

# SERVICE BULLETIN

M-1032

January 12, 1993



## SAFETY RECALL CODE 082 STARTER RELAY

### General

Harley-Davidson has learned that the starter relay on some Softail family vehicles may short internally. In some circumstances, sufficient heat may be generated to cause the relay, and possibly other parts of the vehicle, to burn.

As a precautionary measure, Harley-Davidson recently elected to initiate a voluntary recall campaign in the interest of motor vehicle safety. This voluntary recall applies only to the 1989 through 1992 model year motorcycles of the Softail family. The possible problem will be remedied by replacing and relocating the starter relay on the potentially affected vehicles.

We have attached a list which contains:

- the names of registered owners whose vehicles were delivered to your dealership and are involved in this campaign.
- the vehicle identification numbers (VIN) of unregistered vehicles that were delivered to your dealership and are involved in this campaign.

To ensure rider safety, it is your responsibility to perform the required service on all affected vehicles even if the motorcycle was not purchased from your dealership. You will be required to perform the required service on all affected vehicles in your dealership inventory prior to selling or leasing those vehicles. We are enclosing a sufficient number of blank Dealer Service Cards for those vehicles. If necessary, additional cards are available through the Harley-Davidson Service Department.

If you are not sure that a safety recall has been completed on a particular motorcycle or that a motorcycle is involved in a particular recall campaign, contact the Harley-Davidson Recall Information Line at 1-800-448-1708 for a computer check of our recall records.

### IMPORTANT NOTE

*Because only registered owners as shown on the attached list will receive notification from us, we request that you contact any owners of vehicles still listed as unregistered. Advise them of the safety recall, and make arrangements for them to come in for recall service. We also require that you provide us with their names, addresses, and VINs as soon as possible to enable us to mail them an owner's letter, as required by the National Traffic and Motor Vehicle Safety Act (as amended).*

An initial shipment of Recall Code 082 Kits (Part Number 93684) will contain part of your total estimated kit requirements and will begin on January 20, 1993. If additional kits are needed, order them on the attached green 082 order form. Kits ordered on this form will also be sent no charge, transportation paid.

Recall Code 082 Kit (Part Number 93684) contains:

Qty	Description
1	Starter relay
1	Starter relay cover
1	Connector block
1	Wiring harness
1	Starter relay mounting bracket
1	Screw
1	Cable strap (short)
4	Cable strap (long)

### Procedure

#### NOTE

*The installation procedure for 1989 and 1990 model year motorcycles is different than that for 1991 and 1992 model year motorcycles. Please observe the specific model year references in the following steps.*

1. Remove seat.
2. Disconnect battery cables, negative cable first. Remove battery.
3. If an accessory tool box is mounted on right side of motorcycle, remove tool box and mounting plate.
4. Disconnect wiring harness connector from original starter relay (located on rear fender forward extension). Pull connector end of original relay wiring harness to right side of motorcycle.
5. Remove original starter relay by snapping relay off, leaving relay mounting tang and rivet in place on fender extension.
6. On 1989 and 1990 models, proceed to Step 7; on 1991 and 1992 models, proceed to Step 8.

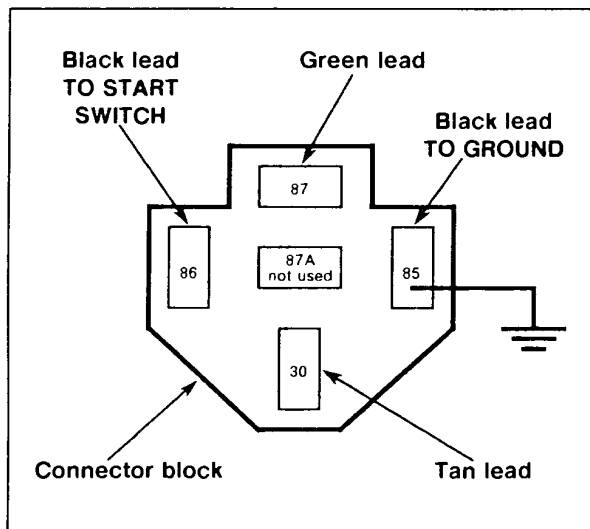
ROUTING	SERVICE MANAGER	SALES MANAGER	PARTS MANAGER	LEAD TECHNICIAN	TECHNICIAN NO. 1	TECHNICIAN NO. 2	TECHNICIAN NO. 3	TECHNICIAN NO. 4	RETURN THIS TO
INITIAL HERE									

1993 Harley-Davidson®, Inc.

7. On 1989 and 1990 models only, see Figure 1. Use an ohmmeter or test light to verify that black "ground" wire lead of original relay wiring harness is properly located in the "85" position within harness's connector block. In some instances on these model years, the black ground wire was transposed with the black "start switch" wire in the "86" position of the connector block. If the black wires are reversed on your vehicle, carefully remove the black wire terminals from the connector block, and insert them in their proper positions within the connector block. Proceed to Step 8 after reading the following CAUTION statement.

