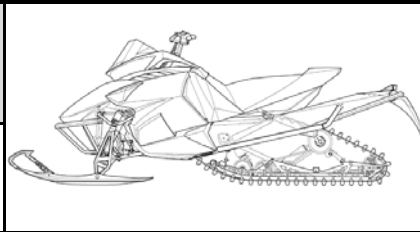


Arctic Cat® Snowmobile

Installation Instructions - Accessory Kit

Electric Start Kit (p/n 7639-126)



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

Kit includes:

p/n	QTY	DESCRIPTION
0123-788	10	Cable Tie
0445-082	1	Battery Hardware
0617-667	2	Fuel Tank Foam
0623-677	5	Push-Mount Cable Tie
0623-877	2	Hex Nut (1/4-20)
0624-524	2	Hex Nut (8/32 w/star washer)
0645-779	1	Sealed Battery
0645-778	1	Battery Acid
0645-648	1	Ground-to-Battery Cable
0645-649	1	Battery-to-Solenoid Cable
0645-653	1	PDM Bracket
0645-673	1	Starter Solenoid
0645-674	1	Battery Hold-Down Bracket
0645-694	1	Starter Motor Retaining Plate
0745-402	1	Ring Gear
0745-422	1	Pinion Shaft w/Bracket Assembly
1423-093	1	Cap Screw (M10 x 35 mm)
1623-821	6	Torx-Head Screw (M8 x 14 mm)
1623-945	1	Cap Screw (M8 x 65 mm)
1623-963	1	Torx-Head Screw (M10 x 30 mm)
1686-700	1	Harness
7902-987	1	Starter Motor Assembly
8053-242	1	Lock Washer
8060-686	2	Rivet
8408-621	8	Cap Screw (M6 x 20 mm)
8408-836	2	Cap Screw (M8 x 35 mm)
8409-026	2	Cap Screw (M10 x 25 mm)
8409-031	1	Cap Screw (M10 x 30 mm)
8468-625	2	Machine Screw (M6 x 25 mm)
8427-602	2	M6 Lock Nut
0645-662	2	Solenoid Terminal Boot
0645-697	1	Battery Terminal Boot
1653-978	1	Instructions

■ **NOTE:** Refer to the appropriate Arctic Cat Snowmobile Service Manual for more detailed instructions. Some photographs used in this instruction are used for clarity purposes only and are not designed to depict actual conditions.

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. From the following battery chart (or located on the battery), determine the correct Amp/Hr rating of the battery.

Battery Chart

Arctic Cat n/p	Type	Amp/Hr	Cold Cranking Amps	Battery Type
0445-005	YB14-A2	14	190	Standard
0445-081	YB30L-B	30	300	Standard
0645-020	YB16L-B	19	240	Standard
0645-063	YB14L-A2	14	190	Standard
0645-157	YB16C-B	19	240	Standard
0645-165	YB14-A2	14	190	Standard
0645-170	YB18-A	18	235	Standard
0645-176	12N7-4A	7	74	Standard
0645-197	Y50-N18LACX	20	275	Standard
0645-232	YB14L-A2	14	190	Standard
0645-272	YB16AL-A2	16	200	Standard
0645-398	YIX30L	30	385	Sealed
0645-432	YTX24HL-BS	21	350	Sealed
0645-480	YTX20HL-BS	18	310	Sealed
0645-530	YB16-B-CX	19	255	Standard
3304-275	YTX12-BS	10	180	Sealed
3445-034	YTX5L-BS	8	135	Sealed
3304-275	TYX5L-BS	4	80	Sealed

battery chart

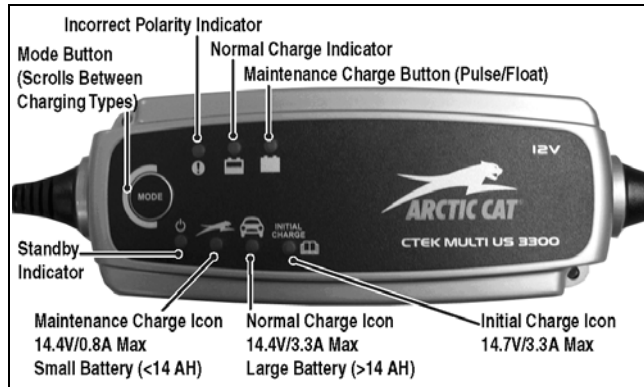
7. For batteries with a rating of 18 Amp/Hr or less, let the battery stand for 60 minutes (1 Hr) prior to charging. For batteries with a rating greater than 19 Amp/Hr, let the battery stand for 120 minutes (2 Hr) prior to charging. This will allow the electrolyte to permeate into the plates for optimum performance.
8. Fully insert the sealing strip over the fill holes by hand. DO NOT use a hammer.
9. Charge battery completely before installation (see Charging New Battery).

