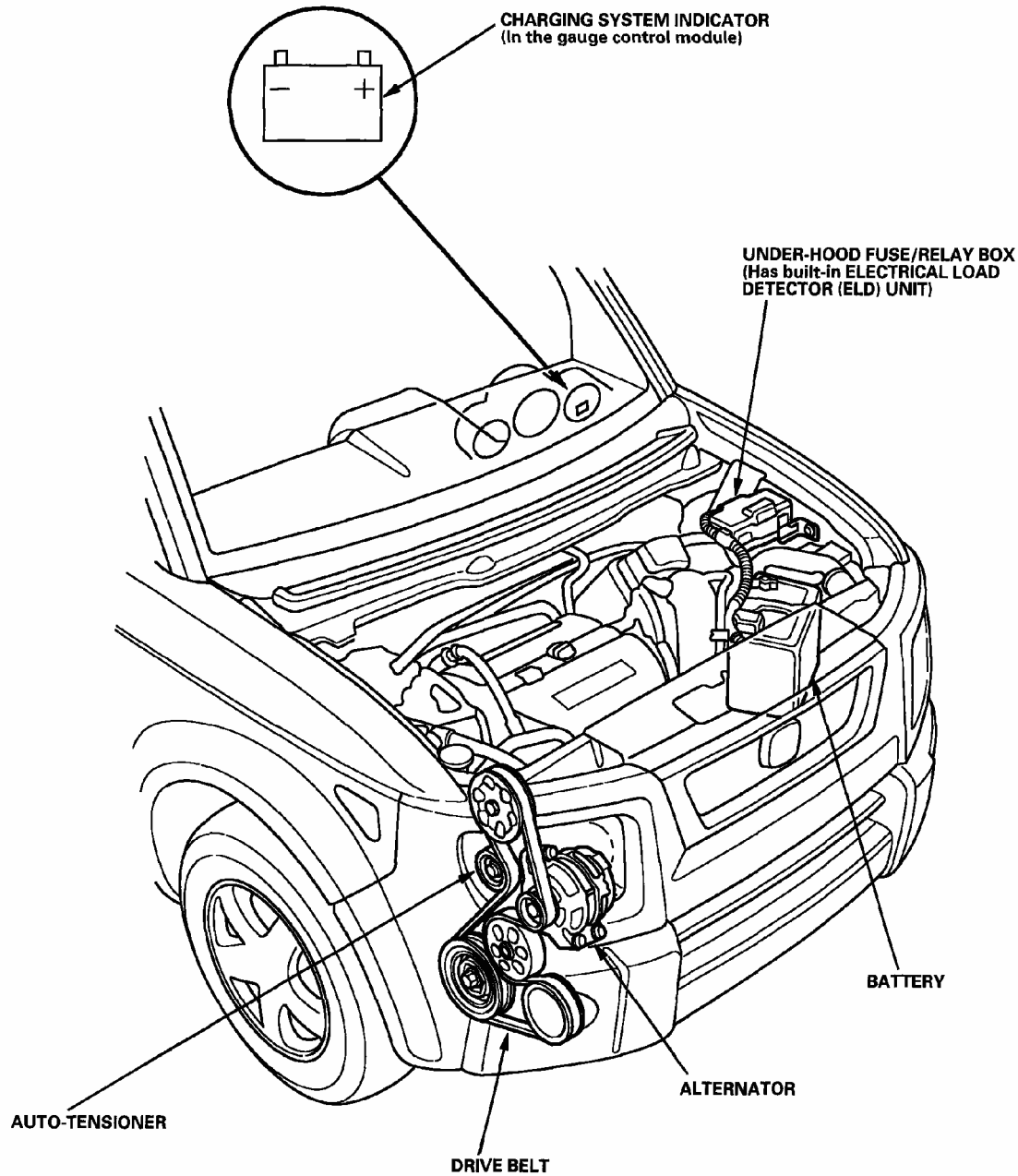


2003-06 ELECTRICAL

Charging System - Element

COMPONENT LOCATION INDEX



G03677012

Fig. 1: Identifying Components Location
Courtesy of AMERICAN HONDA MOTOR CO., INC.

SYMPTOM TROUBLESHOOTING INDEX

2004 Honda Element DX

2003-06 ELECTRICAL Charging System - Element

2003-2004 MODELS**DIAGNOSTIC REFERENCE (2003-2004 MODELS)**

Symptom	Diagnostic procedure
Charging system indicator does not come on with the ignition switch ON (II)	Troubleshoot the charging system indicator circuit (see <u>CHARGING SYSTEM INDICATOR CIRCUIT TROUBLESHOOTING</u>).
Charging system indicator stays on	<ol style="list-style-type: none"> 1. Troubleshoot the charging system indicator circuit (see <u>CHARGING SYSTEM INDICATOR CIRCUIT TROUBLESHOOTING</u>). 2. Check for a broken drive belt (see <u>DRIVE BELT INSPECTION</u>). 3. Check the drive belt auto-tensioner (see <u>DRIVE BELT AUTO-TENSIONER INSPECTION</u>).
Battery discharged	<ol style="list-style-type: none"> 1. Check for a poor connection and for open or shorted wire(s) in charging system. 2. Check for parasitic electrical current draw. 3. Check for a broken drive belt (see <u>DRIVE BELT INSPECTION</u>). 4. Check the drive belt auto-tensioner (see <u>DRIVE BELT AUTO-TENSIONER INSPECTION</u>). 5. Troubleshoot the alternator and regulator circuit (see <u>ALTERNATOR AND REGULATOR CIRCUIT TROUBLESHOOTING</u>). 6. Check for a poor connection at the battery terminal. 7. Test the battery (see <u>BATTERY TEST</u>).
Battery overcharged	<ol style="list-style-type: none"> 1. Troubleshoot the alternator and regulator circuit (see <u>ALTERNATOR AND REGULATOR CIRCUIT TROUBLESHOOTING</u>). 2. Test the battery (see <u>BATTERY TEST</u>).

2005-2006 MODELS**DIAGNOSTIC REFERENCE (2005-2006 MODELS)**

Symptom	Diagnostic procedure
Charging system indicator does not come on with the ignition switch ON (II)	Troubleshoot the charging system indicator circuit (see <u>2005-2006 MODELS</u>).
Charging system indicator stays on	<ol style="list-style-type: none"> 1. Check for PGM-FI DTCs (see <u>GENERAL TROUBLESHOOTING INFORMATION</u>).

2004 Honda Element DX

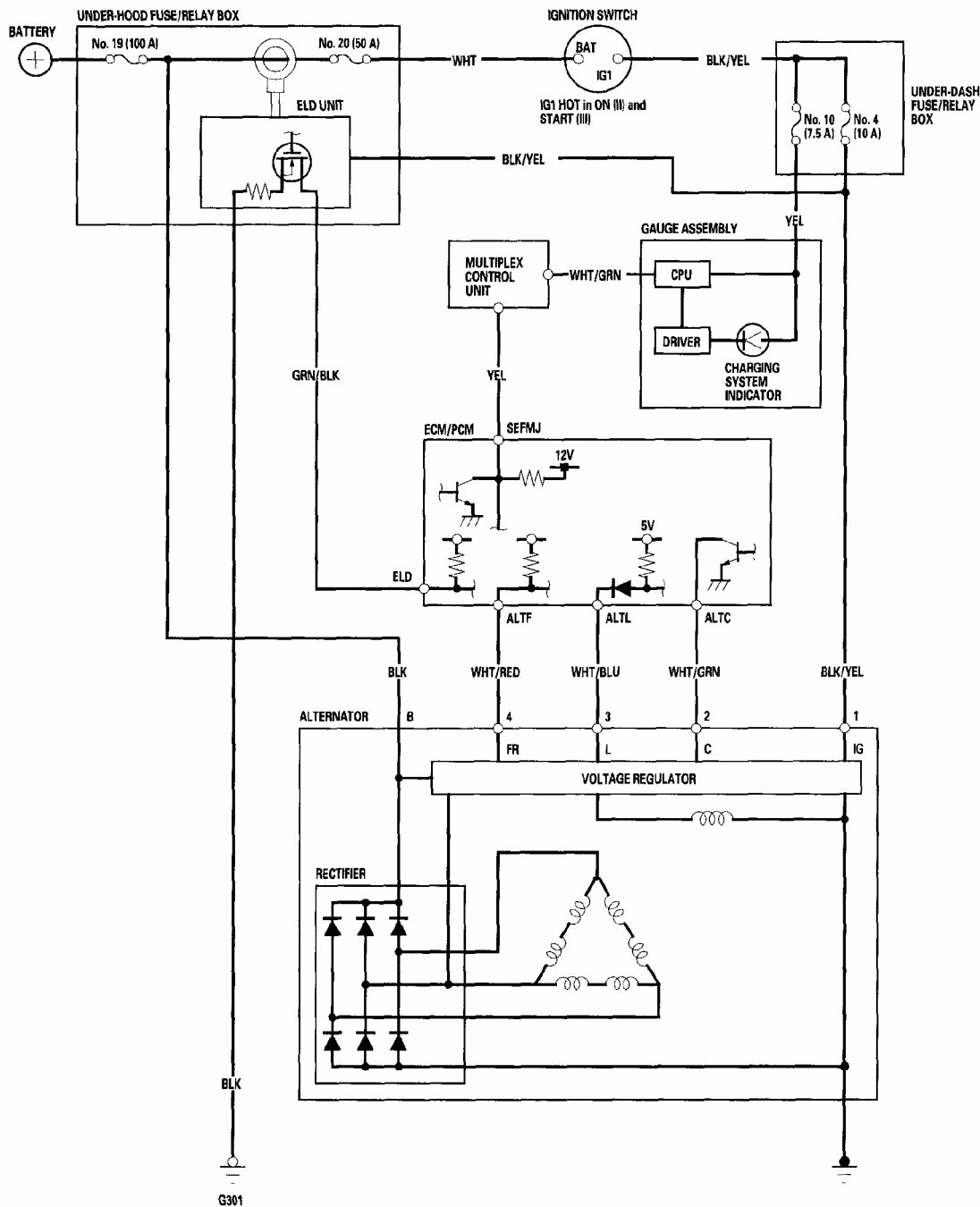
2003-06 ELECTRICAL Charging System - Element

	<ol style="list-style-type: none">2. Troubleshoot the charging system indicator circuit (see 2005-2006 MODELS).3. Check for a broken drive belt (see DRIVE BELT INSPECTION).4. Check the drive belt auto-tensioner (see DRIVE BELT AUTO-TENSIONER INSPECTION).
Battery discharged	<ol style="list-style-type: none">1. Check for parasitic electrical current draw.2. Check for a broken drive belt (see DRIVE BELT INSPECTION).3. Check the drive belt auto-tensioner (see DRIVE BELT AUTO-TENSIONER INSPECTION).4. Troubleshoot the alternator and regulator circuit (see ALTERNATOR AND REGULATOR CIRCUIT TROUBLESHOOTING).5. Check for a poor connection at the battery terminal.6. Test the battery (see BATTERY TEST).
Battery overcharged	<ol style="list-style-type: none">1. Troubleshoot the alternator and regulator circuit (see 2005-2006 MODELS).2. Test the battery (see BATTERY TEST).

CIRCUIT DIAGRAM

2004 Honda Element DX

2003-06 ELECTRICAL Charging System - Element



G03677013

Fig. 2: Circuit Diagram - Charging System
Courtesy of AMERICAN HONDA MOTOR CO., INC.

CHARGING SYSTEM INDICATOR CIRCUIT TROUBLESHOOTING

2003-2004 MODELS

1. Turn the ignition switch ON (II).

Does the charging system indicator come on?

YES - Go to step 2 .

NO - Go to step 3 .

2. Start the engine.

Does the charging system indicator go off?

YES - Charging system indicator circuit is OK. Go to the alternator and regulator circuit troubleshooting (see **ALTERNATOR AND REGULATOR CIRCUIT TROUBLESHOOTING**).

NO - Go to step 3 .

3. Troubleshoot the multiplex control system (see **TROUBLESHOOTING**).

Is the multiplex control system OK?

YES - Go to step 4 .

NO - Check the multiplex control system as indicated by the DTC (see **TROUBLESHOOTING**).

4. Do the gauge assembly self-diagnostic function procedure (see **SELF-DIAGNOSTIC FUNCTION**).

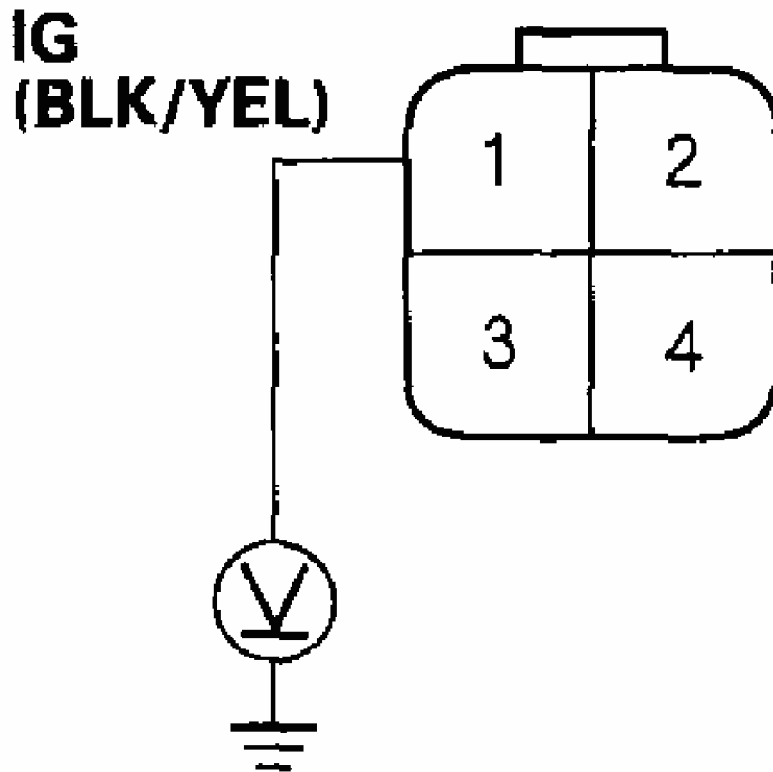
Does the charging system indicator flash?

YES - Go to step 5 .

NO - Replace the gauge assembly (see **GAUGE ASSEMBLY REPLACEMENT**).

5. Turn the ignition switch OFF.
6. Disconnect the alternator 4P connector.
7. Turn the ignition switch ON (II).
8. Measure the voltage between alternator 4P connector terminal No. 1 and body ground.

ALTERNATOR 4P CONNECTOR



Wire side of female terminals

G03677014

Fig. 3: Measuring Voltage Between Alternator Connector Terminal And Body Ground

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there battery voltage?

YES - Go to step 9 .

NO - Check for a blown No. 4 (10 A) fuse in the under-dash fuse/relay box. If the fuse is OK, repair open in the wire between the alternator and under-dash fuse/relay box.

9. Turn the ignition switch OFF.

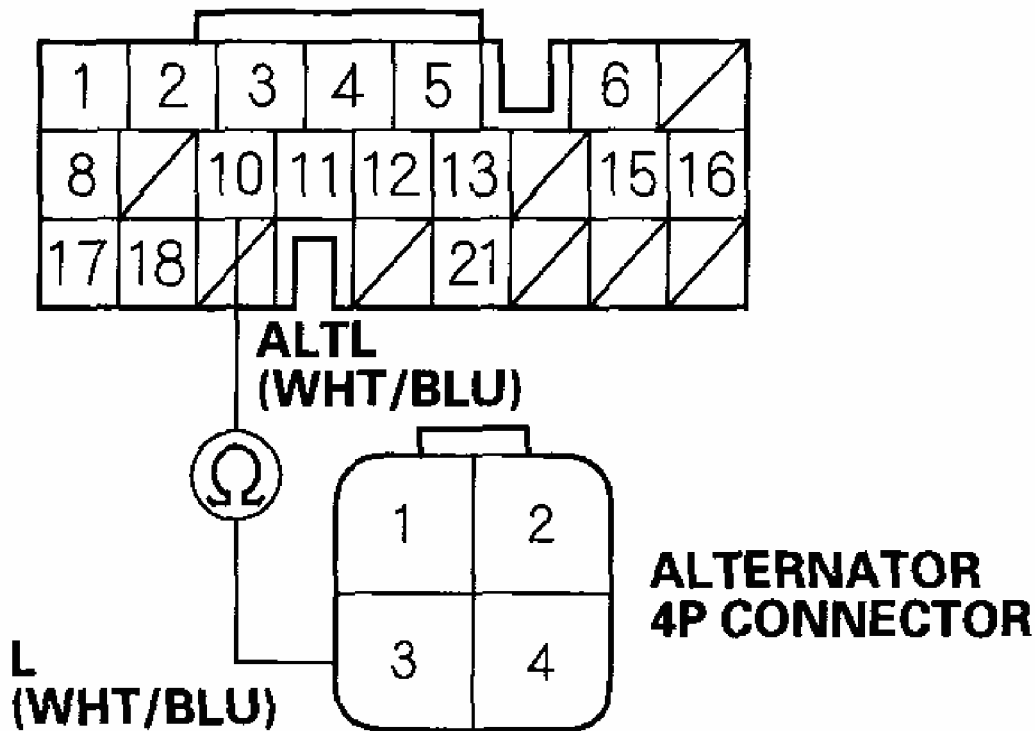
10. Connect the Honda Diagnostic System (HDS) to the data link connector (DLC) (see step 2 on **HOW TO USE THE HDS (HONDA DIAGNOSTIC SYSTEM)**). Turn the ignition switch ON (II), and jump the SCS line with the HDS, then turn the ignition switch OFF.

NOTE: This must be done to protect the Engine Control Module (ECM)/Powertrain Control Module (PCM) from damage.

11. Disconnect ECM/PCM connector B (24P).
12. Check for continuity between ECM/PCM connector terminal B10 and alternator 4P connector terminal No. 3.

ECM/PCM CONNECTOR B (24P)

Wire side of female terminals



Wire side of female terminals

G03677015

Fig. 4: Checking Continuity Between ECM/PCM Connector Terminal And

Alternator Connector Terminal

Courtesy of AMERICAN HONDA MOTOR CO., INC.

