

Arctic Cat® Snowmobile Installation Instructions

Bearcat 570 XTE Electric Start Kit (p/n 6639-626)

■ **NOTE:** Read these Installation Instructions thoroughly and carefully before the installation process. Retain these Installation Instructions for future reference.

Application: Bearcat 570 XTE

Kit includes:

p/n	QTY	DESCRIPTION
0123-788	2	Cable Tie (Short)
0123-903	1	Cable Tie (Long)
0423-716	1	Wing Nut
0623-038	1	M6 Hex Nut
0623-144	1	Cable Tie (17.5 in.)
0623-877	2	Hex Nut (1/4 - 20)
0624-524	2	Hex Nut (8-32 w/Star Washer)
0645-170	1	Battery
0645-586	1	Battery-to-Ground Cable
0645-587	1	Battery-to-Solenoid Cable
0645-673	1	Solenoid Relay
0645-728	1	Right Starter Mounting Bracket
0645-729	1	Left Starter Mounting Bracket
0645-745	1	Solenoid-to-Starter Cable
0645-746	1	Starter-to-Ground Cable
0745-315	1	Battery Tray
0745-318	1	Battery Hold Down Bracket
0745-329	1	Battery Hold Down Rod
0745-392	1	Starter Motor w/Pinion Assembly
0745-402	1	Ring Gear
1623-566	4	Cap Screw (5/16-18)
1623-725	1	Shoulder Screw (M6 x 1 x 35)
1623-821	6	Machine Screw (M8 x 1.25 x 14)
1623-984	2	Wire Clamp
1686-708	1	Solenoid Adapter Harness
1686-731	1	Electric Start Harness
8050-217	1	Flat Washer
8053-212	1	Star Washer
8408-621	2	Cap Screw (M6 x 1 x 20)
8424-802	2	Flange Hex Nut (M8 x 1.25)
8427-602	3	Nyloc Lock Hex Nut (M6 x 1)
1653-902	1	Instructions

■ **NOTE:** The following instructions are intended as a general guideline with special emphasis placed on some of the most important steps. For detailed instructions, refer to the appropriate Arctic Cat Snowmobile Service Manual.

SERVICING/INSTALLING BATTERY

■ **NOTE:** Refer to all warnings and cautions provided with the battery.

Each sealed battery comes with an electrolyte container and proper amount for each specific battery type. DO NOT add additional electrolyte to any sealed battery. Sealed battery electrolyte has a higher concentration of sulfuric acid.

1. Remove the battery from the shipping container.
2. Carefully remove and save the sealing strip from the battery electrolyte container. This will be used to seal the battery later.
3. Remove and discard the foil sealing strip covering the fill holes from the battery.

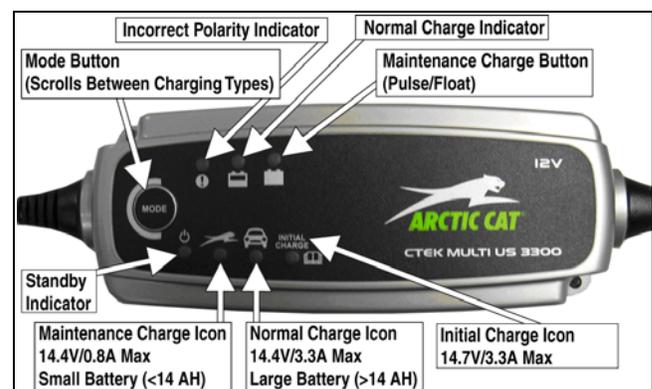
4. Place electrolyte container with the foil-sealed top of the cells facing down into the fill ports of the battery.
5. Hold the container level in the fill ports of the battery. Push down to break the seals. Air bubbles will appear as the ports fill. Do not tilt the electrolyte container. Do not remove the container from the battery until it is empty.
6. Let the battery stand for 60 minutes (1 Hr) prior to charging. This will allow the electrolyte to permeate into the plates for optimum performance.
7. Fully insert the sealing strip over the fill holes by hand. DO NOT use a hammer.
8. Charge battery completely before installation.

Charging New Battery

■ **NOTE:** Refer to all warnings and cautions provided with the battery or battery charger.

■ **NOTE:** Batteries filled with electrolyte are only at 80% of their capacity.

■ **NOTE:** All battery chargers are not the same. Arctic Cat recommends the use of the CTEK Multi US 3300 Battery Charger (p/n 5639-419).



