



BOMBARDIER

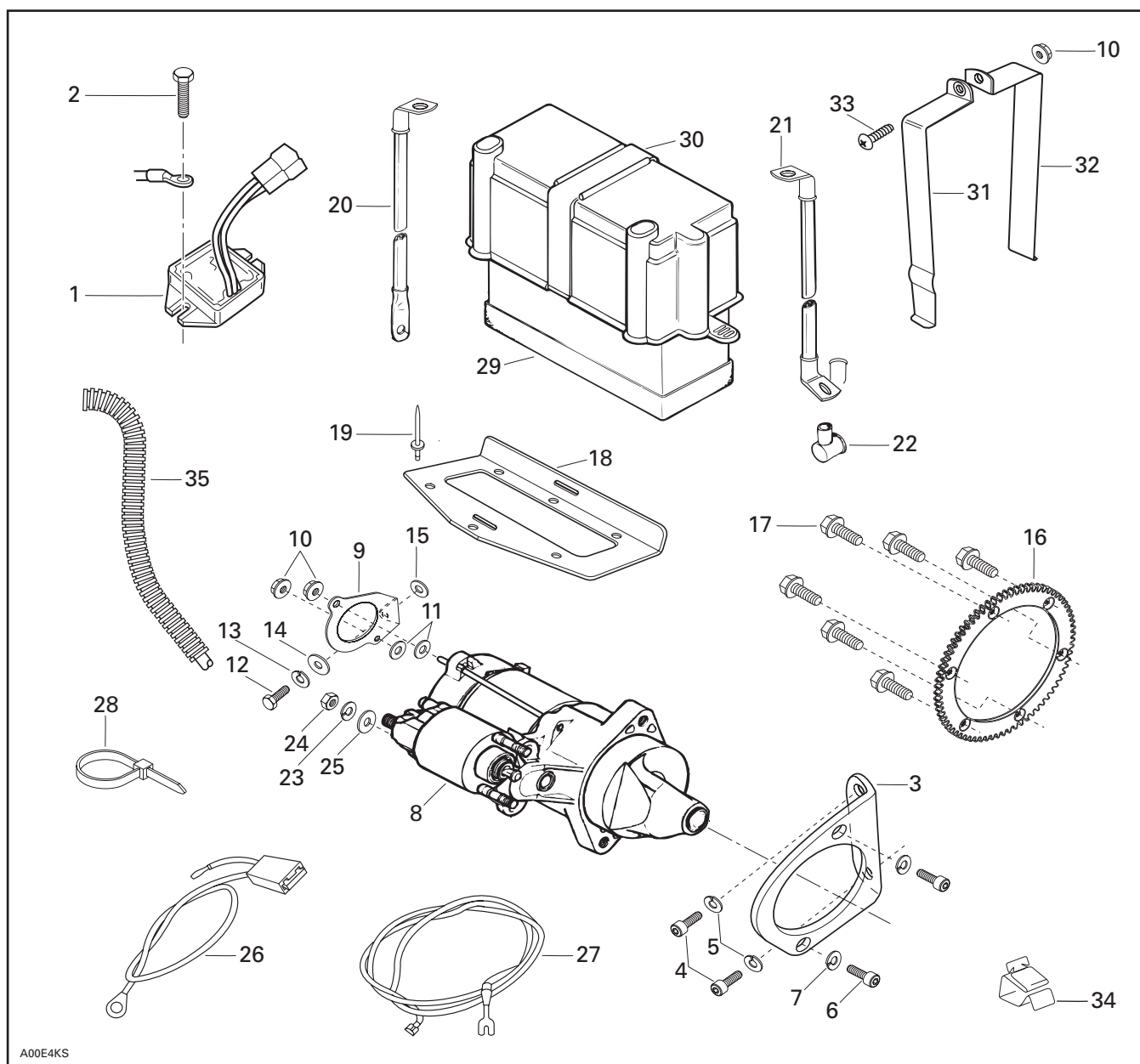
snowmobiles

ELECTRIC STARTER KIT
(P / N 861 5028 00)

◆ **WARNING :** For safety reasons, this kit must be installed by an authorized Bombardier Ski-Doo snowmobile dealer. Should removal of a locking device be required when undergoing disassembly / assembly, always replace with a new one. This instruction sheet should be given to the purchaser after modification. This kit is designed for specific applicable models only. It is not recommended for snowmobiles other than those for which it was sold.