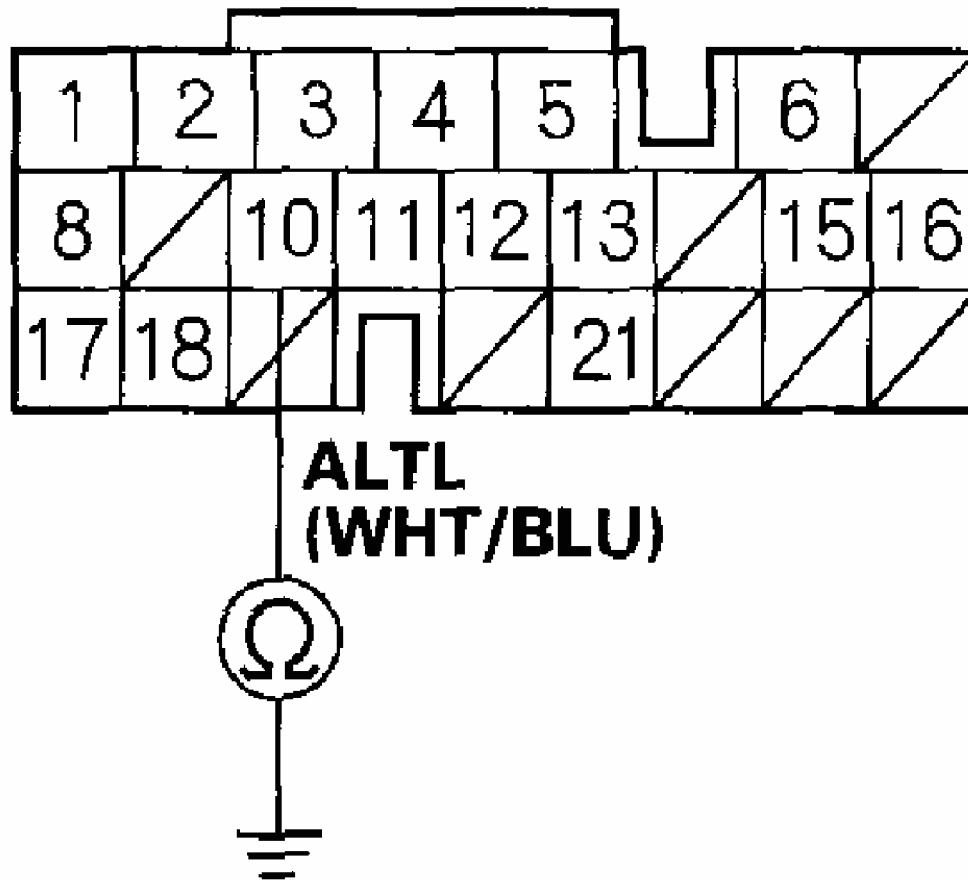
Is there continuity?

YES - Go to step 13 .

NO - Repair an open in the wire between the alternator and the ECM/PCM (B10).

13. Check for continuity between ECM/PCM connector terminal B10 and body ground.

ECM/PCM CONNECTOR B (24P)



Wire side of female terminals

G03677016

Fig. 5: Checking Continuity Between ECM/PCM Connector Terminal And Body Ground

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Repair a short to ground in the wire between the alternator and the ECM/PCM (B10).

NO - Go to the alternator and regulator circuit troubleshooting (see **ALTERNATOR AND REGULATOR CIRCUIT TROUBLESHOOTING**).

2005-2006 MODELS

1. Turn the ignition switch ON (II).

Does the charging system indicator come on?

YES - Go to step 2 .

NO - Go to step 12 .

2. Start the engine. Hold the engine speed at 2,000 rpm for 1 minute.

Does the charging system indicator go off?

YES - Charging system indicator circuit is OK, go to the alternator and regulator circuit troubleshooting (see **ALTERNATOR AND REGULATOR CIRCUIT TROUBLESHOOTING**).

NO - Go to step 3 .

3. Troubleshoot the multiplex control system (see **TROUBLESHOOTING**).

Is the multiplex control system OK?

YES - Go to step 4 .

NO - Check the multiplex control system as indicated by the DTC (see **TROUBLESHOOTING**).

4. Do the gauge assembly self-diagnostic function procedure (see **SELF-DIAGNOSTIC FUNCTION**).

Does the charging system indicator flash?

YES - Go to step 5 .

NO - Replace the gauge assembly (see **GAUGE ASSEMBLY REPLACEMENT**).

5. Turn the ignition switch OFF.
6. Disconnect the alternator 4P connector.
7. Turn the ignition switch ON (II).

Does the charging system indicator go off?

YES - Replace the alternator (see **ALTERNATOR REMOVAL AND INSTALLATION**), or repair the alternator (see **ALTERNATOR OVERHAUL**).

2004 Honda Element DX

2003-06 ELECTRICAL Charging System - Element

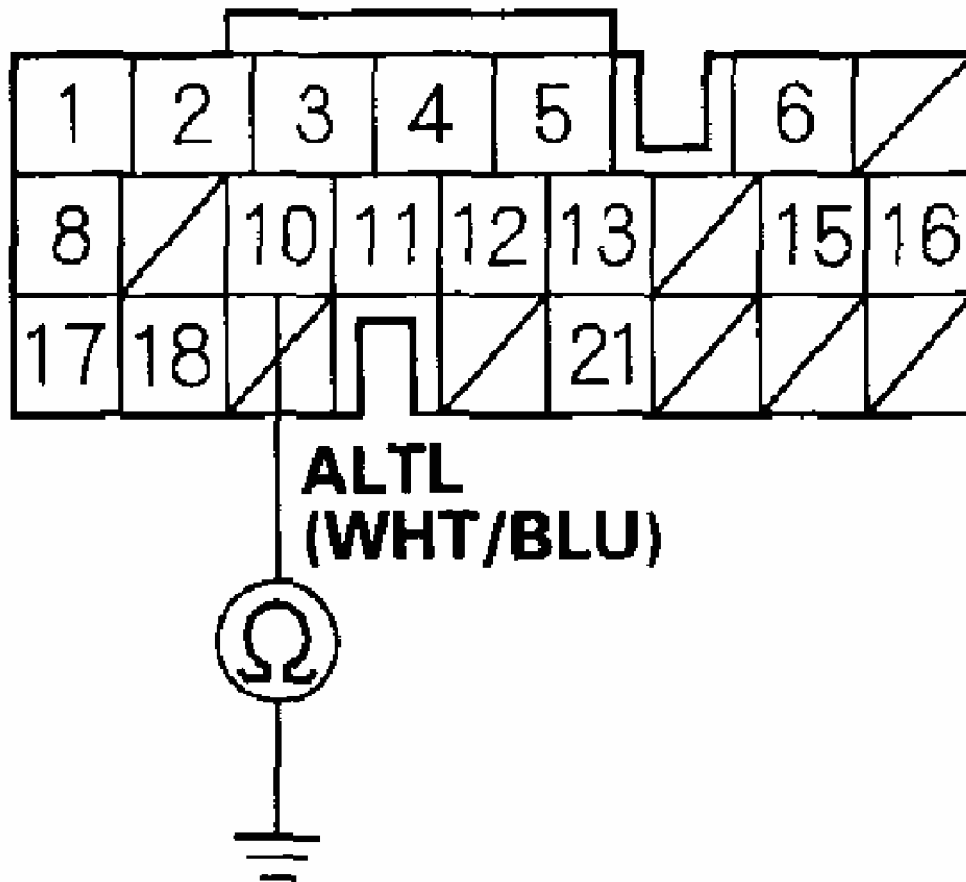
NO - Go to step 8 .

8. Turn the ignition switch OFF.
9. Connect the Honda Diagnostic System (HDS) to the data link connector (DLC) (see step 2 on **HOW TO USE THE HDS (HONDA DIAGNOSTIC SYSTEM)**). Turn the ignition switch ON (II), and jump the SCS line with the HDS, then turn the ignition switch OFF.

NOTE: **This must be done to protect the engine control module (ECM/powertrain control module (PCM) from damage.**

10. Disconnect ECM/PCM connector B (24P).
11. Check for continuity between ECM/PCM connector terminal B10 and body ground.

ECM/PCM CONNECTOR B (24P)



Wire side of female terminals

G03677017

Fig. 6: Checking Continuity Between ECM/PCM Connector Terminal And Body Ground

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Repair a short to ground in the wire between the alternator and the ECM/PCM (B10).

NO - Update the ECM/PCM if it does not have the latest software (see **ECM/PCM UPDATING AND SUBSTITUTION FOR TESTING**), or substitute a known-good ECM/PCM (see **HOW TO SUBSTITUTE THE ECM/PCM**), then recheck. If the symptom/indication goes away with a known-good ECM/PCM, replace the original ECM/ PCM (see **ECM/PCM REPLACEMENT**).

12. Troubleshoot the multiplex control system (see **TROUBLESHOOTING**).

Is the multiplex control system OK?

YES - Go to step 13 .

NO - Check the multiplex control system as indicated by the DTC (see **TROUBLESHOOTING**).

13. Do the gauge assembly self-diagnostic function procedure (see **SELF-DIAGNOSTIC FUNCTION**).

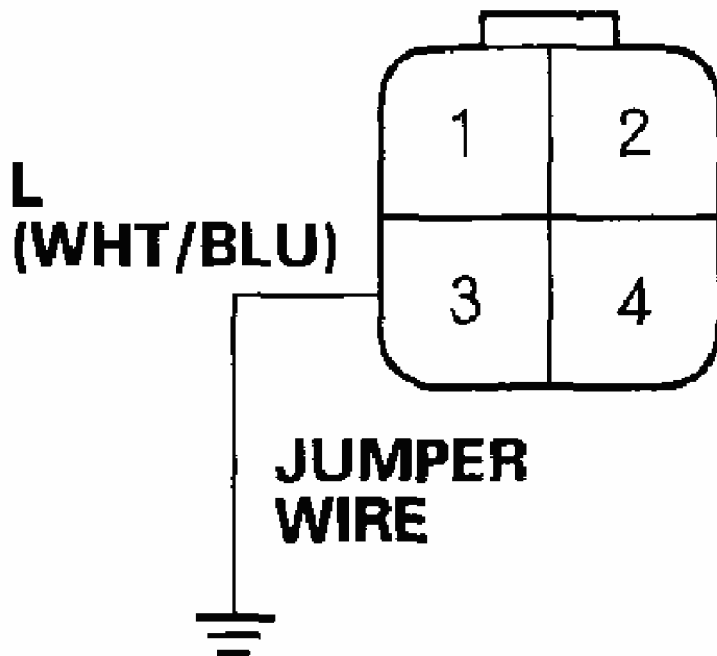
Does the charging system indicator flash?

YES - Go to step 14 .

NO - Replace the gauge assembly (see **GAUGE ASSEMBLY REPLACEMENT**).

14. Turn the ignition switch OFF.
15. Disconnect the alternator 4P connector.
16. Connect alternator 4P connector terminal No. 3 and body ground with a jumper wire.

ALTERNATOR 4P CONNECTOR



Wire side of female terminals

G03677018

Fig. 7: Connecting Alternator Connector Terminal And Body Ground With Jumper Wire

Courtesy of AMERICAN HONDA MOTOR CO., INC.

17. Turn the ignition switch ON (II).

Does the charging system indicator come on?

YES - Replace the alternator (see ALTERNATOR REMOVAL AND INSTALLATION), or repair the alternator (see ALTERNATOR OVERHAUL).

NO - Go to step 18 .

18. Turn the ignition switch OFF.

2004 Honda Element DX

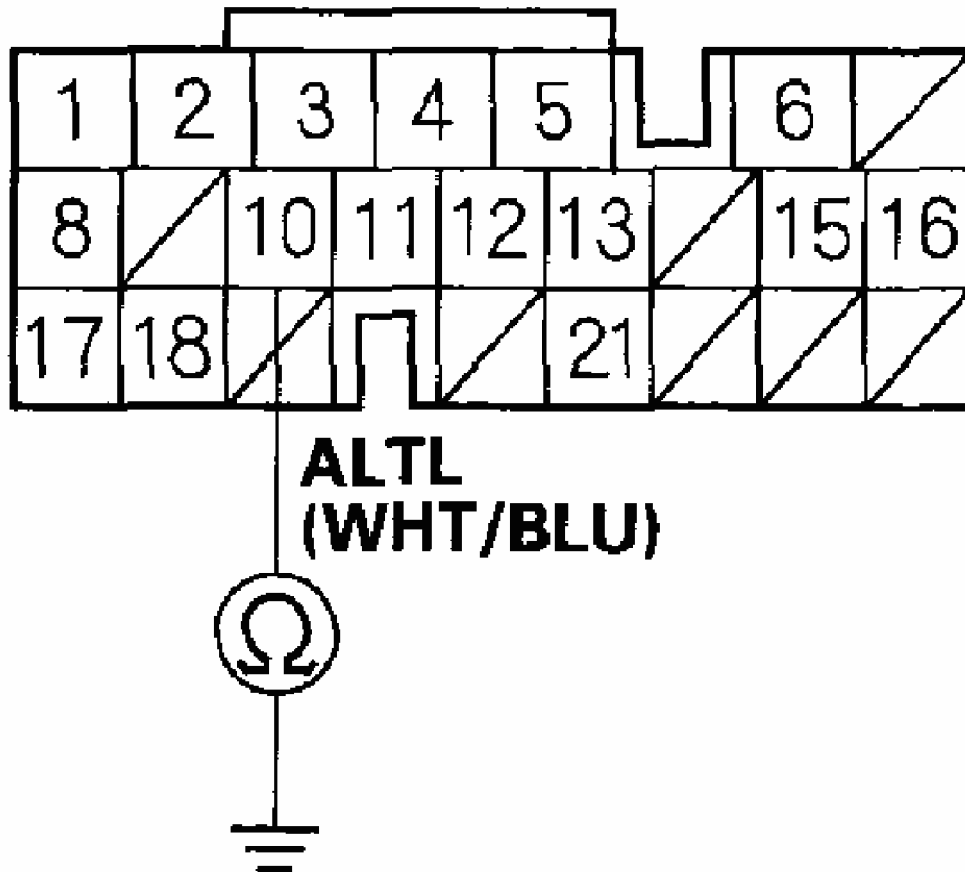
2003-06 ELECTRICAL Charging System - Element

19. Connect the HDS to the DLC (see step 2 on **HOW TO USE THE HDS (HONDA DIAGNOSTIC SYSTEM)**). Turn the ignition switch ON (II), and jump the SCS line with the HDS, then turn the ignition switch OFF.

NOTE: **This must be done to protect the ECM/PCM from damage.**

20. Disconnect ECM/PCM connector B (24P).
21. Check for continuity between ECM/PCM connector terminal B10 and body ground.

ECM/PCM CONNECTOR B (24P)



Wire side of female terminals

G03677019

Fig. 8: Checking Continuity Between ECM/PCM Connector Terminal And Body Ground

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

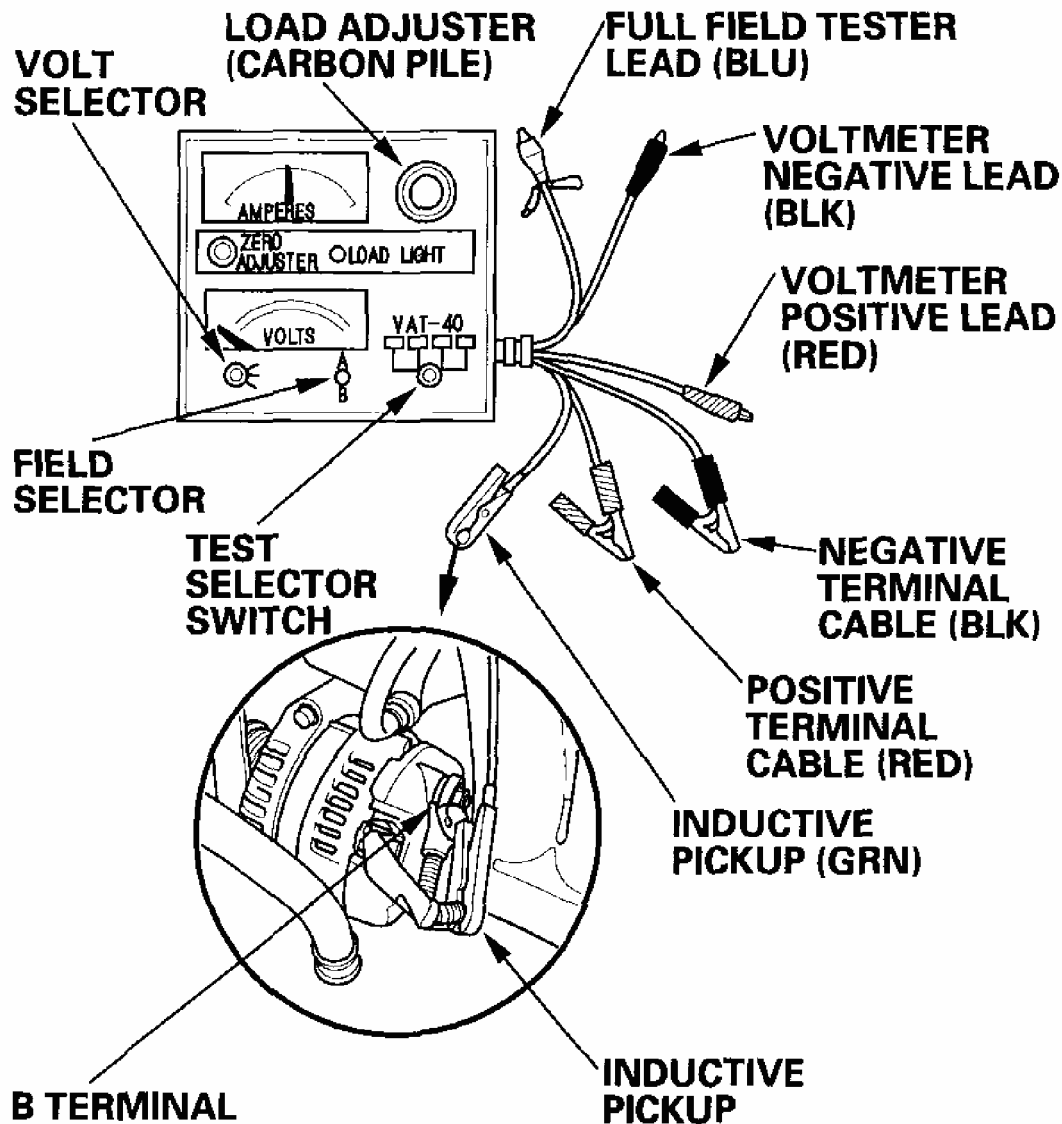
YES - Update the ECM/PCM if it does not have the latest software (see **ECM/PCM UPDATING AND SUBSTITUTION FOR TESTING**), or

substitute a known-good ECM/PCM (see **HOW TO SUBSTITUTE THE ECM/PCM**), then recheck. If the symptom/indication goes away with a known-good ECM/PCM, replace the original ECM/ PCM (see **ECM/PCM REPLACEMENT**).