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Batteries can be charged two ways - Standard Charge and Fast Charge. Standard charging is the only recommended way to charge a battery. It gives the battery optimal performance and battery life.

1. Place the battery charger in a location so battery acid will not come in contact with the charger cables. Be sure the charger is unplugged from the 110-volt electrical outlet.

2. Connect the red terminal lead from the charger to the positive terminal of the battery; then connect the black terminal lead of the charger to the negative terminal of the battery.
3. Plug the charger into a 110-volt electrical outlet.
4. By pushing the Mode button on the left of the charger, select the Initial Charge Icon. The Normal Charge Indicator should illuminate on the upper left portion of the charger.

■ **NOTE: The Maintenance Charge Indicator will illuminate when the battery has accepted its bulk charge, but the charger should remain attached for a minimum of five full hours for optimal battery performance and battery life. If the battery becomes hot to the touch, stop charging. Resume after it has cooled.**

5. Once the battery has reached full charge, unplug the charger from the 110-volt electrical outlet and disconnect the charging leads.
6. Allow the battery to sit for 2 hours before testing. Arctic Cat recommends the use of the Yuasa BTY01 Battery Tester (p/n 1436-430).
7. Before installing the battery into the snowmobile, coat the battery terminals with a light coat of grease to minimize battery terminal corrosion.

INSTALLING RING GEAR

1. Remove the lower left-side access panel.
2. Remove the clutch guard; then remove the drive belt and drive clutch.
3. Apply a thin line of green Loctite #620 to the entire length (threaded and tapered area) of each Machine Screw (M8 x 1.25 x 14); then secure the Ring Gear to the drive clutch. Tighten the screws to 25 ft-lb using a criss cross pattern.

■ **NOTE: Allow the Loctite to cure for 24 hours at room temperature.**

WARNING

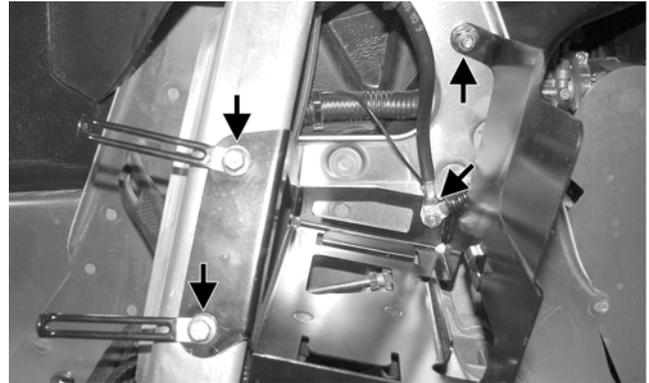
Green Loctite #620 must be applied to each of the clutch sheave bosses and to each of the six screws securing the ring gear. Failure to apply Loctite may result in the ring gear coming loose and may cause extensive damage and personal injury.

INSTALLING BATTERY TRAY

1. Remove the hood; then remove the console and right-side access panel.
2. Remove the expansion chamber and resonator assembly. Account for expansion chamber springs and exhaust gaskets.

3. Secure Starter Solenoid to the bottom of the Battery Tray using two Lock Nuts (M6 x 1.0). Tighten securely.
4. Remove the nut securing the main harness ground wire to the chassis.
5. Secure the battery tray to the chassis using existing hardware, two Wire Clamps, and one Machine Screw (M8 x 1.25) and Lock Nut (M8 x 1.25). Secure all hardware. See Fig. 1.

Fig. 1



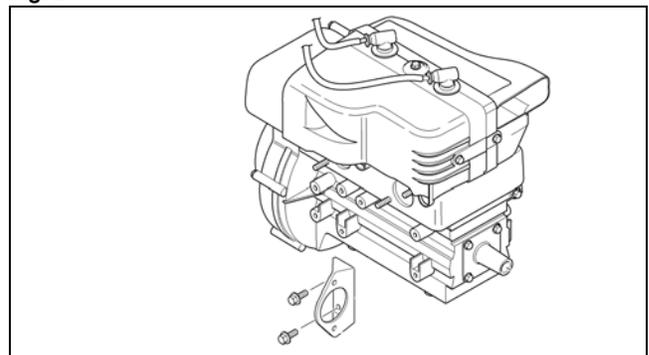
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■ **NOTE: The gas tank assembly must be removed to gain access to secure the top mounting location on the battery tray and to route the starter-to-solenoid and starter-to-ground cables.**

INSTALLING STARTER MOTOR/ STARTER MOTOR BRACKETS

1. Install MAG-Side Starter Mounting Bracket onto the engine using two Cap Screws (5/16-18) (threads coated with blue Loctite #243). Tighten to 25 ft-lb. See Fig. 2.

