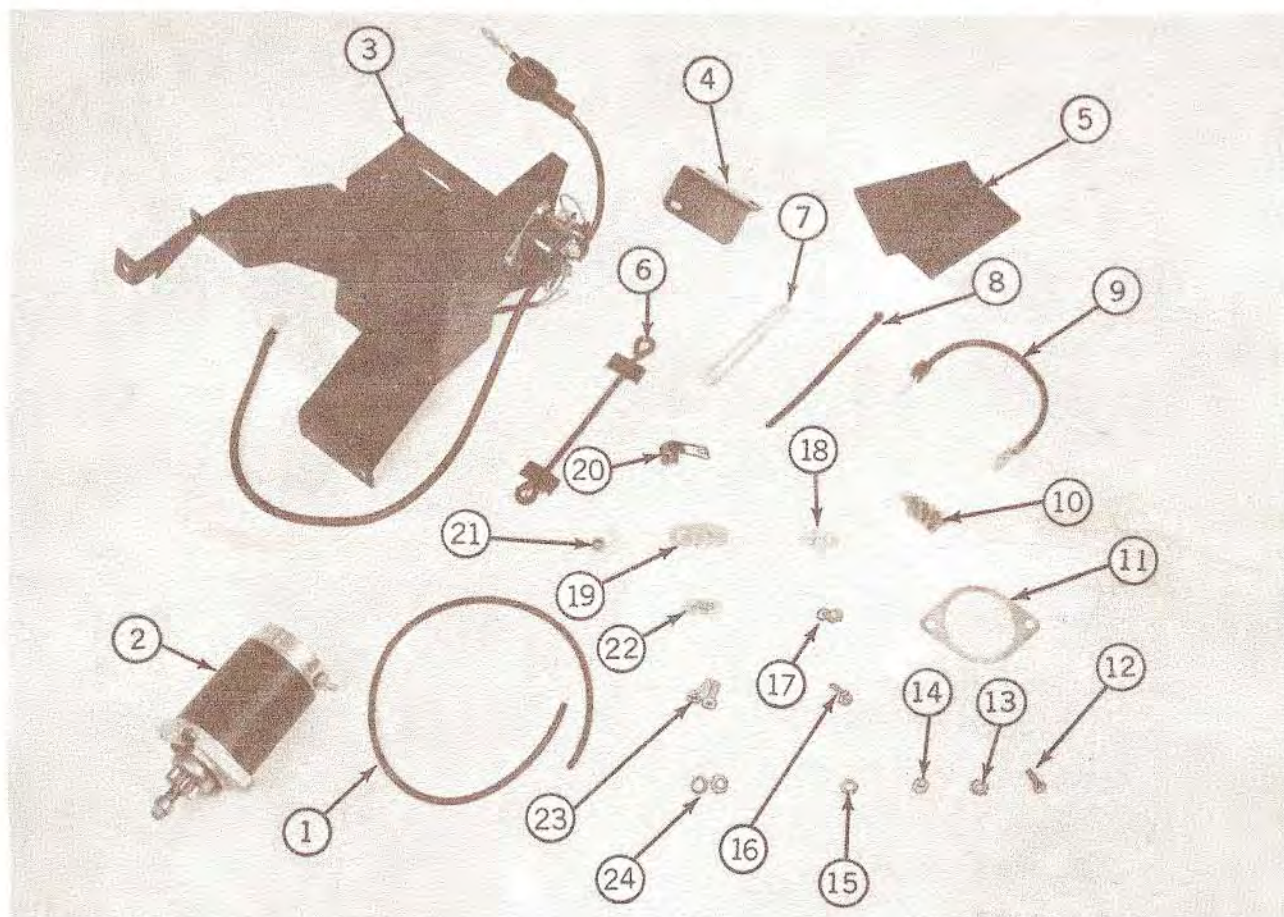


# INSTRUCTIONS FOR INSTALLING AM53962 ELECTRIC START KIT ON CYCLONE SNOWMOBILES

M63319 Instructions



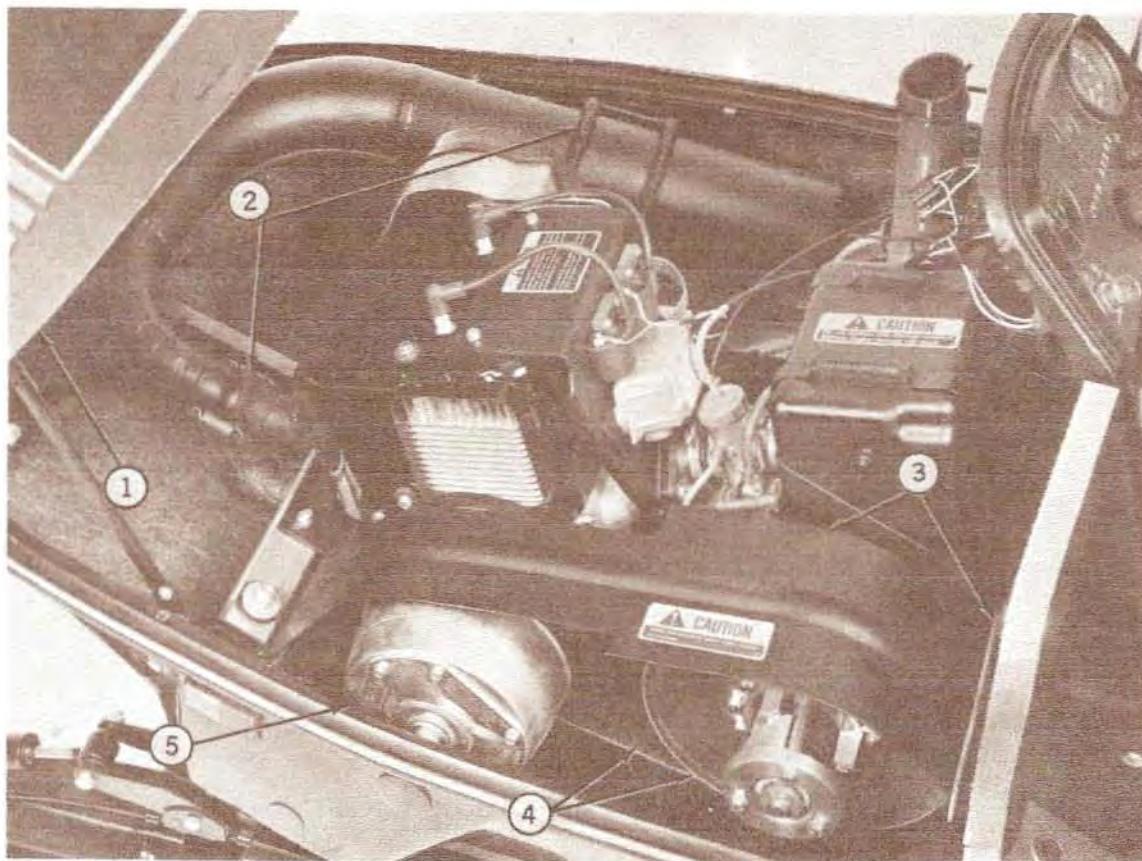
See illustration below for components furnished in this electric start kit. Refer to the keyed description directly below the illustration for identification purposes. *NOTE: A John Deere 12-Volt Battery (part no. AM52050) as well as the electrolyte for the battery is required in addition to the components illustrated below to complete installation. Remove components from carton and bag of parts. Arrange components as shown below and identify them prior to assembly.*