NO - Repair an open in the wire between the alternator and the ECM/PCM (B10).

ALTERNATOR AND REGULATOR CIRCUIT TROUBLESHOOTING

1. Make sure the battery connections are good, and the battery is sufficiently charged (see **BATTERY TEST**).
2. Connect a VAT-40 (or equivalent tester), and turn the selector switch to position 1 (starting).



G03677020

Fig. 9: Connecting VAT-40 (Or Equivalent Tester), And Turn Selector Switch To Position

Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Start the engine. Hold the engine speed at 3,000 RPM, without load until the radiator fan comes on, then let it idle.
4. Raise the engine speed to 2,000 rpm, and hold it there.

Is the voltage over 15.1 V?

YES - Replace the alternator (see **ALTERNATOR REMOVAL AND INSTALLATION**), or the rear housing assembly.

NO - Go to step 5 .

5. Release the accelerator pedal, and let the engine idle.
6. Make sure all accessories are turned off. Turn the selector switch to position 2 (charging).
7. Remove the inductive pickup, and zero the ammeter.
8. Place the inductive pickup over the B terminal wire of the alternator so the arrow points away from the alternator.
9. Raise the engine speed to 2,000 rpm, and hold it there.

Is the voltage less than 13.5 V?

YES - Go to alternator control circuit troubleshooting (see **ALTERNATOR CONTROL CIRCUIT TROUBLESHOOTING**).

NO - Go to step 10 .

10. Apply a load with the VAT-40 until the battery voltage drops within 12-13.5 V.

Is the amperage 60 A or more?

YES - The charging system is OK.

NOTE: **If the charging system indicator is still on, replace the alternator (see ALTERNATOR REMOVAL AND INSTALLATION) or the rear housing assembly.**

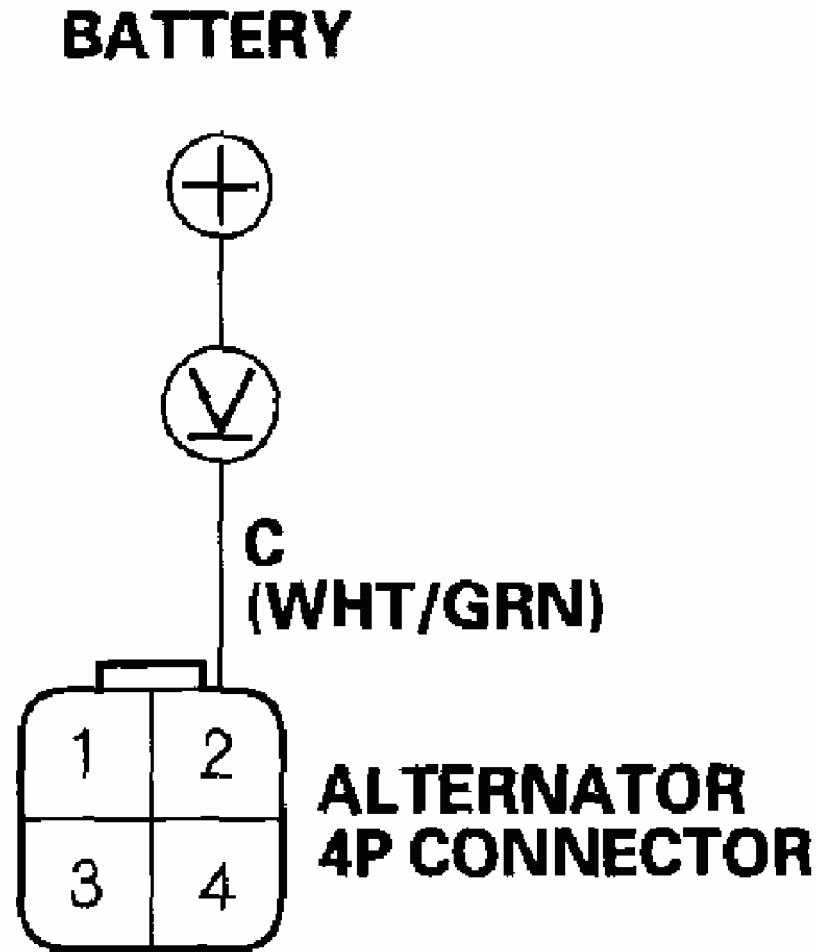
NO - Replace the alternator (see **ALTERNATOR REMOVAL AND INSTALLATION**), or repair the alternator (see **ALTERNATOR OVERHAUL**).

ALTERNATOR CONTROL CIRCUIT TROUBLESHOOTING

1. Check for proper operation of the electrical load detector (ELD) by checking for a DTC. If a DTC is present, diagnose and repair the cause before continuing with this test.

NOTE: **The ELD DTC does not turn on the MIL.**

2. Disconnect the alternator 4P connector from the alternator.
3. Start the engine, and turn on the headlights to high beam.
4. Measure the voltage between alternator 4P connector terminal No. 2 and the positive terminal of the battery.



Wire side of female terminals

G03677021

Fig. 10: Measuring Voltage Between Alternator Connector Terminal And Positive Terminal Of Battery

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there 1 V or less?

YES - Go to step 10 .

NO - Go to step 5 .

2004 Honda Element DX

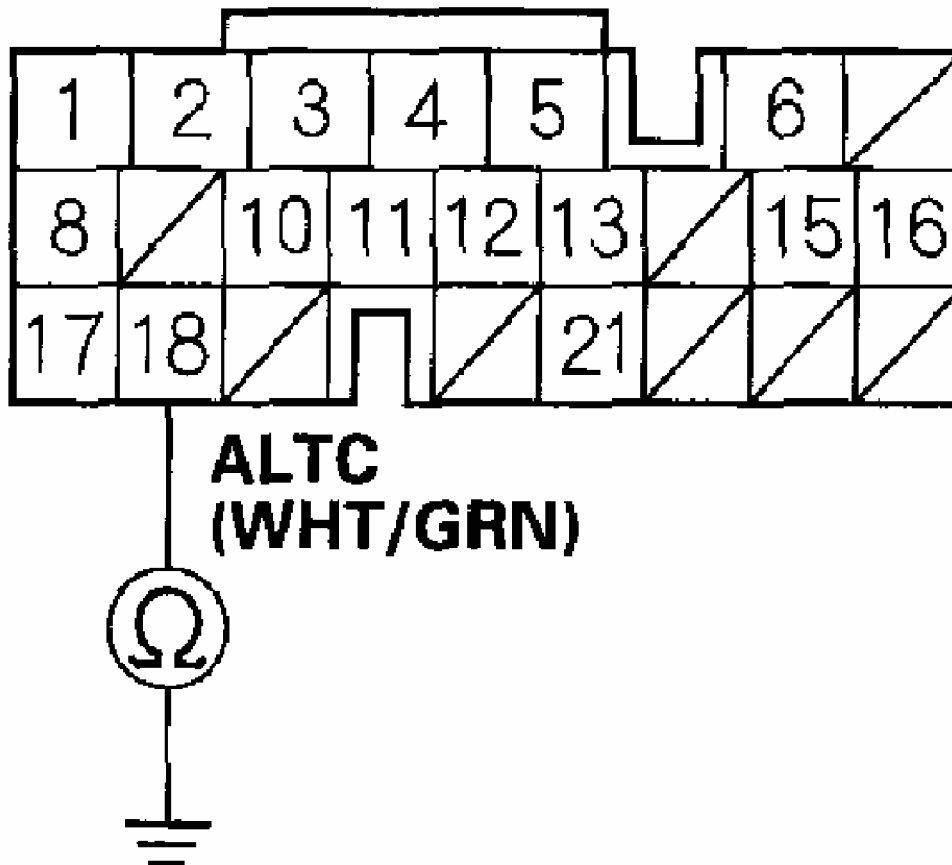
2003-06 ELECTRICAL Charging System - Element

5. Turn off the headlights.
6. Turn the ignition switch OFF.
7. Connect the Honda Diagnostic System (HDS) to the data link connector (DLC) (see step 2 on **HOW TO USE THE HDS (HONDA DIAGNOSTIC SYSTEM)**). Turn the ignition switch ON (II), and jump the SCS line with the HDS, then turn the ignition switch OFF.

NOTE: This step must be done to protect the engine control module (ECM)/powertrain control module (PCM) from damage.

8. Disconnect ECM/PCM connector B (24P).
9. Check for continuity between ECM/PCM connector terminal B18 and body ground.

ECM/PCM CONNECTOR B (24P)



Wire side of female terminals

G03677022

Fig. 11: Checking Continuity Between ECM/PCM Connector Terminal And Body Ground

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES - Repair a short to ground in the wire between the alternator and the ECM/PCM (B18).

NO - Update the ECM/PCM if it does not have the latest software (see **ECM/PCM UPDATING AND SUBSTITUTION FOR TESTING**), or substitute a known-good ECM/PCM (see **HOW TO SUBSTITUTE THE ECM/PCM**), then recheck. If the symptom/indication goes away with a known-good ECM/PCM, replace the original ECM/ PCM (see **ECM/PCM REPLACEMENT**).

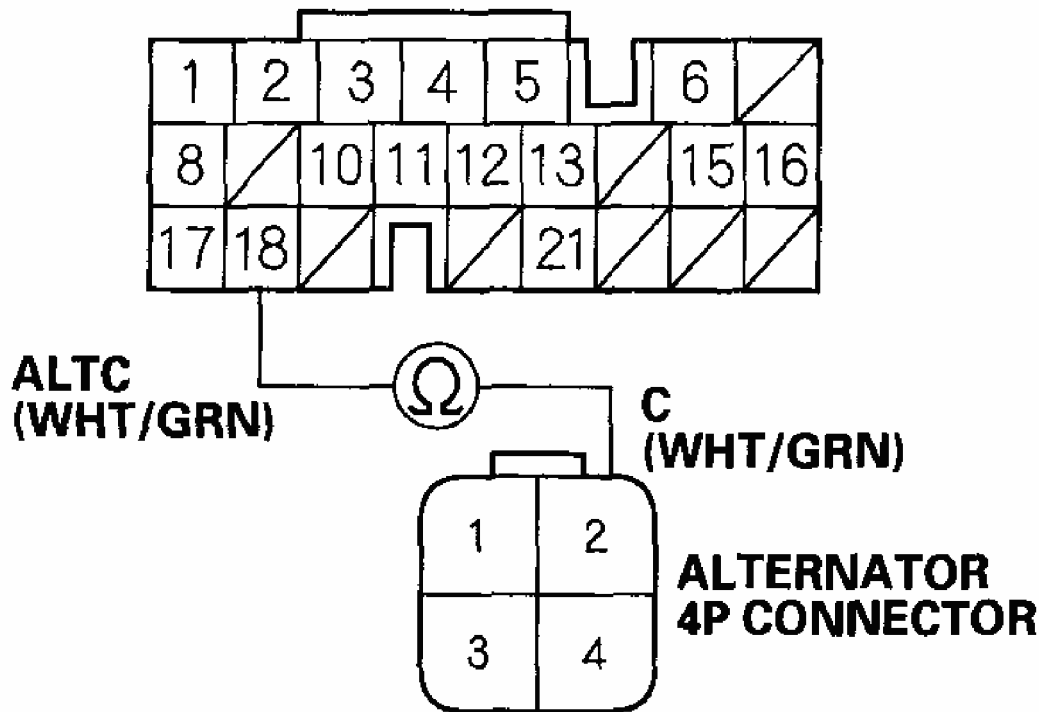
10. Connect the HDS to the DLC. Turn the ignition switch ON (II), and jump the SCS line with the HDS, then turn the ignition switch OFF.

NOTE: **This step must be done to protect the ECM/ PCM from damage.**

11. Disconnect ECM/PCM connector B (24P).
12. Check for continuity between ECM/PCM connector terminal B18 and alternator 4P connector terminal No. 2.

ECM/PCM CONNECTOR B (24P)

Wire side of female terminals



Wire side of female terminals

G03677023

Fig. 12: Checking Continuity Between ECM/PCM Connector Terminal And Alternator Connector Terminal

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

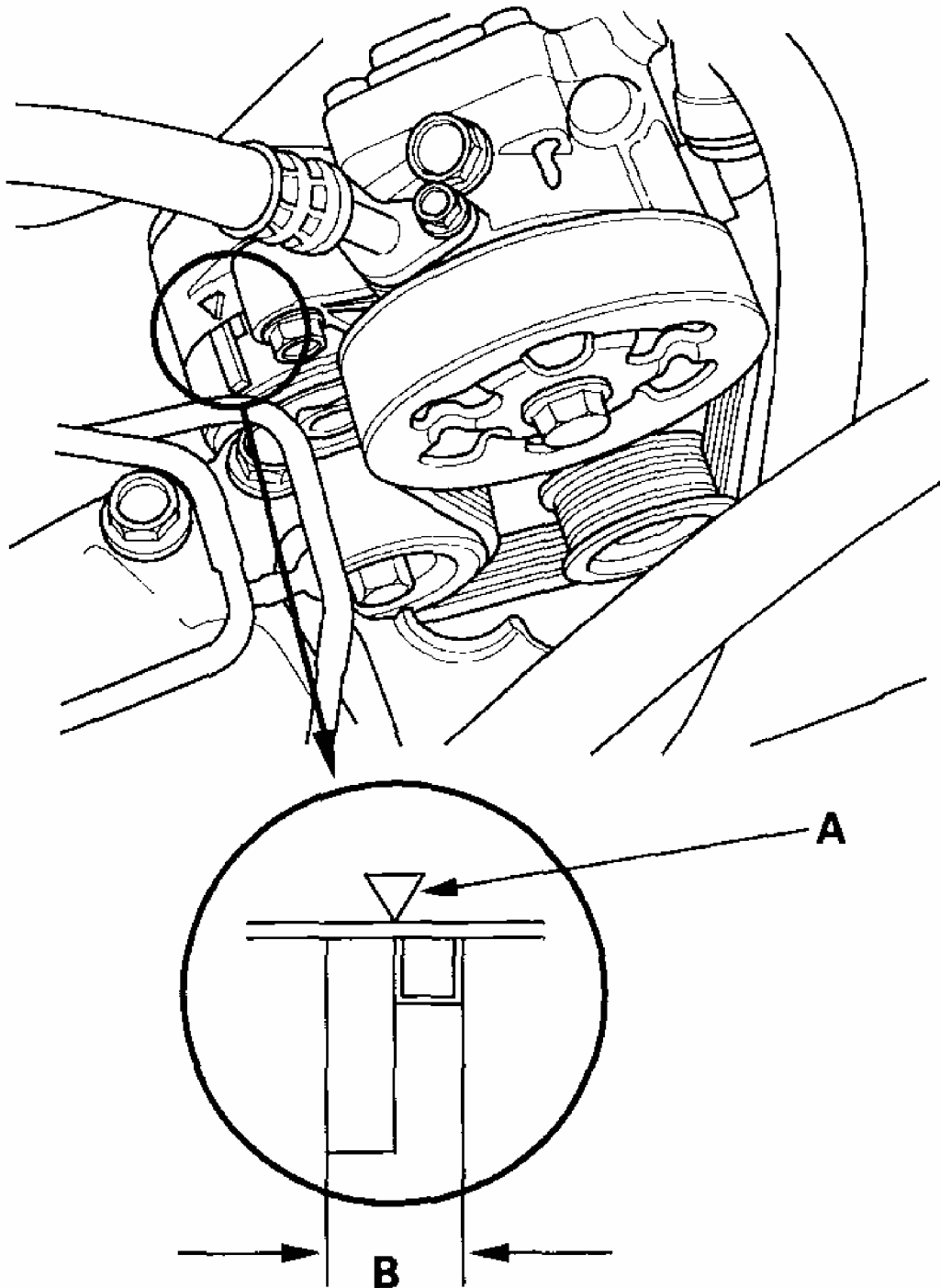
YES - Replace the alternator (see **ALTERNATOR REMOVAL AND INSTALLATION**), or repair the alternator (see **ALTERNATOR OVERHAUL**).

NO - Repair an open in the wire between the alternator and the ECM/PCM (B18).

DRIVE BELT INSPECTION

1. Inspect the belt for cracks or damage. If the belt is cracked or damaged, replace it.
2. Check that the auto-tensioner indicator (A) is within the standard range (B) as shown. If

it is out of the standard range, replace the drive belt (see **DRIVE BELT INSPECTION**).



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Fig. 13: Checking Auto-Tensioner Indicator
Courtesy of AMERICAN HONDA MOTOR CO., INC.