○ **NOTE :** Installation time is approximately 3.5 hours.

PARTS TO BE INSTALLED



A00E4KS

1. Regulator / Rectifier
2. Self-Tapping Bolt M6 X 20 (2)
3. Starter Support PTO
4. Socket Screw M8 X 20 (2)
5. Lock Washer (2)
6. Socket Screw M8 X 25 (2)
7. Lock Washer (2)
8. Starter
9. Starter Support MAG
10. Flanged Elastic Nut M5 (3)
11. Flat Washer (2)
12. Bolt M8 X 20
13. Lock Washer
14. Flat Washer
15. Hardened Washer (2)
16. Ring Gear
17. Self-Tapping Bolt M6 X 16 (6)
18. Battery Seat
19. Pop-Rivet (6)
20. Battery Ground Cable (BLACK)
21. Battery Positive Cable (RED)
22. Protector Cap
23. Lock Washer
24. Nut M8
25. Flat Washer
26. Fuse Holder
27. Starter Wire
28. Locking Tie (8)
29. Battery
30. Battery Cover
31. Battery Strap
32. Battery Strap
33. Machine Screw M5 X 20
34. Clip
35. Protective Covering

VEHICLE PREPARATION

Battery

NOTE: Refer to *Ski-Doo Shop Manual* for proper battery removal/installation procedure.

Battery must be charged prior to installing this electric starter kit.

WARNING : Never charge or boost battery while connected or installed in vehicle.

Vehicle

Close fuel shut off valve, if equipped.

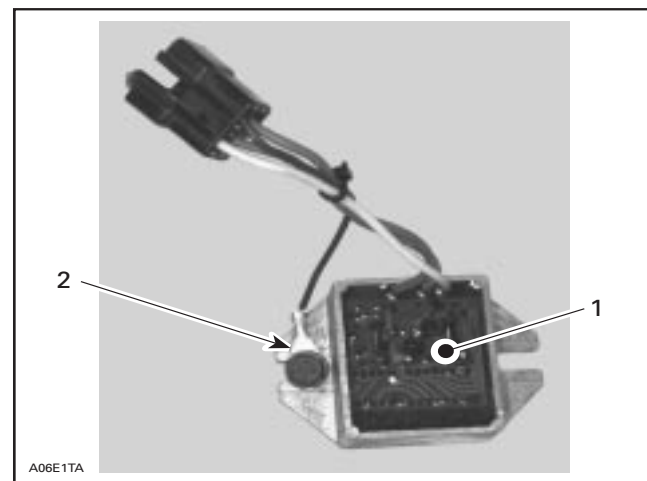
Remove tuned pipes, muffler, belt guard, drive belt and air intake silencer.

Loosen drive pulley retaining screw and remove drive pulley from machine.

INSTALLATION

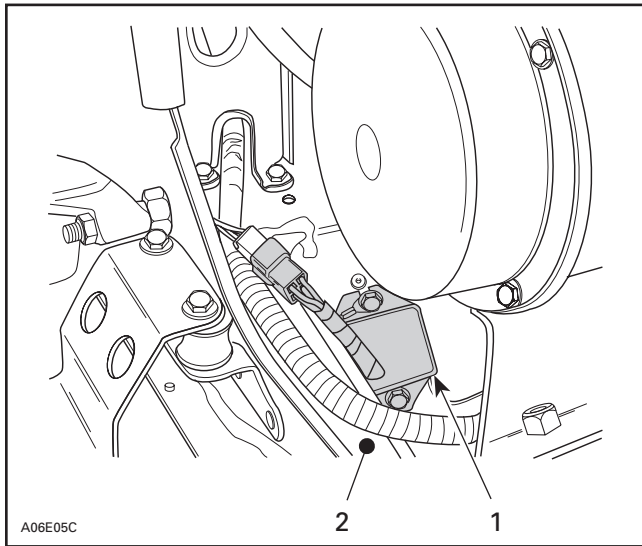
Regulator / Rectifier

1. Remove the rewind starter. Replace original regulator / rectifier, located along RH side member of frame. Secure the regulator / rectifier **no. 1** on both sides using self tapping bolts **no. 2** as well as connecting the ground wire from regulator / rectifier.



