

50-899783A01

ELECTRIC START CONVERSION KIT

25/30 EFI FOURSTROKE

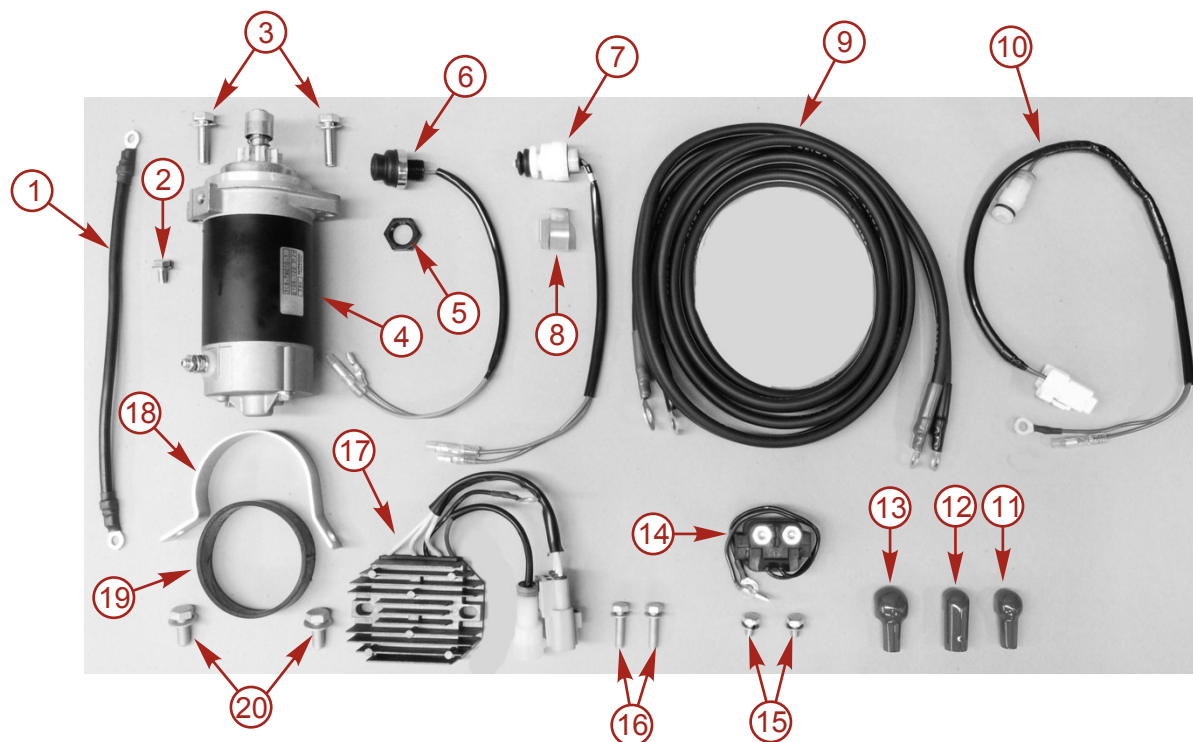
NOTICE

After completing installation, place these instructions with the product for the owner's future use.

NOTICE

This document guides our dealers, boatbuilders, and company service personnel in the proper installation or service of our products. If you have not been trained in the recommended servicing or installation procedures for these or similar Mercury Marine products, have the work performed by an authorized Mercury Marine dealer technician. Improper installation or servicing of the Mercury product could result in damage to the product or personal injury to those installing or operating the product.

Components Contained in Kit

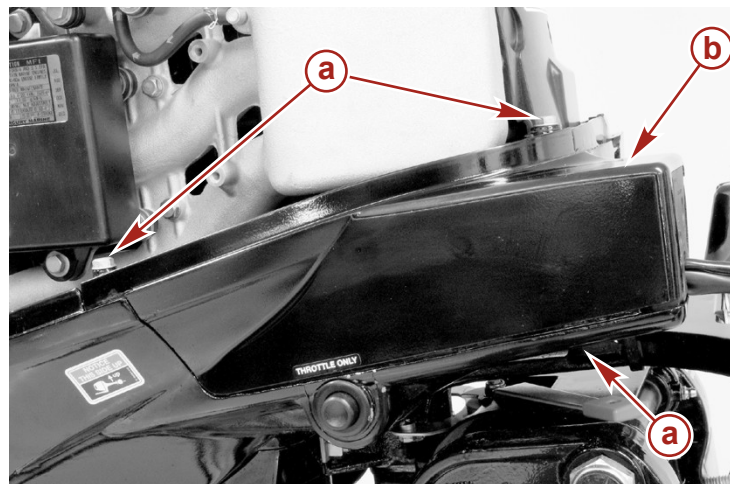


Ref.	Qty.	Description	Part Number
1	1	Starter cable	853740016
2	1	Bolt	10-16211 1
3	2	Bolt	10-823042 11
4	1	Starter motor	50-853805T03
5	1	Plastic nut	NSS
6	1	Starter Switch	87-853820A02
7	1	Neutral start safety switch	87-17171 1