Key	Description	Key	Description
1	Overflow Tube	14	1/4" Hex. Nut
2	Starter Motor	15	1/4" Lock Washer
3	Battery Box Assembly	16	1/4" x 3/4" Thread Cutting Screw
4	Starter Motor Tail Bracket	17	1/4" Lock Nut (2 used)
5	Battery Box Pads	18	5/16" Lock Nut (4 used)
6	Battery Hold-Down	19	11/32" x 1" x .060" Flat Washer (4 used)
7	Battery Hold-Down Bolts	20	J-Clip
8	Nylon Tie Strap	21	8MM Flange Nut
9	Battery Ground Cable	22	9/32" x 5/8" x .060" Flat Washer (5 used)
10	5/16" x 3/4" Hex. Bolts (4 used)	23	8MM x 18MM Hex. Socket Head Bolts (2 used)
11	Starter Motor Spacer	24	5/16" Lock Washer (2 used)
12	6MM x 20MM Bolt		
13	1/4" Internal Tooth Lock Washer		



## PREPARE SNOWMOBILE



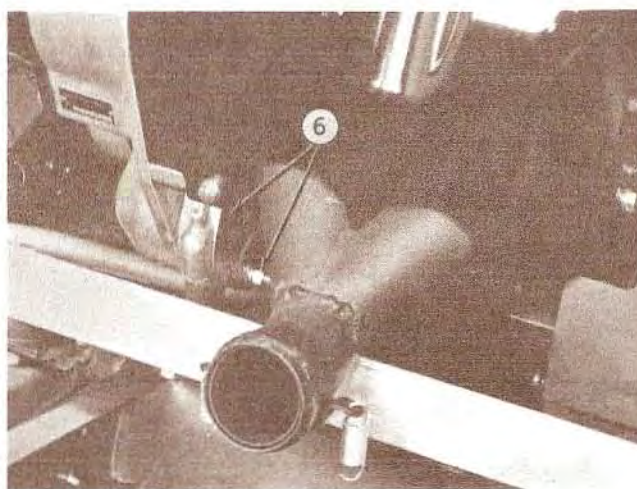
1. Unlatch hood. Raise hood completely forward as shown above.

2. Disconnect four springs securing the muffler in place. Remove muffler.

3. Remove drive belt shield latch pin. Place drive belt shield forward.

4. Remove drive belt from secondary drive sheave.

5. Remove primary drive clutch sheave with special tools JDM 12-2, JDM 41-2, and JDM 41-4 as shown in the snowmobile service manual.

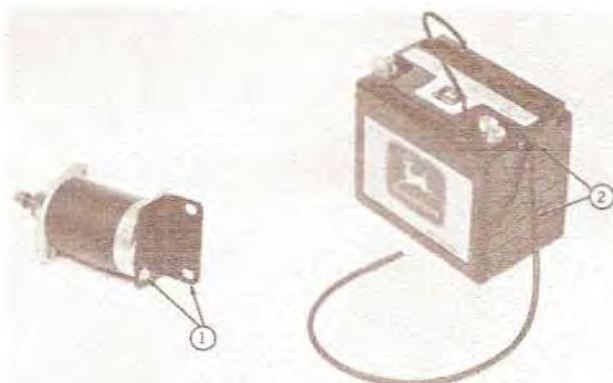


6. Remove and discard the hex. nuts and washers securing end cap to engine housing. Remove and discard end cap.

You now have the snowmobile completely prepared. Now, refer to page 3 and begin to install the components of the electric start kit.



# INSTALL TAIL BRACKET ON STARTER MOTOR AND PREPARE BATTERY FOR INSTALLATION



1. Attach tail bracket to starter motor with a 1/4" x 3/4" thread cutting screw.

*NOTE: Turn thread cutting screw all the way into starter motor hole and then back it out two or three turns. Leave the tail bracket loose until after starter motor is installed.*

2. Obtain a John Deere battery (part no. AM52050) from stock. Slip overflow tube over nipple on battery as shown above.

Remove battery cell caps and add electrolyte to battery as explained below.