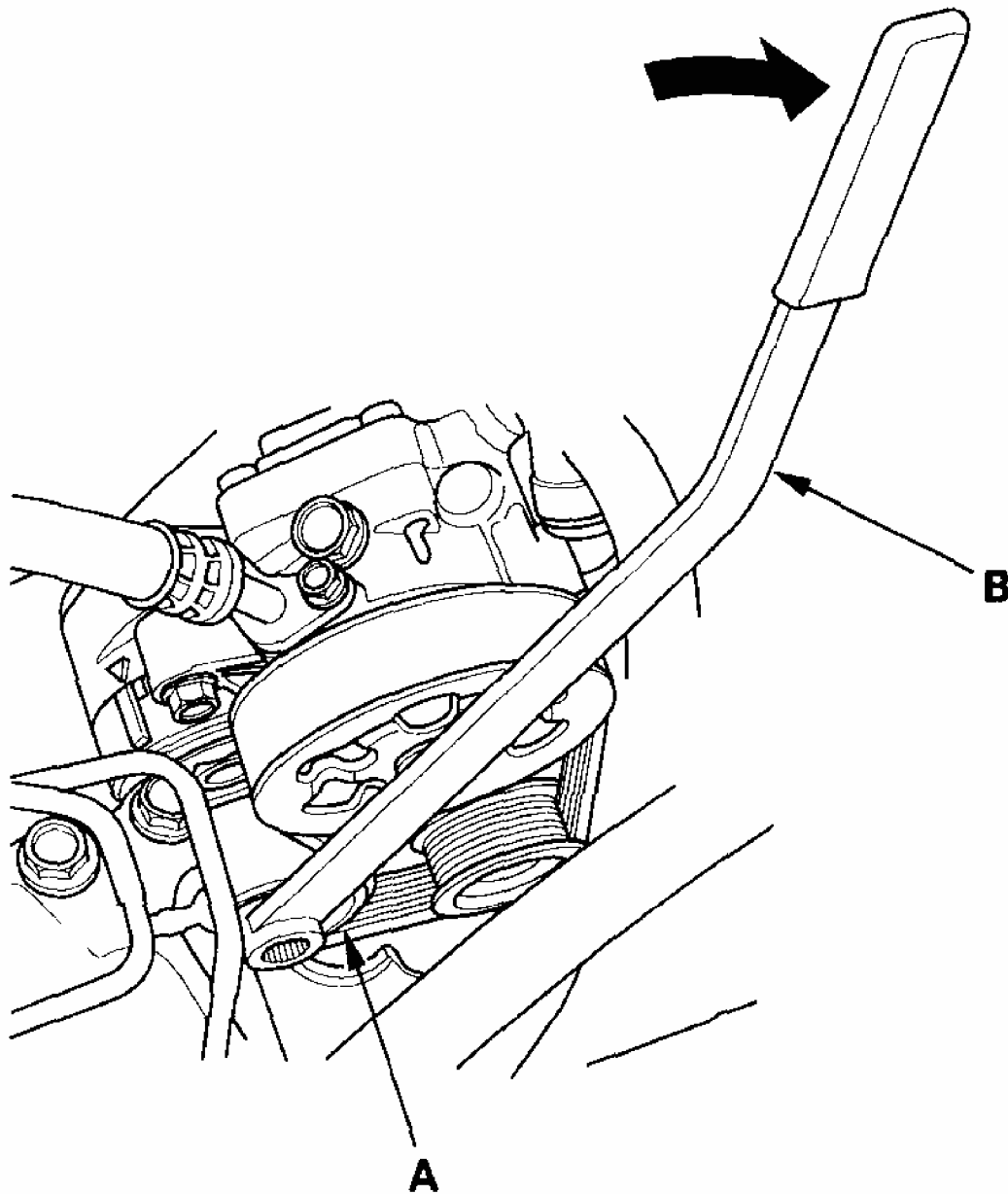
DRIVE BELT REPLACEMENT

Special Tools Required

Belt tension release tool

Snap-on YA9317 or equivalent, commercially available

1. Move the auto-tensioner (A) with the belt tension release tool (B) in the direction shown to relieve tension from the drive belt, and remove the drive belt.



G03677025

Fig. 14: Moving Auto-Tensioner With Belt Tension Release Tool
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Install the new belt in the reverse order of removal.

NOTE: For belt routing, see the charging system component location index (see COMPONENT LOCATION INDEX).

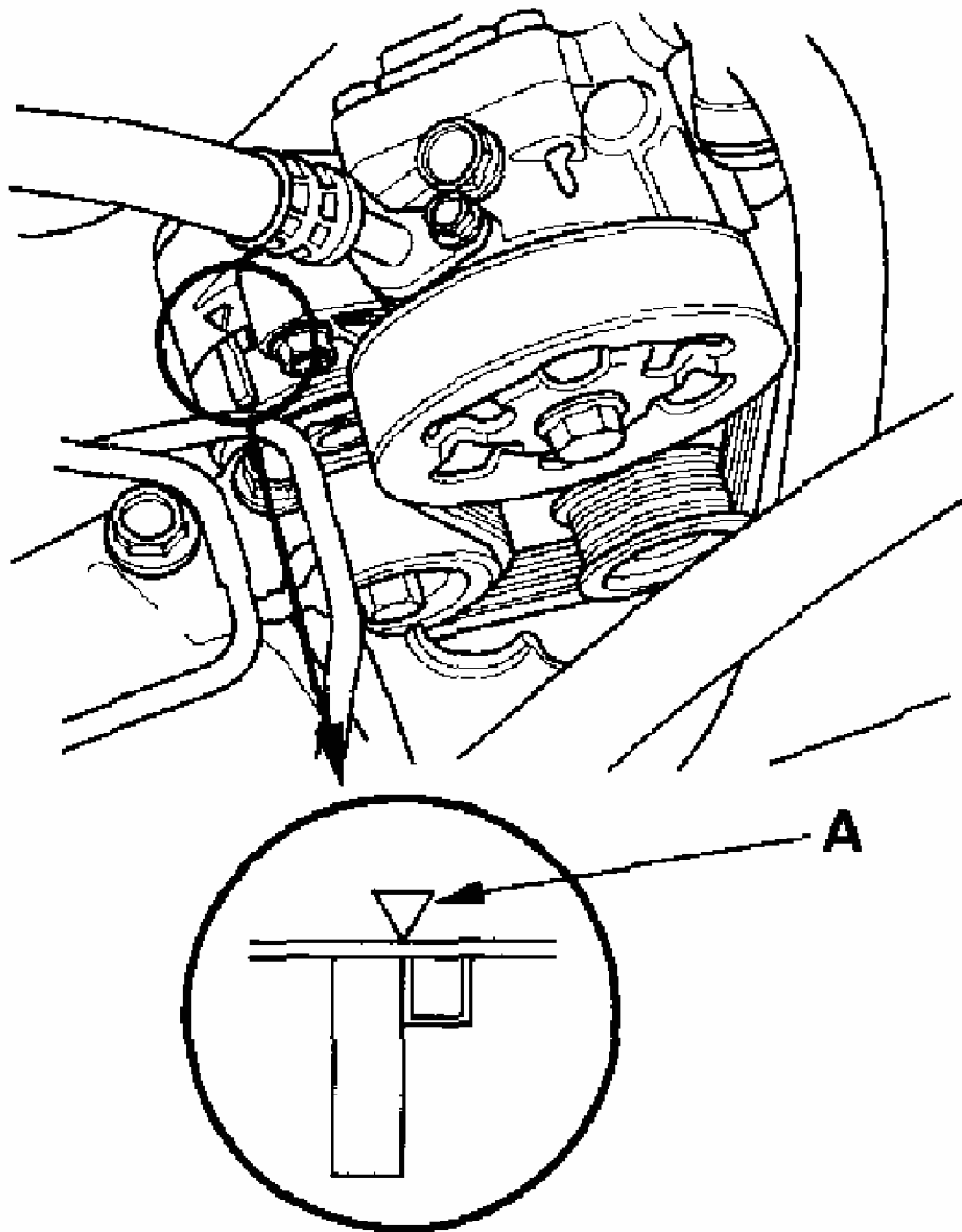
DRIVE BELT AUTO-TENSIONER INSPECTION

Special Tools Required

Belt tension release tool

Snap-on YA9317 or equivalent, commercially available

1. Turn the ignition switch ON (II). Make sure the A/C switch is OFF. Turn the ignition switch OFF.
2. Check the position of the auto-tensioner indicator's pointer (A). Start the engine, then check the position again with the engine idling. If the position of the indicator moves or fluctuates very much, replace the auto-tensioner (see **DRIVE BELT AUTO-TENSIONER REPLACEMENT**).



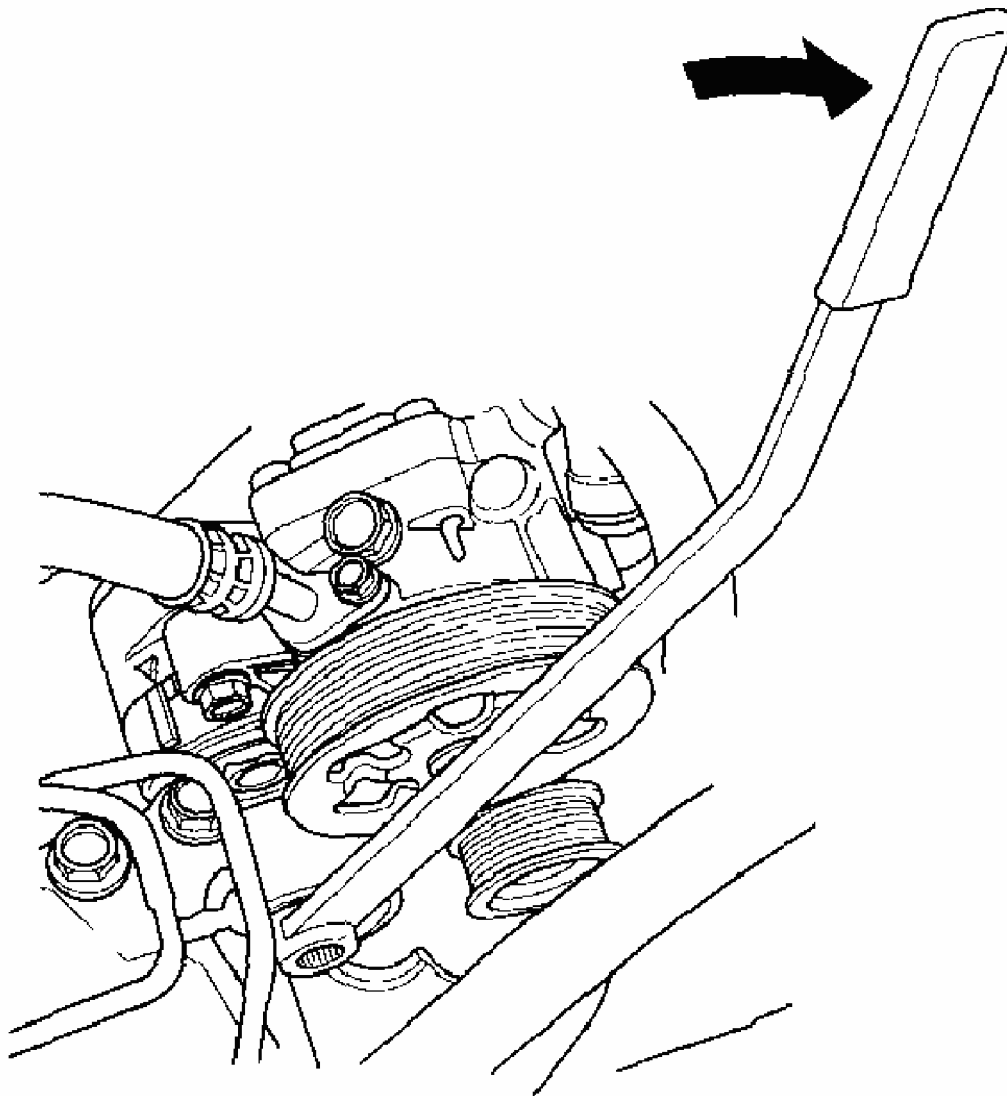
G03677026

Fig. 15: Checking Position Auto-Tensioner Indicator Pointer
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Check for abnormal noise from the tensioner pulley. If you hear abnormal noise, replace the tensioner pulley (see **DRIVE BELT AUTO-TENSIONER**

REPLACEMENT).

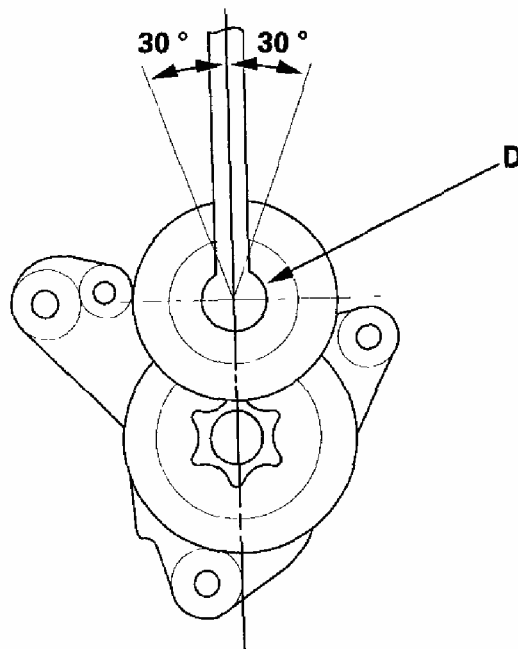
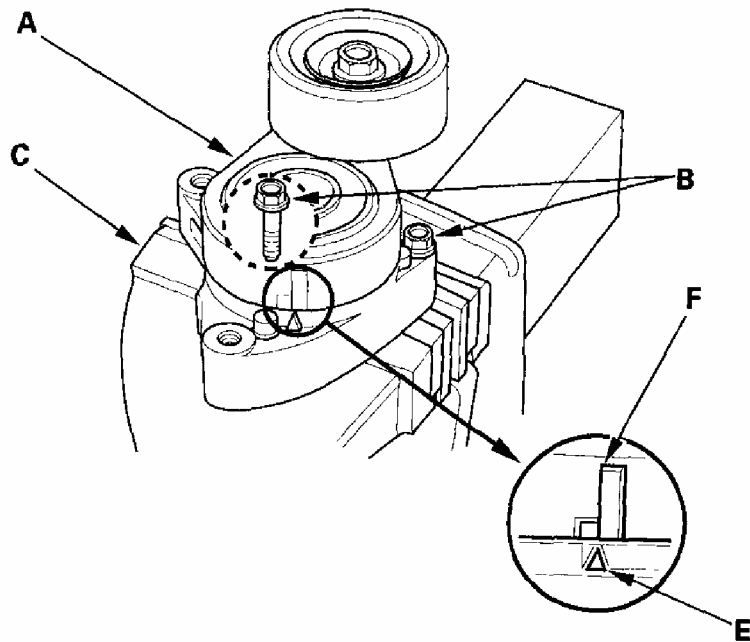
4. Remove the drive belt (see **DRIVE BELT INSPECTION**).
5. Move the auto-tensioner within its limit with the belt tension release tool in the direction shown. Check that the tensioner moves smoothly and without any abnormal noise. If the tensioner does not move smoothly or you hear abnormal noise, replace the auto-tensioner (see **DRIVE BELT AUTO-TENSIONER REPLACEMENT**).



G03677027

Fig. 16: Moving Auto-Tensioner Within Its Limit With Belt Tension Release Tool
Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Remove the auto-tensioner (see **DRIVE BELT AUTO-TENSIONER REPLACEMENT**).
7. Clamp the auto-tensioner (A) by using two 8 mm bolts (B) and a vise (C) as shown. Do not clamp the auto-tensioner itself.



G03677028

Fig. 17: Clamping Auto-Tensioner By Using Bolts

Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. Set the torque wrench (D) in the pulley bolt in the direction shown.
9. Align the indicator (E) on the tensioner base with center mark (F) on the tensioner arm by using the torque wrench, and measure the torque. If the torque value is out of specification, replace the auto-tensioner.

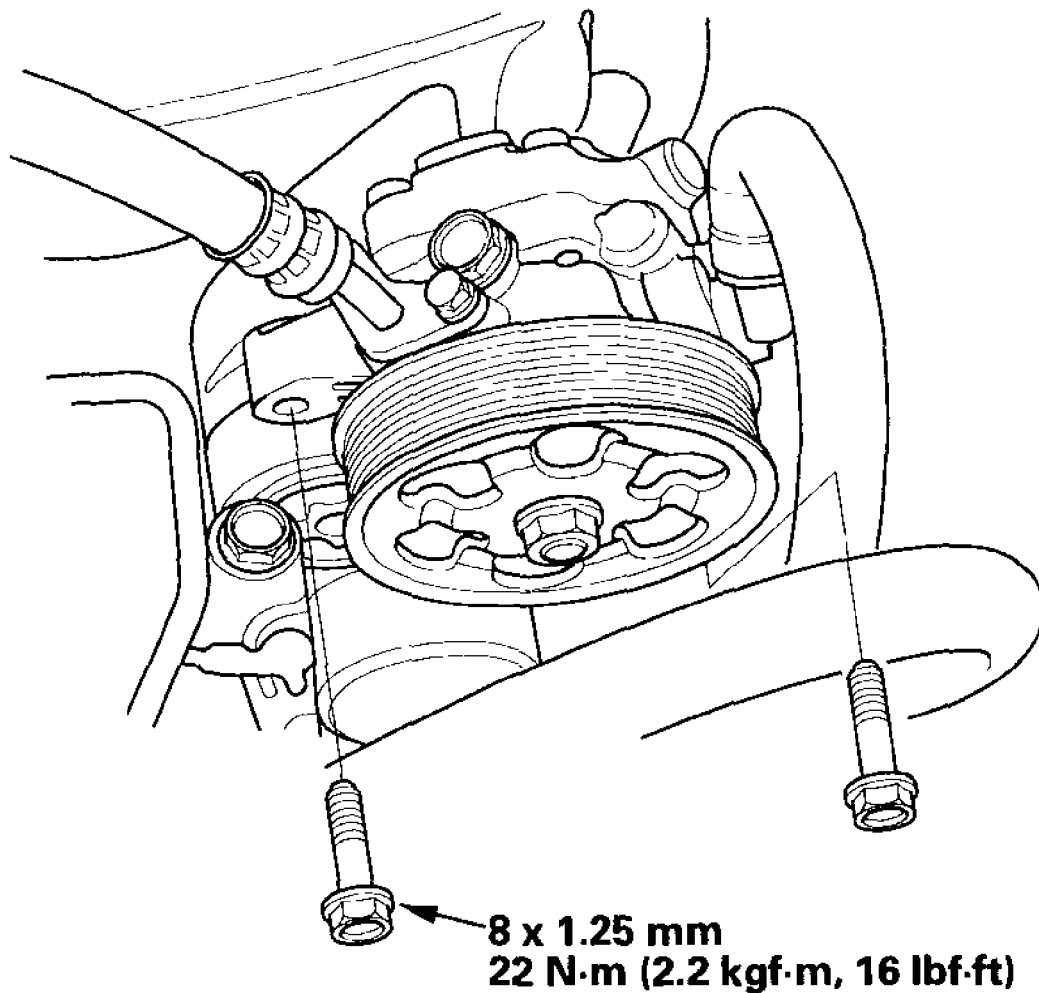
NOTE: If the indicator exceeds the center mark, recheck the torque.