Ref.	Qty.	Description	Part Number
8	1	Actuator	803841
9	1	Battery cable	84-898101T06
10	1	20 ampere fuse cable	84-898101077
11	1	Starter solenoid boot	85-853816004
12	1	Positive battery cable boot	85-853816002
13	1	Starter motor boot	85-853816003
14	1	Starter solenoid	89-853809001
15	2	Bolt	10-823042041
16	2	Bolt	10-823042
17	1	Voltage regulator/rectifier	898103T14
18	1	Bracket	898101186
19	1	Rubber mount	851837
20	2	Bolt	10-823042052

Electric Start Installation Instructions

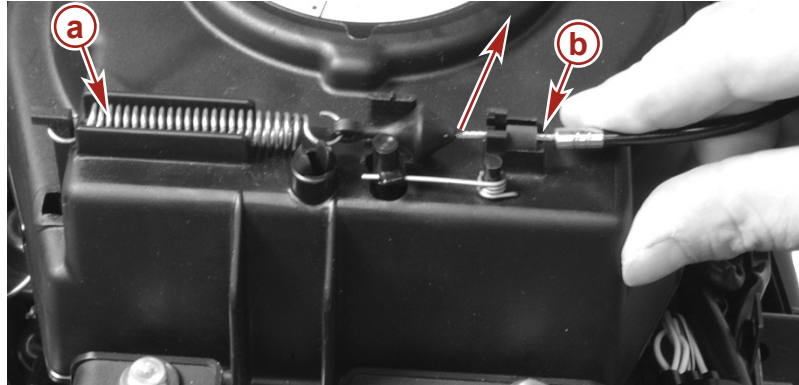
1. Remove the three screws securing the access cover. Remove the cover.



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a - Screws**b** - Access cover

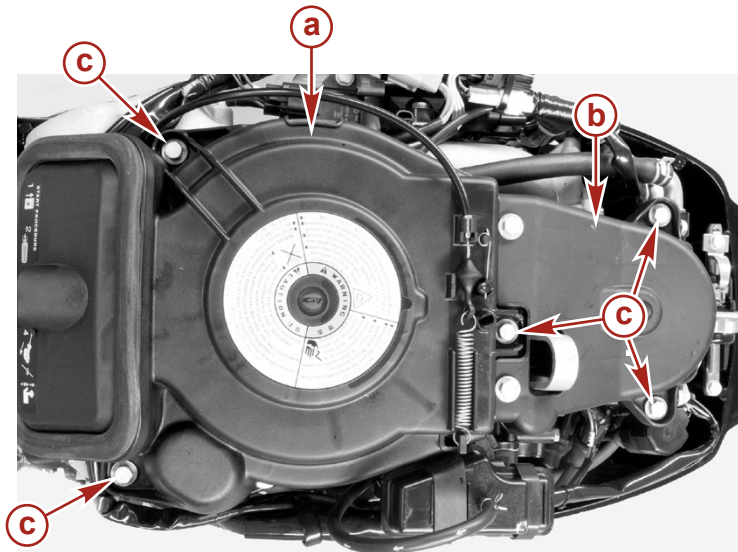
2. Lift the neutral interlock cable up and remove the neutral interlock cable tension spring from the recoil housing.



