

Consumer Products

Service Information

Date: 8 October 1981

Factory: JOHN DEERE HORICON WORKS



ELECTRIC START KIT INSTALLATION FOR LIQUIFIRE
1982 LIQUIFIRE SNOWMOBILES
(S.N. 190,001 -)

Problem:

No electric start kit is currently available for Liquifire snowmobiles.

Solution:

Modify a Trailfire/Sportfire electric start kit BM21167 to fit.

Additional Information:

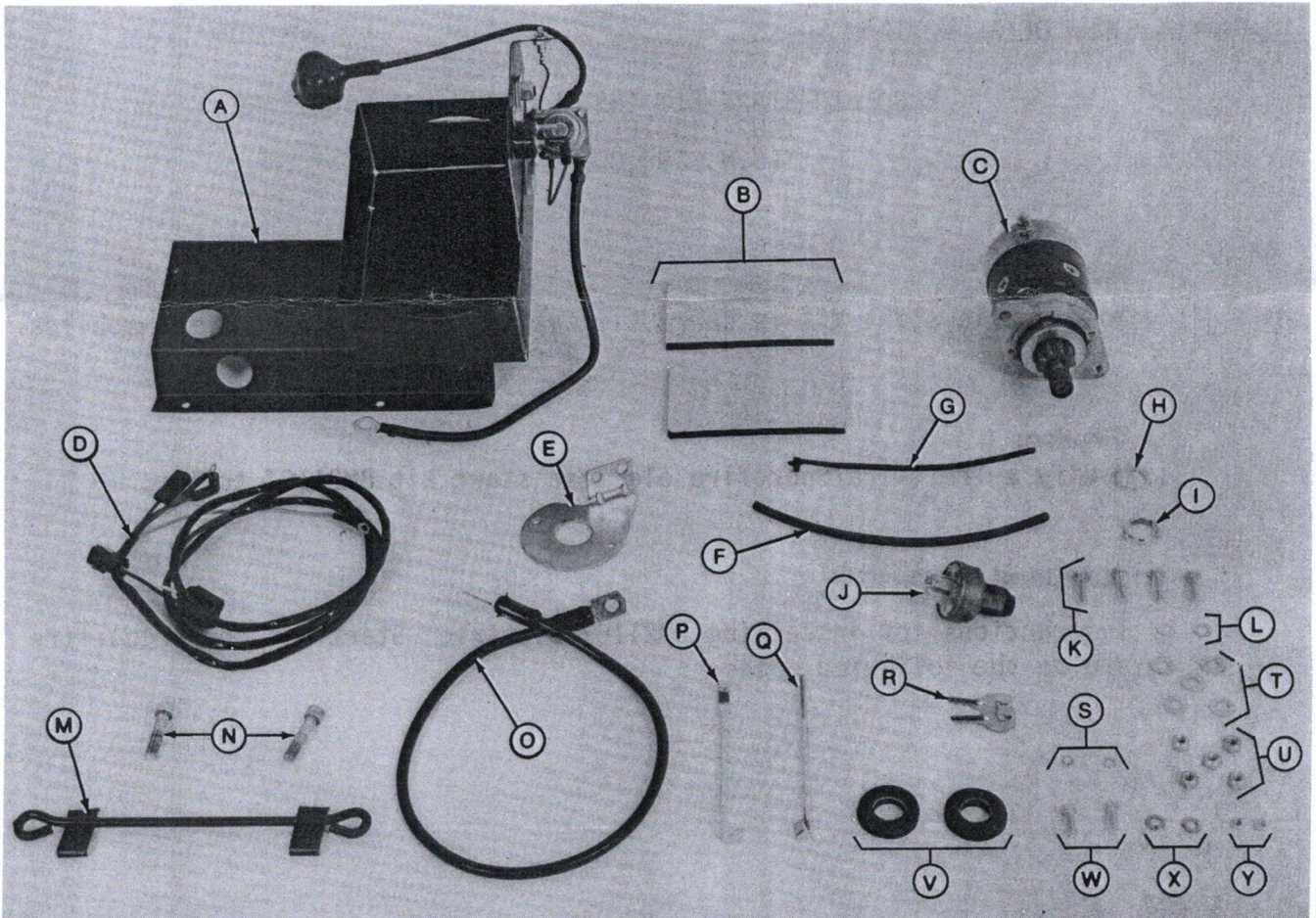
Instructions for installing BM21167 Electric Start Kit on a Liquifire are on the following pages.