#### CAUTION

Since the new starter relay in this kit incorporates a "one-way" diode in its circuitry, it is critical that position "85" of the original relay wiring harness connector be occupied by the black ground wire. Otherwise, the relay's diode will sustain damage when the starter circuit is activated.

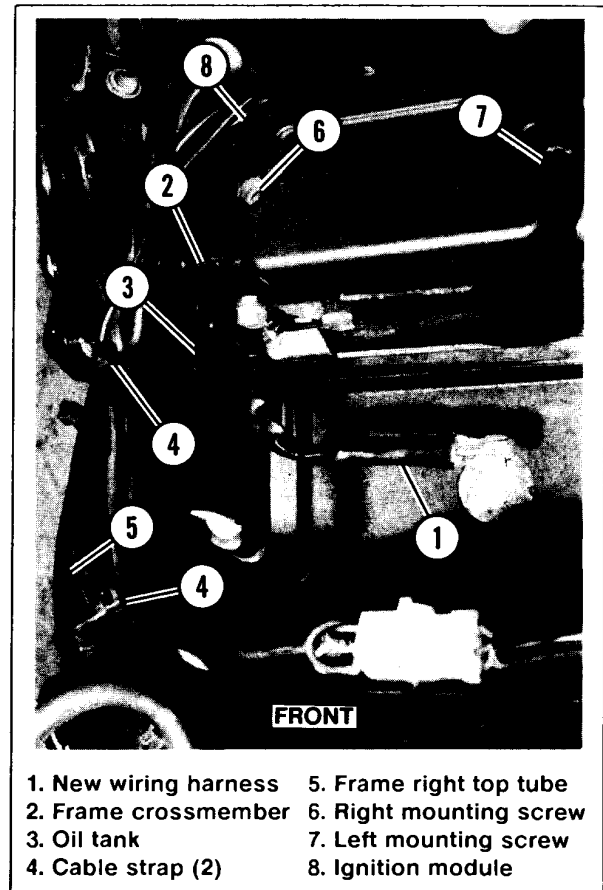


**Figure 1. Proper Positions of Original Starter Relay Wiring Harness Leads in Original Connector Block -- 1989 and 1990 Models (VIEWED FROM WIRING LEAD SIDE)**

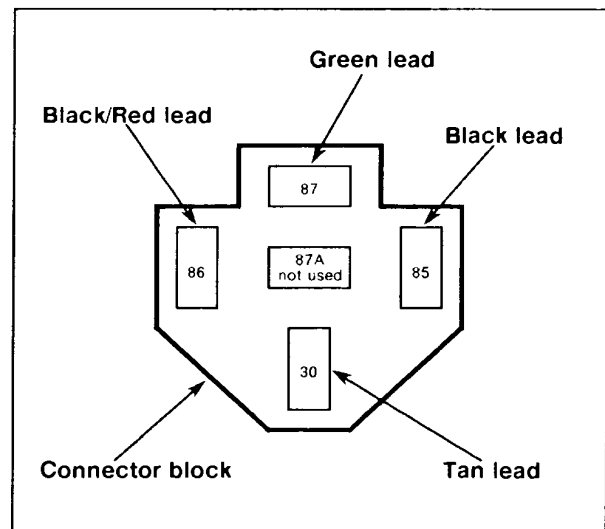
8. Connect new wiring harness from kit (end which has male spade terminals in connector block) to open connector of original harness; do not apply grease to terminals before connection.
9. See Figure 2. Route loose end of new harness (1) (end with female spade terminals) upward through opening between frame crossmember (2) and right rear upper corner of oil tank (3) as shown.
10. See Figure 3. Insert female spade terminals of new harness into appropriate positions of new connector block from kit.