Aut-Tensioner Spring Torque

32.5-39.7 N.m (3.31-4.05 kgf.m, 23.9-29.3 lbf.ft)

DRIVE BELT AUTO-TENSIONER REPLACEMENT

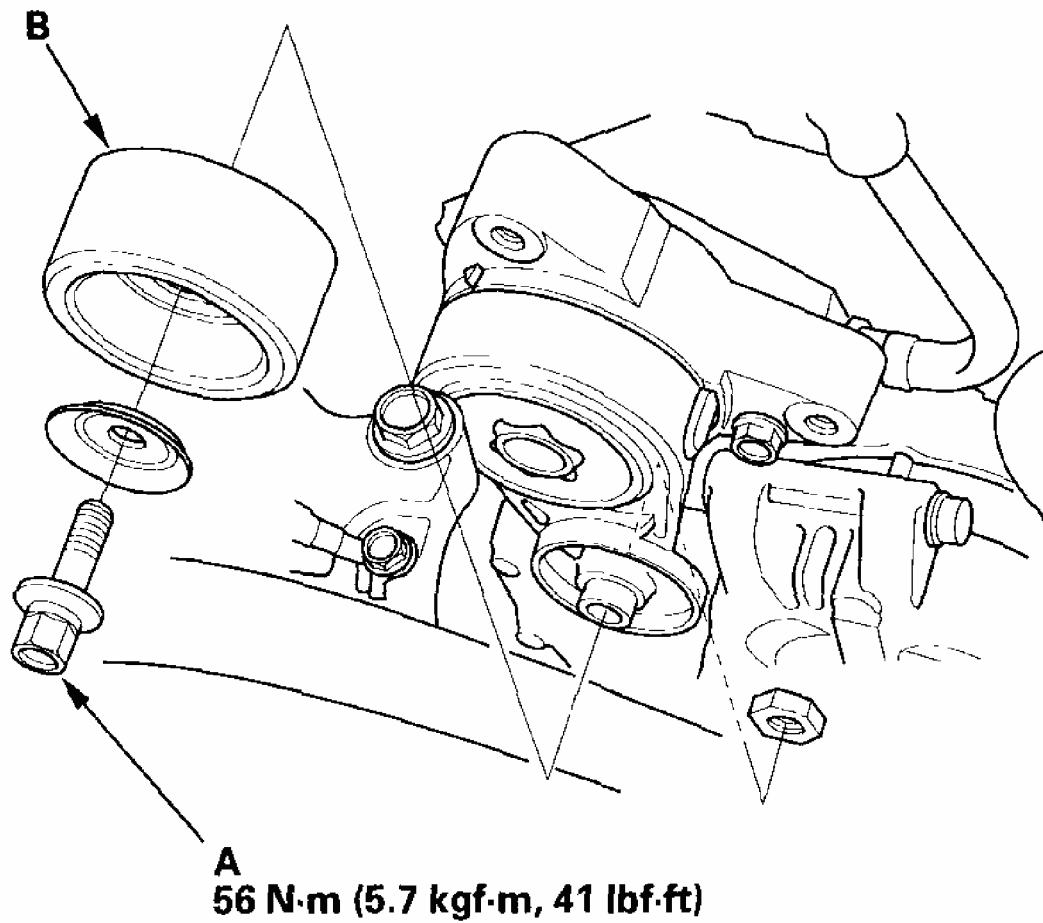
1. Remove the drive belt (see **DRIVE BELT INSPECTION**).
2. Remove the power steering (P/S) pump without disconnecting the P/S hoses.



G03677029

Fig. 18: Removing Power Steering Pump Bolts And Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Remove the pulley bolt (A), and remove the tensioner pulley (B).



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**Fig. 19: Removing Pulley Bolt And Tensioner Pulley With Specified Torques
Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Remove the auto-tensioner.

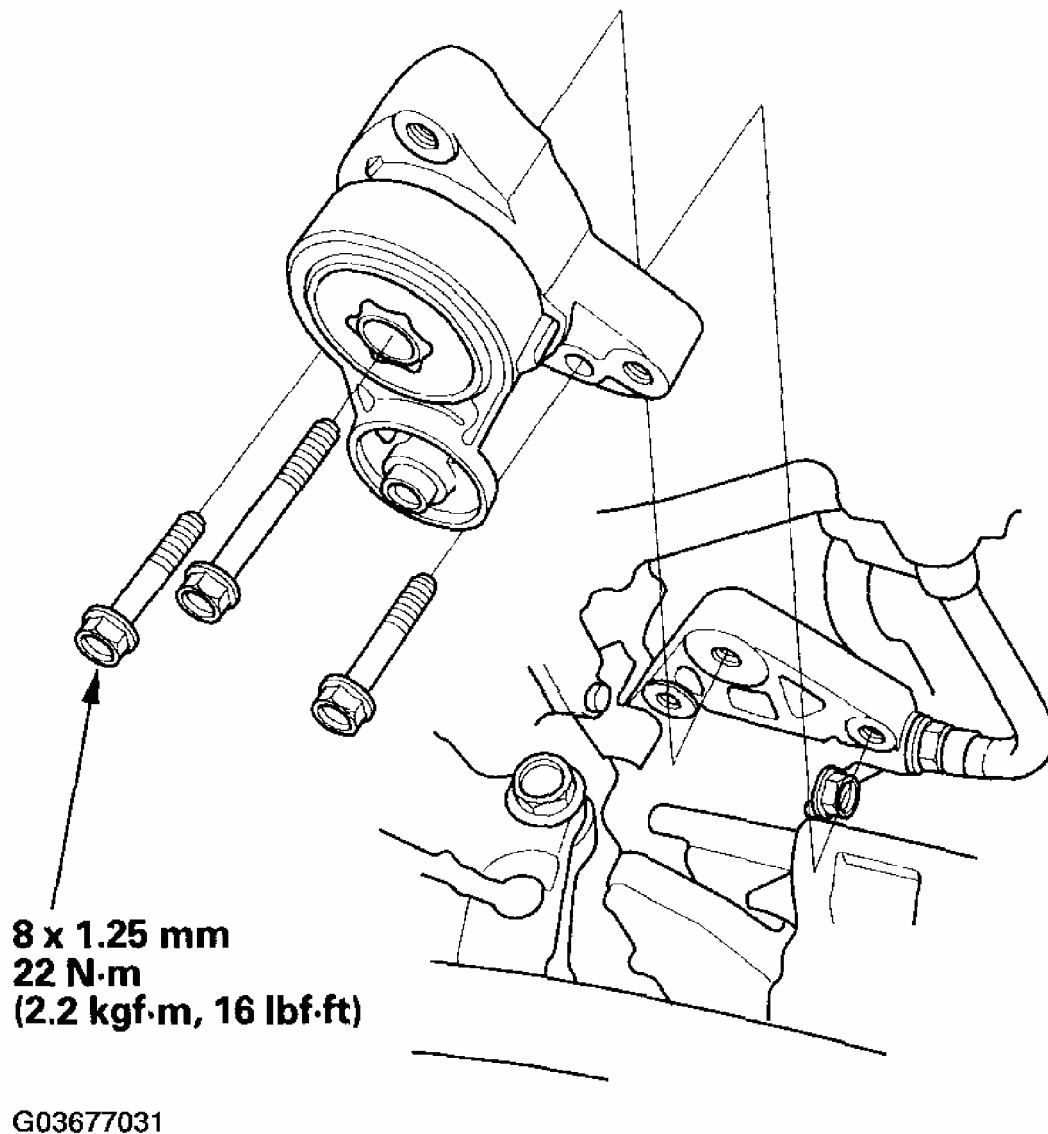


Fig. 20: Removing Auto-Tensioner And Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

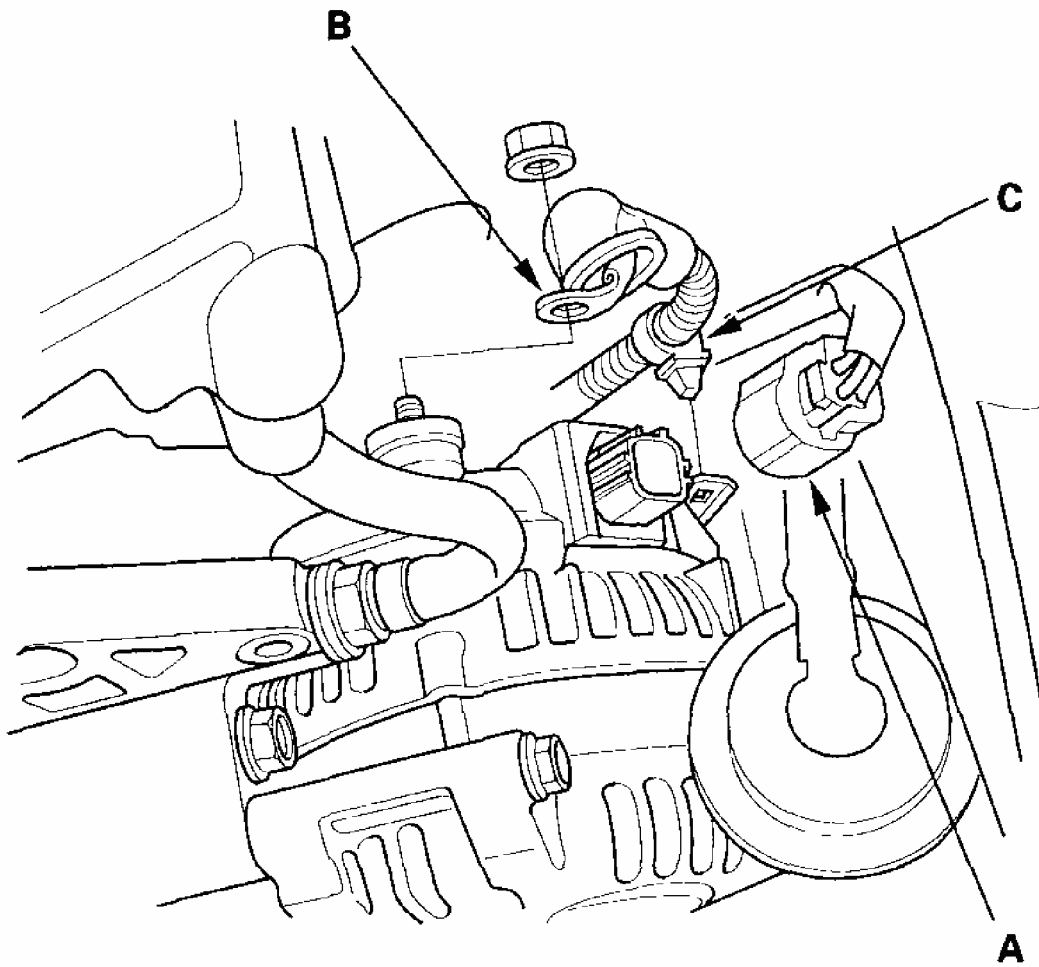
5. Install the auto-tensioner in the reverse order of removal.

ALTERNATOR REMOVAL AND INSTALLATION

REMOVAL

1. Make sure you have the anti-theft code for the radio, then write down customer's audio presets.
2. Disconnect the negative cable from the battery first, then disconnect the positive cable.

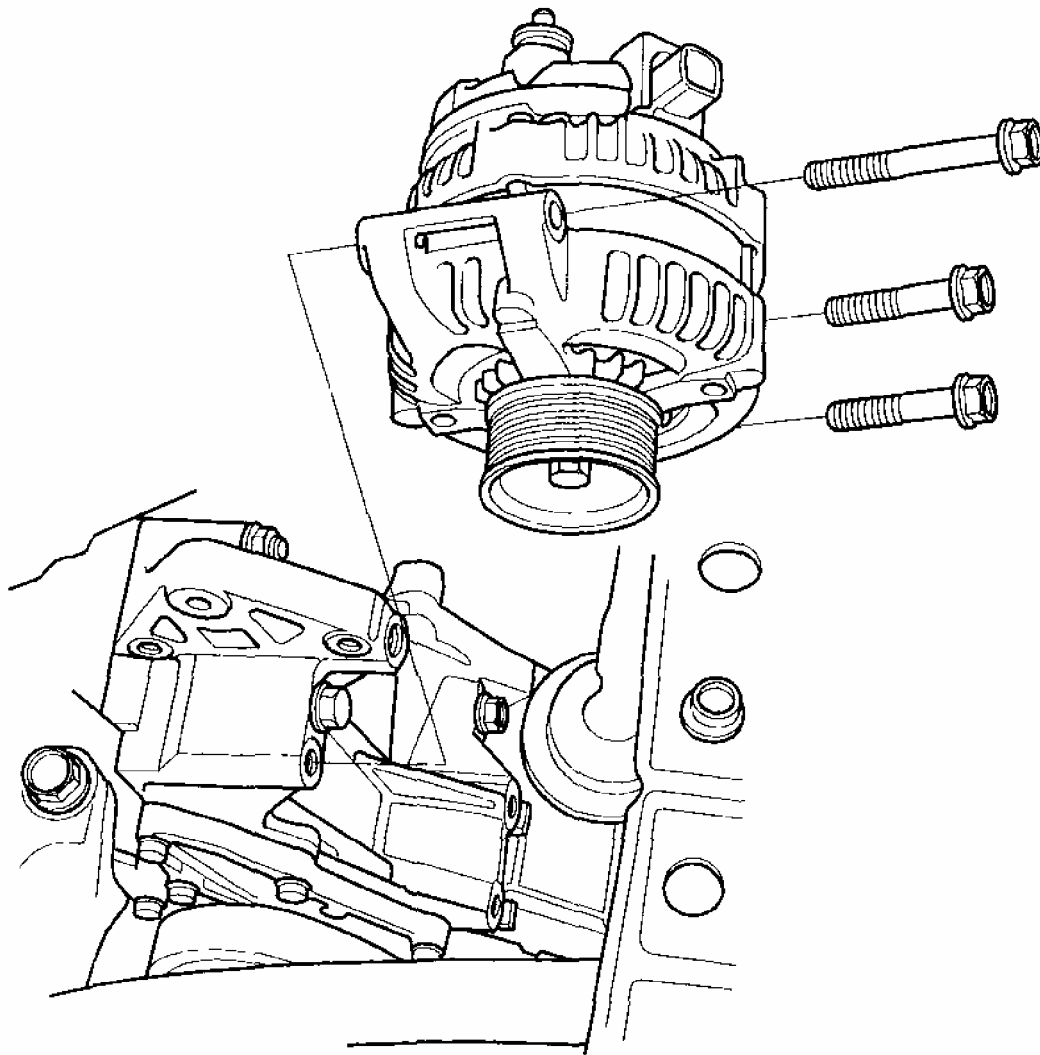
3. Remove the drive belt (see **DRIVE BELT INSPECTION**).
4. Remove the auto-tensioner (see **DRIVE BELT AUTO-TENSIONER REPLACEMENT**).
5. Disconnect the alternator connector (A), BLK wire (B), and harness clamp (C) from the alternator.



G03677032

Fig. 21: Disconnecting BLK Wire And Harness Clamp From Alternator
Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Remove the positive crankcase ventilation (PCV) valve (see **PCV VALVE REPLACEMENT**).
7. Remove the three bolts securing the alternator.

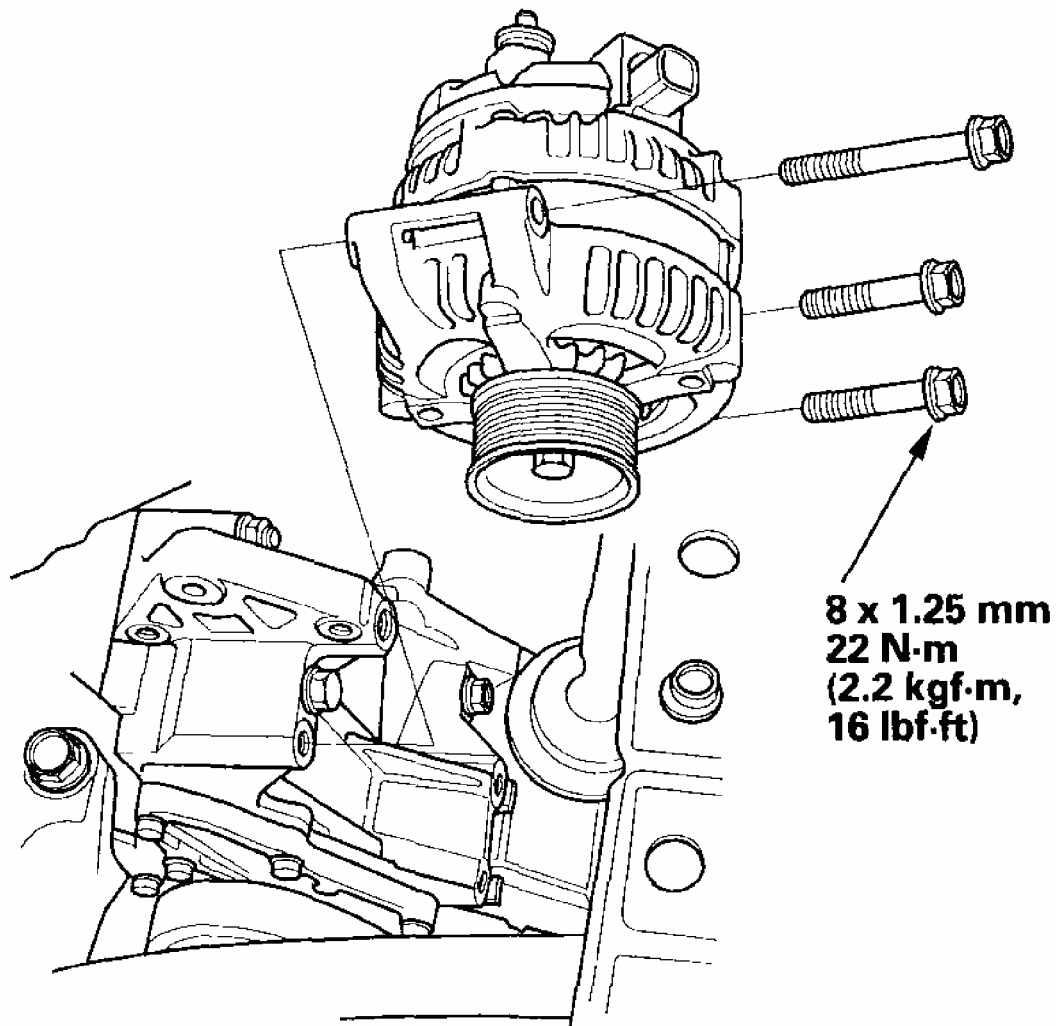


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Fig. 22: Removing Bolts From Alternator
Courtesy of AMERICAN HONDA MOTOR CO., INC.

