



SERVICE NEWS

**Recycling: It's
the Law.**

**What Comes
After R-12?**

**New Machines
to Capture the
Cold.**

**Toyota
Remanufactured
Parts – As
Good as New.**

**PART OF TOYOTA'S
CONTINUING SUPPORT TO
AFTERMARKET REPAIR.**



STAR dealers win best supporting role.

Toyota's STAR Dealers have been recognized for their outstanding performance in serving the wholesale market. To them, you're not the competition. You're the customer. A valued customer. And they'll support you in any way they can.

STAR Dealers provide convenient daily delivery service, dedicated outside salespeople, and direct wholesale parts hotlines. They also main-

tain a large inventory of competitively priced Toyota Genuine Parts, which means you can get most parts immediately. If not, their direct

access to the Toyota Parts Distribution Network can get you almost any part you need within 24 hours. And finally,



if you have a question about a specific part or repair job, just ask. No one knows Toyotas, or the parts needed to repair them, like a Toyota STAR Dealer.

So give Toyota's STAR Dealers a chance to perform for you.

"I love what you do for me."





SERVICE NEWS

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WHAT IS A STAR DEALER?

STAR (Support To Aftermarket Repairs) is a special Toyota support program offered by a select group of Toyota dealers, recognized by Toyota as having made an extraordinary commitment to serving the special needs of independent repair and body shops. From extra parts inventory and special local or WATS telephone lines, to specially trained counterpeople backed by outstanding delivery services, Toyota STAR dealers are a unique group of parts wholesale specialists who offer support, services and benefits not usually found at the typical dealership.

Toyota STAR Service News are only available through Toyota's Wholesale parts specialists, Toyota STAR dealers. Articles and technical data in this periodical are based in whole or in part on prior communications to Toyota dealers. All procedures, specifications and part numbers were in effect at the time this publication went to press. No express or implied warranty implications are intended, nor should any be construed. Toyota Motor Sales, U.S.A., Inc. reserves the right to change procedures, specifications and/or part numbers without incurring obligation. For complete specifications and/or procedures please refer to the appropriate repair manuals. For part number changes, please consult with your local Toyota STAR dealer. Contents of this publication may be reprinted with permission. Please address all correspondence and inquiries to Editor, Toyota STAR Service News, P.O. Box Q-100, Torrance, CA 90509.

NEW FREON RECYCLING REGULATIONS

MODEL APPLICATION: ALL

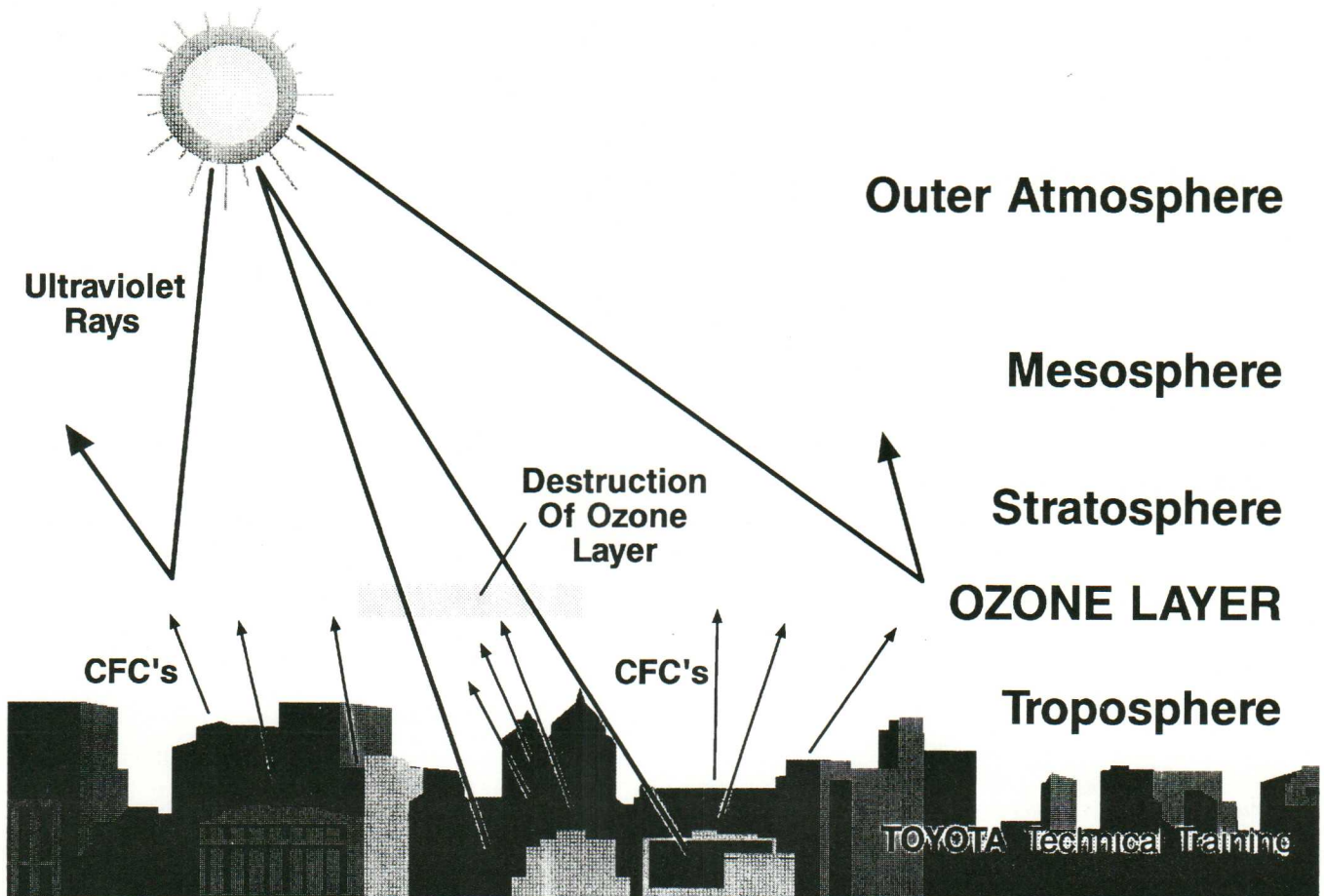
If you service automotive air conditioning systems, recent legislation will have a significant impact on the way you do business. Current and pending laws make it illegal to vent R-12 refrigerant to the atmosphere and dictate mandatory recovery and recycling of used refrigerant. Obviously, this will require new equipment and new procedures in your operation. From now on, R-12 recovery and recycling is a fact of life in the automotive service industry. While it will require an initial capital expense, it also represents an opportunity for added profits. More important, recovery and recycling significantly protects the environment.