#### NOTE

*Insert each spade terminal into connector block so that terminal locks in place within connector (i.e. -- terminal will not pull out when wiring lead is tugged). If terminal does not lock in place, it may be incorrectly oriented within connector; withdraw terminal from connector, rotate terminal 180°, and then reinstall terminal into connector.*



**Figure 2. New Relay Wiring Harness Routing**



**Figure 3. Positions of New Starter Relay Wiring Harness Leads in New Connector Block (VIEWED FROM WIRING LEAD SIDE)**

11. Connect new starter relay from kit onto new harness connector block.
12. See Figure 2. Cut existing cable straps (4) which secure several wiring harnesses to frame right top tube (5).

# NOTE

1991 and 1992 model year vehicles will have fewer wiring harnesses secured to the frame right top tube than are shown in the illustration.

13. On 1989 and 1990 models, proceed to Step 14; on 1991 and 1992 models, proceed to Step 21.
14. On 1989 and 1990 models only, see Figure 4. Remove ground screw (2) which secures ignition module black ground wire (1) and battery negative cable (13) to motorcycle frame. Reinstall the ground screw, securing only the battery negative cable (13) to the frame; leave ground wire (1) loose.
15. Remove ignition module right mounting screw (9). Remove wiring clip (7) which was secured under ignition module (6) by right mounting screw. Save screw and clip for installation later.

# NOTE

Some 1989 and 1990 models may have had the ignition coil wires (4) and ignition sensor wires (5) already relocated from the frame right top tube (11) to the frame left top tube (12); this may have been performed as part of Service Bulletin M-989. If this is the case, you will not need to perform Steps 16 - 19; proceed to Step 20.

16. Separate two halves of tail lamp wiring harness connector (3).
17. Relocate only the ignition coil wires (4) (two wires in conduit) and the ignition sensor plate wires (5) (three wires in conduit) from frame right top tube (11) to frame left top tube (12) as shown; leave the module black ground wire (1), VOES wire (14), and other wiring harnesses in place on frame right top tube (11).
18. Remove ignition module left mounting screw (10). Install wiring clip (7) (from Step 15) over relocated coil wires (4) and sensor plate wires (5). Position mounting hole of clip under left mounting hole of ignition module (6). Insert left mounting screw (10) through module and clip, and then loosely install screw into motorcycle frame. Pivot ignition module forward somewhat.
19. Reconnect two halves of tail lamp wiring harness connector (3) together over top of relocated coil wires (4) and sensor plate wires (5).
20. Relocate loose ignition module black ground wire (1) (from Step 14) to ground stud/nut (8) (stud/nut is part of right rear fork bumper and is currently used as a grounding point by existing starter relay black ground wire); tighten nut securely. Proceed to Step 22.