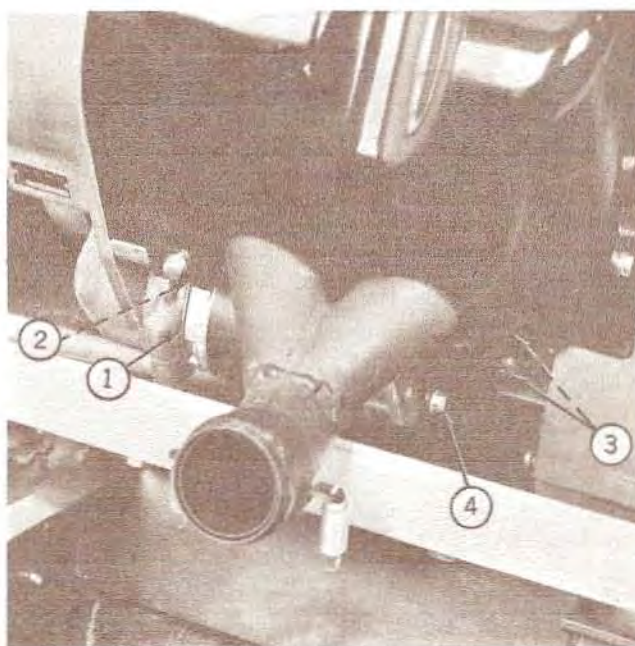
*CAUTION: Battery electrolyte is poisonous and can be injurious to eyes, skin and clothing. Be careful when adding electrolyte to battery.*

Use only battery grade sulfuric acid electrolyte with 1.265 specific gravity plus or minus 0.005 corrected to 80 degrees fahrenheit.

Use special precaution when filling this small battery. Never place battery in snowmobile before the electrolyte is added. Pour in electrolyte slowly until visible in the bottom of each filling tube. Then charge battery 15 amps for 10 minutes or 7 amps for 30 minutes. DO NOT EXCEED RECOMMENDED CHARGING RATE.

After battery is properly charged, add electrolyte until level with circular split ledge in filler tube. Thereafter, add only distilled water to battery as use and time require.

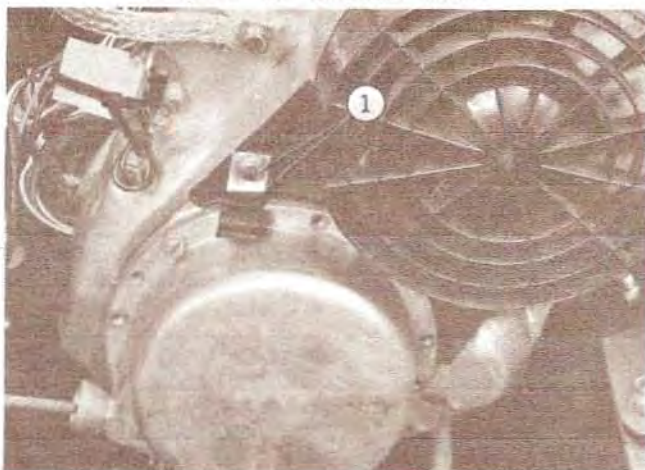
## ATTACH STARTER MOTOR TO ENGINE



1. Place starter motor spacer over the two stud bolts on engine housing.
2. Insert drive gear end of starter motor into housing. Secure starter motor to top stud bolt on housing with one 8 mm flange nut. Tighten nut securely.
3. Bolt starter motor tail bracket to engine with two 5/16" lock washers and two 8 mm x 18 mm hex. socket head bolts. Tighten bolts securely.
4. Tighten thread cutting screw on tail bracket securely.