a - Neutral interlock cable tension spring

b - Neutral interlock cable

3. Remove the five bolts securing the flywheel cover/recoil assembly and the timing belt cover. Remove both covers.

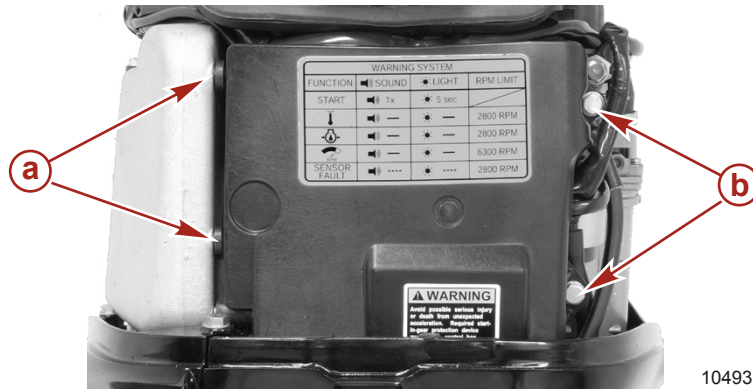


a - Flywheel cover/recoil assembly

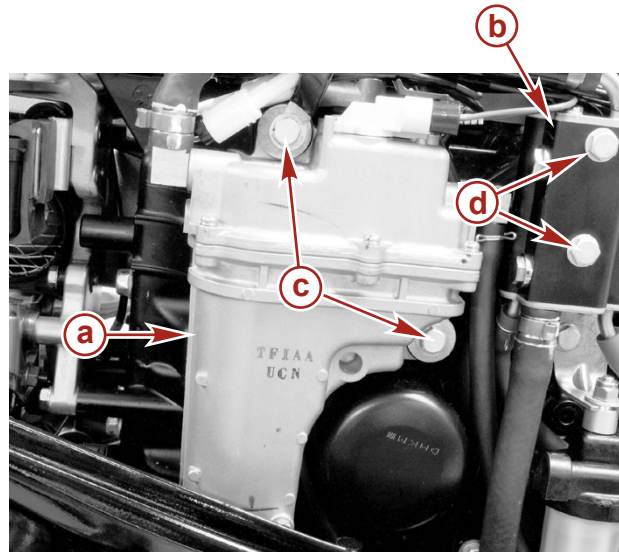
c - Bolts

b - Timing belt cover

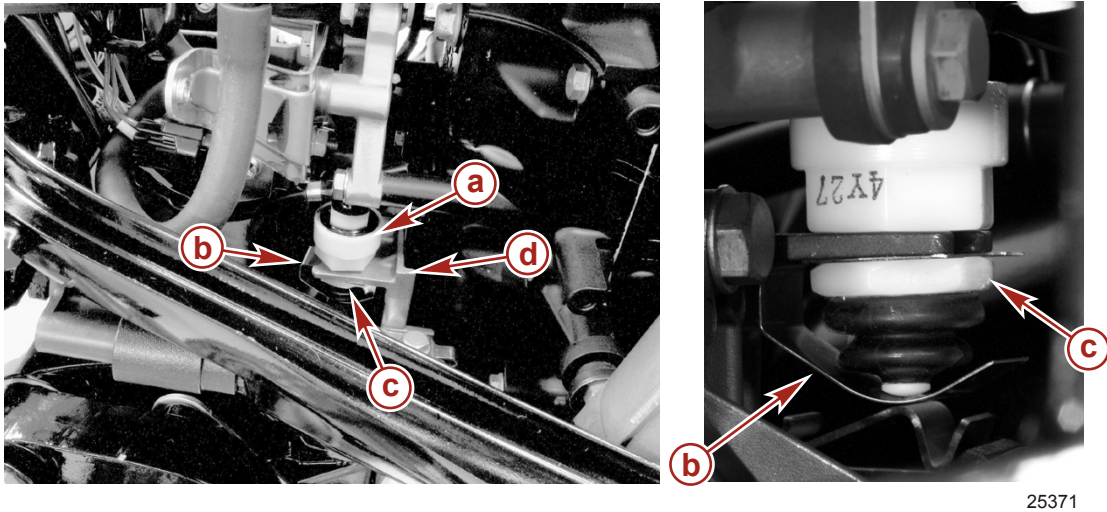
4. Remove the two bolts securing the electrical cover. Remove the cover from the grommets.

**a** - Grommets**b** - Bolts

5. Remove the two bolts securing the vapor separator.
6. Remove the two bolts securing the fuel cooler assembly.
7. Move the vapor separator tank (VST) and the fuel cooler off to one side.

**a** - Vapor separator tank (VST)**b** - Fuel cooler**c** - Vapor separator bolts**d** - Fuel cooler bolts

8. Install the neutral start switch and actuator onto the shift lever bracket. Secure the switch with the plastic nut provided.

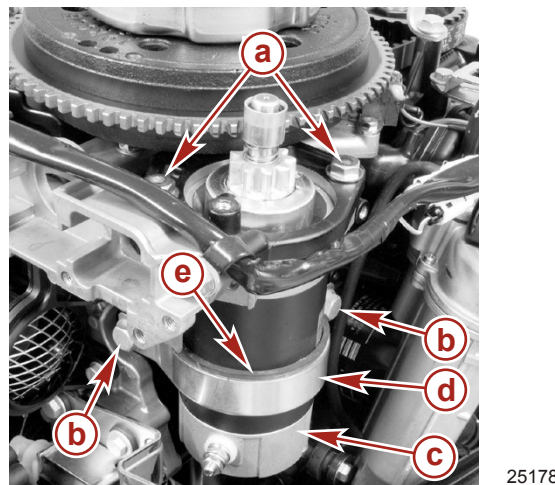


a - Neutral start switch
b - Actuator

c - Plastic nut
d - Shift lever bracket

9. Install the rubber mount onto the starter motor. Position the retaining bracket over the rubber mount and secure the starter motor to the cylinder block with four bolts. Torque the bolts to specification.

NOTE: The idle air control muffler is removed for visual clarity.



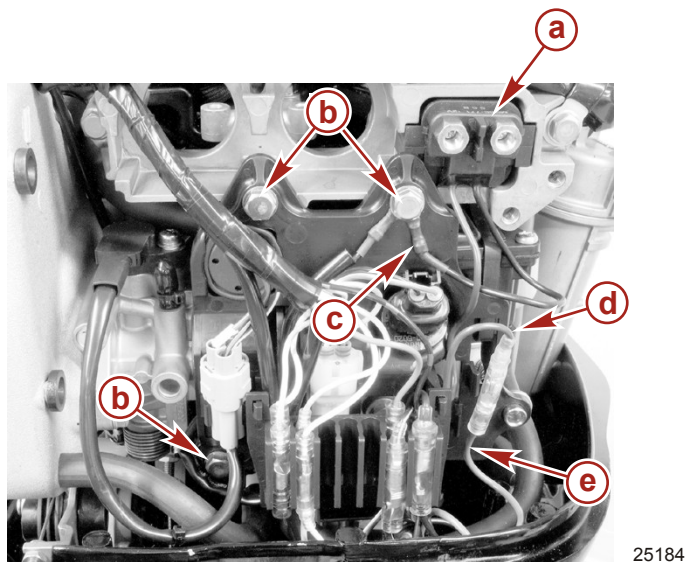
a - Bolt (10-823042 11)
b - Bolt (10-823042052)
c - Starter motor

d - Bracket
e - Rubber mount

Description	Nm	lb. in.	lb. ft.
Bolt (10-823042 11)	6	53	
Bolt (10-823042052)	13	115	