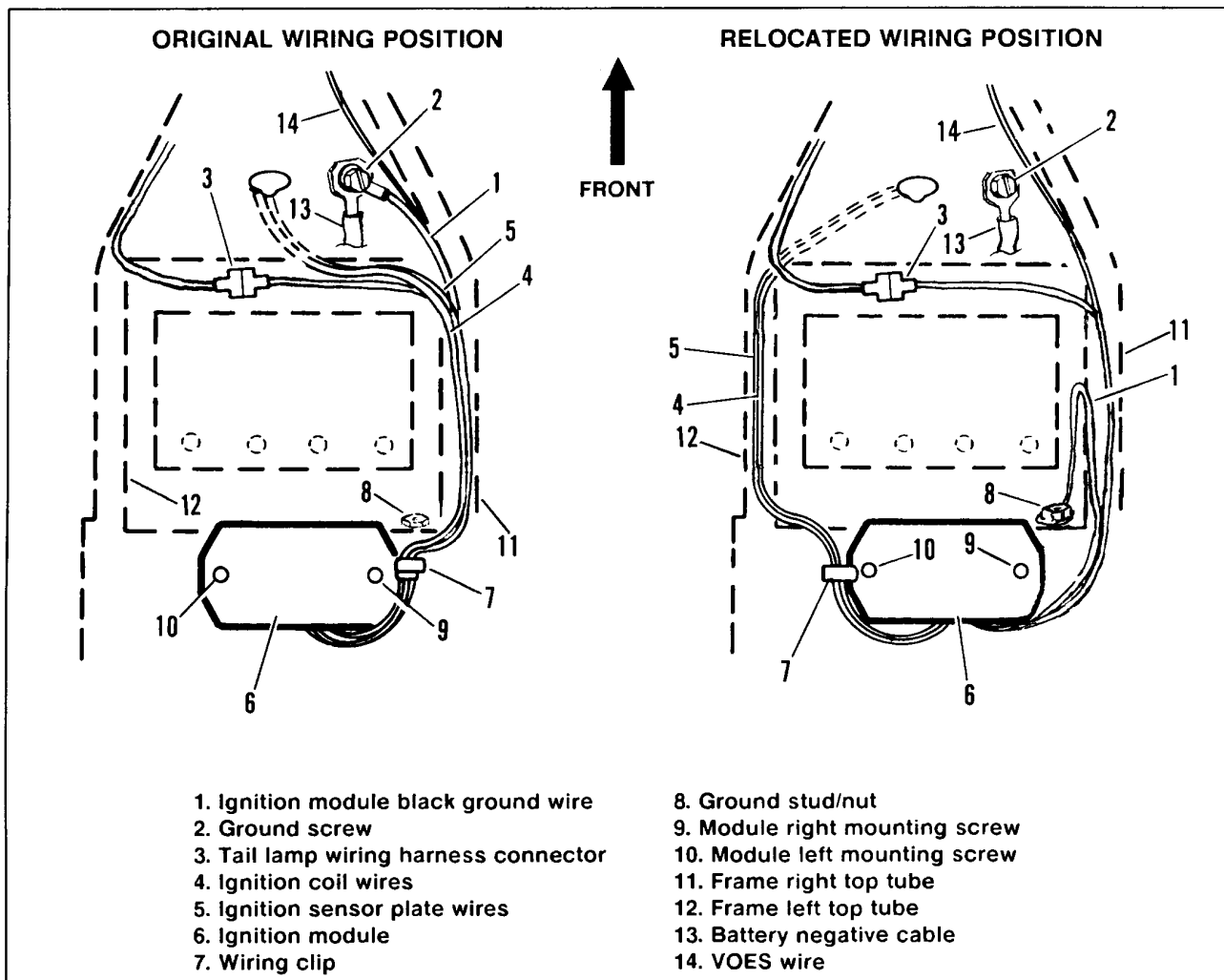
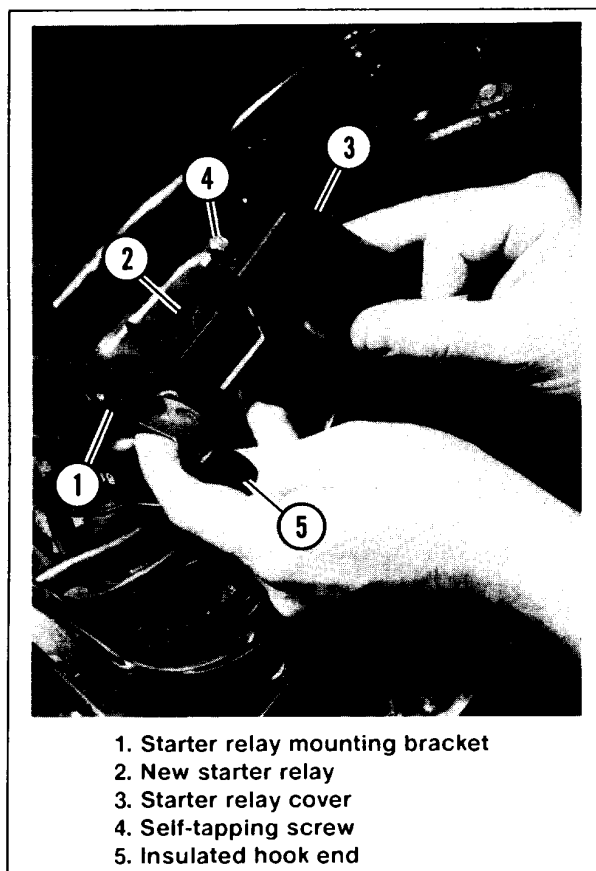


Figure 4. Original and Relocated Ignition Module Wiring -- 1989 and 1990 Models

21. On 1991 and 1992 models, see Figure 2. Remove ignition module right mounting screw (6). Loosen, but do not remove, ignition module left mounting screw (7). Pivot ignition module forward somewhat.
22. On all models, see Figure 5. Position parts from kit in the following order: starter relay mounting bracket (1), new starter relay (2), and starter relay cover (3). Secure components together by installing self-tapping screw (4) from kit through small mounting hole in cover (3), relay (2), and bracket (1).



