



## R-12 to R-134a: It's Easy & Cost Effective



Now that R-12 is no longer made (production in the U.S. and in 21 other countries was banned in January '96), customers with R-12 systems are starting to feel the pinch on their pocketbooks. Today, R-12 costs anywhere from \$15 to \$25 a pound. Someday, it'll be so expensive that recharging R-12 A/C systems won't be practical.

The good news is that it's easy to retrofit R-12 systems to R-134a on most Acuras. (Refer to S/B 95-008 for retrofit details.) In a nutshell, all you do is reclaim the R-12, evacuate for 30 minutes, install R-134a service valves on the R-12 valves, add PAG oil, and recharge with R-134a. To complete the retrofit, you apply an R-134a label over the R-12 label under the hood. On most Acuras, the whole procedure should cost customers about \$150.

From an economic and environmental standpoint, both you and your customers win. You reclaim the old R-12, recycle it, and use it in another R-12 system, and your customer drives away with an A/C system that no longer uses an expensive refrigerant that's environmentally unfriendly.



## A/C Equipment Maintenance

To make sure your R-134a and R-12 recovery-recycling-recharging units stay in top shape, here are a few general maintenance reminders:

- **Check the refrigerant tank's scale.**  
The scale's accuracy should be checked once a month or after 100 services. An inaccurate scale will throw off your refrigerant measurements.
- **Replace the refrigerant filter.**  
Filter replacement is based on hours of operation or how much refrigerant has passed through it. To show you when to change the filter, many units have an indicator on the control panel; if the indicator's yellow, it's time to change the filter.
- **Change & check the vacuum pump oil.**  
The oil change is based on hours of operation or how many systems have been evacuated (10 hours/25 systems is typical). Also, check the oil level frequently, and refill as needed.
- **Check for leaks.**  
Once every three months, use your leak detector to probe the unit's tanks, hoses, and fittings. Retighten or replace parts as needed.

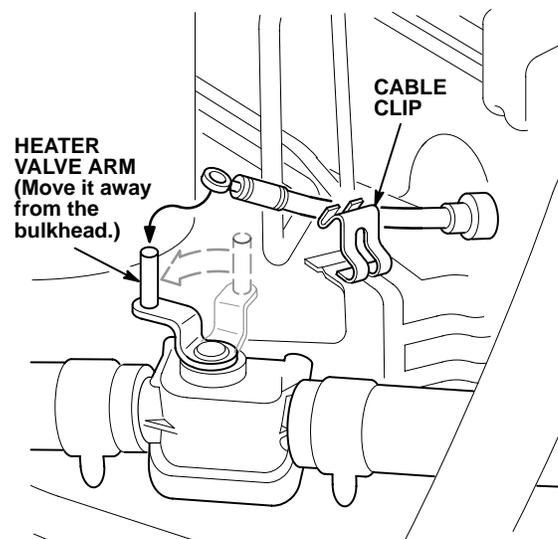


## A/C Not Cold? Do This First

On most Acuras (except TLs and Vigors\*), if the A/C doesn't blow cold air, check the adjustment of the heater (water) valve cable, or the temperature control cable (on SLX). *A misadjusted cable can cause the A/C temperature in the vehicle to be 155F higher than it should be.*

- To adjust an SLX temperature control cable, refer to page 1A-22 of the '96 or '97 SLX S/M.
- To check the heater valve cable adjustment, run the A/C on High until the engine warms up. Then, with the engine at 3,000 rpm, feel the hose between the heater valve and the heater core. If the hose isn't cool, you need to adjust the cable. Here's how:

1. With the engine off, open the cable clip near the heater valve, and disconnect the cable end from the valve arm.



2. Turn the ignition ON (II); then turn the A/C on, and set the temperature control to the coldest setting.
3. Turn the valve arm away from the bulkhead until it stops. (This is the valve's fully closed position.) Don't use a lot of force, or you'll break the valve!
4. While holding the arm in this position, push or pull the cable to remove slack; then reattach the cable end to the arm and reattach the cable to its clip. (On RLs, make sure the heater valve doesn't touch the bulkhead. For details, refer to the July '97 issue of S/N.)
5. Start the engine, run the A/C on High, and feel the hose. If it's still warm, replace the heater valve, and readjust the cable.

\*These cars have a vacuum-operated heater valve.



## Warranty Tips: A/C Performance Testing

When you do an A/C performance test (S/B 96-004) because a customer complains of poor A/C performance, here's what you should know to get full warranty reimbursement:

- Performance testing applies to all Acuras with R-134a except the SLX. For the SLX, use the A/C cycle diagnosis and refrigerant system checking info in section 1 of the '96 or '97 SLX S/M, and write down your readings on the R.O. (repair order). *Performance test claims for R-12 systems are not allowed.*
- The labor OP (operation number) for performance testing is 622001. The FRT (flat rate time) is 0.5 hour. Don't use the recovery/recycling and leak testing labor OPs; they're for R-12 warranty claims only.
- The performance test should not be listed as the primary labor OP on a warranty claim.
- Don't add a performance test to the warranty claim from an existing S/B. Performance testing isn't used with an S/B that already describes a problem and its repair.
- For each performance test, fill out a test form and attach it to the R.O. The test form was included with S/B 96-004. If you need more forms, the reorder number is E2223.