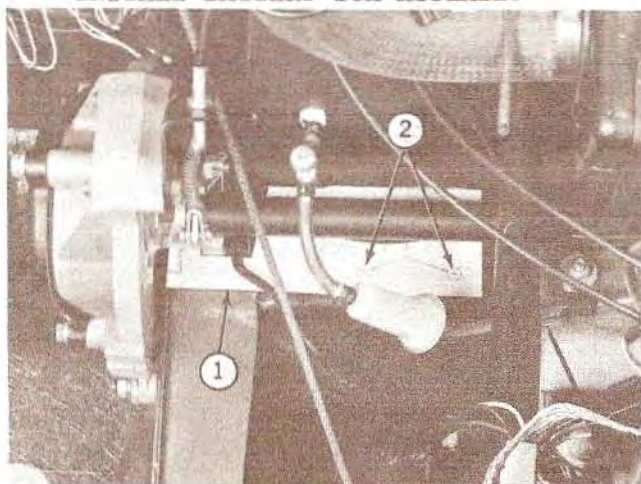


#### J-CLIP TO ENGINE BOLT



1. Remove and save the 6mm x 15 mm bolt from right-hand side of engine. Bolt J-clip to side of engine and fan shield housing with two 9/32" x 5/8" x .060" flat washers and a 6 mm x 20 mm hex. head bolt.

#### INSTALL BATTERY BOX ASSEMBLY



Cut out paper template provided on page 7. Cut out dashed line area on template for locating and drilling holes in tunnel.

1. Place template on tunnel as shown above. Be sure template is flush with front and right-hand edges of tunnel.
2. Using a center punch and hammer, mark through the two .344 holes on template into tunnel. Remove template and drill two 11/32" holes through tunnel.



3. Bolt rear part of battery box mounting bracket to tunnel with two 11/32" x 1" x .060" flat washers, two 5/16" x 3/4" hex. head bolts, and two 5/16" lock nuts.

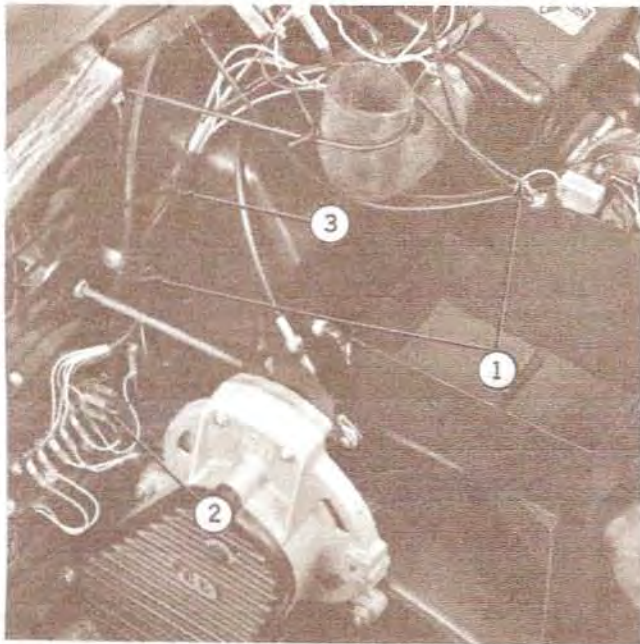
*NOTE: Assemble flat washers on bolts and insert bolts up from bottom of tunnel. Flat washers must be beneath bolt heads to prevent the bolt heads from being pulled through the tunnel.*

4. Position front part of battery box mounting bracket on tunnel as shown above. Using holes in bracket as a template, drill two 11/32" holes through tunnel. Bolt front battery box bracket to tunnel with two 11/32" x 1" x .060" flat washers, two 5/16" x 3/4" hex. head bolts, and two 5/16" lock nuts.

5. Place the two battery box pads in battery box as shown above.



# ATTACH RECTIFIER WIRE TO TERMINAL BOARD

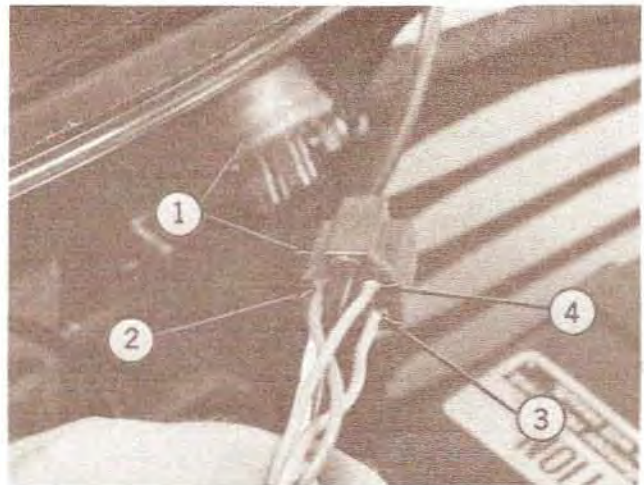


1. Place brown rectifier wire from battery box assembly into J-clip with main wiring harness.
2. Push female connector on rectifier wire onto open male spade connector on alternator terminal.

