



Precision Parts

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LIVE WIRE

Welcome

Greg Stuart
Engineering Manager

Welcome to the October 2001 issue of our "Live Wire" newsletter.

Summer has slowly faded here at PPR, and the next weather extremes probably will be on the cold side.

In our **Marketing** section Mike Sloan discusses, X-X-X-X-X-X-X-X-X-X-X-X.

Greg Stuart's "Unit of the Month" column of this month does not cover a specific unit number, but instead "Troubleshooting procedures for charging systems".

Hot Stuff discusses various items of interest to our customers.

For more information on these articles or other information, I can be E-mailed directly at:

gstuart@pprok.com

I look forward to hearing from you.

THANKS.

Contact Us



By Phone: 1-800-654-3846 ext. 243
Mon - Fri 7:00-4:30 Central Time
Precision Parts Technical Support can answer your questions on cataloging and technical issues.



By Fax: **1-405-685-7215**
Mon - Fri 7:00-4:30 Central Time

Precision Parts Technical Support can provide you with technical information via fax line. Call or fax in your request and we can respond by fax. We can supply catalog information, copies of technical articles and service bulletins.



By Email: techsupport@pprok.com

Combined, our technical staff has hundreds of years of experience diagnosing and correcting electrical system problems. We also have numerous resources available to help research and solve your toughest problems.



Marketing

Mike Sloan
National Sales Manager

Why should you buy a re-manufactured part?

You can depend on Quality!

Precision Parts is ISO-9002 certified, which means every product is built with the same stringent quality systems in place as when it was manufactured new.

With our advanced testing and parts evaluation, we don't just replace components as needed. In a number of cases, we improve on original products. The cores that we receive have failed to operate up to the system standards. Because we have a constant flow of cores, we can pinpoint the reasons for failure, and the original weaknesses and strengthen them, making the part better than new. With Precision Parts remanufactured Alternators and Starters, you get the same quality as a new part at a significantly lower price. It's the high quality, low cost alternative to new.

Environment

When you purchase a remanufactured part, you are doing your part to protect our environment.

Recycling has been getting a lot of press the last few years, as more people get concerned about our world's environment.

Remanufacturing is the ultimate form of recycling.

Precision Parts has been very active in recycling for over 30 years by remanufacturing alternators and starters. The rebuilding industry helps the environment in the following ways:

Energy Conservation is achieved because parts are kept out of the resmelting process longer. The result is millions of barrels of oil or comparable forms of energy are saved. We give a product numerous lives instead of just one.

Raw materials are saved because of the numerous lives given to a product. Precision Parts annually saves almost 1,000 tons of natural resources - iron, aluminum, copper, etc.

Landfills are spared from the dumping of millions of tons of these metals annually because we put a monetary value (core charge) on parts so we get them back to be rebuilt.

Air Pollution is reduced because parts are kept out of the resmelting process longer.

Studies done by the Massachusetts Institute of Technology (MIT) point out the following:

About 50% of the original starter is recovered in the rebuilding process. This can result in actual savings in the USA of 8.2 million gallons of crude oil from steel manufacturing, 51,500 tons of iron ore, and 6,000 tons of copper and other metals.

To remanufacture an alternator or starter saves 88% of the energy used to manufacture the part originally.

In 1999, President Clinton proclaimed November 15 as America Recycles Day.

Why is this such an important event that the President would declare this a national event?

It is important to everyone who lives in America because it impacts everyone more than you might think.

Recycling conserves resources, reduces water and air pollution, saves energy and creates jobs for Americans.

Every time you purchase a remanufactured part, you are doing your part to support recycling.

If you're not buying
Recycled



You're not really
Recycling



Honda Month 2

Acura being a division of Honda, has inherited some of the same electrical problems as your Hondas.

This month we will cover a Acura part number and application. We will start with an Acura application that has persistent load and demand problem.

Part Number: **HOA400** Application: 1986 - 1990 Acura Legend, 2500cc and 2700cc engine, coupe and sedan

The persistent problem that we see in the field on this alternator is low battery charge rates due to **heavy electrical demand** and slow speed driving. This keeps the battery in a continual state of low charge requiring the alternator to overwork to meet the demands of the vehicle.