1. Regulator / Rectifier
2. Connect ground wire here

2. Apply silicone dielectric grease (P / N 413 7017 00) in the regulator / rectifier connector as well as the vehicle harness connector and plug them together, see following illustration.



1. Regulator / Rectifier

NOTE : Ensure wire colors are matched as follows.

REGULATOR / RECTIFIER WIRES	VEHICLE WIRES
RED	RED / BLUE
YELLOW	YELLOW
GREEN	YELLOW / BLACK
BLACK	BLACK

Ring Gear

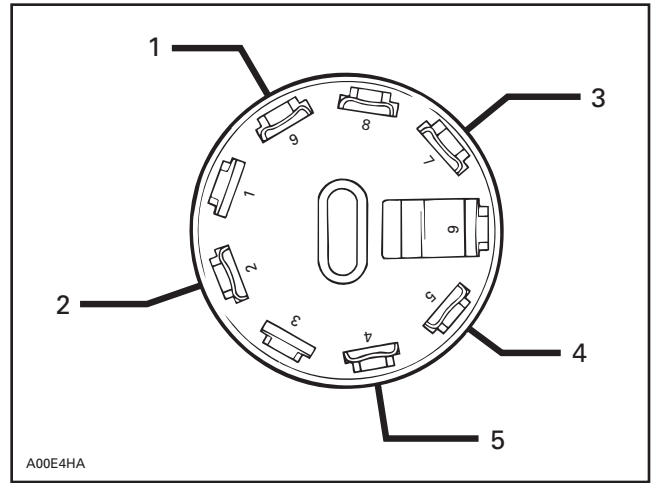
- Secure ring gear no. 16 on inner half using 6 self tapping bolts no. 17. Apply Loctite 271 (red) on bolt threads. Use Loctite sparingly.

CAUTION : Loctite 271 (red) must be applied to properly assemble the ring gear.

- Torque bolts to 11 N•m (97 lbf•in) in a criss-cross sequence.
- Do not reinstall drive pulley at this time.

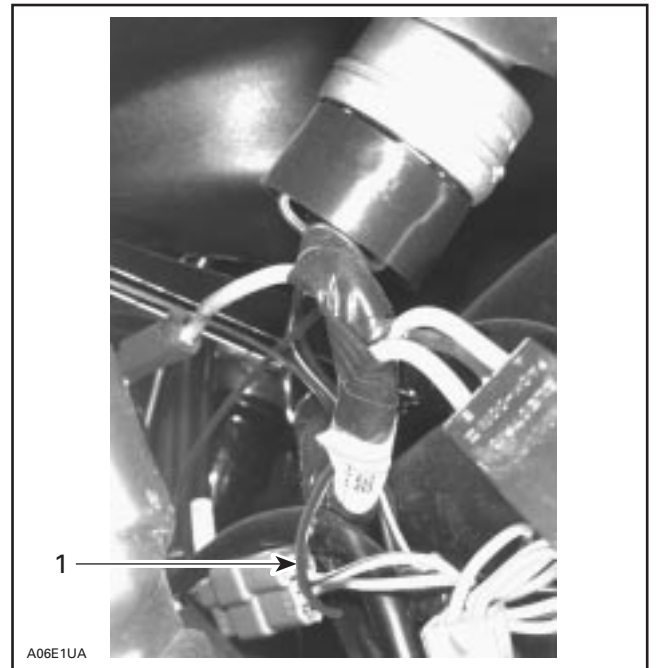
Ignition Switch

- Cut locking tie and unplug connector from ignition switch. Insert the shortest wire of the fuse holder no. 26 inside connector boot. Connect the terminal in position number 7 on the connector.



- RED / GREEN wire to solenoid
- BLACK / YELLOW
- RED wire with fuse to battery
- BLACK
- RED / BLUE

Replug connector to ignition switch and secure wires with a locking tie no. 28 as illustrated.



1. Locking tie

F Series Wire / Cable Connections and Routing

1. Ensure that one terminal of each battery cable, **no. 20** and **no. 21** is bent to 90°. Bend as necessary.
2. Starting from battery location, route battery cables along vehicle harness to the starter location.