<i>Please pass to:</i>	<i>Date</i>

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Applies to:

NOTE: Two (2) 19M7657 bolts, one (1) AM54952 wiring harness, an AM52050, 12 volt battery and electrolyte are required in addition to this kit.

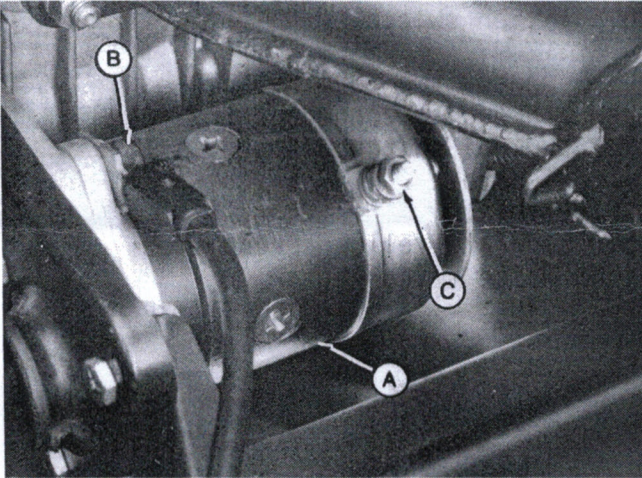


A - Box
 B - Battery Pads (2 used)
 C - Starter Motor
 D - Wiring Harness
 E - Starter Bracket
 F - Vent Tube
 G - Tie Strap
 H - Face Nut
 I - Console Nut
 J - Ignition Switch
 K - 1/4" x 7/8" Cap Screw
 (4 used)
 L - 6 mm Flat Washer (2 used)
 M - Battery Hold Down

N - Allen Screws (2 used on
 Sportfire Only)
 O - Ground Lead
 P - Hold Down Rod
 Q - Hold Down Bolt
 R - Keys
 S - 3/16" Lock Washer (2 used)
 T - 1/4" Flat Washer (5 used)
 U - 1/4" Lock Nut (5 used)
 V - Split Grommet (2 used)
 W - 6 mm Cap Screw (2 used)
 X - 1/4" Lock Washer (2 used)
 Y - 3/16" Nut (2 used)

1. Remove headlight harness from headlight. Remove tie wire and pull harness from under tie rod.

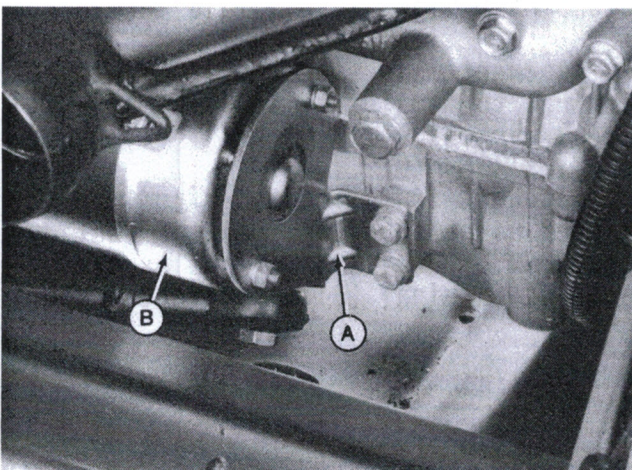
2. Remove muffler.