THE REFRIGERANT IS THE KEY

The air conditioning system refrigerant cools the air by absorbing its heat. The most commonly used automotive refrigerant is R-12 or Freon. It has ideal temperature change characteristics, and is chemically stable and non-corrosive.

R-12 AND THE ENVIRONMENT

In the past decade, scientists have discovered that certain chemicals such as R-12 refrigerant are causing significant damage to the ozone layer that surrounds



the earth. The ozone layer lies between 12 and 25 miles above the earth's surface and effectively absorbs and reflects the sun's dangerous ultraviolet rays. Without the ozone layer, the ultraviolet rays would destroy all plant and animal life on earth. Even small depletions in the ozone layer will allow enough ultraviolet radiation to increase the rates of serious health problems such as skin cancer, cataracts and immune system deficiencies.

R-12 refrigerant contains chemicals called chlorofluorocarbons or CFCs. CFCs contain chlorine. When CFCs are subjected to ultraviolet light from the sun, the chlorine reacts with the ozone in a way that accelerates the depletion of the ozone layer faster than it can be replaced by the natural process. As a result, there has been a measurable thinning of the ozone layer, including the intermittent opening of a hole over the South Pole.

Adding to the problem is the fact that CFCs have a life span of over 100 years, so R-12 and other CFCs released into the atmosphere today will still be doing damage a century from now.

WORLDWIDE BAN ON R-12

Twenty-seven countries have joined together to eventually ban the production of CFCs and their derivative products such as R-12 refrigerant. This indicates the seriousness of this threat to our environment. These 27 countries signed an agreement, known as the Montreal Protocol, that will limit the production and sales of these chemicals. The goal of this accord is to achieve an 85 percent reduction of CFCs by 1997, with an eventual elimination of most CFC-based products by the year 2000.

REFRIGERANT RECOVERY IS NOW THE LAW

The United States Environmental Protection Agency, as well as state and local governments, are already taking steps to require R-12 recycling and completely phase out its use.

Starting in January 1992, repair facilities that service 100 air conditioning systems or more annually will be **required by law** to recover and recycle used refrigerant from customer cars. Facilities servicing fewer than 100 cars per year will have until January 1993 to comply.

In addition, all technicians servicing automotive air conditioning systems will have to be trained and certified in recovery and recycling procedures.

These are just some of the provisions of the latest federal Clean Air Act. Many states, cities and local municipalities already have laws in effect concerning CFC recycling.

R-12 COSTS ARE GOING UP SUBSTANTIALLY

To further encourage R-12 recycling, a progressive federal tax is already in effect. Currently, there is a federal excise tax of \$1.37 per pound on all products containing CFCs such as R-12 refrigerant. This tax goes to \$1.67 per pound in 1992 and \$2.65 per pound in 1993.

Features

In addition, auto parts stores will have to pay a new "floor stock" tax of 30 cents a pound starting in 1992. This increases to 96 cents a pound in 1993. Obviously, these taxes will be passed on to the buyer. So in 1993, just the tax on a pound of R-12 refrigerant will be \$3.61, PLUS state and local sales taxes! Clearly, recycling R-12 makes more and more economic sense.

Finally, the Clean Air Act will restrict the sale of 14-ounce cans of R-12. Only certified professionals will be allowed to purchase the small can starting in November 1992. This will help eliminate do-it-yourselfers from recharging their A/C systems and provide more A/C service work for you.

In support of this act, Toyota stepped up its environmental commitment by discontinuing the Toyota brand 14-ounce can in February 1991. In compliance with the U.S. Environmental Protection Agency and state and local laws, Toyota now offers a 30-pound cylinder.

- Ozone depleting potential.
- Global warming potential.
- Toxicity.
- Combustivity.
- Cycle characteristics.

Toyota is committed to protecting the environment, and we encourage you to do your share as well.

TOYOTA'S COMMITMENT TO THE ENVIRONMENT

As you read this, all Toyota and Lexus dealerships are equipped with the latest refrigerant recovery and recycling equipment. Special training classes have been established to familiarize Toyota technicians with environmental concerns and equipment operation. Toyota is scheduled to introduce new air conditioning systems using a new refrigerant, 134a, beginning in the 1993 model year. By 1995, all new Toyota automobiles should be using this system.