10. Remove the three bolts securing the electrical bracket. Install the starter solenoid. Secure the solenoid by reinstalling the electrical bracket. Torque the bracket retaining bolts to specification.
11. Secure the solenoid black lead to the electrical bracket retaining bolt.

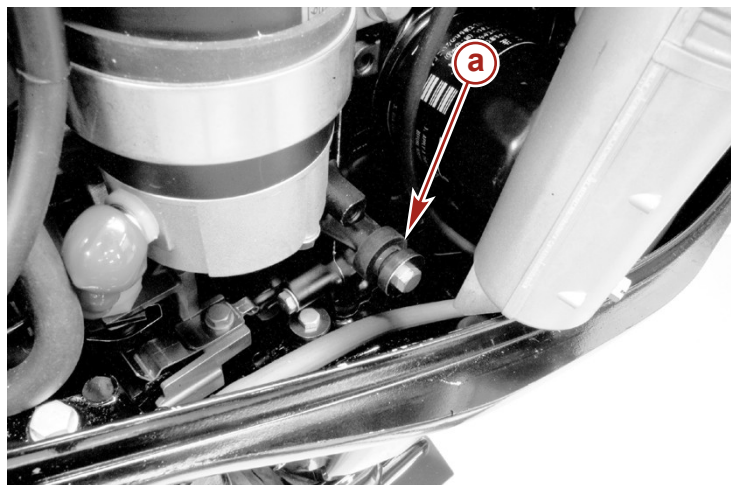
12. Connect the solenoid green lead to the neutral safety switch green lead.



- a** - Starter solenoid
- b** - Electrical bracket retaining bolts
- c** - Solenoid black ground lead
- d** - Solenoid green lead
- e** - Neutral safety switch green lead

Description	Nm	lb. in.	lb. ft.
Electrical bracket mounting bolts	6	53	

13. Align the vapor separator tank (VST) lower grommet mount with the grommet on the cylinder block.

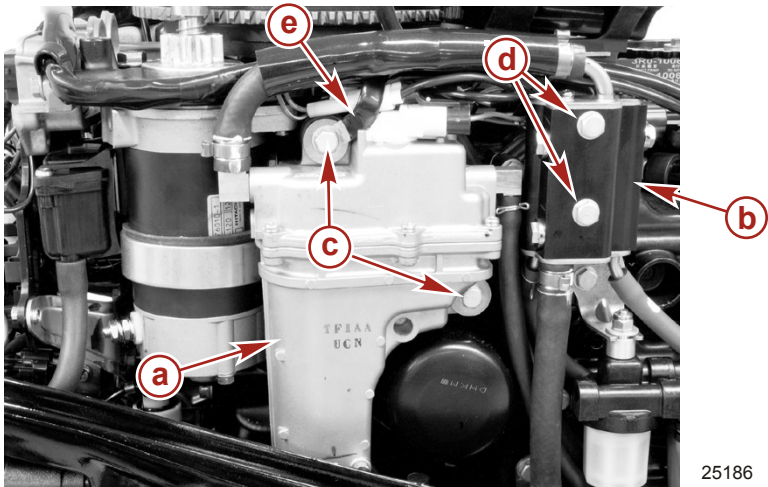


- a** - Grommet mount

14. Push the vapor separator tank (VST) onto the grommet and align the upper VST grommets with the cylinder block.

15. Secure the VST to the cylinder block with two bolts and washers. A clamp must be installed on the forward bolt. Torque the bolts to specification.

16. Reinstall the fuel cooler. Torque the bolts to specification.



- a** - Vapor separator tank (VST)

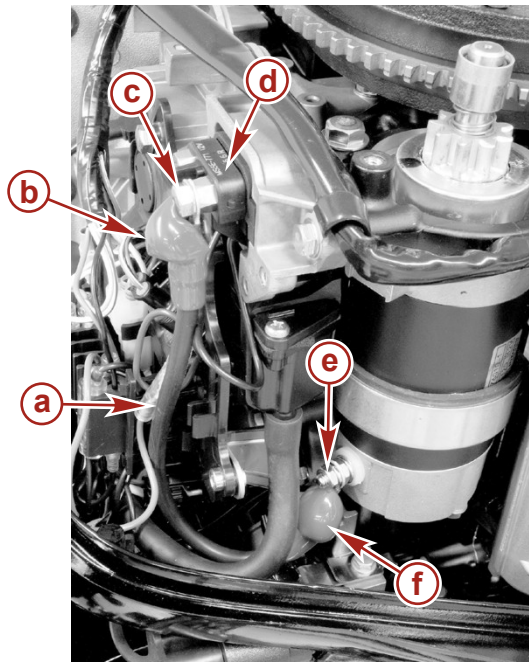
b - Fuel cooler

c - VST bolts
- d** - Fuel cooler bolts

e - Clamp

Description	Nm	lb. in.	lb. ft.
VST bolts	6	53	
Fuel cooler bolts	6	53	

17. Install the red protective boots on each end of the starter cable. Install the starter cable between the starter motor and the starter solenoid. Torque the starter cable attaching nut and the solenoid attaching bolt to specification.