*NOTE: The alternator terminal is the second one open from the left on the terminal board.*

3. Secure rectifier wire to main wiring harness with nylon tie strap.

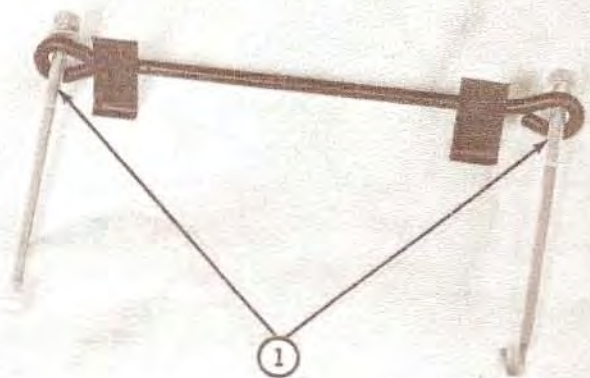
# CONNECT BATTERY BOX ASSEMBLY ELECTRICAL WIRES TO MAIN WIRING HARNESS PLUG



1. Pull wiring harness connector plug off ignition switch terminals.
2. Push red wire spade terminal into top left-hand access opening on rear of connector plug.
3. Push orange wire spade terminal into bottom right-hand access opening on rear of connector plug.
4. Push purple wire spade terminal into top right-hand access opening on rear of connector plug.

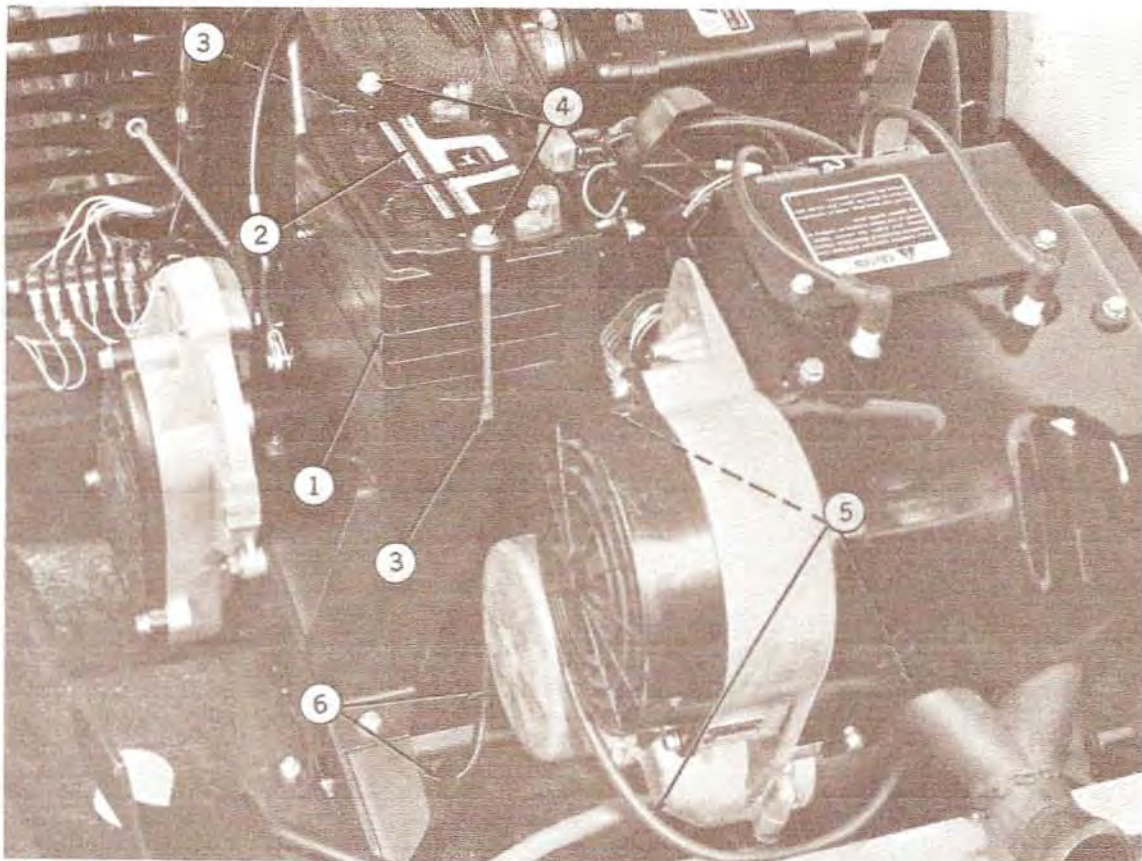
Push main wiring harness connector plug onto ignition switch terminals.