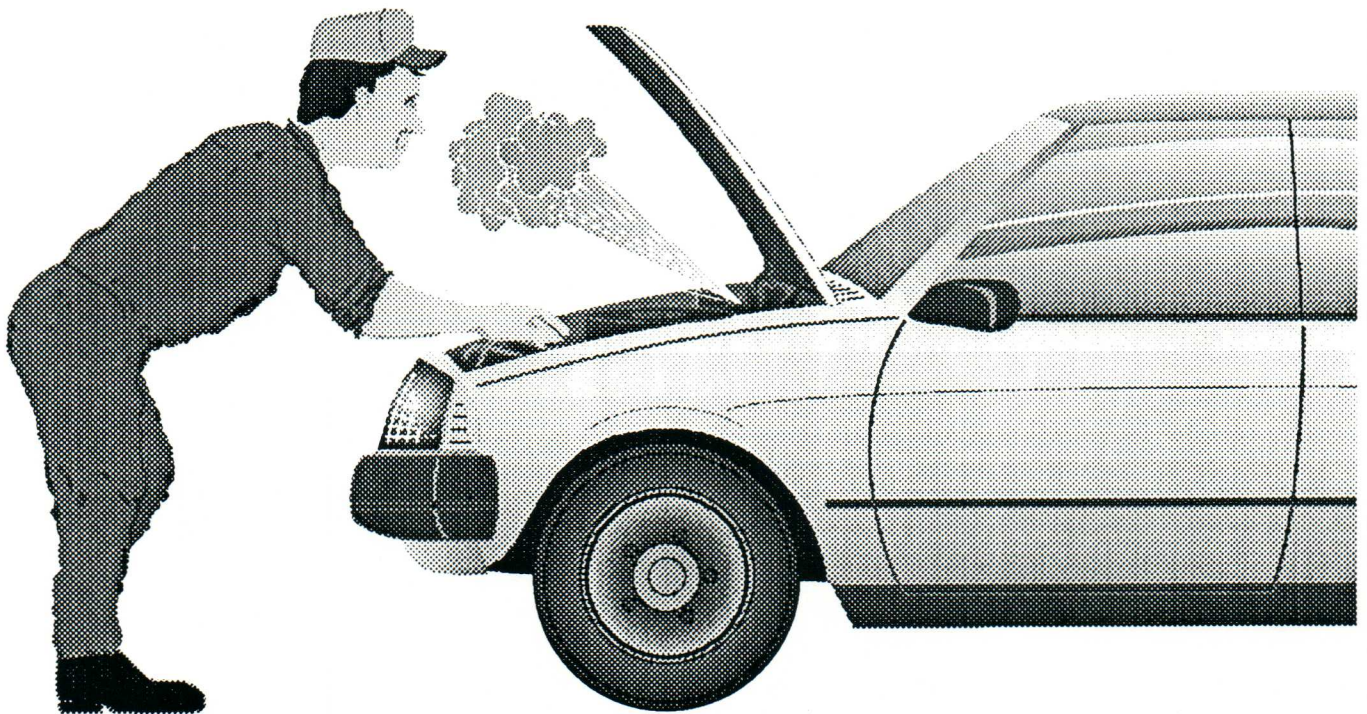
Toyota selected 134a from eight refrigerant families. The selection criteria included:

RECOVERY AND RECYCLING EQUIPMENT

MODEL APPLICATION: ALL

In the past, R-12 was simply vented to the atmosphere. Now, you'll have to recover the R-12, clean and recycle it.

There are several refrigerant recovery and recycling systems on the market today. Toyota recommends the Owatonna Tool Company OEM 1396 (Robinair 17400). It offers the features and capabilities required by law, and the convenience and cost-effectiveness required by your business.



Beginning in 1992, facilities that service 100 A/C units or more annually can no longer vent R-12 to the atmosphere. The law will require that the refrigerant be recovered and recycled. Facilities that service fewer than 100 units per year have until 1993 to comply. Some local regulations are more stringent.

Features



The Owatonna OEM 1396 Refrigerant Recovery and Recycling System meets all Toyota, SAE and UL performance standards while simplifying and expediting recovery and cleaning.

The machine recovers used R-12 from the car's air conditioning unit, removes the oil, cleans and dries the refrigerant, and stores it for reuse. Recovery and recycling machines are easy to use, and in the Owatonna unit, the recycling process takes approximately 10 minutes, so recycling does not hurt your shop's productivity.

Recycled R-12 is just as efficient as new R-12 and it meets SAE purity standards. You save money by not having to buy as much new refrigerant, and you make money by charging your customer a "recycling" fee.

Projected payback for recycling equipment is one to two years, which is similar to other capital equipment in your shop.

Check with your local dealer or EPA authorities for specific legal requirements. For more information on the Owatonna recycling units, call 1-800-933-8335.



Owatonna OEM 1396 Refrigerant Recovery and Recycling System.