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).



3300B

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.

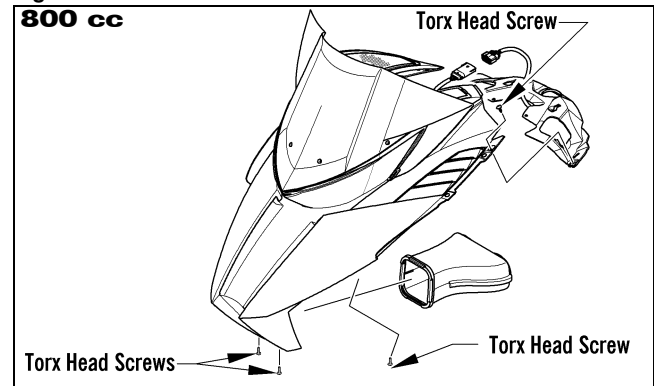
■**NOTE:** The Maintenance Charge Indicator will illuminate when the battery has accepted its bulk charge, but the charger should remain attached for a minimum of five full hours for optimal battery performance and battery life. If the battery becomes hot to the touch, stop charging. Resume after it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

1. Remove both access panels and hood. See Fig. 1.

Fig. 1



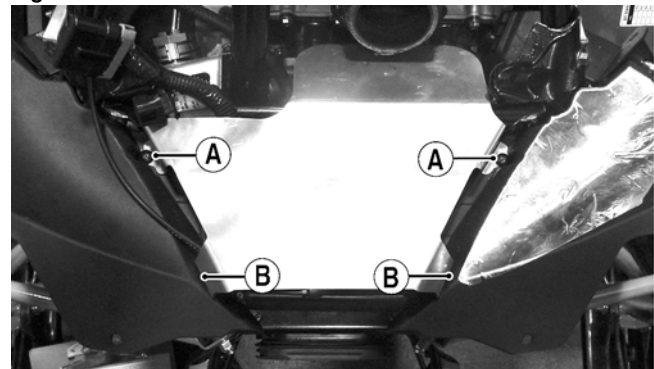
0746-793

2. Remove the seat, lower console, upper console, and gas tank assembly.
3. Remove the exhaust temperature sensor from the expansion chamber; then remove and retain all springs securing the expansion chamber and resonator. Remove expansion chamber and resonator.
4. Remove the belt, driven clutch, and drive clutch.

■**NOTE:** If the drive clutch will not release, sharply strike the head of the puller. Repeat until the clutch releases.

5. Remove the two screws (A) securing the heat shield to the chassis; then remove the heat shield from the two front locating pins (B) and remove the heat shield. See Fig. 2.

Fig. 2



PC189A

6. Disconnect the ECM; then remove the screws securing the right- and left-side fascia panels to the chassis. Remove the panels and ECM as an assembly. See Fig. 3.

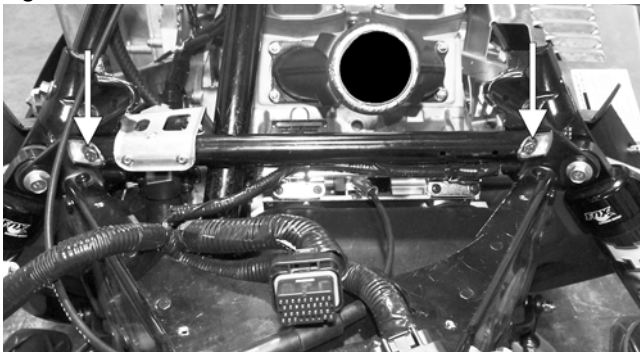
Fig. 3



XM109A

7. Remove cap screws and nuts securing the shock mount bracket support to the shock mount brackets; then remove the shock mount bracket support. Move the bracket and servomotor up and out of the way. See Fig. 4.