We as technicians must recognize this problem not as an alternator problem but as a system problem. We can combat these vehicle problems in a number of ways.

1. Always run our voltage drop tests as illustrated on pages 8-9. Voltage drops in the system put an added demand on the alternator. These alternators run at their maximum just to keep up with the vehicle demand, so we don't want to add any extra demands to it.
2. If you have alternator charging problems check the test points indicated for your vehicle, pages 4 - 7.
3. Check your pulley working diameter and belt. Acura made changes to the pulley diameter and the belt length to help combat this demand problem on the vehicle. (See Below)

Acura Service Bulletin # ASN 0489-08 and 89-018

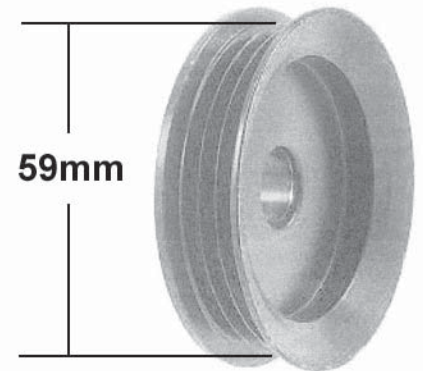
Problem: Repeated battery discharge

Fix: Replace pulley and belt

Acura Pulley/Belt Kit	P/N 06310-PL2-A00
Acura Pulley	P/N 31141-PL2-004 (PPR PN 400400A)
Acura Belt	P/N 31110-PH7-013

Vehicles Affected:

1986	All
1987	All
1988	All KA (49states) up to 2505064
1988	All KL (Calif.) up to 2002021



Effective 01-Sept-01, all PPR HOA400 units will ship with this pulley. We recommend that a new belt (Acura PN 31110-PH7-013) be installed at the time of alternator installation. The replacement pulley is smaller (59mm) than the original pulley and requires a shorter belt to insure correct operation.

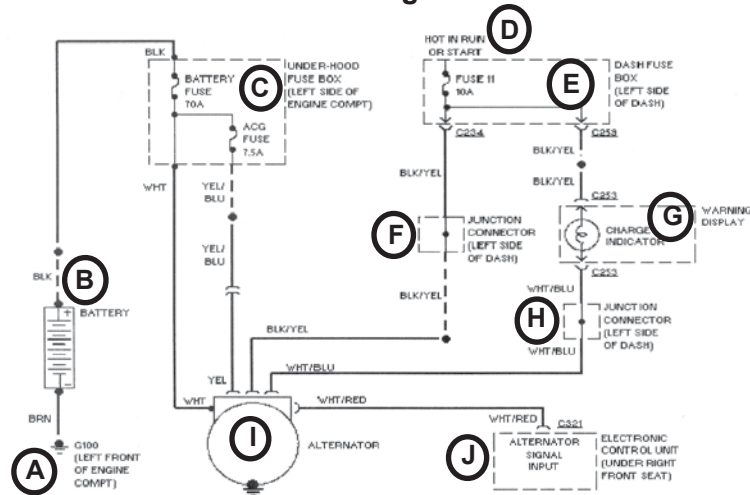
The small diameter pulley will increase output at slow speeds, thus lowering the demand on the alternator and increase its service life.

ACURA Troubleshooting Tips:

1. Check for Voltage Drops.
2. Check items indicated per supplied vehicle information.
3. Check pulley diameter and belt.



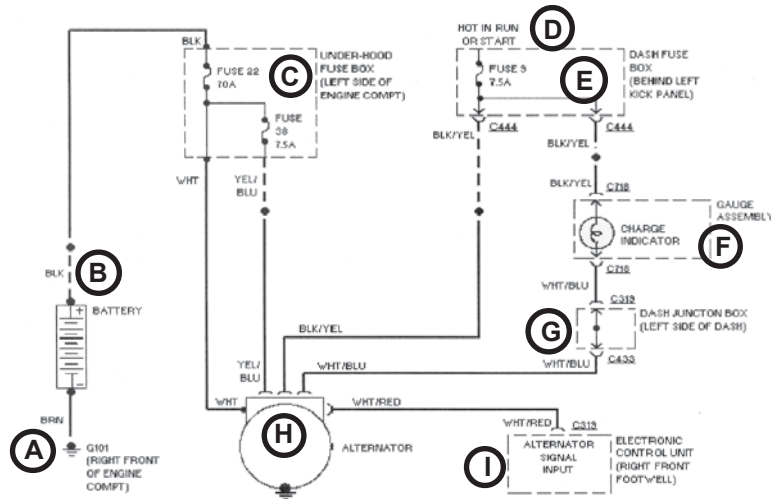
1986-1987 Acura Legend Sedan



Check the following items:

- A: **Ground Connection**, Left front of engine compartment, Clean and secure connection
- B: **Battery Connections** Clean and secure connection
- C: **Underhood Fuse**, Left side of engine compartment, Battery Fuse 70A and ACG Fuse 7.5A
- D: **Ignition Switch** Check operation and voltage drop
- E: **Dash Fuse Box**, Check Fuse 11 10A, connections C234 and C253
- F: **Junction Connector**, Left side of dash, check for clean and secure connections.
- G: **Warning Display**, check charge indicator lamp and connection C253.
- H: **Junction Connector**, Left side of dash, check for clean and secure connections.
- I: **Battery and Harness connections to the alternator**, check for clean and secure connections.
- J: **ECU (COMPUTER) CIRCUIT--DO NOT TROUBLESHOOT WITHOUT FORMAL TRAINING.**

1987 Acura Legend Coupe



Check The following Items:

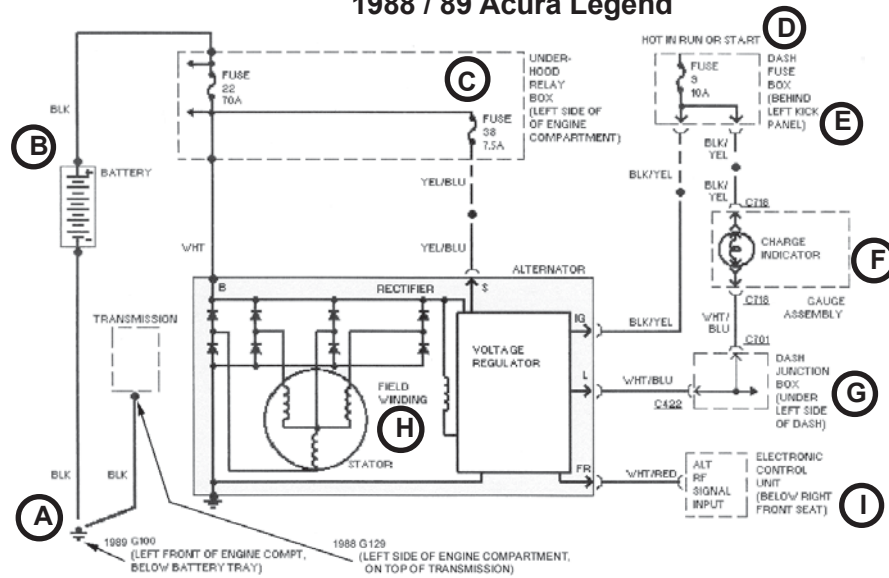
- A: **Ground Connection**, Left front of engine compartment, Clean and secure connection.
- B: **Battery Connections** Clean and secure connection.
- C: **Underhood Fuse**, Left side of engine compartment, Fuse 22 (70A) and Fuse 38 (7.5A).
- D: **Ignition Switch** Check operation and voltage drop.
- E: **Dash Fuse Box**, Check Fuse 9 (7.5A) and connections C444.
- F: **Gauge Assembly**, check charge indicator lamp and connections C718.
- G: **Junction Connector**, Left side of dash, check for clean and secure connections C319 & C433.
- H: **Battery and Harness connections to the alternator**, check for clean and secure connections.
- I: **ECU (COMPUTER) CIRCUIT--DO NOT TROUBLESHOOT WITHOUT FORMAL TRAINING.**

*** Important***

These vehicles have high alternator loads due to the large number of electrical components. Any voltage drops in the charging system will affect your alternator output and life.