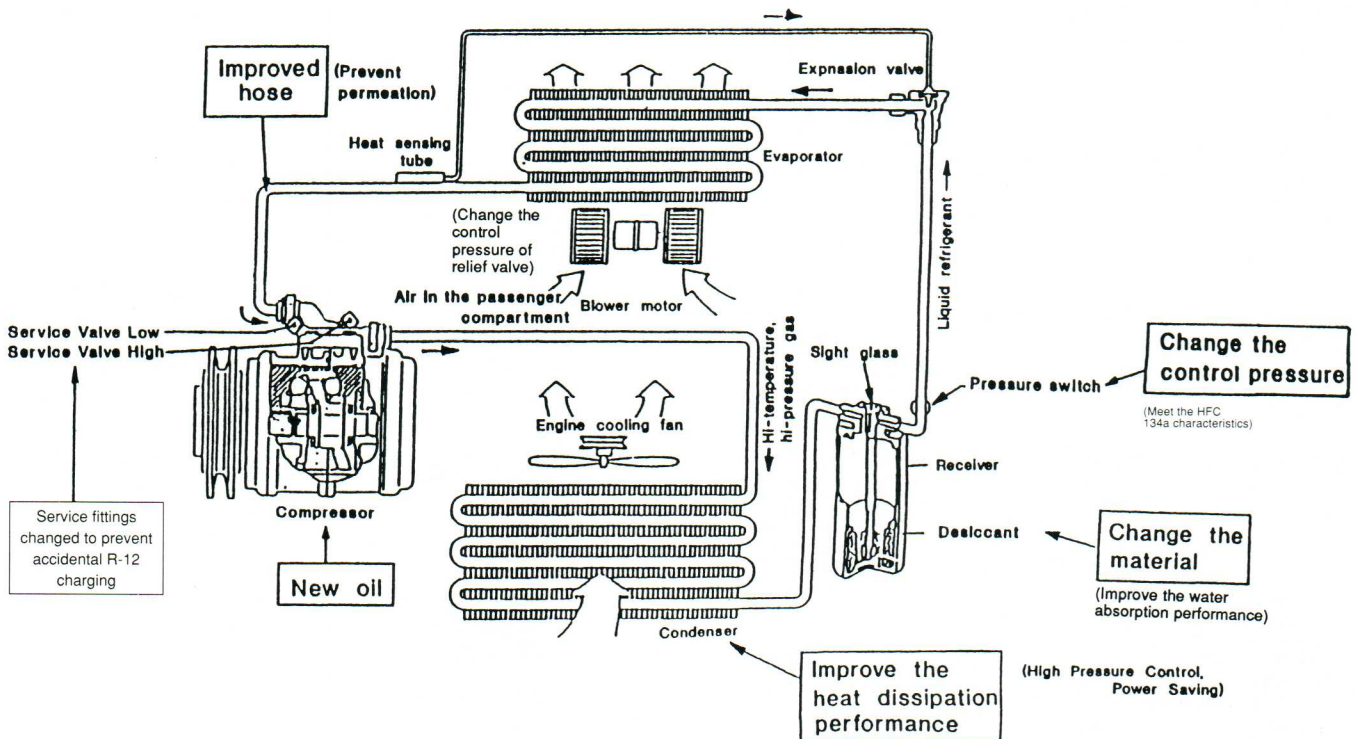
ALTERNATE REFRIGERANTS

MODEL APPLICATIONS: ALL

With R-12 on the way out, what will take its place? In the short term, chemical manufacturers are working on "blends" that feature a reduced chlorine content. One company is working on a blend made up of R-22 and other ingredients, and it is considered to be about 80 percent less hazardous to the ozone than R-12. These blends are compatible with some current automotive air conditioning systems, although on some applications, the hoses may have to be replaced

because the blends have a higher rate of permeability. Toyota **HAS NOT** approved these blends for use in Toyota vehicles. At the time this article went to press, blends were creating some serious problems in Toyota systems.

The long-term refrigerant will be HFC-134a. 134a contains no chlorine so it is not known to be harmful to the atmosphere, yet it provides the properties necessary for optimum air conditioning performance. Unfortunately, the use of 134a will require a major



Features

redesign of the air conditioning system. Changes will have to be made in such areas as compressor size, evaporator size, desiccant type, hose design, control pressure regulation, lubrication and service procedures.

Components of existing air conditioning systems **will not be interchangeable** with the new systems. 134a **will not be interchangeable** with R-12 or any

of the "blends." Current leak detection methods are not effective with 134a.

Consequently, there will be a change-over period where some new cars will be equipped with A/C systems using R-12 or a new blend, while others will have new A/C systems using 134a. The first Toyota systems using the new 134a refrigerant should reach the market in the 1993 model year.

REFRIGERANT 134A

- Selected from 8 refrigerants families
- Criteria for selection:
 - Ozone depleting potential
 - Global warming potential
 - Toxicity
 - Combustivity
 - Cycle Characteristics

DESIGN CHANGES FOR 134A

- Condenser size
- Evaporator size
- Desiccant type
- Hose design
- Control pressure regulation
- Lubrication
- Service procedures

AIR CONDITIONING SERVICE

MODEL APPLICATION: ALL

DISCHARGING THE SYSTEM

All refrigerant must be discharged and recovered in appropriate recovery and recycling equipment before an air conditioning system can be opened for service or repair.

1. Engine should not be running.
2. Make sure the hand valves on the gauge set are closed.
3. Connect the gauge set: Low-pressure hose (blue) to the suction side; high-pressure side (red) to the discharge side; center hose to the recovery equipment.
4. Start the recovery machine.
5. Open the high-side valve to discharge refrigerant slowly. If discharged too quickly, refrigerant will carry out compressor oil.
6. When the high-side gauge reads less than 50 pounds, low-side valve may be opened.

7. System is discharged when both gauges read greater than 5 inches mercury and hold the reading. It may be necessary to restart the machine after auto shutoff if the pressure does not hold.