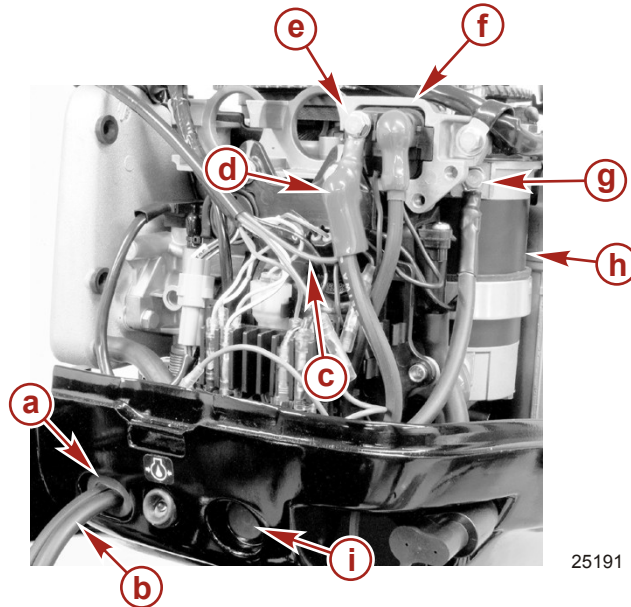
25190

- a** - Starter cable
- b** - Red protective boot (85-853816004)
- c** - Starter solenoid bolt
- d** - Starter solenoid
- e** - Starter cable attaching nut
- f** - Red protective boot (85-853816003)

Description	Nm	lb. in.	lb. ft.
Starter solenoid bolt	6	53	
Starter cable attaching nut	6	53	

18. Make a horizontal cut in the battery cable grommet. Install the battery cables through the grommet.
19. Install a protective red boot onto the positive battery cable and route the positive battery cable to the starter solenoid.
20. Install a protective red boot onto the negative battery cable and route the negative battery cable to the starter motor.
21. Route the positive terminal of the fuse harness through red protective boot on the positive battery cable. Secure the battery cable and the fuse harness terminal to the starter solenoid.
22. Torque the positive and negative battery cable attaching bolts to specification.

23. Remove the starter switch access hole plug.



- a** - Battery cable grommet
- b** - Positive and negative battery cables
- c** - Positive terminal lead of fuse harness
- d** - Red protective boot (85-853816002)
- e** - Positive battery cable attaching bolt
- f** - Starter solenoid
- g** - Negative battery cable attaching bolt
- h** - Starter motor
- i** - Starter switch access hole plug

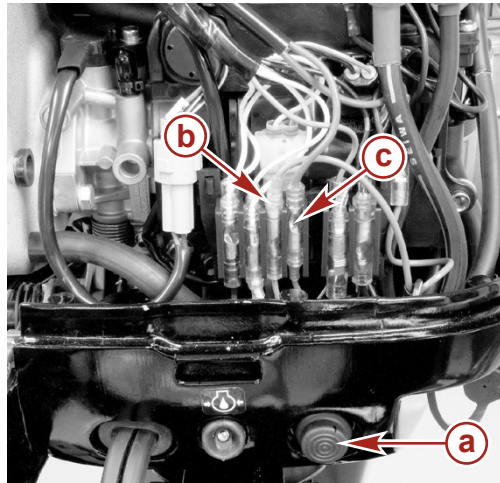
Description	Nm	lb. in.	lb. ft.
Positive battery cable attaching bolt	6	53	
Negative battery cable attaching bolt	6	53	

24. Install the starter switch. Secure the switch with the plastic nut provided.

25. Connect the red fuse lead to the red starter switch lead.

26. Connect the green neutral safety switch lead to the starter switch green lead.

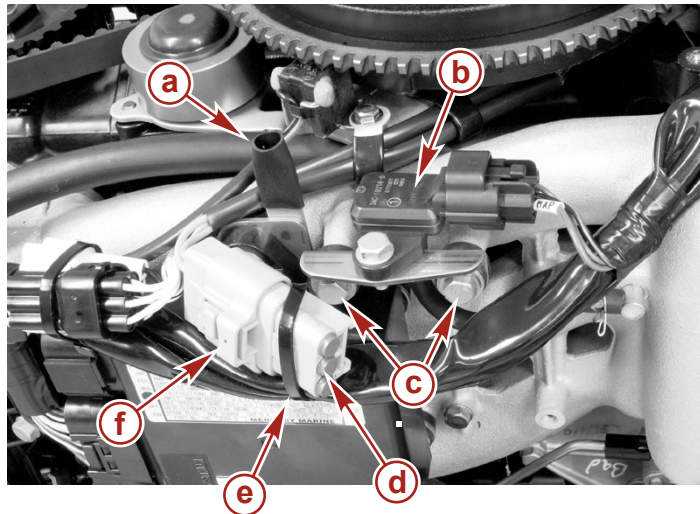
27. Press the red and green bullet connectors into the connector holder.