A - Starter Motor B - Ground Lead

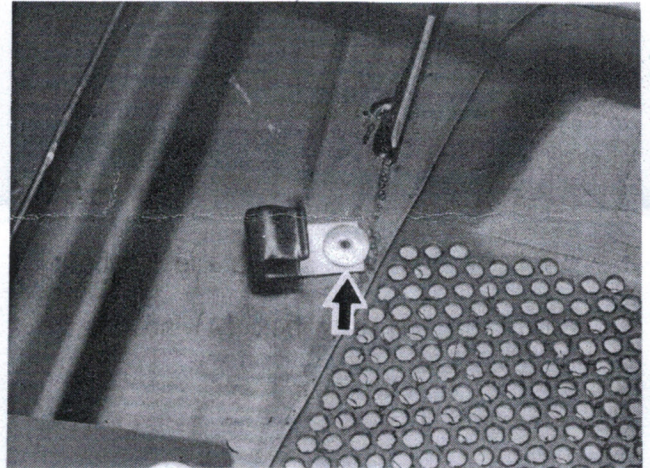
3. Install motor (A) and ground (B) on upper mount. Note position of starter positive post (C) for cable attachment in future step. Use allen screws 19M7657, flat washer and lock washer, but do not tighten. Install lower allen screw, flat washer and lock washer. Do not tighten.

NOTE: 19M7657 allen screws are used in place of longer Sportfire allen screws (G).

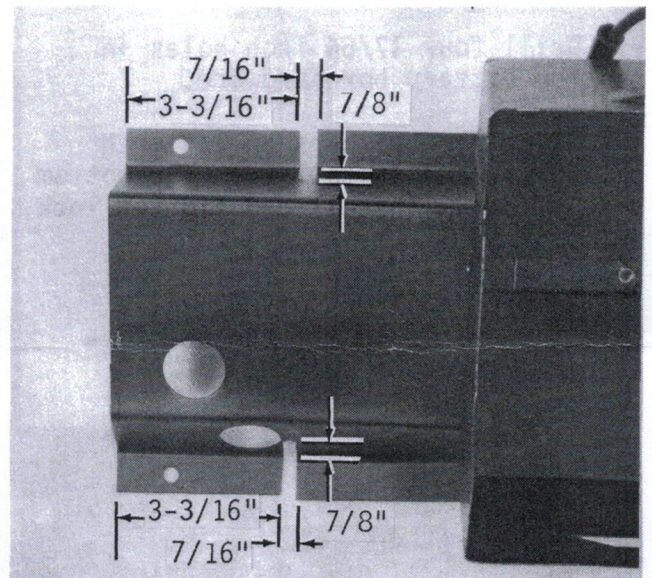


A - Bracket B - Starter Motor

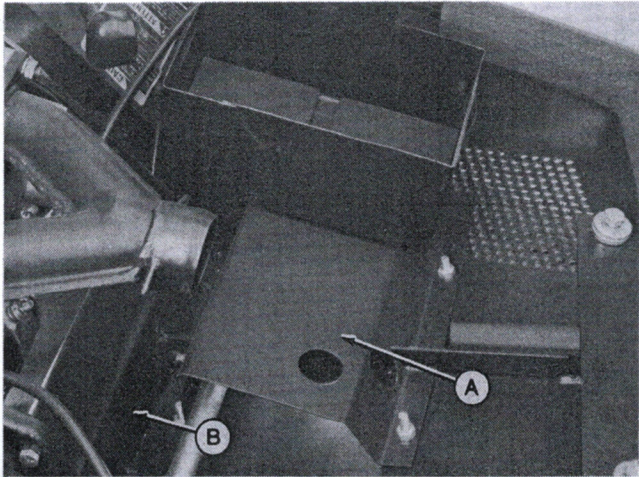
4. Install starter motor bracket (A) to starter motor (B) and engine. Secure to motor with lock washer and nut. Secure to engine with cap screw, flat washer and lock washer. Tighten all hardware in Steps 3 thru 4.



5. Use a cold chisel and remove the rivet indicated.



6. Cut slots in battery box for clearance of Liquifire frame braces. Extend slots 7/8" up the vertical portion of battery box frame.



A - Battery Box B - Frame Member

7. Position battery box (A) so slot in box is over frame member. Push box as far to the right in slot as possible and against frame member (B).