## Measure R-134a Carefully

When you use the Robinair R-134a unit (model 34700) to recharge an A/C system, you need to measure the refrigerant carefully. Measuring on the Robinair unit is different than with the White Industries unit. If you're adding 22 ounces of refrigerant with the White unit, it's 22 clicks on the refrigerant dial. But on the Robinair unit, 22 ounces is 1.38 pounds. To avoid confusion when you use the Robinair unit, measure refrigerant using the kilogram or the pound mode. Here are two examples:

- In the kilogram mode, to get 650 grams of refrigerant, dial in 0.65 kilograms. (There are 1000 grams in a kilogram.)
- In the pound mode, if you need 22 ounces of refrigerant, divide 22 by 16 (there are 16 ounces in a pound). This means you'd dial in 1.38 pounds ( $22/16 = 1.375$ , and round 1.375 off to 1.38).



## Warranty Info: R-134a & PAG Oil

Use this info to get proper credit for R-134a and PAG oil on warranty claims.

### R-134a

An R-134a allowance replaces R-134a recovery-recycling and leak checking on *all* R-134a A/C repairs that require you to open the system. For proper payment, make sure that R-134a is not entered in the MATERIALS USED section of the claim; it should be listed in the PARTS USED INFORMATION section of the claim, using one of the P/Ns shown below. Even if your R-134a wasn't supplied by American Honda, you'll need to use one of these P/Ns:

- For systems that hold up to 24 ounces of R-134a (CLs), use *P/N R134A-24*.
- For systems that hold more than 24 ounces of R-134a (all models except CL), use *P/N R134A-32*.

### PAG Oil

For proper payment, make sure that PAG oil is not entered in the MATERIALS USED section of the claim; it should be listed in the PARTS USED INFORMATION section of the claim, using one of the P/Ns shown below. You can use multiple quantities of these P/Ns, depending on how much PAG oil you add to the system:

- For up to 10 ml of PAG oil, use *P/N 38899-010-999*.
- For 20 ml of PAG oil, use *P/N 38899-020-999*.
- For 60 ml of PAG oil, use *P/N 38899-060-999*.

### P/Ns for Ordering

Don't use these P/Ns on warranty claims; use them only for ordering R-134a and PAG oil:

**R-134a** (30-lb tank): P/N 08798-9017

**PAG Oil** (120 ml):

Nippondenso Compressors:

P/N 38897-PR7-A01AH

Hadsys Compressors:

P/N 38899-P0A-A10

Sanden Compressors:

P/N 38897-P13-A01AH



## Correction to Brake Pad Article

In the April '97 issue of S/N, the article titled *Brake Pad Lining "Cracks" Are OK* has an error in the English conversion of the pad lining thickness limit. *The correct limit is 0.061 inch.*



## A/C Information Round-up

With the A/C season here, you'll no doubt be referring to sections 21 and 22 of your S/Ms (section 1 for SLX) along with S/Bs and S/N articles related to A/C. To help you find recent bulletins and articles, here's a list of them with a brief summary.

### A/C Service Bulletins

- **Denso HLD-100 Halogen Leak Detector** (S/B 97-013): This new leak detector is needed to accurately find R-12 and R-134a leaks, especially those from the evaporator. Here are the unit's specifications, operating tips, and ordering info.
- **A/C Inoperative** (S/B 96-007): This S/B can affect '94-96 Integras (refer to the S/B for VIN applications). It describes how to repair the A/C system if suction line A has a hole in it from rubbing on the condenser fan shroud. (*When you look at this S/B, make sure the PAG oil P/N is 38897-A01AH.*)
- **Air Conditioning System Performance Test** (S/B 96-004): Explains how to check A/C performance and record system pressures and temperatures on the A/C performance test form. (Refer to page two of this month's S/N for warranty tips when submitting an A/C performance test.)
- **A/C Blows Warm Air Intermittently** (S/B 95-020): 1991-93 Legends that intermittently blow warm air from the A/C may have a cracked solder joint on the fan control unit's printed circuit board.
- **Engine Splash Shield Knocks Off the A/C Belt** (S/B 95-013): Shows how to modify the splash shield on '94-95 Integras if the shield knocks the A/C belt off its pulleys.
- **Converting R-12 A/C Systems to R-134a** (S/B 95-008): Retrofit info for several models.
- **R-134a Refrigerant A/C System** (S/B 92-027): Describes R-12 and R-134a refrigerants and A/C systems. This info is very useful for identifying system components.