The bent terminals will be connected to the battery.



1. Route cables through bracket

NOTE : Route battery cables through bracket beneath the countershaft as illustrated.

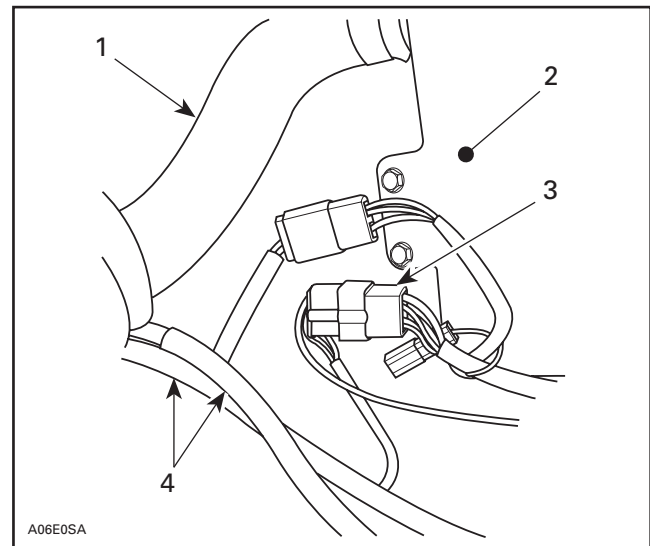
Install the protective covering **no. 35** over the RED battery cable.

FOR F SERIES MODELS PRIOR TO 1995

1. Beginning from starter location, route starter wire RED / GREEN **no. 27**, along vehicle harness, toward the 4-circuit connector which is located on back of coolant expansion tank mounting bracket. Pay attention to use proper terminal types.

Follow the same route as the battery cable.

2. Unplug 4-circuit connector and insert starter wire terminal in the free slot of 4-circuit connector.



1. Engine outlet hose
2. Expansion tank
3. 4-circuit connector
4. Battery cables

NOTE : Apply dielectric grease (P / N 413 7017 00) on all connectors.

3. Replug connector

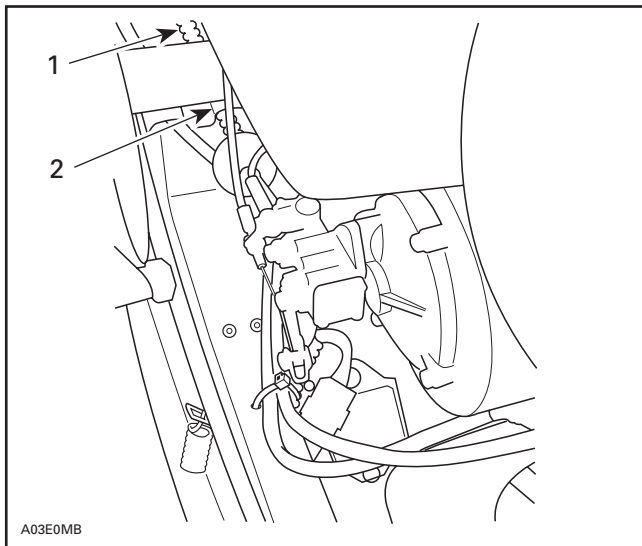
S Series Wire / Cable Connections and Routing

1. Ensure that 1 terminal of each battery cable, **no. 20** and **no. 21** is bent to 90° (the other end of the RED positive cable **no. 21** must be bent to 90° as well. Bend as necessary).
2. Starting from the battery location, route battery cables along vehicle harness to the starter location.

The 90° bent terminals will be connected to the battery.

NOTE : Route battery cables as illustrated, on next page.

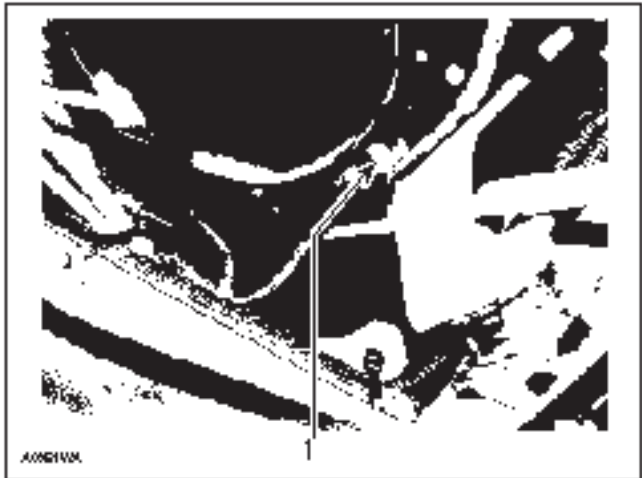
Install the protective covering **no. 35** over the battery cables.