INSTALLATION

1. Install the alternator.

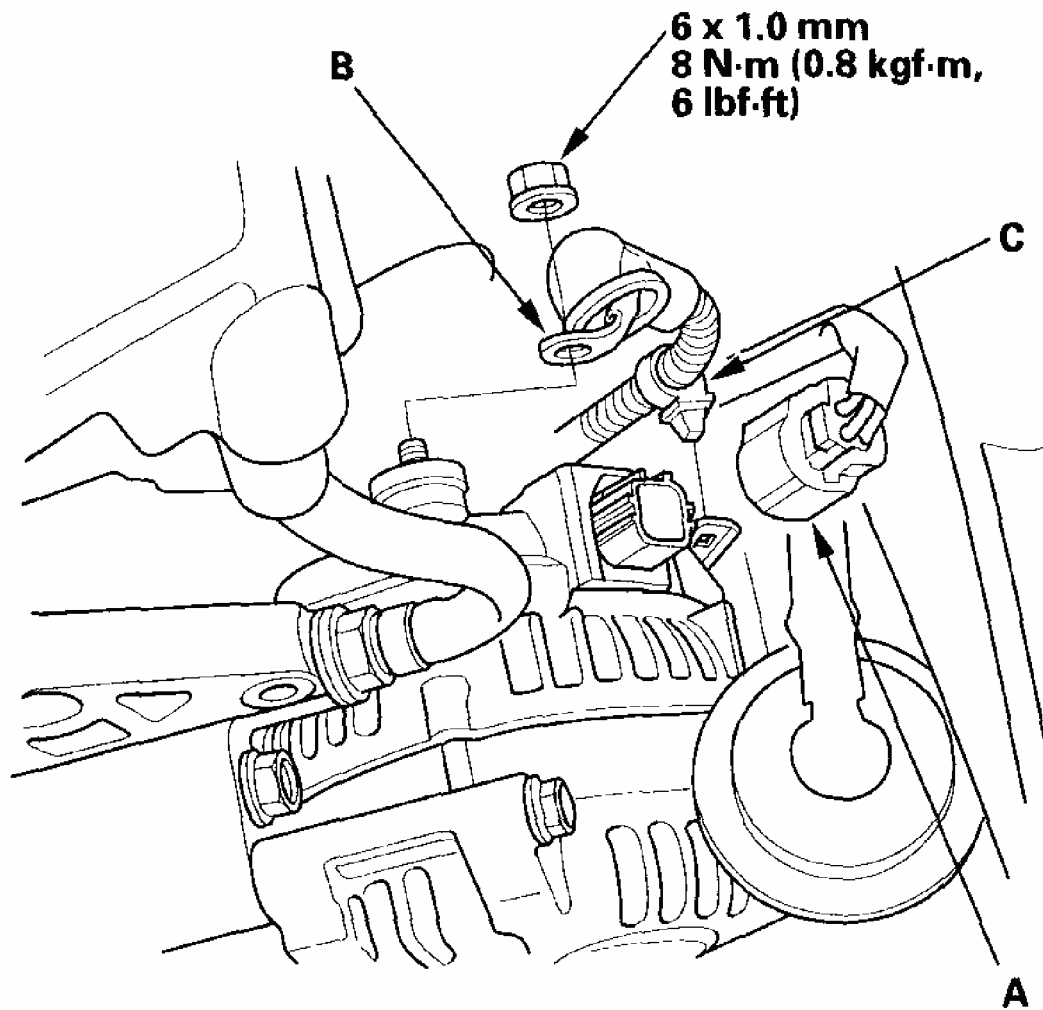


G03677034

Fig. 23: Installing Alternator

Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Install the positive crankcase (PCV) valve (see **PCV VALVE REPLACEMENT**).
3. Connect the alternator connector (A), BLK wire (B), and harness clamp (C) to the alternator.



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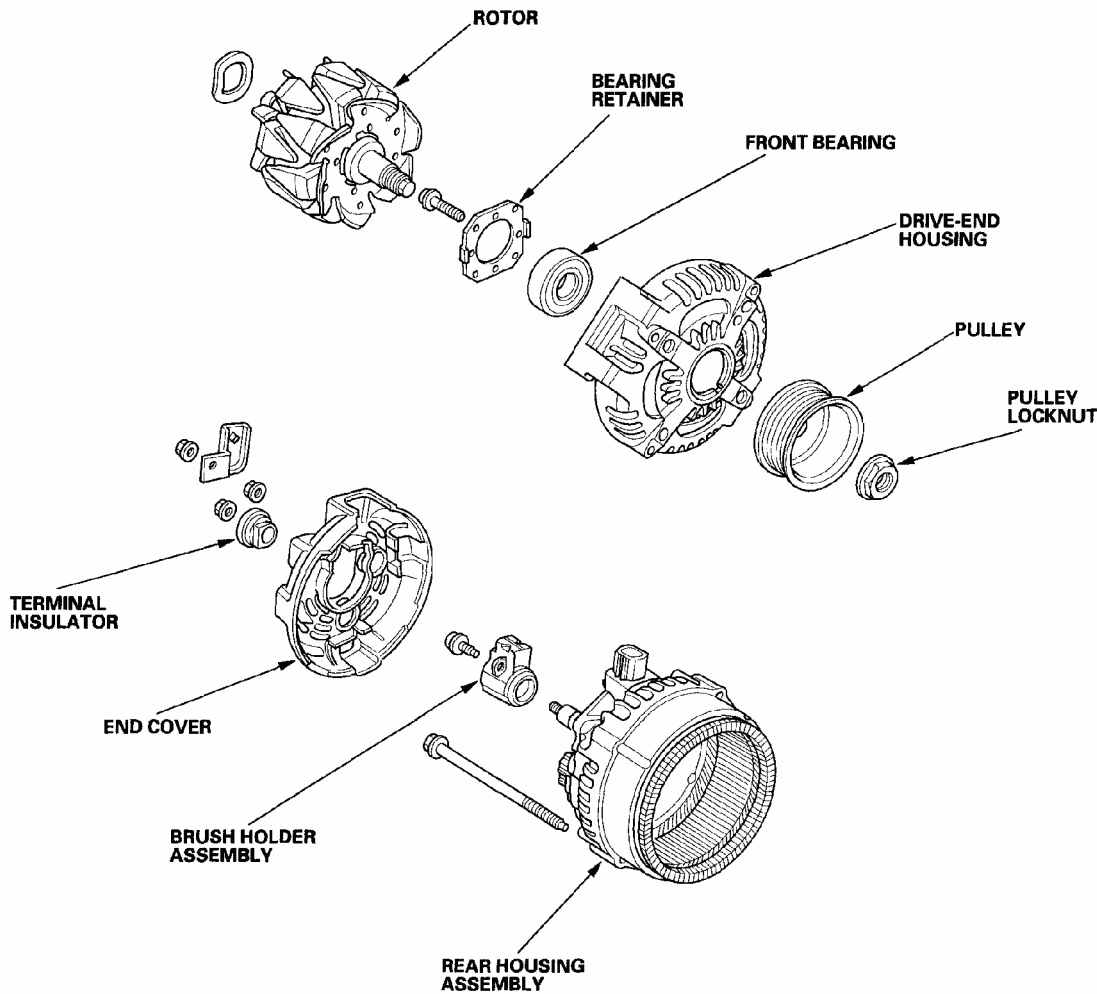
Fig. 24: Connecting BLK Wire And Harness Clamp To Alternator With Specified Torques

Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Install the auto-tensioner (see **DRIVE BELT AUTO-TENSIONER REPLACEMENT**).
5. Install the drive belt (see **DRIVE BELT INSPECTION**).
6. Connect the battery positive cable to the battery first, then connect the negative cable.
7. Enter the anti-theft code for the radio, then enter the customer's audio presets.
8. Do the power window control unit reset procedure (see **RESETTING THE POWER WINDOW CONTROL UNIT**).
9. Set the clock.

ALTERNATOR OVERHAUL

EXPLODED VIEW



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Fig. 25: Exploded View Of Alternator
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Special Tools Required

- Handle driver 07749-0010000
- Driver attachment, 42 x 47 mm 07746-0010300

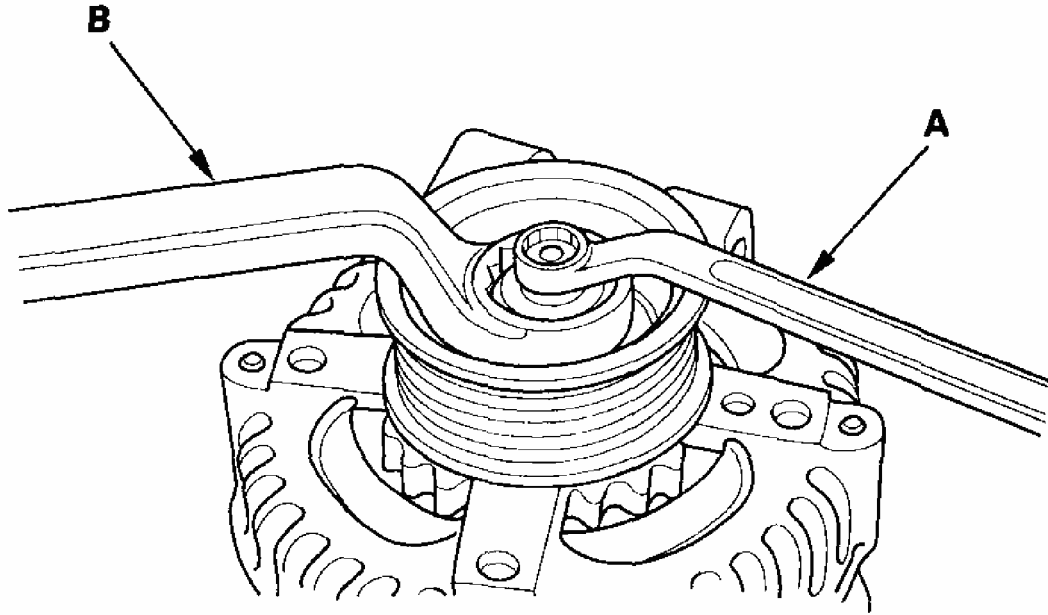
NOTE: Refer to the EXPLODED VIEW as needed during this procedure.

Alternator Disassembly

1. Test the alternator and regulator before you remove them (see ALTERNATOR AND

REGULATOR CIRCUIT TROUBLESHOOTING).

2. Remove the alternator (see **ALTERNATOR REMOVAL AND INSTALLATION**).
3. If the front bearing needs replacing, remove the pulley locknut with a 10 mm wrench (A) and a 22 mm wrench (B). If necessary, use an impact wrench.

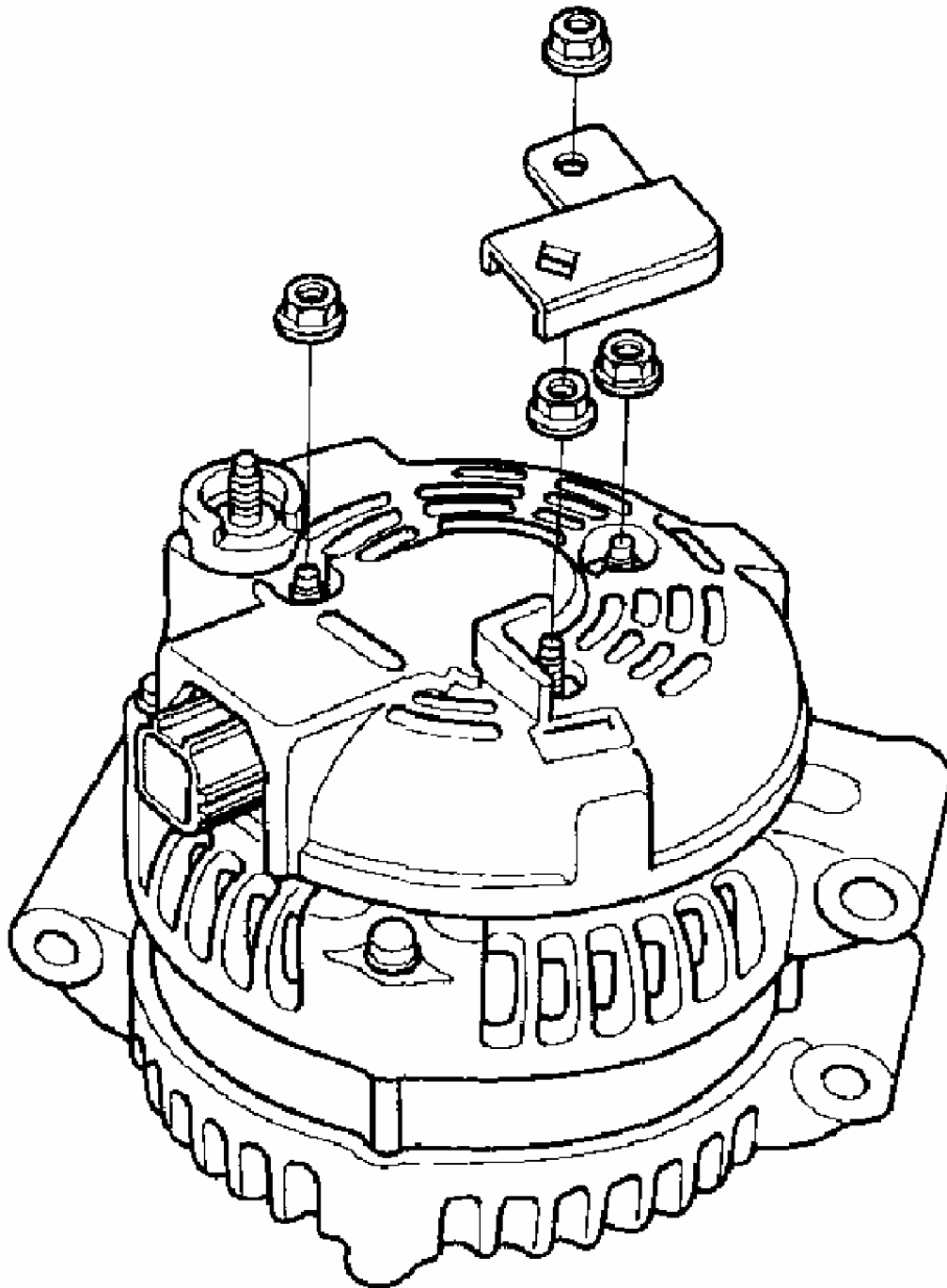


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Fig. 26: Removing Pulley Locknut

Courtesy of AMERICAN HONDA MOTOR CO., INC.

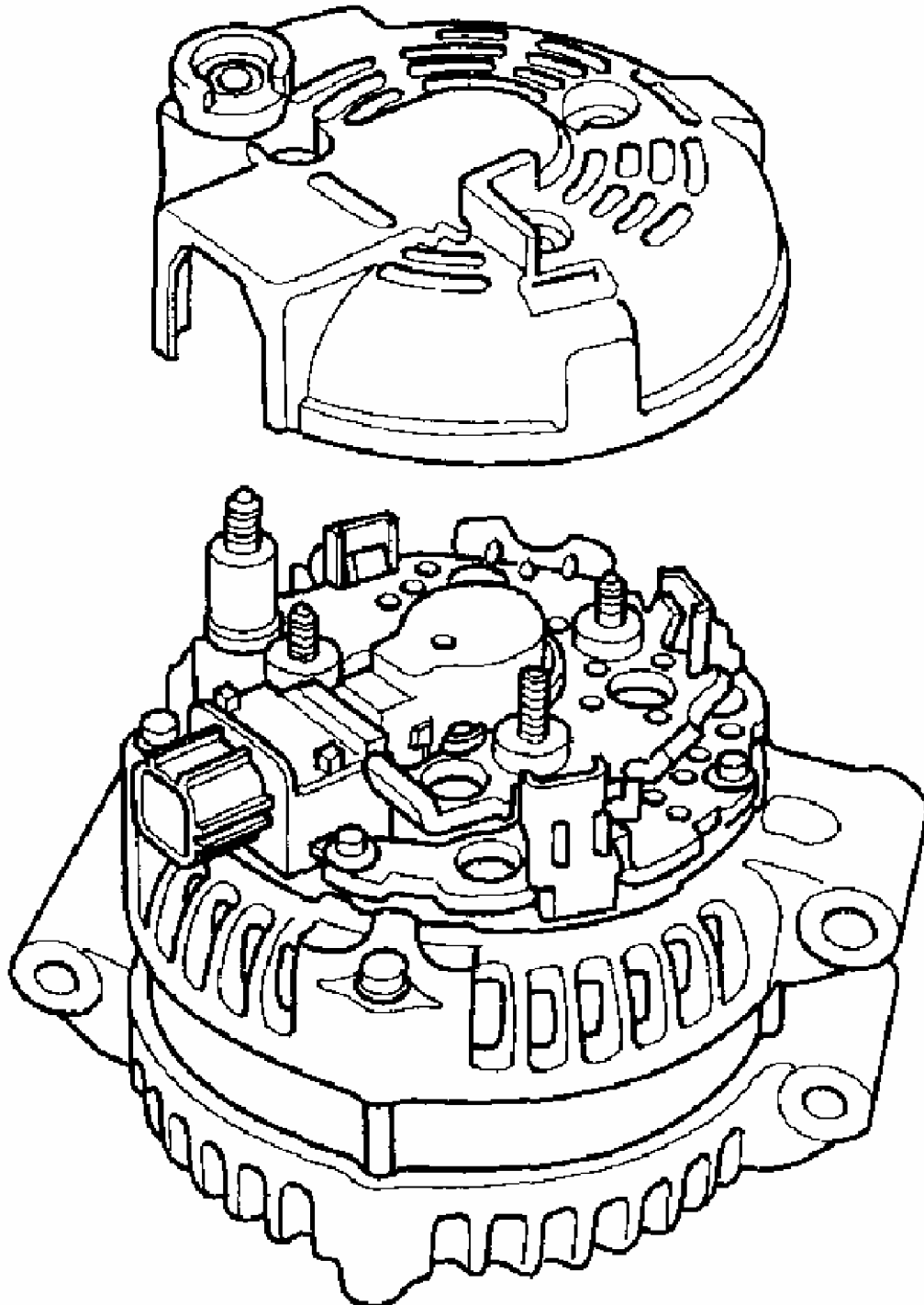
4. Remove the harness stay and the three flange nuts from the alternator.



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Fig. 27: Removing Harness Stay And Flange Nuts From Alternator
Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Remove the end cover.