Fig. 2



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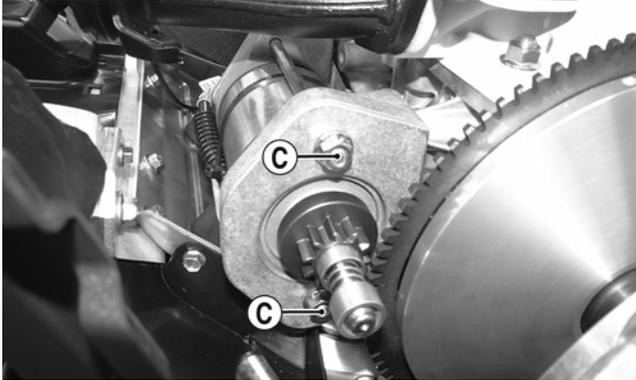
2. Route both cables from the stater motor down through the engine mount plate, under the engine, and over to the battery tray.

■ **NOTE: Make sure the positive terminal stud on the starter motor is facing downward.**

3. Secure Starter-to-Solenoid Cable to the starter motor; then using Cable Tie (17.5 in.).

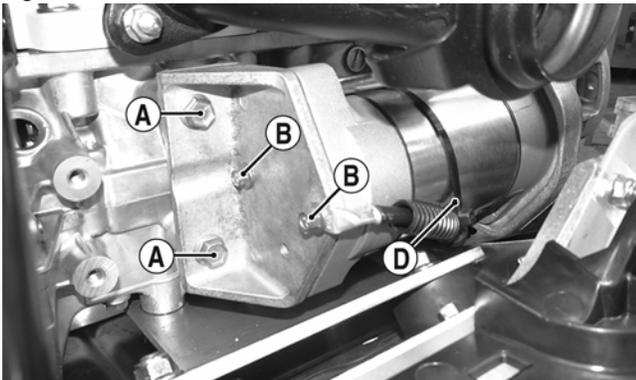
4. Install the starter motor into the PTO-side bracket and loosely secure using new Flange Hex Nuts (C) (M8-1.25); then loosely secure the MAG-side bracket to the starter motor using new Cap Screws M6 x 1-20 (B) and Star Washer (threads coated with blue Loctite #243).
5. Loosely secure the MAG-side bracket to the engine using Cap Screws (5/16-18) (threads coated with blue Loctite #243). Tighten the cap screws (B) to 96 in.-lb, the two lock nuts (C) to 25 ft-lb and the cap screws (A) to 25 ft-lb (in that order). Secure both battery cables to the starter motor using a cable tie (D). See Fig. 3 and 4.

Fig. 3



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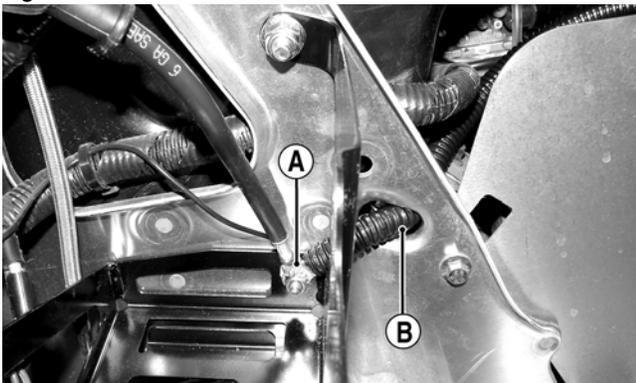
Fig. 4



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6. Install Battery-to-Ground Cable (A) and the starter-to-ground cable (B) to the existing ground location. See Fig. 5.

Fig. 5



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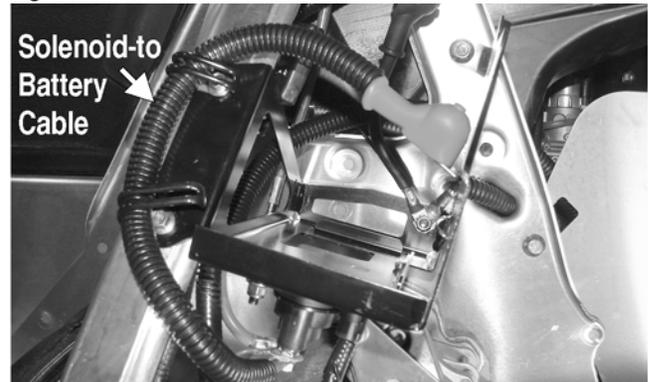
■ **NOTE:** Route the starter-to-ground cable through the hole (B) located just to the right of the battery tray mounting location.