1. Existing vehicle harness
2. Route cables through same bracket

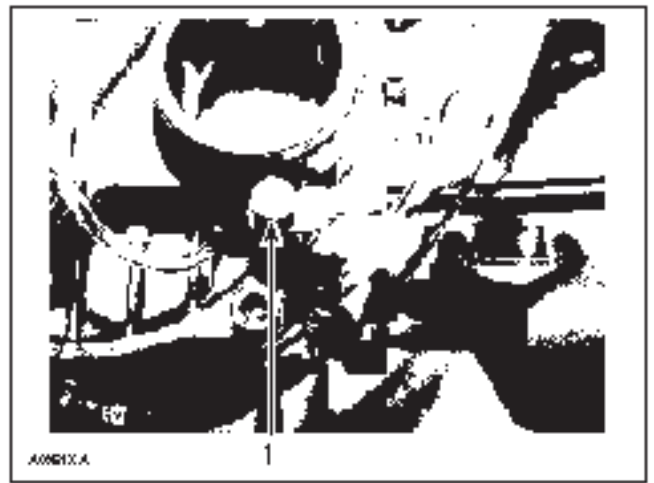
All Models

1. Reinstall the rewind starter.
2. Install BLACK battery ground cable no. 20 to the rewind starter. Secure with the existing rewind starter bolt. Refer to the following photo for proper cable positioning.



1. Connect BLACK ground cable here

For models that do not have bolts to secure the rewind starter, connect the BLACK ground cable no. 20 to the rear of the engine block, beneath the carburator, refer to the following photo.

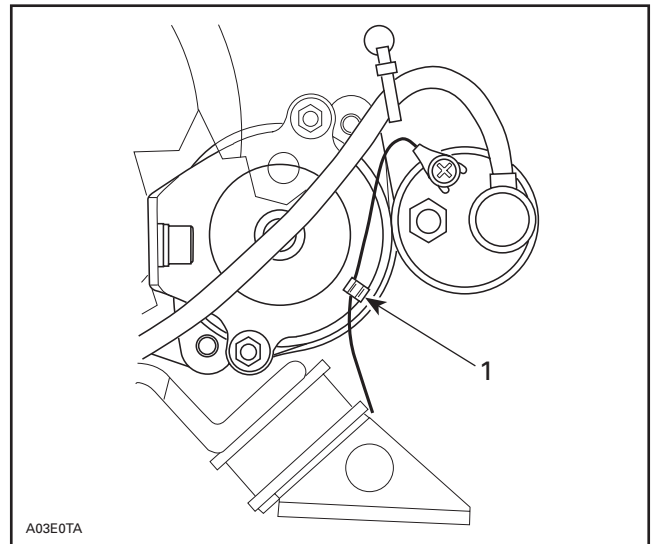


1. Connect BLACK ground cable here

Electric Starter

CAUTION: Apply Loctite 271 (red) on all fastener threads of starter supports.

1. Install starter support no. 3 (PTO side) to engine using socket screws no. 4 and lock washers no. 5. Tighten firmly.
 2. Install electric starter no. 8 on support. Secure bottom first and then the top using socket screws no. 6 and lock washers no. 7.
 3. Install flat washers no. 11 over nuts of starter through bolts.
 4. Install starter support no. 9 (MAG side) to starter and secure with flanged elastic nuts no. 10.
- Install clip no. 34 on starter support (MAG side) and pass RED / GREEN starter wire through.