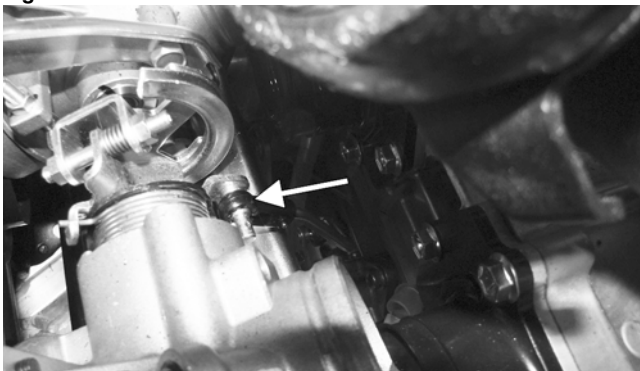
Fig. 4



PC186A

8. Loosen the clamps securing the air intake boots to the throttle bodies and pull the air intake boot forward enough to gain access to the throttle body assembly. Remove and retain the clamps.
9. Loosen the flange clamps securing the throttle body assembly to the intake flanges and disconnect the oil-injection control rod from the throttle body; then loosen the clamps securing the throttle body coolant hoses. Move the throttle body assembly forward and out of the way. See Fig. 5.

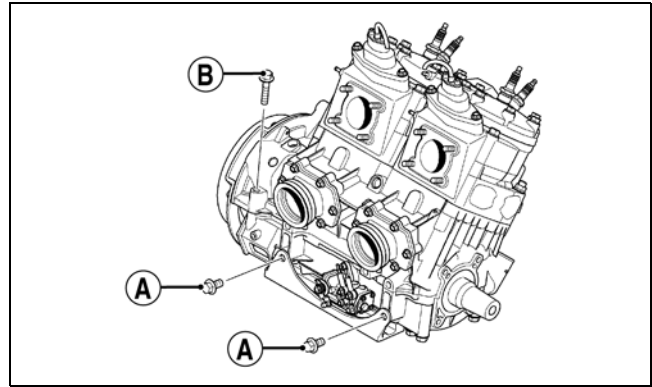
Fig. 5



PC138A

10. Remove the recoil starter from the engine. Secure it out of the way.
11. Remove the cap screws (A) securing the lower front engine bracket to the engine; then remove the cap screw (B) securing the crankcase. See Fig. 6.

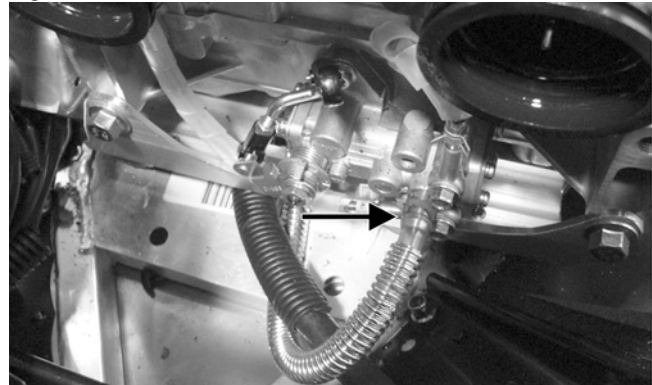
Fig. 6



747-202A

12. Close-off the oil hose with a clamping device; then remove the hose clamp and oil hose from the oil pump. Fig. 7.

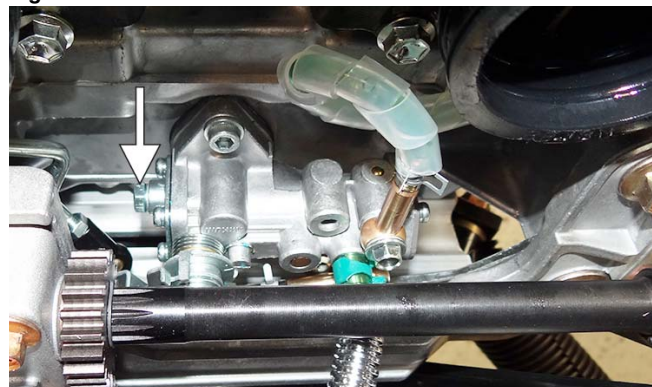
Fig. 7



PC139A

13. Position Pinion Shaft w/Bracket Assembly with the mounting locations in step 11; **then route the oil line between the bracket and the pinion shaft and secure using existing clamp; then loosen the cap screw to bleed any air out of the oil pump and/or oil hose.** Once all the air is removed, tighten cap screw to 48 in.-lb. See Fig. 8.