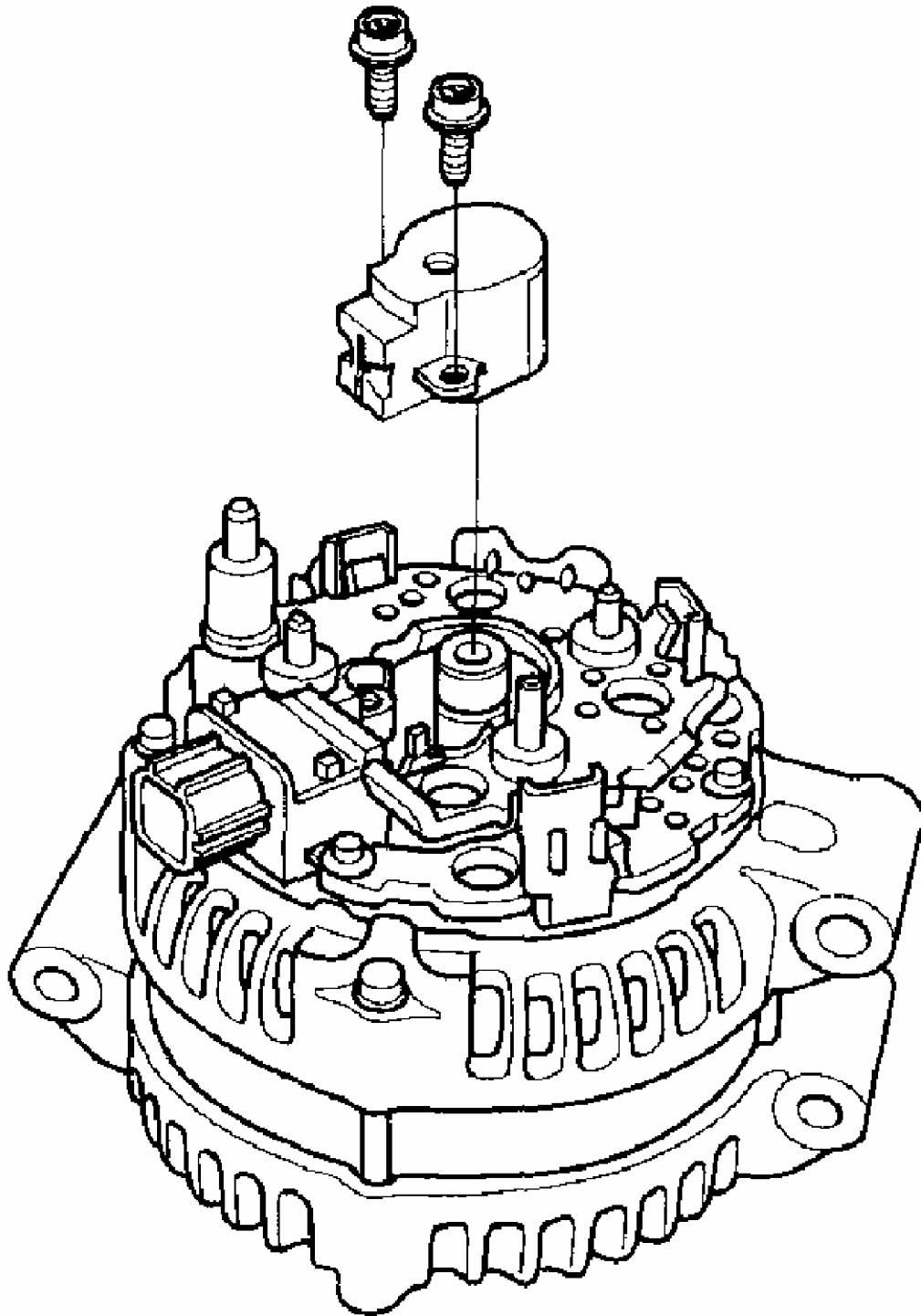


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Fig. 28: Removing End Cover

Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Remove the brush holder.



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Fig. 29: Removing Brush Holder

2004 Honda Element DX

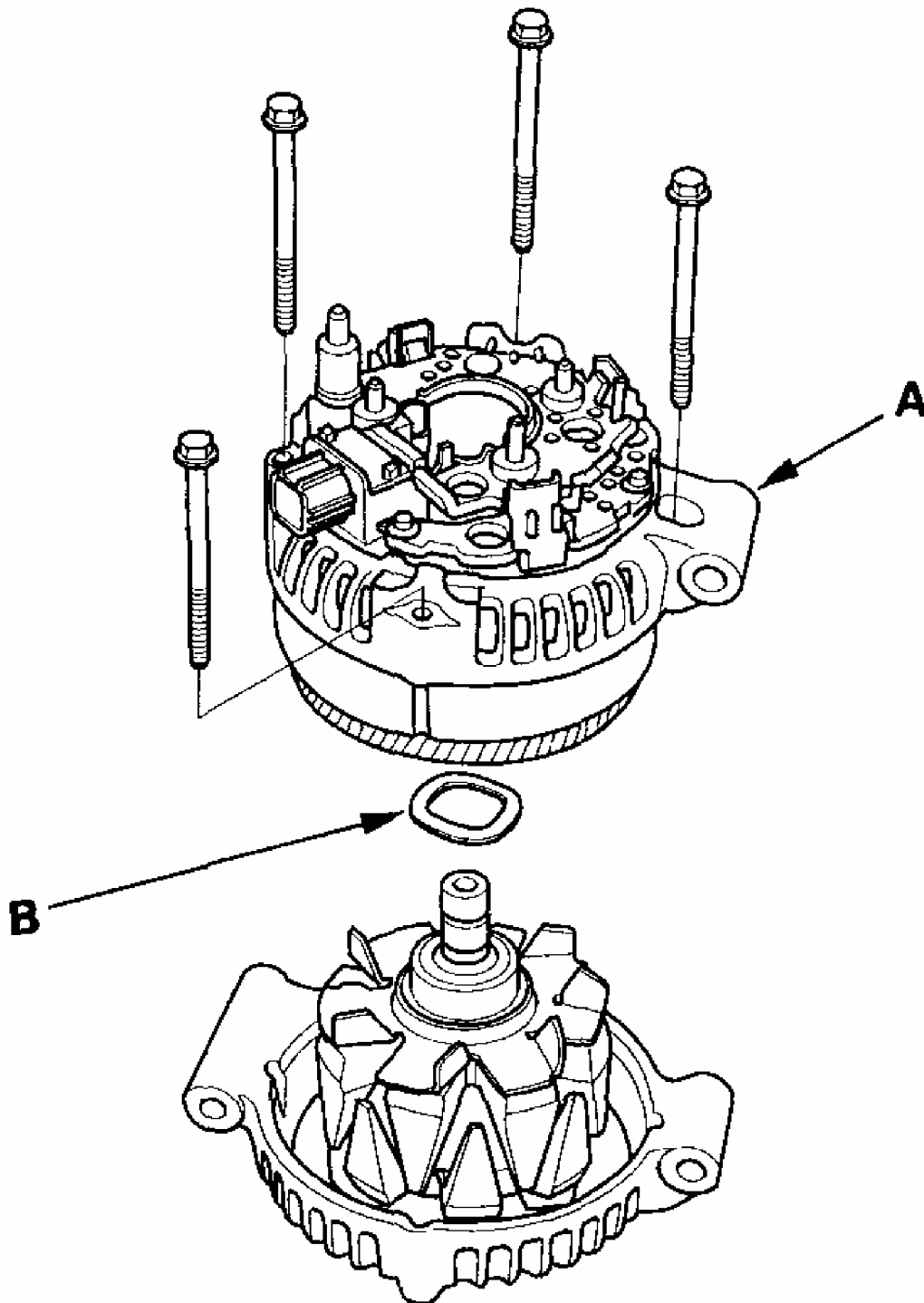
2003-06 ELECTRICAL Charging System - Element

Courtesy of AMERICAN HONDA MOTOR CO., INC.

7. Remove the four bolts, then remove the rear housing assembly (A), and washer (B).

2004 Honda Element DX

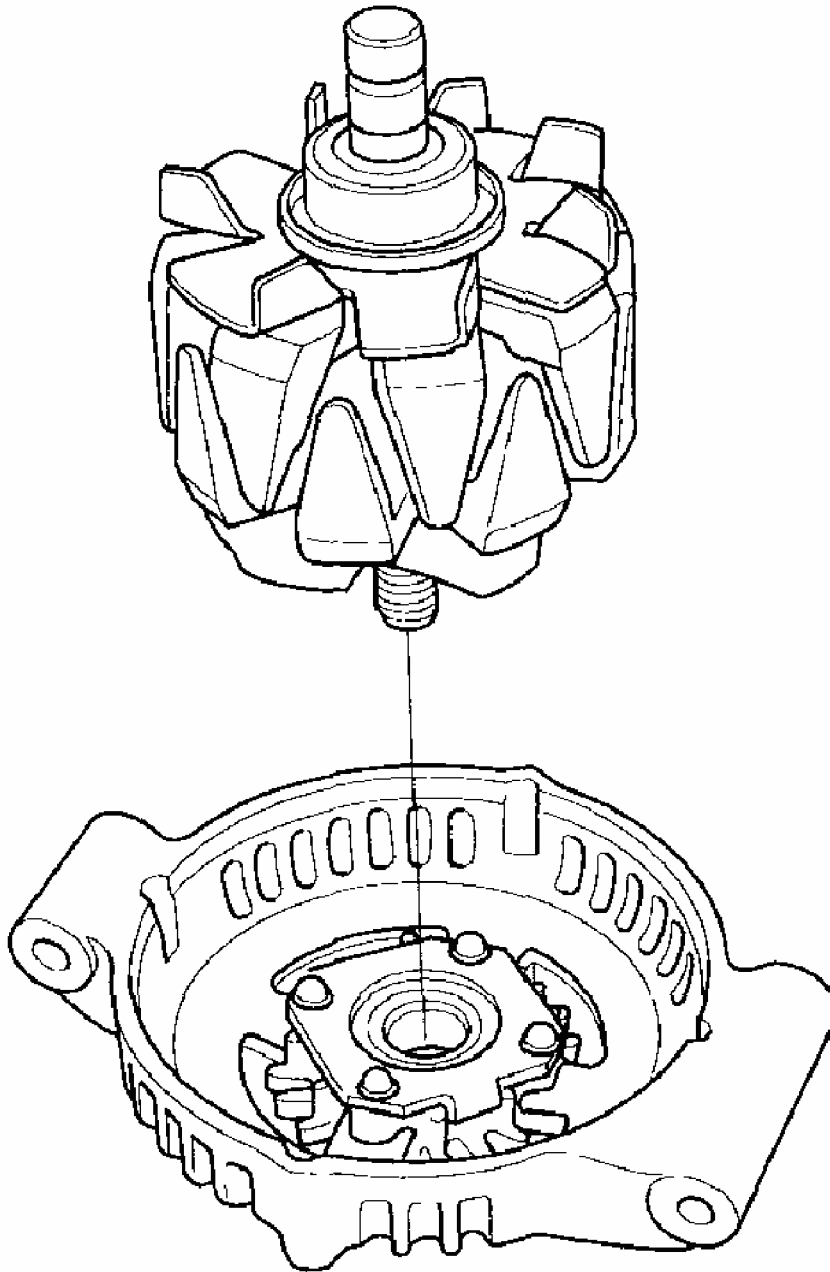
2003-06 ELECTRICAL Charging System - Element



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Fig. 30: Removing Bolts, Rear Housing Assembly And Washer
Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. If you are not replacing the front bearing, go to step 13 . Remove the rotor from the drive-end housing.



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Fig. 31: Removing Rotor

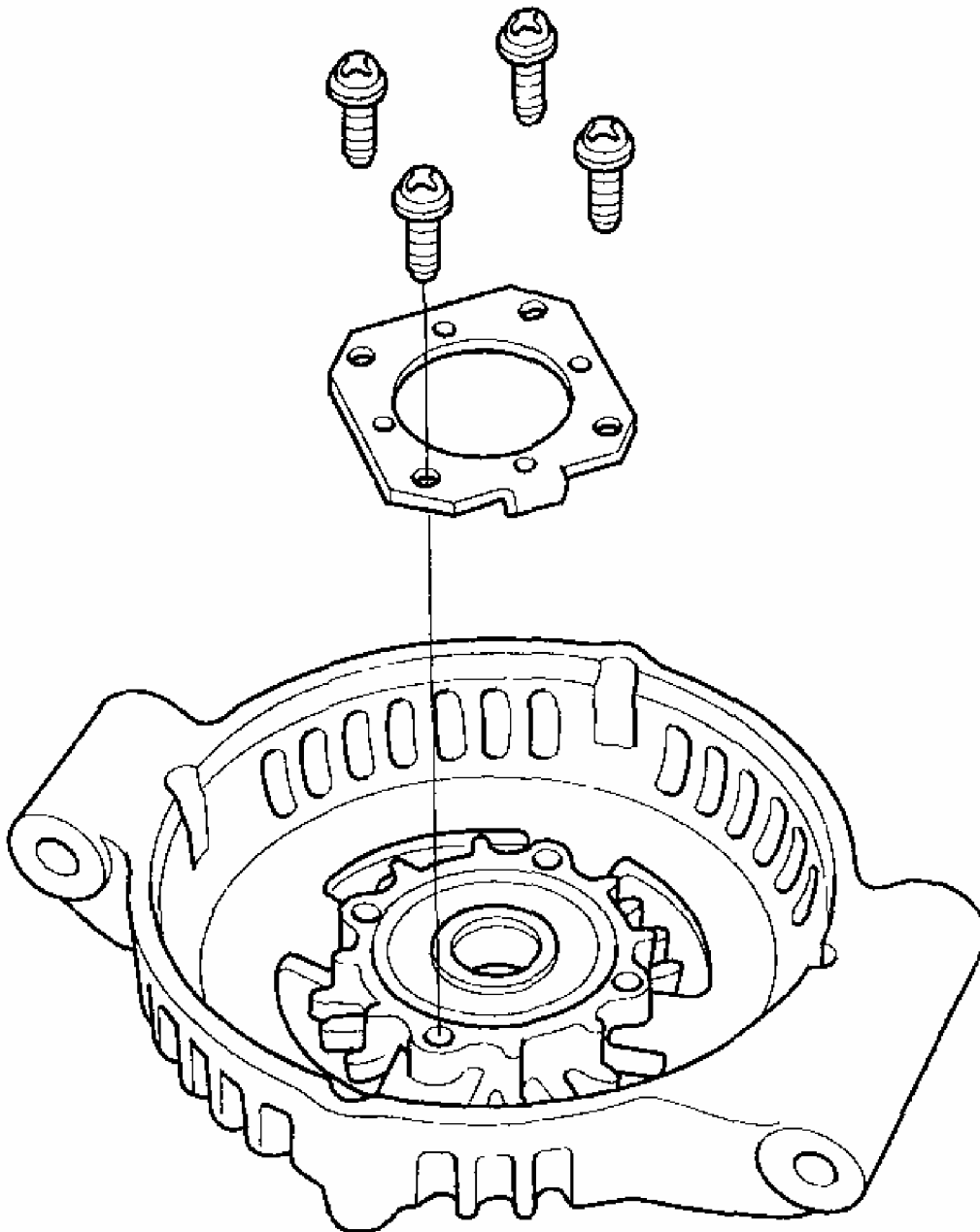
Courtesy of AMERICAN HONDA MOTOR CO., INC.

9. Inspect the rotor shaft for scoring, and inspect the bearing journal surface in the drive-

end housing for seizure marks.

- If the rotor is damaged, replace the rotor assembly.
- If the rotor is OK, go to step 10 .

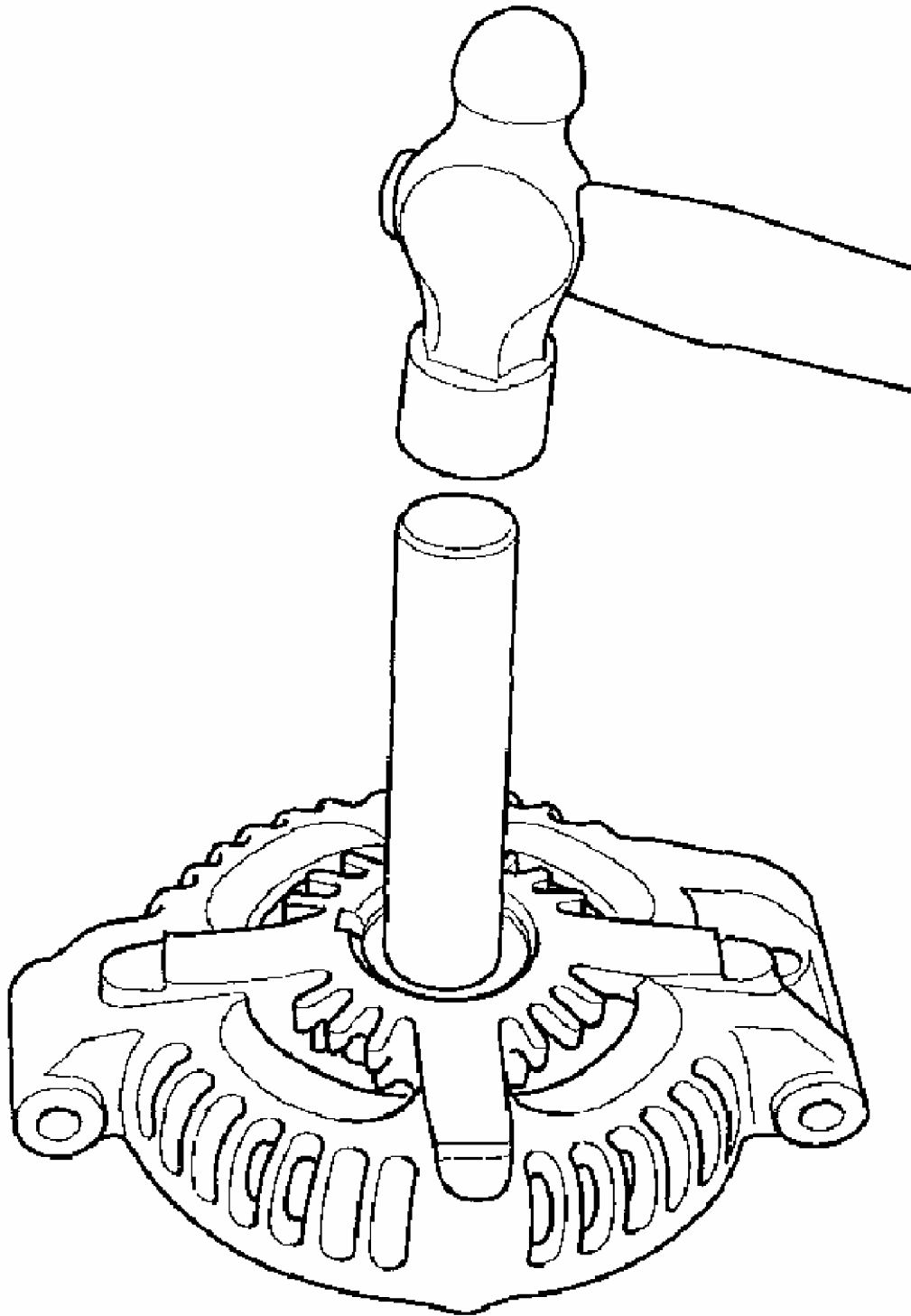
10. Remove the front bearing retainer plate.