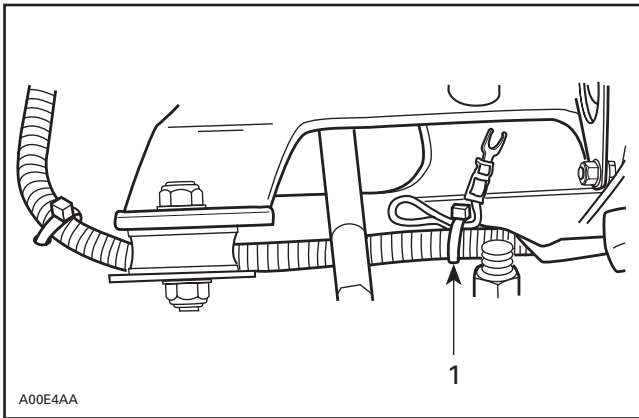


1. Clip

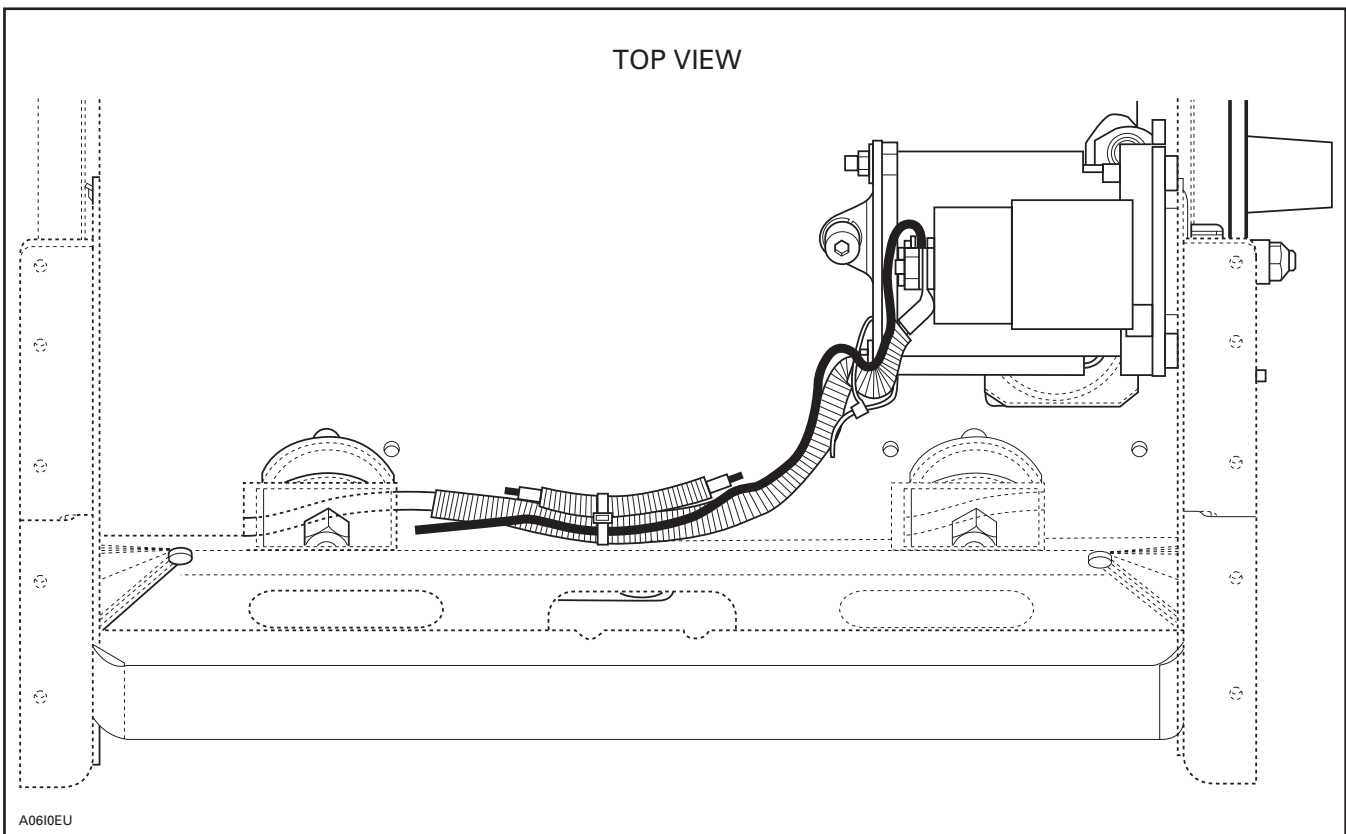
5. If necessary, install hardened washer(s) no. 15 to fill the gap between the support and the engine. Secure the support to the engine with flat washer no. 14, lock washer no. 13 and bolt no. 12.
6. Slide protector cap no. 22 onto RED battery cable no. 21. Bend the terminal to fit. Install RED cable on starter with flat washer no. 25, lock washer no. 23 and nut no. 24. Cover battery post with protector cap.
7. For 1995 models and after, cut the locking tie as illustrated. Connect RED wire to the small post on solenoid. Position terminal under lock washer.