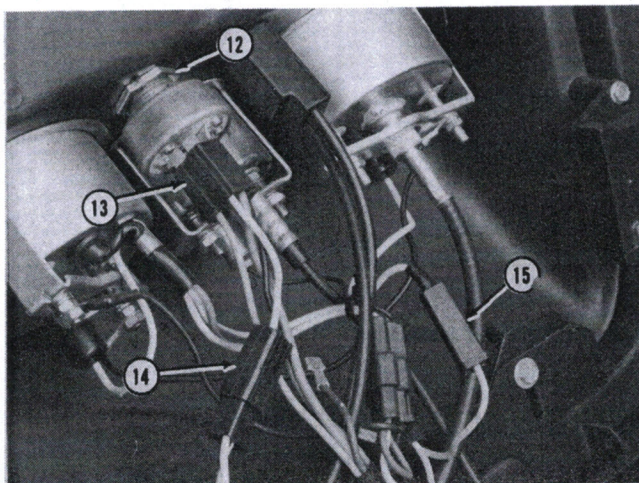
NOTE: Check for tie rod clearance with skis turned.

8. Using battery box as a template, scribe and center punch the four holes.

9. Drill four 17/64 inch holes in pan for battery box hardware.

10. Place flat washers on 1/4 inch cap screws and install from the bottom side of pan. Install and tighten lock nuts.

11. Remove ignition switch. File hole in console to fit the new five terminal ignition switch.

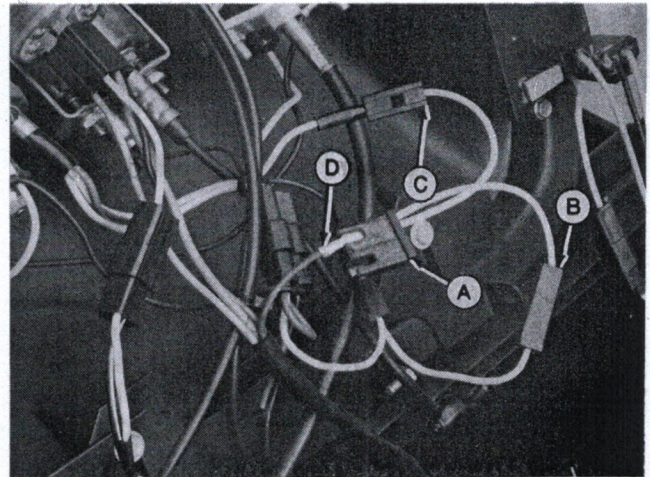


12. Install face nut on ignition switch and set in console. Adjust nut so switch is just through console. Install and tighten console nut.

13. Connect five terminal connector of wiring harness furnished with kit to ignition switch.

14. Connect two terminal connectors from harness to connector that the two terminal switch was previously connected to.

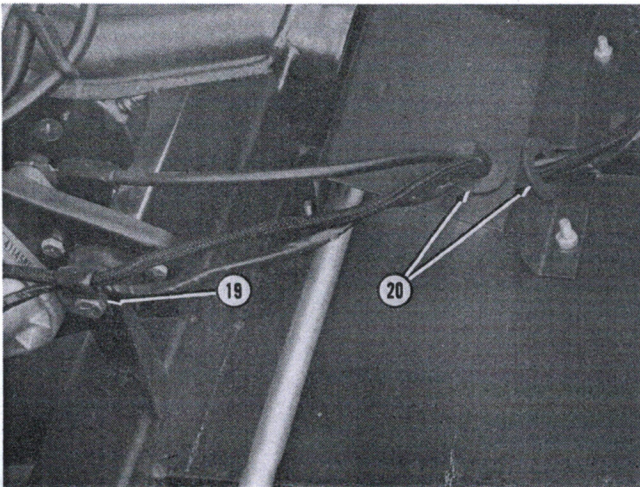
15. Separate yellow speedometer light wire at connector.