Fig. 8

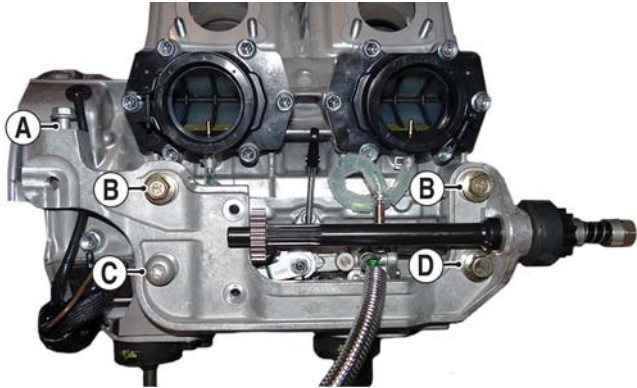


SNO-1045A

14. Secure Pinion Shaft w/Bracket Assembly to the engine using one Cap Screw (M8 x 65 mm) (A), two Cap Screws (M10 x 25 mm) (B), one Torx-Head Screw (M10 x 30 mm) (C), and one Cap Screw (M10 x 30 mm) (D). Finger tighten only at this time. See Fig. 9.
15. Tighten screw (A) to 20 ft.-lb. Tighten cap screws (B, C, and D) to 25 ft.-lb. See Fig. 9.

■ **NOTE:** Cap screw (A) must be tightened first. See Fig. 9.

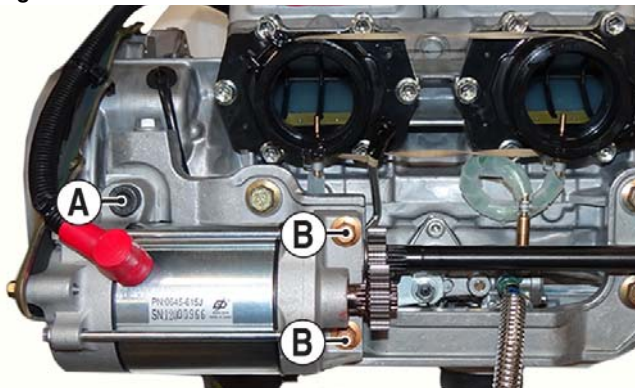
Fig. 9



XM363A

16. Loosely secure Starter Motor Assembly to the starter motor bracket using Cap Screw (M10 x 35 mm) (A) and two Cap Screws (M8 x 35 mm) (B). Finger tighten only at this time. See Fig. 10.

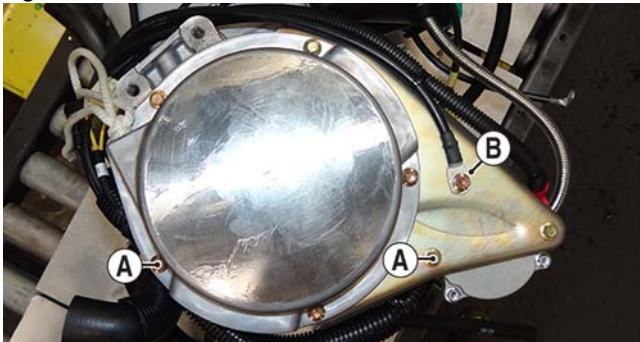
Fig. 10



SNO-1043A

17. Secure Starter Motor Retaining Plate, recoil starter, and Ground-to-Battery Cable to the starter MAG-side of the starter motor using eight new Cap Screws (M6 x 20 mm) (A) and one Lock Washer (B). Tighten to 96 in.-lb. **Lock washer must be installed between the ground cable and the retaining plate.** See Fig. 11.

Fig. 11

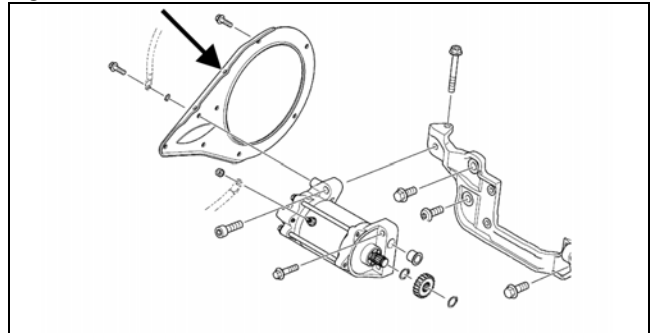


SNO-1044A

18. Tighten the screws from step 16 to 25 ft.-lb.
19. Secure the positive and ground cables to the retaining plate using one Push-Mount Cable Tie; then tighten the nut securing the positive battery cable to the starter motor to 6 ft.-lb.