8. Secure all wires / cables with locking ties no. 28 supplied.

▼ **WARNING :** Ensure all terminals are properly crimped on wires / cables and that all connector housings are properly fastened. Keep wires away from any rotating, moving, heating or vibrating parts as well as from sharp edges. Use proper fastening devices as required.



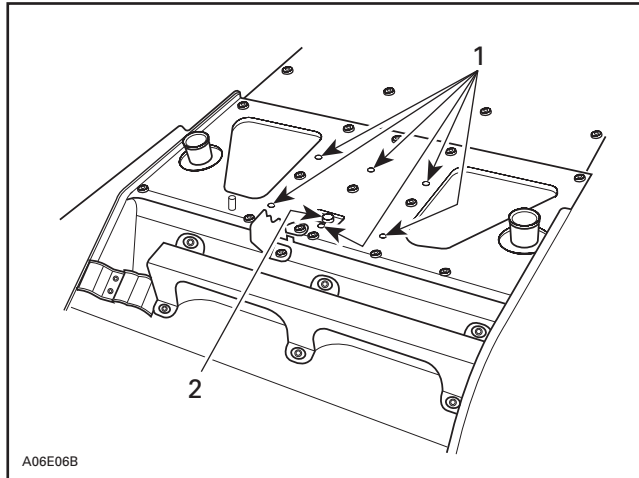
1. Cut locking tie



Battery and Rack

▼ **CAUTION** : Cover engine intakes with a clean rag during the following drilling operation.

1. Drill 6 holes in the chassis with a 5.2 mm (13/64 in) drill bit as shown in the following illustration. Use existing holes in chassis as a guide and push down plastic cap.



1. Drill 5.2 mm (13/64 in) holes
2. Push down plastic cap

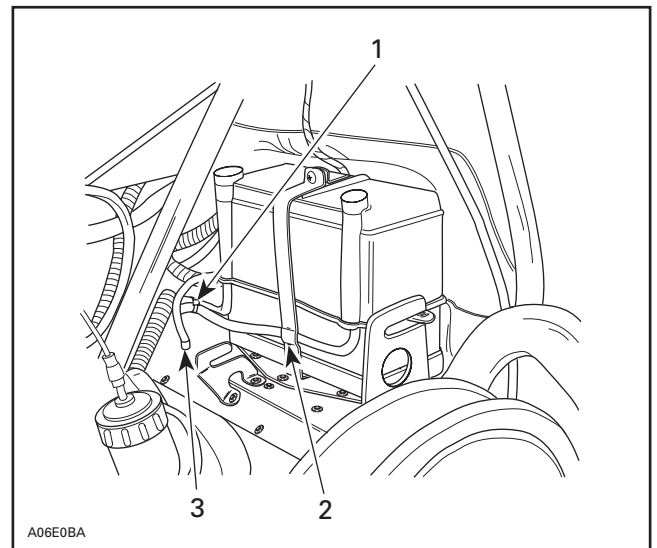
2. Secure battery seat no. 18 with 6 pop-rivets no. 19.
3. Fasten battery cables using a locking tie no. 28. See illustration shown later in the text.
4. Install battery no. 29 on seat and connect vent tube to battery and the other end to the hollow rivet on chassis. Cut vent tube to proper length as necessary. Ensure that the tube is not kinked or blocked.

◆ **WARNING** : Vent tube must be free and open. A kinked or blocked tube will restrict battery ventilation and allow gas accumulation that could cause an explosion.

5. Connect battery positive cable (RED) and RED wire with fuse from ignition switch to battery, THEN connect the BLACK ground cable. Secure cables on top of the battery posts.