25192

- a** - Starter switch
- b** - Green neutral safety switch lead connected to starter switch green lead
- c** - Red fuse lead connected to the red starter switch lead

28. Remove the protective sleeve from the fuse tab.
29. Remove the manifold air pressure (MAP) sensor bracket bolts. Move the MAP sensor assembly off to one side.
30. Remove the cable tie securing the stator connector and remove the weather cap.

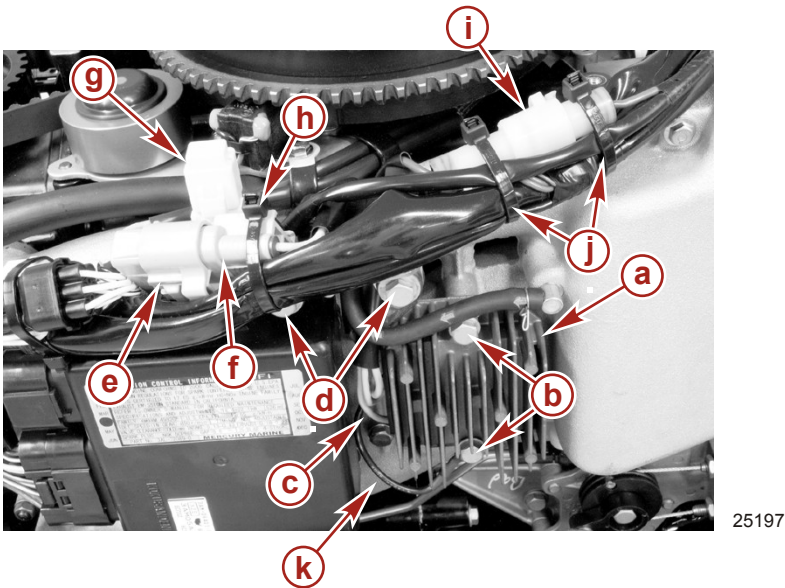


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- | | |
|------------------------------|-----------------------------|
| a - Protective sleeve | d - Weather cap |
| b - MAP sensor | e - Cable tie |
| c - Bracket bolts | f - Stator connector |

31. Install the voltage regulator/rectifier. Secure the regulator/rectifier with two bolts. Use the lower bolt to secure the voltage regulator/rectifier harness ground lead. Torque the bolts to specification.
32. Route the voltage regulator/rectifier harness behind the MAP sensor assembly.
33. Reinstall the MAP sensor assembly. Torque the bolts to specification.
34. Connect the voltage regulator/rectifier harness connector to the stator harness connector. Secure the connection with a cable tie.

35. Connect the voltage regulator/rectifier sense lead connector to the fuse harness connector. Secure the connection with cable ties.
36. Install the 20 ampere fuse assembly onto the fuse tab.



- a** - Voltage regulator/rectifier

b - Bolts

c - Voltage regulator/rectifier harness

d - MAP sensor assembly bolts

e - Stator harness connector

f - Voltage regulator/rectifier harness connector
- g** - 20 ampere fuse assembly

h - Cable tie

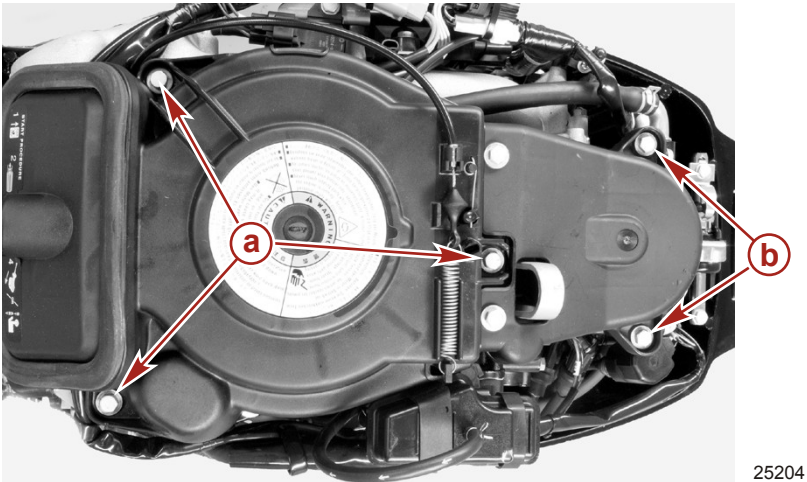
i - Voltage regulator/rectifier sense lead connector

j - Cable tie

k - Voltage regulator/rectifier harness ground lead

Description	Nm	lb. in.	lb. ft.
Voltage regulator/rectifier attaching bolts	6	53	
MAP sensor assembly attaching bolts	6	53	