Check Alternator Voltage Drop (See page 6)

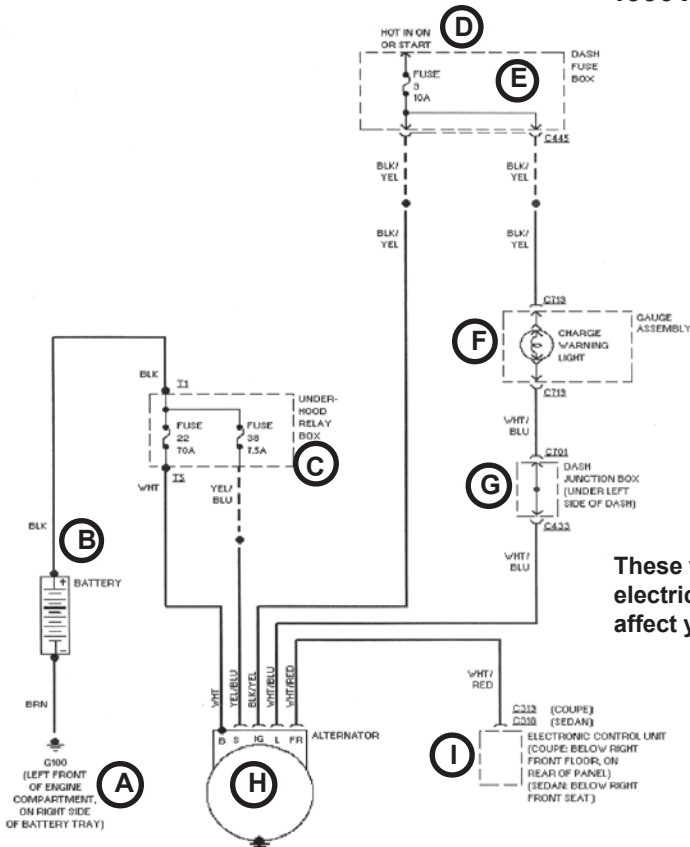
1988 / 89 Acura Legend



Check The following Items:

- A: **Ground Connection**, 1988 On top of transmission & 1989 Below Battery Tray, Clean and secure connection.
- B: **Battery Connections** Clean and secure connection.
- C: **Underhood Relay Box**, Left side of engine compartment, Fuse 22 (70A) and Fuse 38 (7.5A).
- D: **Ignition Switch** Check operation and voltage drop.
- E: **Dash Fuse Box**, Check Fuse 9 (10A).
- F: **Gauge Assembly**, check charge indicator lamp and connections C718.
- G: **Dash Junction Connector**, Left side of dash, check for clean and secure connections.
- H: **Battery and Harness connections to the alternator**, check for clean and secure connections.
- I: **ECU (COMPUTER) CIRCUIT-DO NOT TROUBLESHOOT WITHOUT FORMAL TRAINING.**

1990 Acura Legend



Check The following Items:

- A: **Ground Connection**, Right Side of Battery Tray, Clean and secure connection.
- B: **Battery Connections** Clean and secure connection.
- C: **Underhood Relay Box**, Fuse 22 (70A) and Fuse 38 (7.5A).
- D: **Ignition Switch** Check operation and voltage drop.
- E: **Dash Fuse Box**, Check Fuse 9 (10A).
- F: **Gauge Assembly**, check charge indicator lamp and connections C719.
- G: **Dash Junction Connector**, Left side of dash, check for clean and secure connections C701 & C433.
- H: **Battery and Harness connections to the alternator**, check for clean and secure connections.
- I: **ECU (COMPUTER) CIRCUIT-DO NOT TROUBLESHOOT WITHOUT FORMAL TRAINING.**

*** Important***

These vehicles have high alternator loads due to the large number of electrical components. Any voltage drops in the charging system will affect your alternator output and life.