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Fig. 32: Removing Front Bearing Retainer Plate
Courtesy of AMERICAN HONDA MOTOR CO., INC.

11. Drive out the front bearing with a brass drift and hammer.



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Fig. 33: Removing Front Bearing

Courtesy of AMERICAN HONDA MOTOR CO., INC.

12. With a hammer and special tools, install a new front bearing in the drive-end housing.

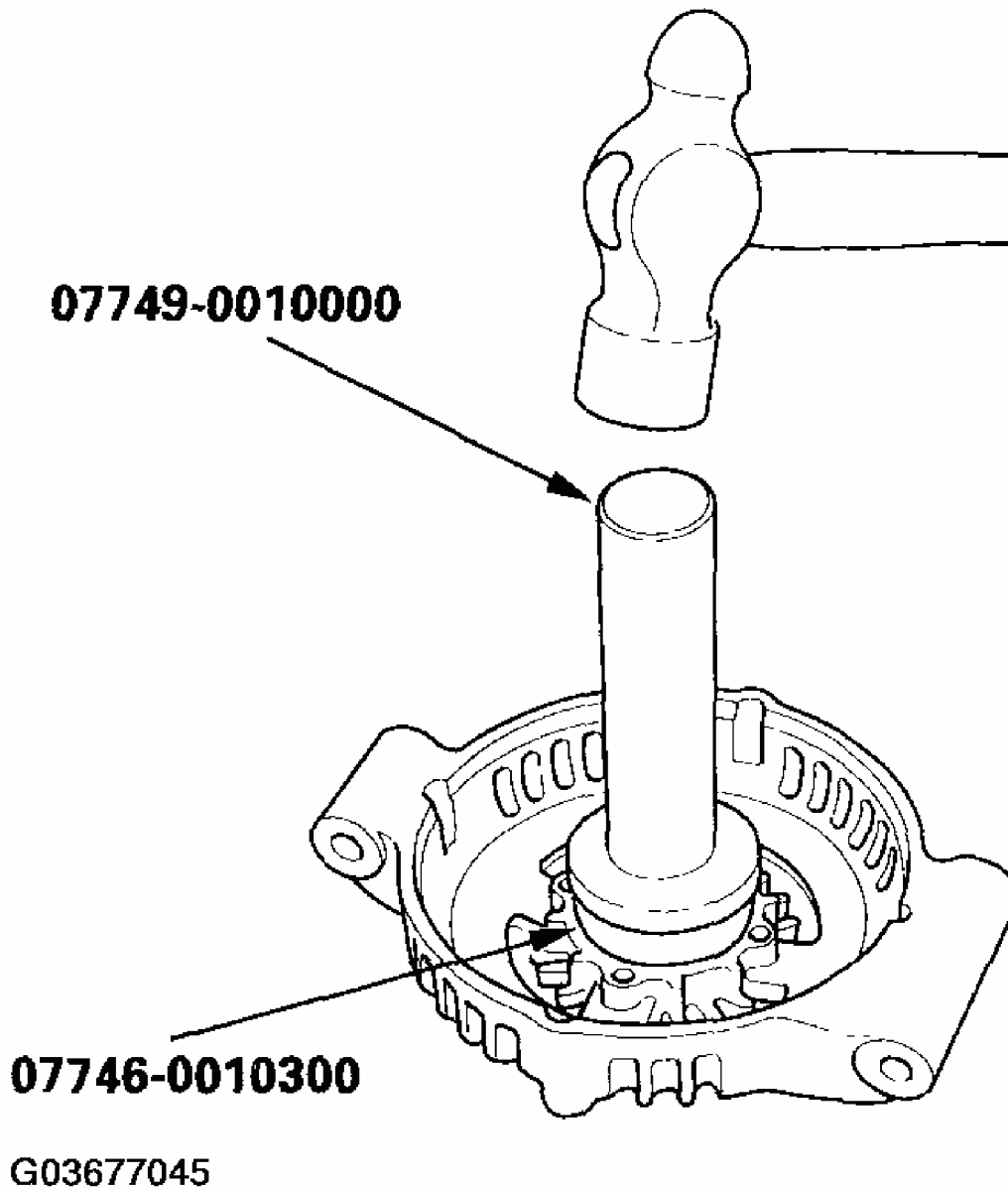


Fig. 34: Installing Front Bearing

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Alternator Brush Inspection

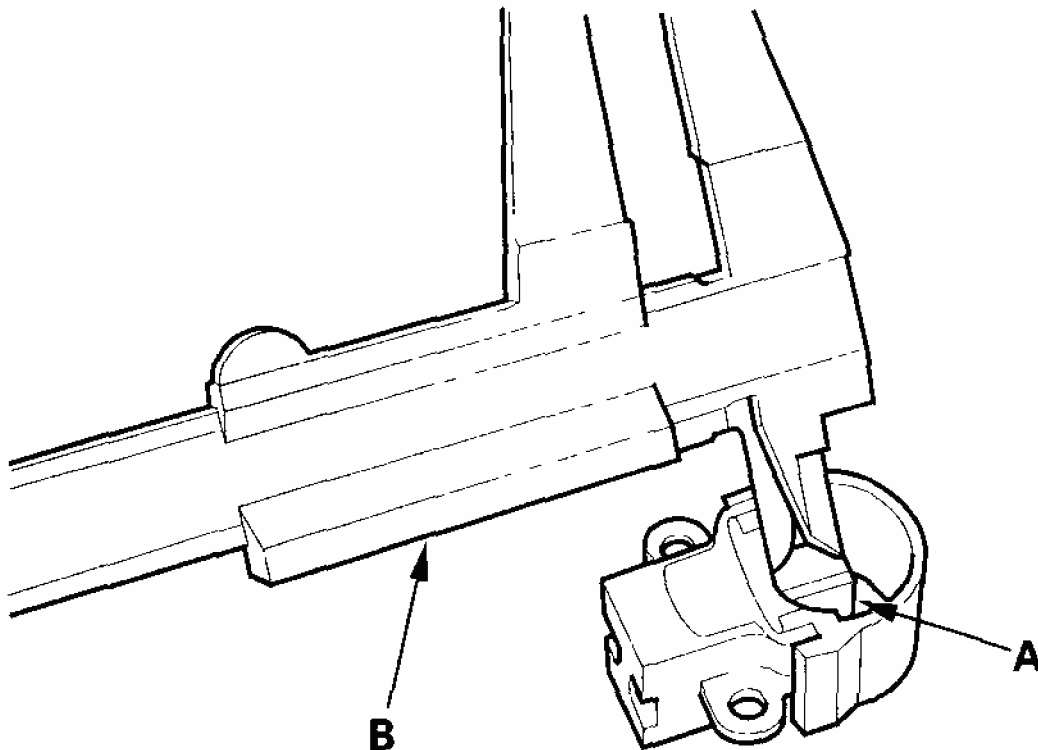
13. Measure the length of both brushes (A) with vernier calipers (B).

- If either brush is shorter than the service limit, replace the brush holder assembly.
- If the brush length is OK, go to step 14 .

Alternator Brush Length

Standard (New): 10.5 mm (0.41 in.)

Service Limit: 1.5 mm (0.06 in.)

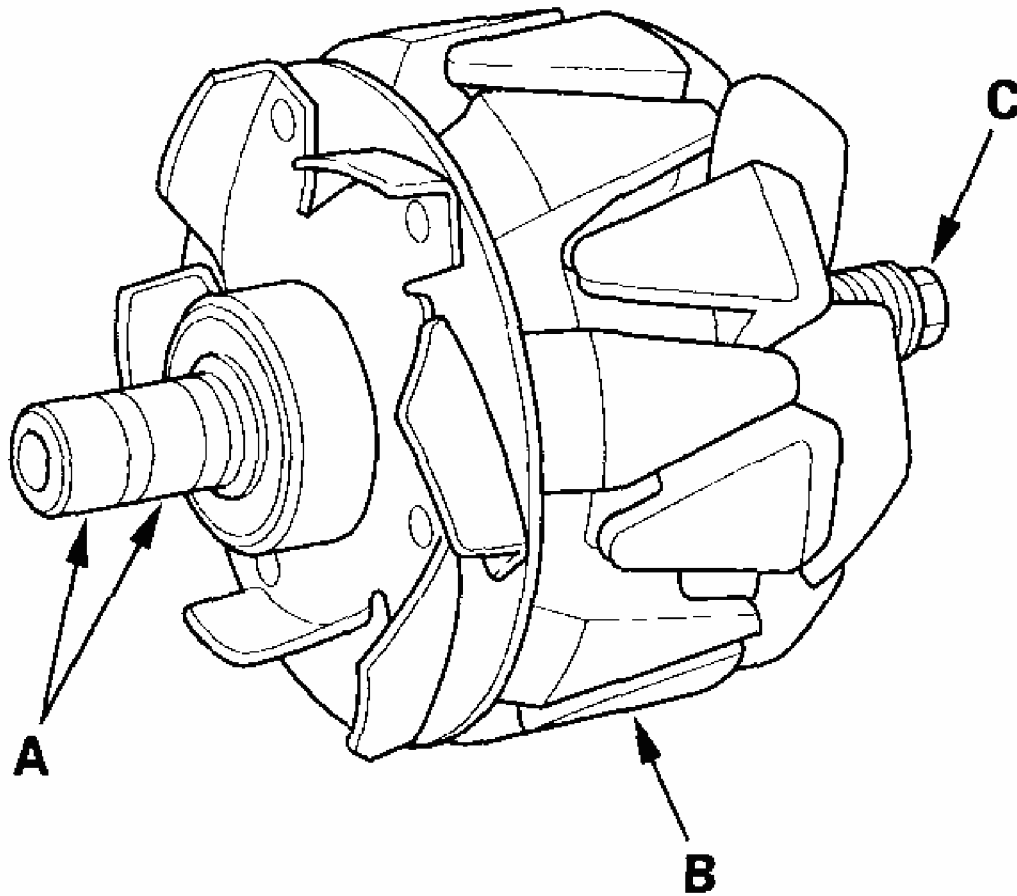


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Fig. 35: Measuring Length Of Both Brushes
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Rotor Slip Ring Test

14. Check for continuity between the slip rings (A).
 - If there is continuity, go to step 15 .
 - If there is no continuity, replace the rotor assembly.



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Fig. 36: Identifying Slip Ring

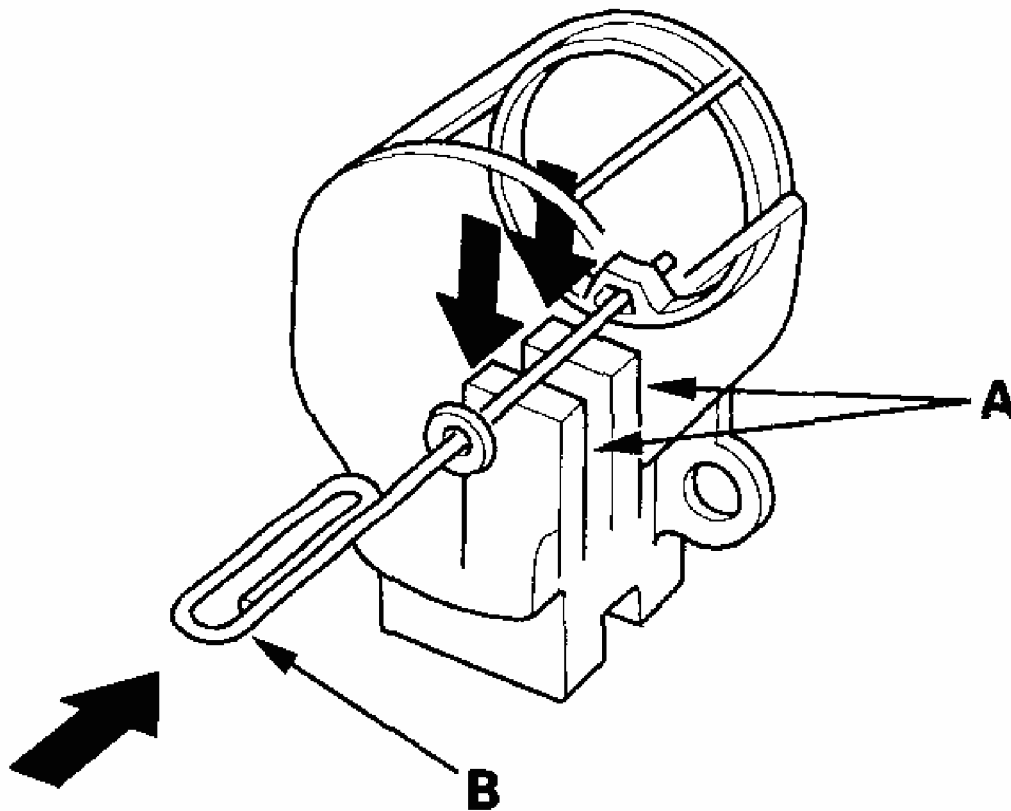
Courtesy of AMERICAN HONDA MOTOR CO., INC.

15. Check for continuity between each slip ring and the rotor (B) and the rotor shaft (C).
 - If there is no continuity, replace the rear housing assembly, and go to step 16 .
 - If there is continuity, replace the rotor assembly.

Alternator Reassembly

16. If you removed the pulley, put the rotor in the drive-end housing, then tighten its locknut to 110 N.m (11.2 kgf.m, 81.0 lbf.ft).
17. Remove any grease or any oil from the slip rings.
18. Put the rear housing assembly and drive-end housing/rotor assembly together, tighten the four through bolts.

19. Push in the brushes (A), then insert a pin or drill bit (B) (about 1.6 mm (0.06 in.) diameter) to hold them there.

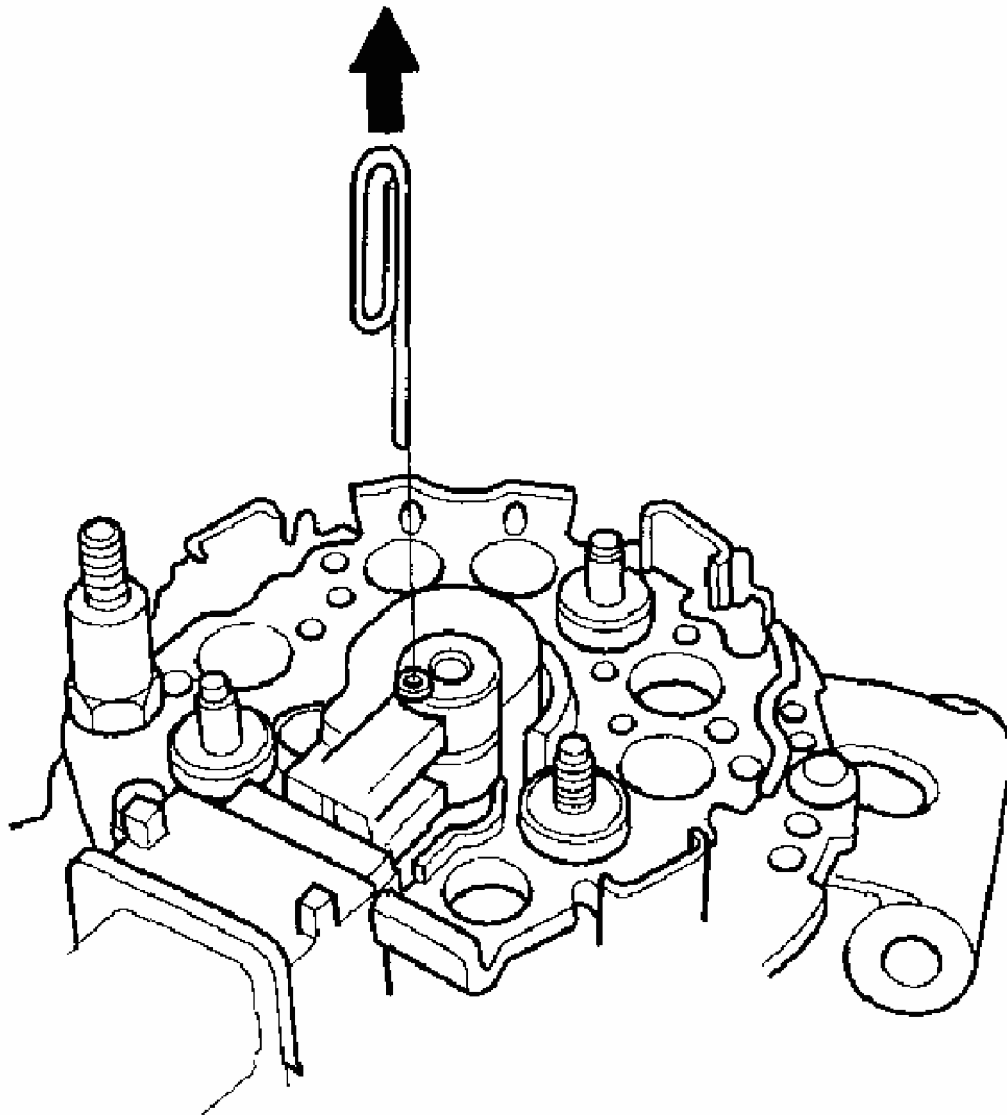


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Fig. 37: Inserting Brushes

Courtesy of AMERICAN HONDA MOTOR CO., INC.

20. Install the brush holder, and pull out the pin.



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Fig. 38: Installing Brush Holder

Courtesy of AMERICAN HONDA MOTOR CO., INC.

21. Install the end cover.
22. After assembling the alternator, turn the pulley by hand to make sure the rotor rotates smoothly and without noise.
23. Install the alternator (see **ALTERNATOR REMOVAL AND INSTALLATION**) and drive belt (see **DRIVE BELT INSPECTION**).