8. Turn off the recovery equipment before disconnecting center hose.

EVACUATING THE SYSTEM

1. Engine should be off.
2. Gauge set connected, hand valves off.
3. Connect the center hose to a vacuum pump and turn the pump on.
4. Open both hand valves and let pump run about 10 minutes.
5. After 10 minutes, vacuum gauge should read at least 24 - 27 inches of mercury at sea level. Close the hand valves and turn the pump off. If vacuum does not hold, there is a leak in the system. If the system is OK, turn the pump back on, open the hand valves and continue evacuating.
6. Close the hand valves. Turn the vacuum pump off. Disconnect the center hose. The system is now ready for charging.

CAUTION

Be sure to use **special care and precaution** when working with A/C refrigerant. Avoid contact with skin and eyes as exposure to R-12 could cause frostbite. **ALWAYS** wear goggles when working on the air

conditioning system. Do not let containers of refrigerant stand in direct sunlight, near sources of heat, or in temperatures above 125 degrees F. The contents are under pressure and the containers will release the refrigerant through a special fuse plug.

AIR CONDITIONING LEAK DETECTION

MODEL APPLICATION: ALL

CFCs will cause damage regardless of how they get to the ozone layer. It's not enough to capture and recycle refrigerant during service; you must also make sure the system is free of leaks that can release R-12 into the atmosphere.

If a system requires more than 1/2 pound of R-12 after a season of normal operation, there's a good possibility leaks are present.

There are three acceptable methods of leak detection: an electronic leak detector, Halide torch and leak detection dye.

An electronic leak detector is the best device for locating leaks because it is highly sensitive and easy to operate. It can identify leaks that are difficult to detect using other methods. Pass the probe slowly over, around and especially under all A/C components and connections since R-12 is heavier than air. A light or sound, depending on the unit, indicates the presence of R-12. If you find a leak, don't stop. Check the entire system — multiple leaks are not uncommon.

The Halide torch is a second method, but one that Toyota **DOES NOT RECOMMEND**. It is not as sensitive or easy to use as an electronic leak detector

and it requires a lot of maintenance, but it can provide a visual indication of R-12 leakage. A "sniffer" tube is attached so that air and refrigerant are drawn up and passed through the flame. A yellow flame indicates a moderate R-12 leak, while a greenish-purple flame color indicates a major leak. Like the electronic probe, the sniffer tube is passed over, around and under components and connections.

If you must use a Halide torch, know that when the Halide flame comes in contact with R-12, it creates a small amount of colorless Phosgene gas, which is **poisonous**. If a leak is detected, avoid inhaling the gasses from the flame.

The final detection method uses a colored dye to pinpoint leaks. When a system is charged with leak detection dye, you will be able to see coloring at any point of leakage throughout the system. Very small leaks may take a while to appear. In addition, components such as the evaporator may be difficult to inspect visually because of their location. Once the leak is fixed, the color wipes off easily with a shop towel.

In addition to protecting the atmosphere, there are other reasons to "sell" leak detection to your customer. Leak-free A/C systems deliver maximum cooling efficiency. Plus, leaks allow refrigerant out and moisture in, which can damage internal parts and require expensive repair or replacement. Fixing leaks will prolong the life of the A/C system.

TROUBLESHOOTING: ENGINE OVERHEATING

MODEL APPLICATION: ALL

Possible Cause	What to Check	Action to Take
1. Engine coolant low.	Level of coolant in radiator.	Replenish coolant.
2. Excess rust or scale in cooling system.	Inspect cooling in radiator.	Drain coolant; flush system; replenish coolant.
3. Slipping fan belt.	Check tension and condition of belt.	Tighten. If worn or oil-soaked, replace.
4. Blocked radiator or A/C condenser.	Look for dirt or bugs blocking airflow.	Clean radiator or A/C condenser with soft brush, water, and compressed air. DO NOT USE STEAM.
5. Incorrect rating or faulty pressure cap	Check with tester. Check against R/M specs.	Replace with new cap of correct rating.
6. Deteriorated or kinked coolant hoses.	Check of kinks, cracks, and obvious weakness.	Replace with new hoses.
7. Incorrect ignition timing.	Check ignition timing.	Adjust timing to correct specs.
8. Loss of oil from fan clutch.	Look for oil leaks. Turn fan with hand. Should have some drag from oil.	Repair or replace.
9. Thermostat stuck	Remove and test operation.	Replace.
10. Water pump faulty.	Loose driveshaft, noisy operation, leaks.	Replace.
11. Idle speed cut-out misadjusted (amplifier).	Confirm magnetic clutch engagement if engine speed drops below 650 rpm or exceeds 750 rpm.	Adjust "Idle" knob on amplifier to obtain correct cut-out speed (if equipped).

TROUBLESHOOTING: NOISY SYSTEM OPERATION

MODEL APPLICATION: ALL

Possible Cause	What to Check	Action to Take
1. Loose or broken mounting brackets for compressor idler pulley	Shake components. Look for loose mounting bolts or broken bracket.	Tighten bolts. Replace broken bracket.
2. Refrigerant oil level low	Lightly touch bottom of compressor for excessive heat. Check oil level.	Check system for leaks. Replenish refrigerant oil recharge system.
3. Worn idler pulley (if equipped)	Listen for noise from pulley. Check for worn bearing and looseness.	Replace bearing.
4. Worn blower motor	Turn blower ON and OFF; listen for noise.	Replace motor.
5. Excess refrigerant charge	Listen for rumbling noise or vibration in high-pressure line; thumping noise in compressor. Gauge readings: Low side – HIGH High side – HIGH	Partially discharge system into recovery equipment. Refill to proper level.