Check Alternator Voltage Drop (See page 6)

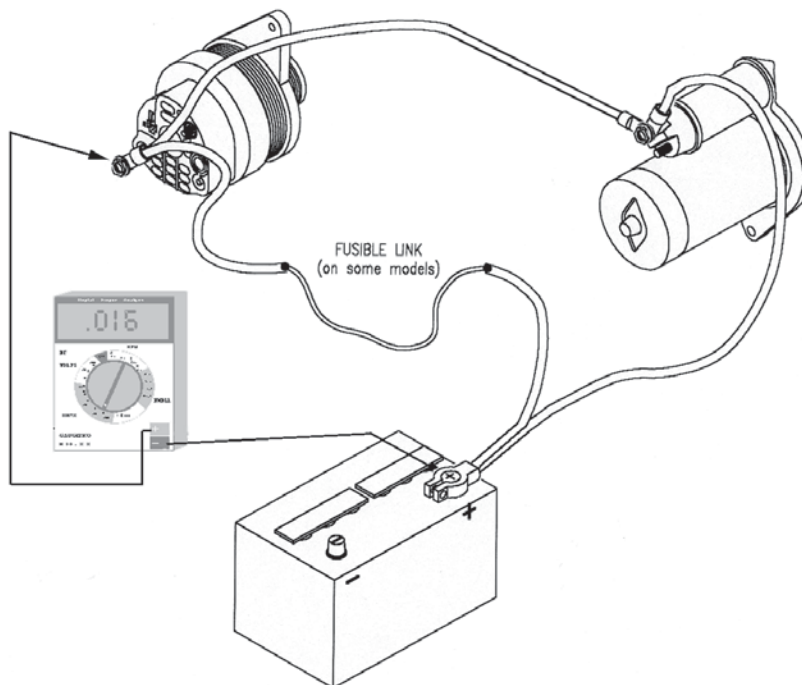
Voltage Drop Tests in the Charging system

Voltage drops in the charging circuit can be very difficult to find and cause you many hours of frustration. We hope that the following diagrams will help you troubleshoot the charging system.

Some key points to remember are:

- That any added resistance to the Charging circuit can result in **decreased** alternator performance. For example, with a system charging 100 amps and we add 0.01 ohms resistance to the B+ or ground circuit we will reduce the voltage in the system by 1 volt. This will lower overall system performance and reduce the life of the battery and charging system.
- When performing voltage drops always have your positive lead of the multimeter on the connection closest to the alternator.
- When performing voltage drop tests current must be flowing in the circuit. This means we must have the vehicle running, alternator charging and accessories turned on.

1. Alternator Voltage Drop -- Positive Circuit

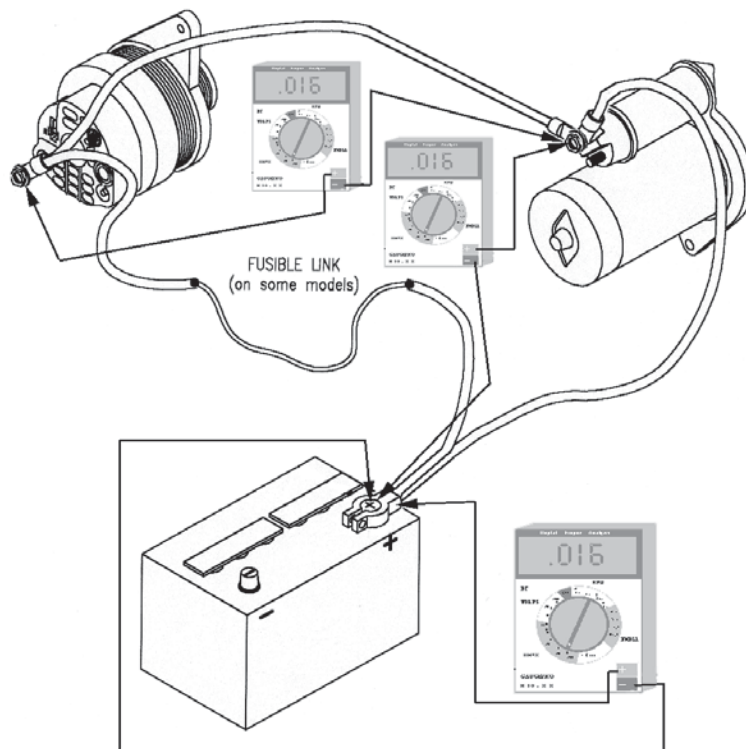


With positive lead of the multimeter touching the positive post on the alternator and the negative lead of multimeter touching the positive (+) post (not the cable end) of the battery and the engine running apply a load to the system. Watching the voltmeter (wired as shown above), the reading on voltmeter should be **less than .2 volts**.