### A/C ServiceNews Articles

- **Defroster and Defogging Tips** (March '97): Use these tips to help improve defrosting/defogging performance.
- **Control Panel Parts Are Replaceable** (September '96): On '94-97 Integras, many parts for the temperature control panel are available separately.
- **R-12 Alternates Are Not Recommended** (August '96): Use R-12, or convert to R-134a.

- **S/B Also Checks A/C Equipment Accuracy** (August '96): Use S/B 96-004 to check A/C performance and A/C equipment accuracy.
- **How to Remove the 3.5RL Center Air Vent** (June '96): If you have to remove the vent, here's how to avoid breaking it.
- **Checking for an Evaporator Leak** (May '96): Use the heated-diode leak detector described in S/B 97-013, or visually identify the leak.
- **Know Your "White Industries" A/C Unit** (May '96): Here's how to get the best performance from this recovery-recycling-charging unit.
- **R-12 and R-134a A/C Servicing Tips** (May '96): Tips to use along with the A/C info in S/Ms and S/Bs.
- **PAG Oil P/N for '94-96 Integra** (April '96): Changes the PAG oil P/N in S/B 96-007 to 38897-A01AH. This P/N also applies to PAG oil for '97 Integras.
- **A/C Line Clearance Check: '94-96 Integra** (March '96): To avoid the A/C problem in S/B 96-007, make sure the A/C suction line is 5 to 8 mm away from the condenser fan shroud.
- **Q & A: R-12 to R-134a Conversions** (September '95): Use this info along with S/B 95-008.
- **Track A/C Leaks With Your A/C Leak Detector** (September '95): Although the recommendation to use a "Leak Seeker" leak detector is outdated, the leak checking procedures in this article are still valid.
- **2.5TL Compressor Clutch Won't Engage** (August '95): This problem may be caused by the A/C pressure switch. Here's an easy way to test the switch.
- **Old A/C Filters Promote Odor** (August '94): Replace the filter on '92-95 Legends every 12 months or 15,000 miles. The P/N is 79370-SP0-H01.
- **Measure Temp With Digital Accuracy** (July '94): Convert your digital multimeter into a pyrometer with a thermocouple module such as the Fluke 80TK or the Alltest 5200.

For older articles, and you'll find plenty of good ones, refer to your ServiceNews indexes.

## Child Safety Info on ACURALINK 2000

In February, your dealership received three copies of the *Child Safety Guidelines* book. This book describes how to properly restrain children in Acura vehicles. If a customer requests child safety info for a specific Acura vehicle, you can now get it from ACURALINK 2000.

Here's how to access and print child safety guidelines so you can give them to customers who request the info:

- From the ACURALINK 2000 main menu, select *Publications*.
- From Publications, select *Service*.
- From Service, select *ServiceNews*. This brings up the publications search screen.
- In the *Pub ID* box, type in the Pub ID (from the list below) for your customer's vehicle. This will bring up the child safety guidelines for that vehicle.
- To print the document, click on *Print*, enter your printing options, then click on *Continue*.

NOTE: Before you give a child safety guideline document to a customer, read it to make sure it's the correct info for the vehicle:

Model/Year	Pub ID
<b>2.2CL, 3.0CL</b>	
'97	B970326
<b>Integra 3-door/4-door</b>	
'86-87	B970320
'88-89	B970321
'90-93	B970323
'94-95	B970324
'96-97	B970326
<b>Legend 4-door</b>	
'86-90	B970321
'91 (except LS)	B970321
'91 LS	B970324
'92 (except L, LS)	B970321
'92 L, LS	B970324
'93-95	B970324
<b>Legend 2-door</b>	
'87-90	B970321
'91 (except LS)	B970321
'91 LS	B970324
'92-95	B970324

Model/Year	Pub ID
<b>NSX</b>	
'91-92	B970322
'93-94	B970325
'95-97	B970327
<b>3.5RL</b>	
'96-97	B970326
<b>SLX</b>	
'96-97	B970326
<b>2.5TL</b>	
'95-97	B970326
<b>3.2TL</b>	
'96-97	B970326
<b>Vigor</b>	
'92	B970321
'93 (except GS)	B970321
'93 GS	B970324
'94-95	B970324

## Trailer Connectors & Housings

If you need the connectors that mate with prewired trailer connectors, order the connector housings and terminals separately. Here are the P/Ns and T/Ns. (For trailer wiring info, refer to the February '91 issue of S/N.)

**Connector Housings** ('86-90 Legend, '94-97 Integra, '97 2.2CL & 3.0CL, '95-97 2.5TL, '96-97 3.2TL & 3.5RL):  
*P/N 98530-00006-00*

**Connector Housings** ('90-93 Integra, '92-94 Vigor):  
*P/N 98530-00008-00*

**Connector Housings** ('92-95 Legend):  
*P/N 98530-00010-00*

**Connector Terminals** (pack of 25)  
'90-93 Integra: *T/N 07JAZ-001040A*  
All others: *T/N 07JAZ-001030A*

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