Tech Tips

Possible Cause	What to Check	Action to Take
6. Low refrigerant charge	Sight glass will show bubbles or foam. Gauge readings: Low side – LOW High side – LOW	Locate and fix any leaks. Recharge system.
7. Moisture in system	May show cloudiness in sight glass.	Replace receiver-drier. Evacuate and recharge system.
8. Faulty or worn compressor	See items 1,2, and 3 above.	If noise persists, replace compressor.
9. Noise from magnetic clutch	Worn or damaged bearing.	Replace bearing.
10. Noise from piping	Vibrating piping. Pulsating noise resonating into body.	Secure piping.
11. Noise from condenser	Condenser mounting stay resonating with body.	Secure by inserting rubber pad between stay and body.

ROUBLESHOOTING: INSUFFICIENT COOLING

MODEL APPLICATION: ALL

A. BLOWER NOT PRODUCING ENOUGH AIRFLOW:

Possible Cause	What to Check	Action to Take
1. Intake cowl clogged	Check cowl at blower inlet.	Remove debris, clean.
2. Airflow through evaporator restricted by ice buildup	Check for signs of ice in evaporator core. Check thermistor resistance.	Run system with blower on "Hi" to melt ice. Instruct owner on correct settings. Replace thermistor.
3. Faulty or worn blower motor or fan bearings	Listen for noisy or obviously slow operation.	Repair or replace.
4. Faulty blower switch	Check that blower speed varies according to switch position.	Replace blower switch.

B. BLOWER IS PRODUCING ENOUGH AIRFLOW:

1. Windows or vents open	Check position of controls. Discuss with owner if proper operation mode is used.	Close windows and vents; Instruct owner in correct positions for maximum cooling.
2. Heating system ON	Check control position and heater mode adjustment. Check water valve.	Repair heater system or instruct owner on correct control settings.
3. Compressor drive belt slipping	Check for worn or misadjusted belt.	Tighten or replace.

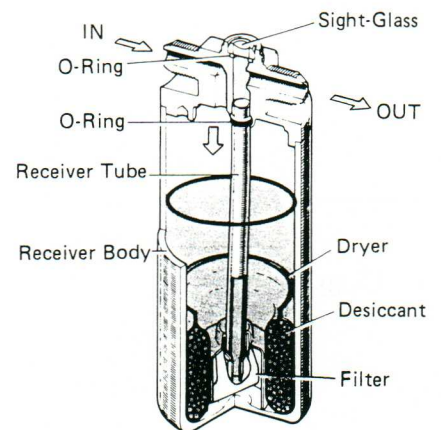
Tech Tips

Possible Cause	What to Check	Action to Take
4. Magnetic clutch slipping	Feel for heated clutch. Check for secure connections to power and ground.	Tighten connections. Replace if necessary.
5. Insufficient airflow through condenser	Check for dirt, bugs, license plates, spare tires, bug screens or anything restricting airflow through condenser. Outlet line from condenser typically will be little or no cooler than inlet. Gauge readings: Low side – HIGH High side – HIGH	Clean condenser with soft brush, running water, and compressed air. DO NOT USE STEAM. Remove obstructions to air flow.
6. Refrigerant LOW in system	Look for bubbles or foam in sightglass. Gauge readings: Low side – LOW High side – LOW	Locate and fix any leaks. Recharge system.
7. Restriction in receiver-drier or high-side line	Check for noticeable temperature drop (frost) at receiver-drier or kink in line. Gauge readings: Low side – LOW High side – LOW	Replace receiver-drier or kinked line.
8. Faulty expansion valve (allows too much flow)	Look for sweating in evaporator and on suction line. Gauge readings: Low side – HIGH High side – HIGH or NORMAL	Make sure heat sensing tube is securely fastened to evaporator. Replace valve, if necessary.
9. Incorrect idle-cut adjustment at amplifier (if equipped)	Compressor should turn on at engine speed between 650-750 rpm. If cut-in speed is significantly higher, insufficient cooling may result.	Adjust “idle” knob on stabilizer amplifier to obtain correct cut-in speed.
10. Faulty thermistor.	Perform resistance check.	Replace if faulty.

TROUBLESHOOTING: INTERMITTENT COOLING

MODEL APPLICATION: ALL

Possible Cause	What to Check	Action to Take
1. Evaporator unit icing up in humid weather. Restricts airflow and cooling.	Ask owner about both temperature and blower settings. Max cooling/low blower speed should not be used in humid weather. Check thermistor for proper sensing of evaporator temperature (compressor cycles ON and OFF correctly).	Instruct owner on correct control settings, If necessary, replace thermistor.
2. Loose connection in electrical circuit or compressor ground	Check whether operation was affected by vehicle motion. With sight and touch, check for loose connections. If necessary, test continuity of circuit.	Fix loose connections.
3. Magnetic clutch slipping	Check for heated clutch. Check electrical connections.	If necessary, replace clutch.
4. Moisture in refrigerant freezes inside expansion valve	Look for cloudiness in sight glass If moisture is not frozen in valve, gauges will read NORMAL, but once frozen, gauge readings will read: Low side – VACUUM High side – LOW	Replace receiver-drier. Evacuate system, recharge.