■ **NOTE:** The cables must be secured using a push mount cable tie in the rear hole in the retaining plate or damage to the cables may occur. See Fig. 12.

Fig. 12



SNO-266A

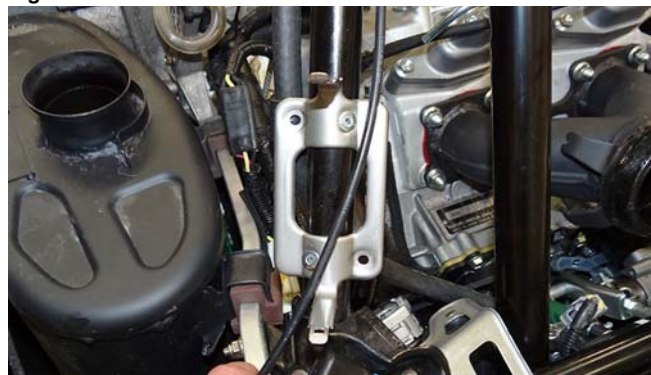
20. Install the throttle bodies using existing clamps; then install the ECM and panel assembly using existing hardware.

CAUTION

Make sure the oil injection rod is connected back to the throttle body or damage to the engine will occur.

21. Secure the PDM Bracket to the MAG-side front spar tube using two Rivets; then remove the throttle cable from the lower retainer and route the cable through the PDM bracket. See Fig. 13.

Fig. 13



SNO-1054

22. Install the PDM of accessory Harness into the PDM bracket; then route the harness along the top of the main harness. See Fig. 14.

Fig. 14



SNO-1055

23. Disconnect the three-wire connector securing the main harness to the voltage regulator; then connect the accessory harness to main harness and the other accessory connector to the voltage regulator. See Fig. 15 and 16.

Fig. 15



SNO-1056

Fig. 16



SNO-1057

24. Secure all wires located above the recoil stater using the harness wrap.
25. Route the accessory harness along side the main harness where it goes under the driveshaft and secure using cable ties **making sure no wires can touch the driveshaft**. See Fig. 17.

Fig. 17



SNO-1058A

26. Route the harness along the main harness up to where the main harness connects to the hood harness. Secure using cable ties making sure to keep harness away from all moving components. See Fig. 18.

Fig. 18



SNO-1059A

27. Using a small flat-head screwdriver, pull out but do not remove the main harness white connector (which connects to the hood harness). See Fig. 19.

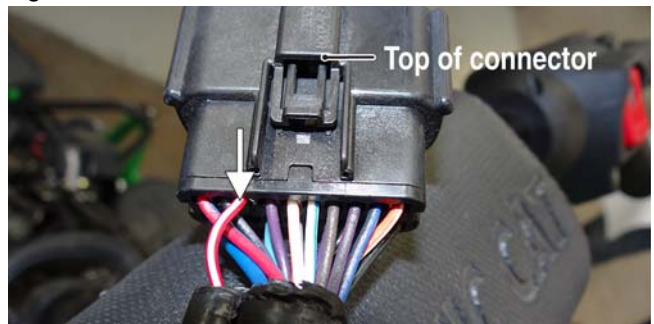
Fig. 19



SNO-1060A

28. Remove the #3 plug from the connector; then install the red/white wire from the accessory harness into that hole. See Fig. 20.

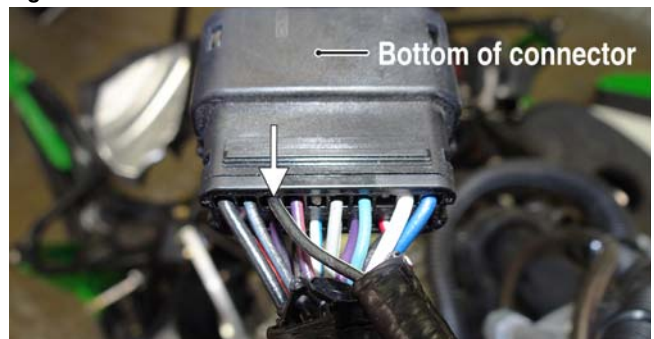
Fig. 20



SNO-1061A

29. Remove the #18 plug from the connector; then install the black/yellow wire from the accessory harness into that hole. See Fig. 21.

Fig. 21



SNO-1062A

■ **NOTE:** Once the accessory wires are installed, they should match the hood harness wires.