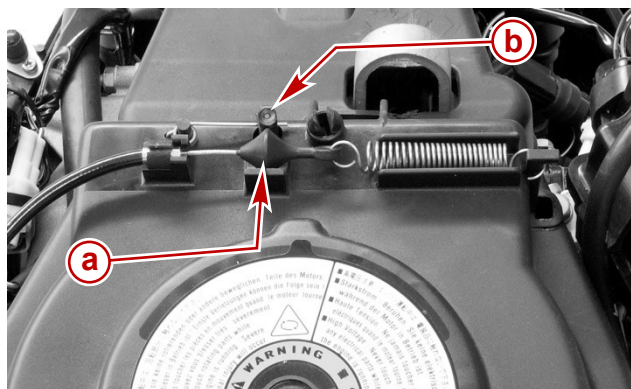
37. Reinstall the flywheel/recoil assembly cover and timing belt cover. Torque the bolts to specification.



- a** - Flywheel/recoil assembly bolts
- b** - Timing belt cover bolts

Description	Nm	lb. in.	lb. ft.
Flywheel/recoil assembly bolts	6	53	
Timing belt cover bolts	6	53	

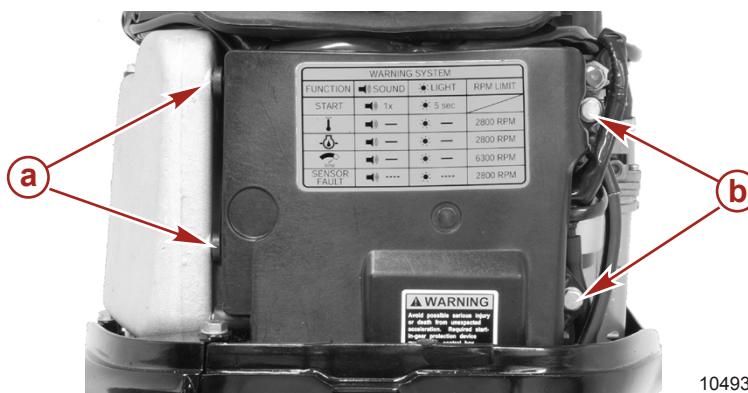
38. Reinstall the neutral interlock cable assembly onto the flywheel cover. If necessary, adjust the interlock cable nuts so the neutral cable ball is centered on the recoil lock.



22640

a - Neutral interlock cable ball**b** - Recoil lock

39. Reinstall the electrical cover back into the grommets in the intake manifold. Secure the cover with two bolts and washers. Torque the bolts to specification.

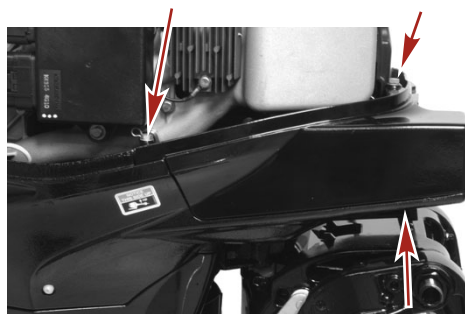


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a - Grommets**b** - Screws and washers

Description	Nm	lb. in.	lb. ft.
Bolts	6	53	

40. Reinstall the access cover. Secure the cover with three bolts. Torque the bolts to specification.



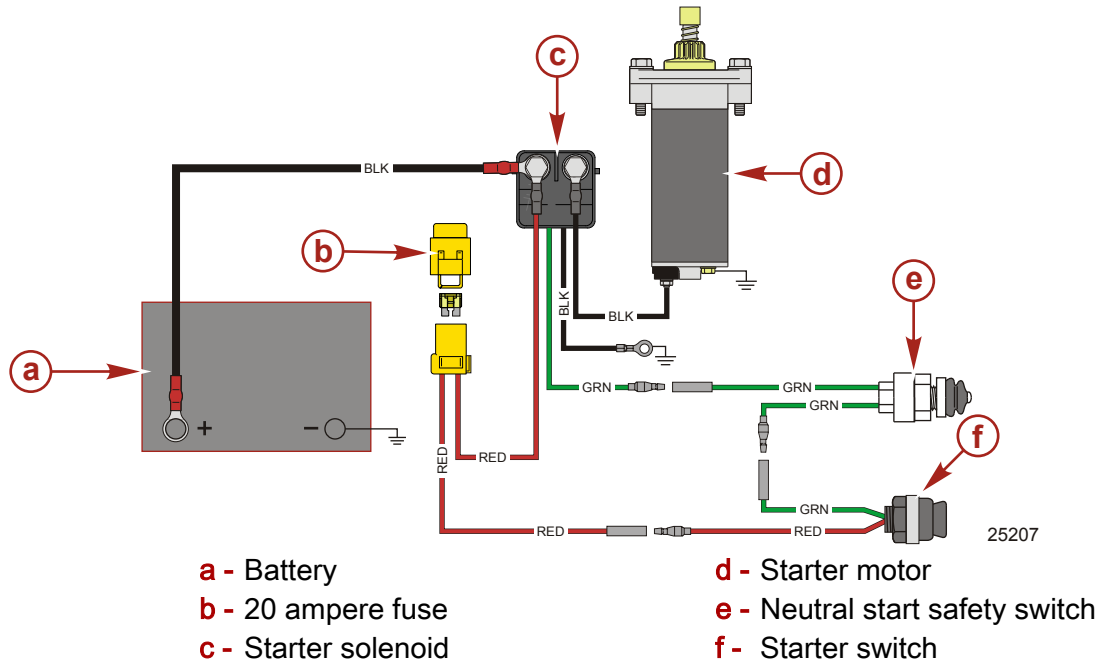
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Description	Nm	lb. in.	lb. ft.
Access cover bolts	6	53	