◆ **WARNING**: BLACK negative battery cable must always be connected last.

6. Install battery cover no. 30, straps no. 31 and no. 32 and secure with machine screw no. 33 and flanged elastic nut no. 10. Route the RED battery cable and the RED wire through the indentation on the front battery strap.



1. Locking tie on battery cables here
2. Indentation on front of battery strap
3. Vent tube on hollow rivet

FINALIZING ASSEMBLY

1. Reinstall drive pulley.
2. Check pulley alignment.

◆ **WARNING** : Drive pulley alignment must always be checked whenever pulleys have been removed, replaced or disassembled.

3. Reinstall remaining removed parts.

○ **NOTE** : Apply Dow Corning sealer no. 736 RTV on exhaust manifold ball joint.

4. Test electrical starting and ignition cut-out systems as per normal starting procedure for electric starter models.

861 5030 00

1.	515 1571 00	Regulator / Rectifier	Régulateur / redresseur
2.	732 6000 05	Self-Tapping Bolt M6 X 20 (2)	Boulon autotaraudeur M6 X 20 (2)
3.	420 8537 30	Starter Support PTO	Support de démarreur (côté PDM)
4.	222 9820 65	Socket Screw M8 X 20 (2)	Vis à tête creuse M8 X 20 (2)
5.	420 9457 52	Lock Washer (2)	Rondelle-frein (2)
6.	222 9825 65	Socket Screw M8 X 25 (2)	Vis à tête creuse M8 X 25 (2)
7.	224 7811 40	Lock Washer (2)	Rondelle-frein (2)
8.	410 2092 00	Starter	Démarreur
9.	420 9530 10	Starter Support MAG	Support de démarreur (côté MAG)
10.	228 7510 45	Flanged Elastic Nut M5 (2)	Écrou d'arrêt élastique à épaulement M5 (2)
11.	391 3017 00	Flat Washer (2)	Rondelle plate (2)
12.	222 0820 65	Bolt M8 X 20	Boulon M8 X 20
13.	420 9457 52	Lock Washer	Rondelle-frein
14.	224 0811 71	Flat Washer	Rondelle plate
15.	503 0079 00	Hardened Washer (2)	Rondelle trempée (2)
16.	414 8075 00	Ring Gear	Couronne de lancement
17.	732 6000 21	Self-Tapping Bolt M6 X 16 (6)	Boulon autotaraudeur M6 X 16 (6)
18.	517 2475 00	Battery Seat	Support de batterie
19.	390 4023 00	Pop-Rivet (6)	Rivet (6)
20.	515 1575 00	Battery Ground Cable (BLACK)	Câble de masse de la batterie (NOIR)
21.	515 1557 00	Battery Positive Cable (RED)	Câble positif de la batterie (ROUGE)
22.	570 1510 00	Protector Cap	Capuchon de protection
23.	420 9457 52	Lock Washer	Rondelle-frein
24.	228 0810 45	Nut M8	Écrou M8
25.	224 0811 71	Flat Washer	Rondelle plate
26.	515 1573 00	Fuse Holder	Porte-fusible
27.	414 6124 00	Protective Covering	Gaine de protection
28.	414 1152 00	Locking Tie (7)	Attache (7)
29.	410 3011 00	Battery	Batterie
30.	570 0220 00	Battery Cover	Couvercle de batterie
31.	517 2277 00	Battery Strap	Bande de batterie
32.	517 2476 00	Battery Strap	Bande de batterie
33.	222 8520 65	Machine Screw M5 X 20	Vis à métaux M5 X 20
34.	228 7510 45	Flanged Elastic Nut M5	Écrou d'arrêt élastique à épaulement M5
35.	748 0010 01	Locking Tie	Attache
36.	222 0825 65	Hex Bolt M8	Boulon hexagonal M8
37.	512 0544 00	Engine Support	Support de moteur
38.	228 5010 45	Elastic Nut M10 (4)	Écrou d'arrêt élastique M10 (4)
39.	514 0354 00	Spacer	Entretoise
40.	570 0296 00	Carburetor Adapter (2)	Adaptateur de carburateur (2)
41.	415 0273 00	Pre-formed Heat Shield Decal	Autocollant à écran thermique préformé