96	●	640
3	EverStart Maxx-35N (North) Ⓢ	75	79	●	●	●	36/108	●	640
4	DieHard Gold 33035 (North) Ⓢ	105	78	●	●	●	36/100	●	640
5	Kirkland Signature 12865 Ⓢ	65	77	●	●	●	36/100	●	640
6	NAPA Legend Premium 8435 Ⓢ	90	74	●	●	●	24/84	●	600
7	EverStart Maxx-35S (South) Ⓢ	75	73	●	●	●	36/108	●	550
8	Autocraft Titanium 35-2 Ⓢ	95	70	●	●	●	36/84	●	640
9	Interstate Mega-Tron Plus MTP-35	100	68	○	●	●	30/85	●	640
10	Duralast 35-DL Ⓢ	80	64	●	○	○	24/84	●	500
11	DieHard Gold 33135 (South) Ⓢ	105	64	○	●	●	36/100	●	550

E GROUP 75 Side terminal fits some GM mid-sized and compacts and a few Chrysler vehicles.

1	Bosch Premium Power 75-730B Ⓢ	90	77	●	●	●	36/96	●	730
2	Duralast Gold 75-DLG Ⓢ	85	75	●	●	●	36/96	●	720
3	Interstate Mega-Tron Plus MTP-75	110	75	●	●	●	30/85	●	700
4	Autocraft Titanium 75-3 Ⓢ	75	74	●	●	●	36/84	●	700
5	Duralast 75-DL Ⓢ	75	71	●	●	○	24/84	●	650
6	EverStart Maxx75-N (North) Ⓢ	75	71	●	●	○	36/108	●	690
7	EverStart Maxx 75-S (South) Ⓢ	75	71	●	●	○	36/108	●	550
8	DieHard Gold 33075 (North) Ⓢ	105	72	●	●	●	36/108	●	700
9	DieHard Gold 33175 (South) Ⓢ	105	69	●	●	○	36/108	●	550
10	Kirkland Signature 12869 Ⓢ	60	68	●	●	●	36/100	●	700
11	NAPA Legend Premium 8475 Ⓢ	90	68	●	●	○	24/84	●	650

Ⓢ At Sears and Kmart only. Ⓢ At AutoZone only. Ⓢ At Costco only. Ⓢ At NAPA only. Ⓢ At Advance Auto Parts only. Ⓢ At Walmart only. Ⓢ At Pep Boys only. Ⓢ Absorbed Glass Mat (AGM) technology.

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 usually supply, rather than the higher voltage that manufacturers use. Batteries charged at the lower voltage met industry voltage standards for a fully charged battery. **Warranty** reflects the free-replacement period and the total prorated periods in months. **Claimed CCA** is the manufacturer's claimed performance that appears on the battery. **Price** is approximate retail rounded to the nearest \$5.