TROUBLESHOOTING: LITTLE OR NO COOLING FROM SYSTEM

MODEL APPLICATION: ALL

A. IF COMPRESSOR AND BLOWER ARE OPERATING:

Possible Cause	What to Check	Action to Take
1. Excessively low refrigerant level	Check sight glass for bubbles. Cycle system ON and OFF, if nobubbles appear, system is empty. Gauge readings: Low side – LOW High side – LOW	Determine cause of refrigerant loss and repair. If system has lost all refrigerant, replace receiverdrier. Recharge system.
2. Compressor excessively worn	Inlet and outlet lines at near same temperature. Gauge readings: Low side – HIGH High side – LOW	Replace compressor.
3. Expansion valve stuck open (evaporator flooded)	Suction line and evaporator may show heavy sweating. Gauge readings: Low side – HIGH High side – NORMAL or SLIGHTLY HIGH	Check that heat sensing tube is securely fastened to evaporator. If necessary, replace expansion valve.
4. Clogged receiver-drier	Outlet of receiver-drier much colder than inlet. Gauge readings: Low side – LOW High side – LOW	Replace receiver-drier.

B. IF NEITHER COMPRESSOR NOR BLOWER ARE OPERATING:

Possible Cause	What to Check	Action to Take
1. Circuit breaker tripped	Check circuit breaker.	Determine cause of problem. Reset.
2. Blown fuse	Check for blown fuse.	Determine cause of problem. Replace fuse.
3. Faulty heater relay	Check relay.	Replace relay.

C. IF BLOWER IS NOT OPERATING:

1. Circuit breaker tripped	Check circuit breaker.	Determine cause of problem. Reset.
2. Blown fuse	Check for blown fuse.	Determine cause of problem. Replace fuse with one of correct rating.
3. Faulty heater relay	Check relay.	Replace relay.
4. Worn or burned blower motor	Check voltage at motor connector with key switch ON and blower on HI. If power is present, motor should operate.	Replace blower motor
5. Loose connection or broken wire in blower control circuit	Look for loose or broken connections and wires. If necessary, trace circuit with test light or volt meter.	Tighten connections. Replace or repair broken wires.
6. Faulty blower switch	Test power to and from switch.	Replace if necessary.

D. IF COMPRESSOR IS NOT OPERATING:

Possible Cause	What to Check	Action to Take
1. Broken or excessively loose compressor drive belt	Inspect belt and belt tension.	Replace or tighten, as necessary.
2. Blown fuse	Check for blown fuse.	Determine cause of problem, then replace fuse with one of correct rating.
3. Faulty Compressor	With A/C system ON and engine running at about 1500 rpm, touch positive lead from clutch to battery's positive terminal. If compressor operates, problem is elsewhere in electrical circuit.	Make sure clutch is grounded properly. If necessary, replace clutch or compressor.
4. Incorrect idle cut-out adjustment at amplifier	Compressor should turn ON at engine speed, between 650-750 rpm. Knob may be misadjusted.	Adjust "idle" knob on stabilizer amplifier to obtain correct cut-in speed.
5. Loose Connection or broken wiring in temperature control circuit	Check wiring from amplifier to thermistor.	Tighten connection; repair broken wires.
6. Faulty thermistor	Inspect resistance.	Replace as necessary.
7. Faulty amplifier.	If all other tests do not point out cause, amplifier may be faulty.	Replace and check system operation.

GENUINE TOYOTA REMANUFACTURED PARTS

MODEL APPLICATION: ALL

Genuine Toyota Remanufactured Parts offer you many important advantages. You can offer your customers the quality, reliability and warranty of a new Toyota part at an aftermarket price. You can significantly reduce your costs since Toyota remanufactured parts can cost up to 40 percent less than a new part. You can improve customer satisfaction and reduce comebacks due to "rebuilt" product failure. You can offer your customer the added protection of a 12-month, unlimited mileage warranty on replacement components. Plus, you can cut repair time and costs because Genuine Toyota parts fit right and work right every time.

Toyota remanufactured parts are produced to the same strict OEM specifications as new parts. Each core chosen for remanufacturing is disassembled, cleaned and thoroughly inspected before use. All worn or damaged components are replaced with Genuine Toyota parts. Each completed assembly is individually tested, inspected, and guaranteed to meet or exceed all original specifications. In short, Genuine Toyota remanufactured parts are produced and serviced with an uncompromising level of care and attention to detail.