**Figure 5. New Starter Relay, Mounting Bracket, and Cover Assembly**

23. Pivot insulated "hook" end (5) of starter relay mounting bracket (1) away from relay cover (3) enough to allow insertion of loose wiring harnesses (resting along frame right top tube) into hook of bracket. Capture wires in hook by pivoting bracket back toward relay cover.

24. See Figure 6. Place starter relay assembly (1) (new starter relay, mounting bracket, and cover) onto frame crossmember (2) on right side of ignition module (3), aligning large mounting hole of relay mounting bracket with crossmember hole used to mount right side of ignition module. Pivot ignition module so that its right mounting hole aligns with the crossmember hole. Insert original right mounting screw (4) through hole in ignition module and relay mounting bracket, and loosely thread into crossmember hole.

#### **CAUTION**

- Verify that no wires along the frame right top tube are positioned beneath the starter relay mounting bracket. Otherwise, the wires could be pinched between the relay mounting bracket and the frame crossmember when the ignition module right mounting screw is tightened.
  - Verify that no wires along the frame right top tube are positioned above the starter relay cover. Otherwise, the wires could be pinched between the relay cover and the motorcycle seat when the seat is installed.
25. Press starter relay assembly (1) inboard, toward ignition module (3) as shown, and then tighten ignition module right mounting screw (4) securely. Tighten left mounting screw (5) securely.
  26. Secure together the loose wiring harnesses which are resting along the frame right top tube (6) using the kit's short cable strap (7) in the position shown.

#### **NOTE**

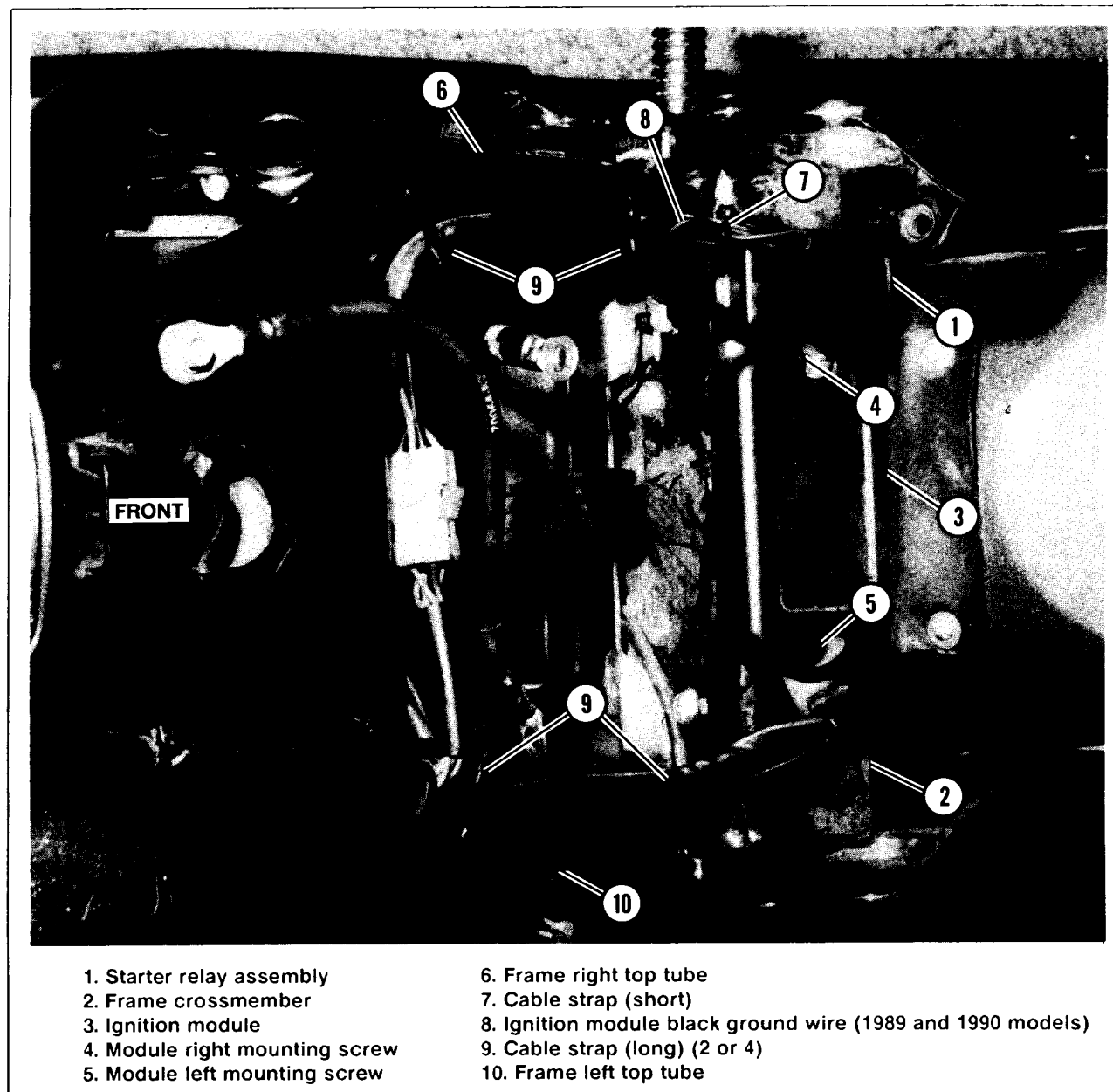
*On 1989 and 1990 models with original ignition module (3) only, make sure any slack in ignition module black ground wire (8) is coiled together and properly secured by the short cable strap (7).*