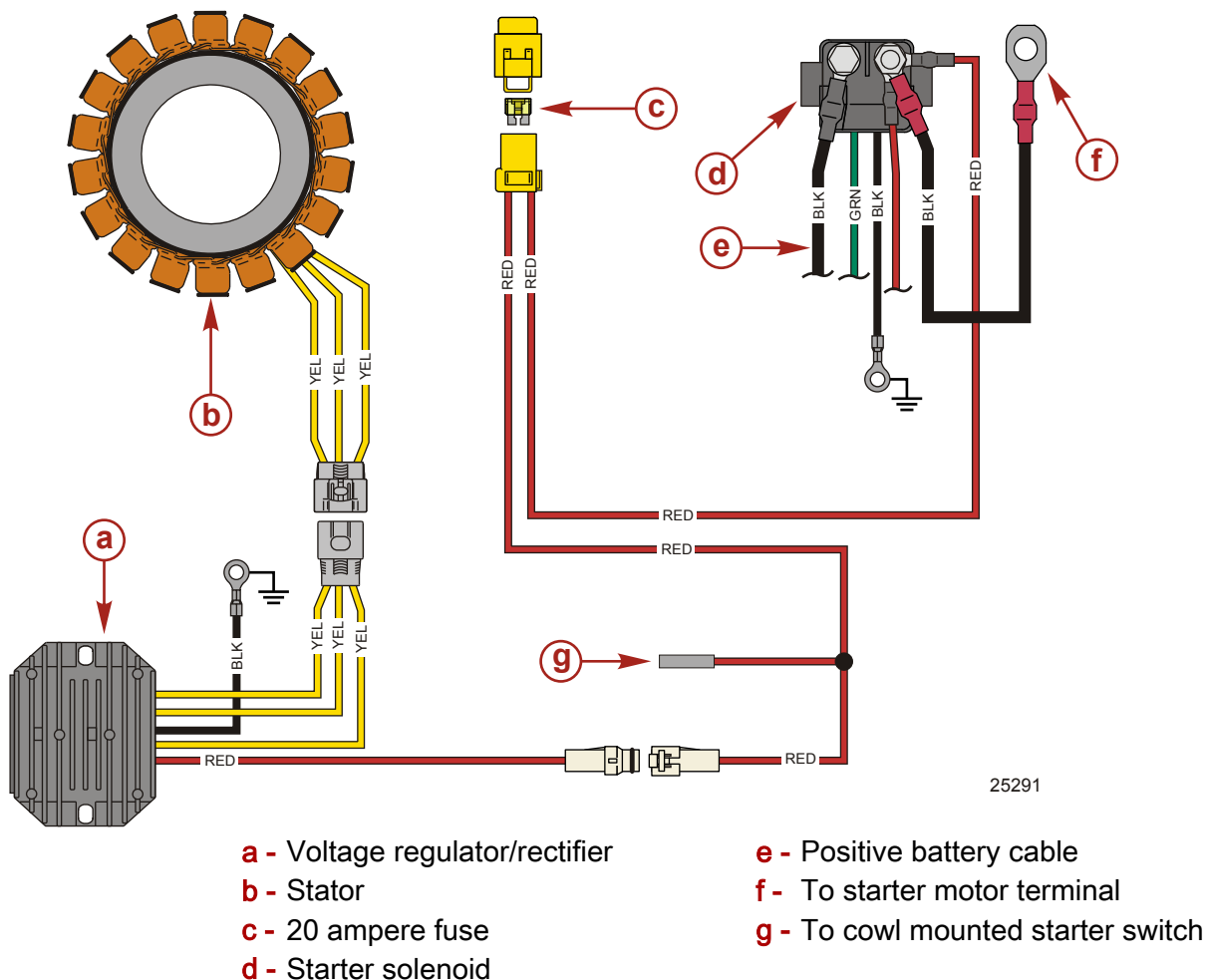
41. Reinstall the top cowl.

IMPORTANT: It is recommended that prior to returning the outboard to service, that the neutral safety start switch be tested to ensure that the outboard only starts in neutral. Should the engine start in forward or reverse gear, inspect the neutral safety switch for correct installation or for improper wiring connections.

Electric Start Wiring Diagram



Voltage Regulator/Rectifier Wiring Diagram



Wire Color Code Abbreviations

Wire Color Abbreviations				
BLK	Black		BLU	Blue
BRN	Brown		GRY	Gray
GRN	Green		ORN or ORG	Orange
PNK	Pink		PPL or PUR	Purple
RED	Red		TAN	Tan
WHT	White		YEL	Yellow
LT or LIT	Light		DK or DRK	Dark

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