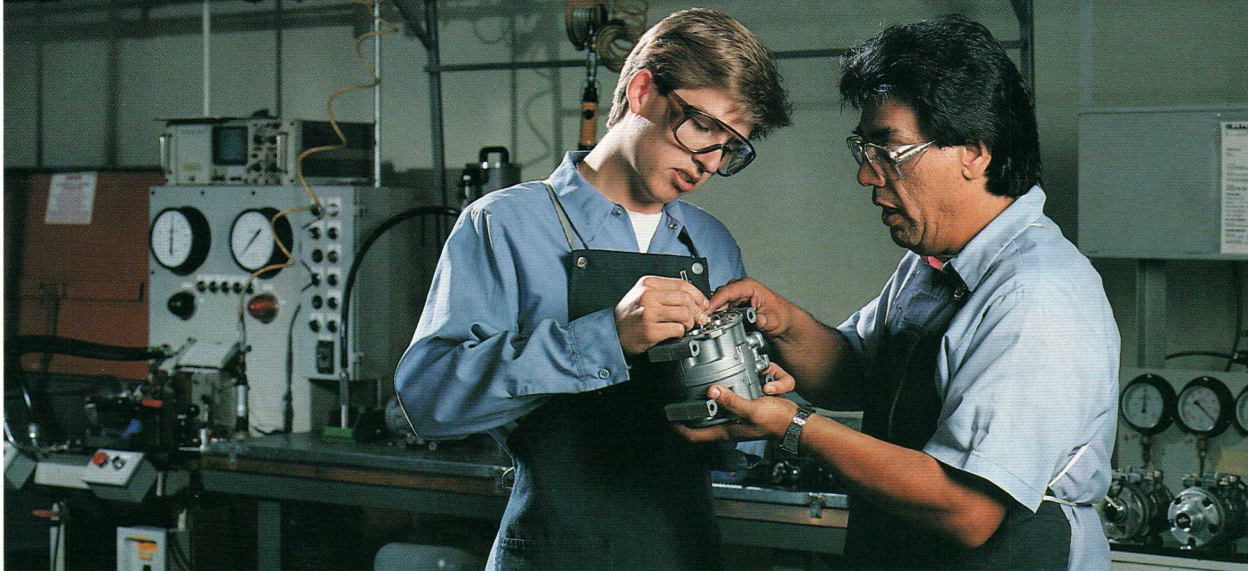
Take Toyota remanufactured air conditioning compressors, for example. All damaged and worn parts are replaced with new Genuine Toyota parts, as are all gaskets, shaft seals and o-rings. Each completed compressor is individually checked for discharge volume, gas leaks, abnormal noise and rotating torque. Only then is the component judged ready for sale.

The Toyota program offers the most commonly replaced components including clutch discs, clutch covers, alternators, starter motors, voltage regulators, computers, brake calipers, water pumps and air conditioning compressors.

All are readily available from your nearby Toyota dealer and all can add to both your profit line and your level of customer satisfaction. For more information on Genuine Toyota Remanufactured Parts and the simple core return procedures, contact your local Toyota STAR dealer today.



Reman vs. Rebuilt: Toyota Gets to the Core of the Matter



Remanufactured and rebuilt parts are not created equal.

Genuine Toyota Remanufactured Parts are built to fit and perform exactly like the original part — right down to the core.

Take Genuine Toyota remanufactured air conditioning compressors, for example. After the cores are completely disassembled, they are thoroughly cleaned and inspected. All damaged or worn components are replaced with new Genuine Toyota parts, as are all gaskets, shaft seals and o-rings. Each compressor is then tested for discharge volume, gas leaks, abnormal noise and rotating torque.

Genuine Toyota remanufactured alternator and starter cores undergo a similar procedure. And when you install a Genuine Toyota remanufactured computer, you get all of the quality and reliability of the original part, plus innovations that have been added since the original computer was installed.

This attention to detail sets Toyota apart from parts rebuilders. They often repair or replace only broken or worn-out components. The units are then reassembled including worn bearings and diodes.

Your local Toyota STAR dealer offers a wide selection of Genuine Toyota Remanufactured Parts at substantial savings. Isn't it about time you made Genuine Toyota Remanufactured Parts a core part of your business?



 **TOYOTA**

"I love what you do for me."

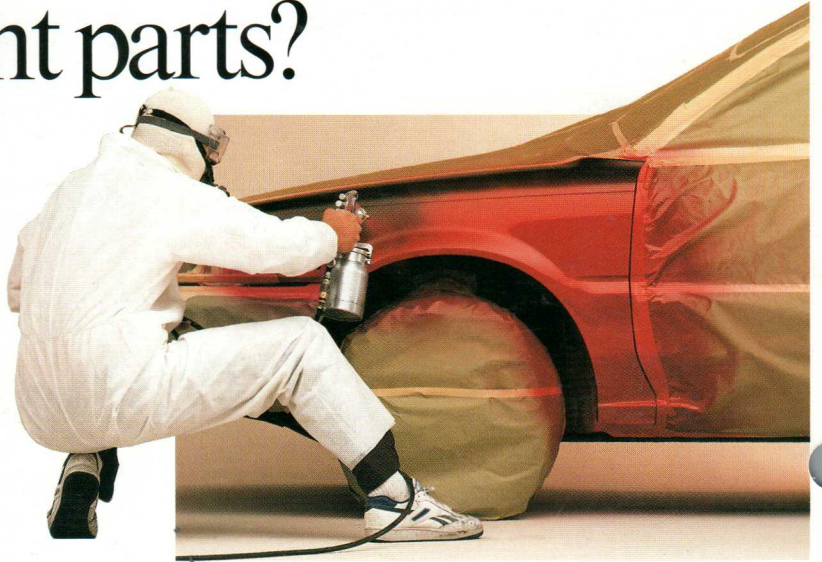
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Are insurance companies asking you to paint over inferior replacement parts?

When working on Toyotas, it's wise to use only Genuine Toyota Body Parts, even though insurance companies often suggest that you use imitation replacements. Many imitation replacement parts simply do not meet Toyota's high quality standards for fit and corrosion resistance.

You'll appreciate what the real thing does for you. Genuine Toyota Body Parts have proven quality and durability. They look right, fit right and maintain maximum corrosion protection—which can save you work now and complaints later. What's more, Toyota dealers offer you competitive prices, prompt delivery and the technical advice you may need.

See your local Toyota STAR Dealer for



more information, and *accept no substitutes*. Use only Genuine Toyota Body Parts. They'll make both you and your repairs look good.

Get More From Life...Buckle Up!
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Attn: OWNER
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70 GLEN AVE
MIDLAND PARK, NJ 07432