27. Secure loose wiring harnesses to frame right top tube (6) using two of the kit's long cable straps (9) in the positions shown. On 1989 and 1990 models only, also secure loose wiring harnesses to frame left top tube (10) using two of the kit's long cable straps (9) in the positions shown.
28. On all models, install battery. Connect battery cables to battery, positive cable first.

#### **CAUTION**

**If motorcycle does not have an original equipment seat, verify that there is adequate clearance between seat and new starter relay assembly. In addition, make sure that no wires are pinched between seat and motorcycle frame or other components.**

29. Install seat.
30. Make sure transmission is shifted to neutral. Start engine to verify that new starter relay is functioning properly.



**Figure 6. New Starter Relay Assembly - Installed (1989/1990 Model Shown)**

### **Credit Procedure**

1. After servicing each vehicle, complete the special Dealer Service Card provided. For each vehicle serviced, place a "C" in the letter box and a "1" in the quantity box. Fill in your Dealer Account Number, the VIN (vehicle identification number), your dealership name and address, and the owner information, if blank.
2. Package the original starter relay and the properly completed Dealer Service Card.
3. Attach a return address P-Label (Form Number 1248) to the outside of the package. Send the package to Harley-Davidson, Inc.
4. When Harley-Davidson receives the original starter relay and your properly completed Dealer Service Card, you will be credited for postage and labor time. The labor time of 0.6 hours includes dealer administration time of 0.1 hour. You will not be issued credit for parts because they were shipped no charge, transportation paid



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D	DOWN VEHICLE		ORDER TYPE
W	WARRANTY		WARRANTY CLAIM NO.

FOR OFFICE USE ONLY
ACCT. <b>173-774.2</b>
FRT. ACCT. <b>173-774.3</b>

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**NOTE:** All orders subject to approval. You may not receive the total quantity of kits ordered, due to parts availability. If this happens, the remainder of the quantity ordered will go on future order status until parts become available.

**WARRANTY CODE 082**

**PLEASE USE PART NUMBERS**  
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ALL ORDERS SUBJECT TO ACCEPTANCE AT MILWAUKEE. WI 53201

All goods covered by this order, including goods back-ordered, will be billed at prices current at the time of shipment. Goods are purchased for resale and delivery is made to purchaser F.O.B. factory, Milwaukee, Wisconsin or other point of origin. It is accepted that the order is accepted that subject to availability of goods to deliver. Any delay in shipment shall not relieve purchaser of responsibility for his acceptance and order seller shall not be liable for any loss or damage due to delay in shipment of failure to deliver. Any request for cancellation of this order by either party thereof must be received by seller prior to the date of shipment, and in case of reacceptance or return of goods to seller, purchaser shall pay the entire cost connected therewith, plus ten (10) or twenty-five (25) percent of selling price, as determined by Company policy from time to time, as liquidated damages for loss of sale. Purchaser will be responsible for collection and payment of all Federal, State and Local taxes that accrue on the order.

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