If the reading is more than .2 volts go to step 2. In step 2 we will check the components of the positive (+) circuit.

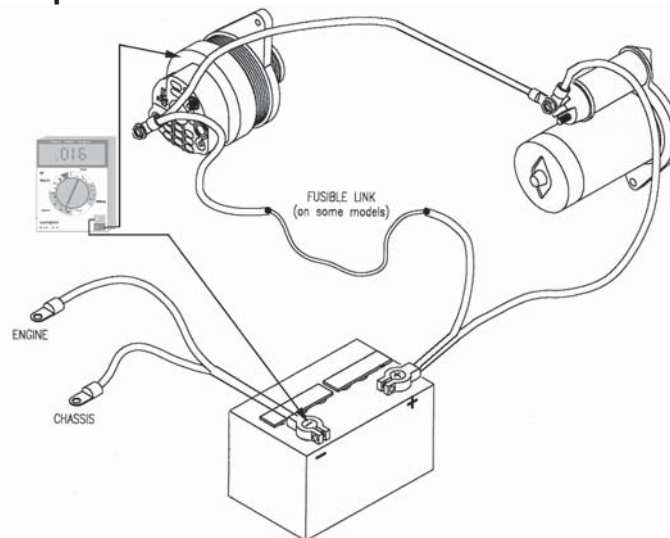


2. Alternator Voltage Drop -- Positive Circuit Components



With the positive lead of the multimeter touching the point closest to the alternator and the negative lead of multimeter touching the point to be measured (remember if measuring to a post, measure the post not the cable end) and with the engine running apply a load to the system. Watching the voltmeter (wired as shown above), the reading on voltmeter should be **less than .2 volts**. Check each component and link in the circuit. Those components with a voltmeter reading of greater than .2 volts should be repaired / replaced. Check the component or link to verify that the voltage drop is now .2 volts or less. **Check across every connection, cable and component.**

3. Alternator Voltage Drop -- Ground Circuit



With positive lead of the multimeter touching the negative (-) battery post (**not the cable end**) and the negative lead of the voltmeter touching the housing of the alternator and with engine running apply a load to the system. Watch the voltmeter (wired as shown above), the reading on voltmeter should be **less than .2 volts**.

If the reading is more than .2 volts check components in the ground circuit. Check components just like we did in step 2 but place the positive lead from multimeter to the connection closest to the negative battery post.



HOT STUFF

There are several items to note in this issue's Hot Stuff article, among them:

TOA533 has been **superseded** to TOA536, you should receive a copy of the PPR supersession list in the near future.

PPR has **discontinued** alternator number DAA176. DAA176 was used in DAA175 applications where the Z24i engine had a 4MG belt, instead of a 1V belt system for the alternator.

Because of safety concerns (chance of explosions), Nissan recalled vans which used DAA176. The recall involved buying back the vans from the owners and crushing the vehicles to prevent future resale. The alternator was not the reason for the van recall, but the recalled vans were the only application for DAA176. Although there are a small number of these vans still on the road, we choose to not further support this particular vehicle by discontinuing DAA176.

If you have a DAA176 in stock, you may call the PPR order desk to arrange a return of the unit for credit.

Our new in-house plating facilities are nearing the final completion stages. When we have the system installed and operating, we will be able to monitor plating quality to our satisfaction, and also reduce our turn around time in the plating process. The improvements will be two-fold; improved corrosion resistance on plated components, and improved final product appearance. We anticipate having the plating system up and running sometime in November of this year.

Once again, I just want to remind our customers of our web site, www.pprok.com. You can find answers to many of your application and interchange questions there.

Also, when you query a PPR part number in the web site's Buyers Guide, any **technical bulletins** we have related to the vehicle applications will be available by clicking the 'Tech Bulletin' banner that scrolls above the unit application listings in the Buyer's Guide.

The interchange and buyers guide data is updated instantly when revised, and unit images are updated daily.

When you don't find the answer in our PPR catalog, or on your e-catalog system, take a minute and try our web site. It can be a handy tool, particularly when you need the information at a time our tech support line (1 (800) 654-3846) is closed for the day or weekend.

Thanks to all our great customers, and we will see you in the next issue of Live Wire!