16. Using AM54952 wiring harness (A), connect male terminal (B) to yellow speedometer light wire female terminal.

17. Connect male speedometer light terminal to female terminal (C) of wiring harness.

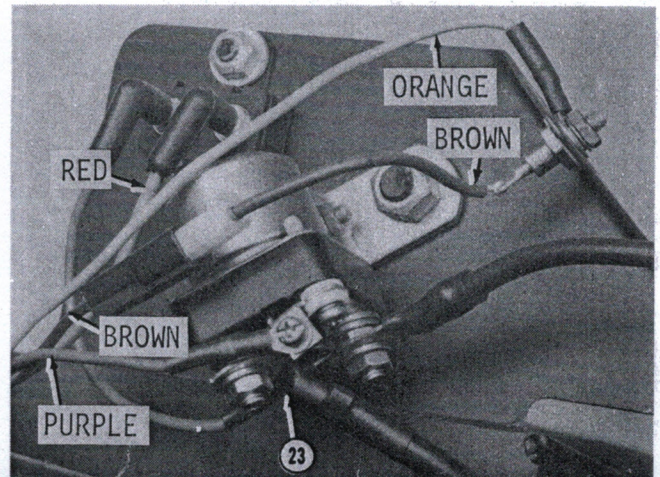
18. Connect brown lead (D) from the starter harness to the dual terminal end of AM54952 harness. Tape exposed metal of terminal (D) to prevent a short.



19. Route starter harness down near engine electrical terminal and run to battery box using same path as headlight harness. Fasten both harnesses in "J" clip.

20. Guide ground cable, headlight harness and ignition harness through both holes in battery box and install grommets.

21. Install muffler.



23. Position starter cable as indicated and connect to starter positive post.

24. Install rubber pads in bottom of battery box.

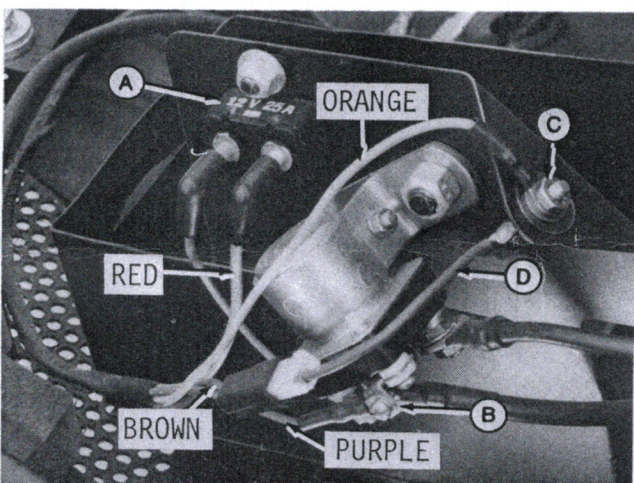
25. Activate and install battery.

▲ CAUTION:

Battery electrolyte is poisonous and can be injurious to eyes, skin and clothing. Handle carefully.

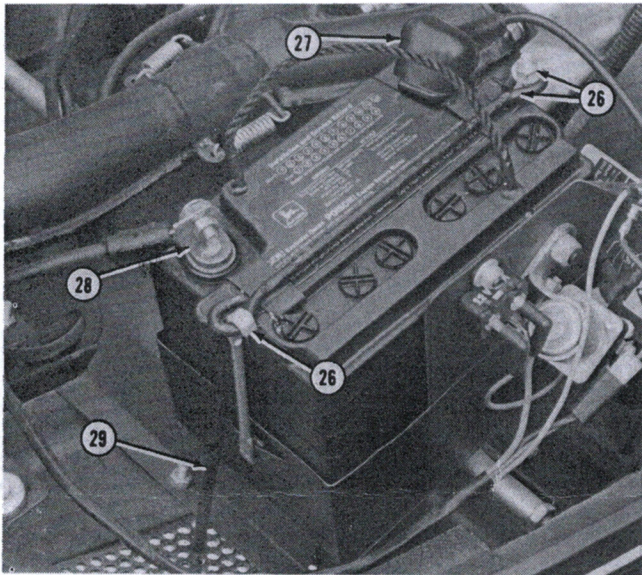
▲ CAUTION:

To prevent explosion or fire, keep battery away from sparks and flames at all times, especially when charging battery.



A - Circuit Breaker C - Rectifier
B - Solenoid D - Brown Wire

22. Connect wiring harness to battery box. Red wire of harness to circuit breaker (A), purple wire to solenoid (B), orange wire to rectifier (C) and brown wire to brown wire (D).



26. Install battery hold down. Threaded hold down bolt to rear.
27. Connect solenoid lead to positive (+) battery post and place rubber boot over post.
28. Connect ground cable to the negative (-) battery post.
29. Install battery vent tube to battery and place tube through hole in front vent.
30. Connect headlight harness to headlight. Tie wire harness to hood.