30. With the wires fully inserted into the connector, press down on the white retainer to lock the wires in place.
31. Remove the violet/black wire from the reverse alarm beeper; then plug the accessory wire with jumper into the beeper. Plug the violet/black wire into the jumper. Secure all wires away from moving components. See Fig. 22.

Fig. 22

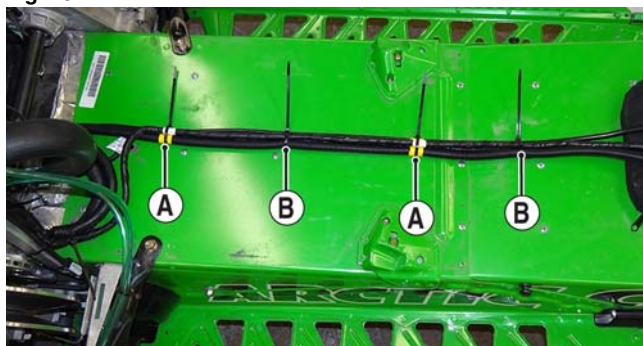


SNO-1063A

32. Route the positive cable, ground cable, and harness along the center of the tunnel and back to the rear of the fuel tank. Secure using two push mount cable ties and two regular cable ties.

■ **NOTE:** There are two holes in the tunnel (A) that the push mount cables ties will secure to and the tape on the two cables and harness must be aligned with the tape and the push mount cable ties. The regular cable ties (B) should be in the locations shown below. See Fig. 23.

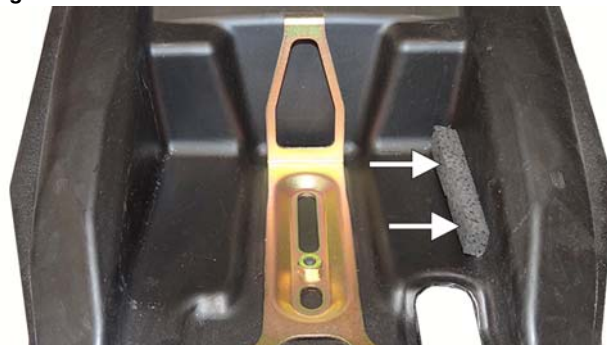
Fig. 23



SNO-1064A

33. Secure both Fuel Tank Foam pieces to the MAG side of the battery compartment of the fuel tank. See Fig. 24.

Fig. 24



SNO-1069A

34. Install the gas tank assembly onto the chassis making sure the cables and wires are routed in the groove of the gas tank. Secure using existing hardware.
35. Place the battery in the battery compartment in the gas tank making sure the terminals are positioned at the bottom.
36. Route all wires through the hole in the gas tank toward the battery.
37. Secure Starter Solenoid to Battery Hold-Down Bracket using two Machine Screws (M6 x 25 mm) and two M6 Lock Nuts. See Fig. 25.

Fig. 25



XM108

38. Secure the ground-to-battery cable and the larger end to the negative terminal on the battery. Tighten securely. See Fig. 25.
39. Secure the two smaller-end cables to the solenoid using two nuts. Tighten securely. See Fig. 25.
40. Secure the starter-to-solenoid cable to the PTO side of the solenoid making sure to install a red plastic cap over the wires. Tighten securely. See Fig. 25.
41. Secure Battery-to-Solenoid Cable and the red accessory wire to the PTO side of the solenoid making sure to install a red plastic cap over the wires. Tighten securely. See Fig. 26.

Fig. 26



XM108

42. Secure the battery-to-solenoid cable to the positive terminal on the battery making sure to install a red plastic cap over the wire. Secure using cable ties. See Fig. 27.

Fig. 27



SNO-1044A

43. Secure Ring Gear to the drive clutch using six Torx-Head Screws (M8 x 14 mm) making sure the angled side of the teeth will be installed toward the starter motor. Tighten to 24 ft-lb (threads coated with green Loctite #609 for Arctic Cat Clutch and red Loctite #271 for Team Clutch). See Fig. 28.

Fig. 28



XM188

44. Install the drive clutch using existing torx-head screw and washer. Tighten to 51 ft-lb.
45. Install the drive belt and driven clutch.
46. Install the seat, upper console, lower console, hood, and both access panels.
47. Start the engine and allow it to run; then shut the engine off and verify the drive clutch torx-head screw to 51 ft-lb.

■ **NOTE:** A small amount of All Temperature Grease (p/n 4639-365) should be applied to the threads the pinion shaft ever 1000 miles to prevent premature wear to the pinion gear.