# INSTALL BATTERY



1. Install the two battery hold-down bolts through battery hold-down. Place two 9/32" x 5/8" x .060" flat washer and two 1/4" lock nuts on hold-down bolts. Leave lock nuts loose.





2. Place battery in battery box with positive (+) terminal on battery facing forward.

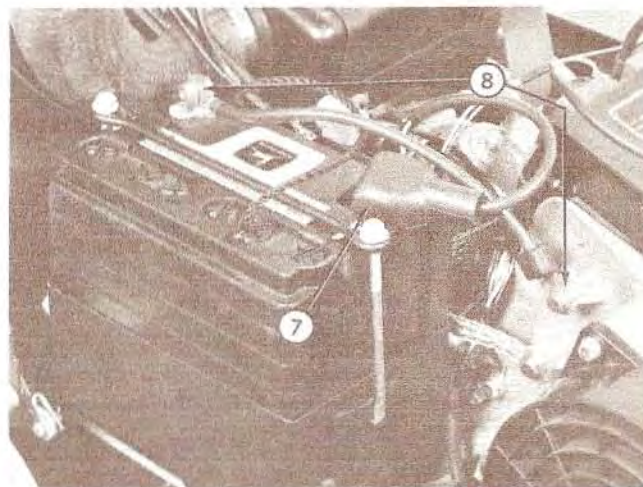
3. Place battery hold-down with bolts on top of battery. Hook ends of hold-down bolts in slots on front and rear of battery box as shown above.

4. Tighten lock nuts on battery hold-down bolts snug. Do not over-tighten.

5. Place starter solenoid cable in J-clip attached to right-hand side of engine. Attach solenoid cable to starter motor with a 1/4" internal tooth lock washer and 1/4" hex. nut.

6. Place end of overflow tube from battery through hole in bottom of tunnel.

*CAUTION: To avoid accidental short circuiting, be sure to attach the positive cable to positive (+) battery terminal before the ground cable is attached to the negative (-) battery terminal. Slide rubber boot over positive battery terminal until terminal and attaching bolt are completely covered.*



7. Attach positive (+) battery cable to positive terminal on battery.

8. Using 6 mm x 15 mm bolt previously removed in step 1, on page 4, place a 9/32" x 5/8" x .060" flat washer on bolt and attach negative (-) ground cable to side of engine as shown. Attach other end of cable to negative (-) battery terminal.

## REINSTALL PARTS REMOVED

You now have the electric start kit installed.

Now, reinstall the primary drive clutch sheave, drive belt, muffler and latch the drive belt shield in place.

*IMPORTANT: Be sure to tighten the primary drive clutch sheave bolt to 50 ft-lbs torque.*

Lower and latch the hood in place.

Refer to the Operator's Manual for complete starting instructions and battery maintenance.

## TEMPLATE

Use the template shown below for locating the two holes that must be drilled in the tunnel to install the battery box assembly.