7. Route the stater-to-solenoid cable between the gas tank assembly and the chassis and down to the solenoid.
8. Route the Electric Start Main Harness from the solenoid up to where the console harness connects to the snowmobile main harness.
9. Connect the remaining electric start main harness connection to the solenoid.

■ **NOTE:** The red lead wire from the electric start main harness must be on the same terminal as the solenoid-to-battery cable.

10. Connect the starter-to-solenoid cable to the solenoid; then connect solenoid-to-battery cable and secure with two wire clamps. See Fig. 6.

Fig. 6

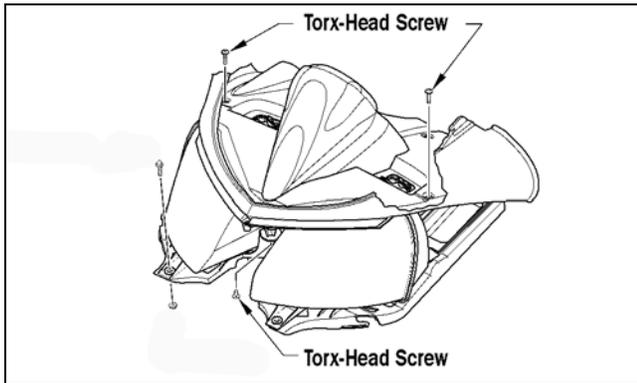


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11. Install the battery making sure the positive and negative terminals are facing forward; then connect the battery-to-ground cable to the negative terminal and the solenoid-to-battery cable to the positive terminal.
12. Secure the battery to the battery tray with the Battery Hold-Down Bracket, Battery Hold-Down Rod, Flat Washer, and Wing Nut. Tighten Securely.
13. Install the existing drive clutch, drive belt, and clutch guard. Tighten drive clutch to 51 lb-ft.
14. Install the expansion chamber and resonator; then install the right-side and left-side access panels.

INSTALLING CONSOLE HARNESS AND IGNITION SWITCH

1. Remove the two torx-head screws located outside of the headlight adjustment knobs; then remove the single torx-head screw from beneath the console (located between the headlights).

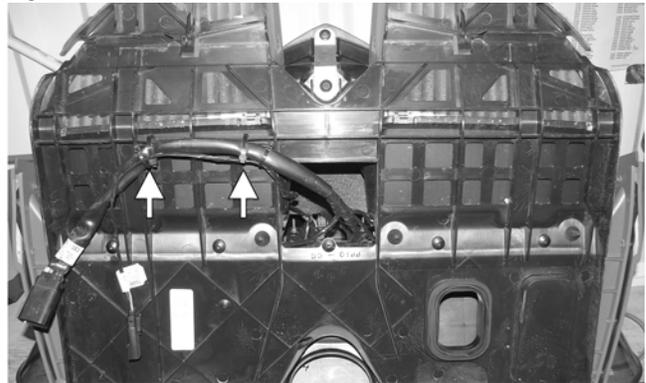


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2. From the bottom of the console, remove the two outside zinc screws and the bottom front screw.
3. Remove the existing ignition switch from the console assembly and discard the ignition switch. Install and secure new Ignition Switch with existing spacer and washer.
4. Position the Electric Start Console Harness; then connect the molded connector plug on the harness into the corresponding molded plug on the existing console harness; then connect the electric start console harness to the ignition switch.

5. Route the electric start console harness along the existing console harness and secure with cable ties. See Fig. 7.

Fig. 7



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6. Secure the upper console to the lower console with existing hardware.
7. Install the console using existing hardware; then install the hood.
8. Test the electric start for proper operation.

TROUBLESHOOTING ELECTRIC START

Problem: Hot or Smoking Wires	
Condition	Remedy
1. System wired incor rectly	1. Check wiring against wiring diagram
Problem: Starter Does Not Turn Over	
Condition	Remedy
1. Battery discharged	1. Check/charge the battery
2. Connection loose	2. Check tightness of all connections
3. Grounding improper	3. Check round connections
4. Fuse blown - not installed	4. Check - replace fuse

