AA - USING THIS SECTION (GENERAL HELP INFORMATION)
Article Text

1993 Honda Prelude
For Cadi Centre Nsk CA 95051

Sunday, July 08, 2001 11:19AM

ARTICLE BEGINNING

ENGINE PERFORMANCE
How To Use This Section

INTRODUCTION

NOTE: Because there are so many possible combinations of articles for the different manufacturers and models, the new hyper-text capabilities built into this product DO NOT apply to this article.

It is the purpose of this repair information system to help professional automotive technicians maintain top vehicle performance and correct driveability problems related to today's high tech vehicles.

Because of the limited amount of space allowable for the this product, our titles have been condensed to fit into the menus. An alphabetical designation has been added to the front of each title to allow the titles to be displayed in a way that reflects their respective order of use. References to the titles in some of the diagnostic flow charts sometimes will not correlate with the titles in the this product menu. If not, refer to the MENU CROSS-REFERENCE table below.

MENU CROSS-REFERENCE TABLE

Title	Associate Print (Book) Title:
A - ENGINE/VIN I D	Introduction
B - EMISSION APPLICATION	Emission Applications
C - TUNE-UP SPECS	Service & Adjustment Specifications
C - SPECIFICATIONS	Service & Adjustment Specifications
D - ADJUSTMENTS	On-Vehicle Adjustments
E - THEORY/OPERATION	Theory & Operation
F - BASIC TESTING	Basic Diagnostic Procedures
G - TESTS W/ CODES	Self-Diagnostics
H - TESTS W/O CODES	Trouble Shooting - No Codes
I - SYS/COMP TESTS	Systems & Component Testing
J - PIN VOLTAGE CHARTS	Pin Voltage Charts
K - SENSOR RANGE CHARTS	Sensor Operating Range Charts
L - WIRING DIAGRAMS	Wiring Diagrams
M - VACUUM DIAGRAMS	Vacuum Diagrams
N - REMOVE/INSTALL/OHAUL	Removal, Overhaul & Installation

Because of this we recommend that you read the rest of these

INTRODUCTION paragraphs to better understand why the information is presented in this new format.

The A - ENGINE/VIN I D article will help you identify the vehicle and its systems. It will also explain the VIN code and in many cases, show its location.

If you want "TUNE-UP" type information, seeD - ADJUSTMENTS for the adjustment procedures. If you are familiar with the procedures, but need a quick way to find the specification, go toC - TUNE-UP SPECS or C - SPECIFICATIONS for the specifications pertaining to the vehicle.

When diagnosing driveability problems, first go toF - BASIC TESTING. This article is here to help eliminate wasted diagnostic time. If the basic systems are working properly, go toG - TESTS W/ CODES.

If the vehicle still is having a driveability problem or if the vehicle has no self-diagnostic system, go toH - TESTS W/O CODES. This article will help you diagnose the problem by symptom, locate the symptom exhibited by the vehicle, and inspect or test the items which may be causing the problem.

After finding which specific system or component requires testing, use the I - SYS/COMP TESTS article to tests the systems and components. We have also included (when available) pin voltage charts and sensor range charts. These can be found inJ - PIN VOLTAGE CHARTS and K - SENSOR RANGE CHARTS.

Also included in this section are wiring diagrams and vacuum diagrams. These can be found in L - WIRING DIAGRAMS and M - VACUUM DIAGRAMS.

When all diagnostic tests have been performed and the problem has been discovered, it may be necessary to replace or overhaul the defective part. This information can be found in N - REMOVE/INSTALL/OHAUL.

The content of each of these articles is outlined below. As a summary of the driveability diagnosis, see ROUTINE OUTLINE in this article.

A - ENGINE/VIN ID

This article shows how to identify the model and engine by its Vehicle Identification Number (VIN). A model coverage chart shows each model and engine, the fuel system, ignition system and engine code. The engine serial number locations are also included in this article.

B - EMISSION APPLICATION

These charts identify the emission systems and sub-systems applicable to each model and engine combination.

C - TUNE-UP SPECS

This is a collection of quick-reference type specifications. This article is helpful when you are familiar with proper adjustment procedures and only need specifications. Included in this section are:

* Battery specifications.
* Fluid capacities.
* Replacement intervals.
* Belt adjustment.
* Engine Compression.
* Valve clearance.
* Valve Arrangement.
* Ignition coil specifications.

* High tension wire resistance.
* Spark plug type and gap.
* Firing order.
* Ignition timing.
* Fuel pump performance and injector resistance specifications
* Slow and fast idle speed and mixture specifications.
* Carbon monoxide (CO) level specifications.
* Throttle position sensor/switch specifications.

C - SPECIFICATIONS

This is a collection of quick-reference type specifications. This article is helpful when you are familiar with proper adjustment procedures and only need specifications. Included in this section are:

* Battery specifications.
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* Spark plug type and gap.
* Firing order.
* Ignition timing.
* Fuel pump performance and injector resistance specifications
* Slow and fast idle speed and mixture specifications.
* Carbon monoxide (CO) level specifications.

* Throttle position sensor/switch specifications.

D - ADJUSTMENTS

This article contains the information that use to be included in the TUNE-UP section. Checking and adjusting valves, spark plugs, spark plug wires, base ignition timing and idle speed are found in this section. Use this article for routine maintenance. Also, if you have a driveability problem, ensure all on-vehicle adjustments are correct before proceeding with any diagnosis.

E - THEORY/OPERATION

This article covers basic theory and operation of engine performance-related systems and components. Before diagnosing vehicles or systems with which you are not completely familiar, read this article.

F - BASIC TESTING

When diagnosing driveability problems, there are certain "BASIC DIAGNOSTIC PROCEDURES" which must FIRST be performed. It is necessary to perform a careful, complete check of basic engine mechanical and electrical conditions, and verify spark availability and adequate fuel supply.

The procedures apply to both computerized and non-computerized systems. If all systems are okay, go to G - TESTS W/ CODES for vehicles with self-diagnostic systems or H - TESTS W/O CODES for diagnosis by symptom.

G - TESTS W/ CODES

Use this article to retrieve and interpret trouble codes from the engine computer self-diagnostic system. Once information is retrieved, diagnostic procedures are given to help pinpoint and repair computer system/component faults. Necessary steps for clearing trouble codes are also given. If faults indicated by trouble codes are not present at time of testing, proceed to TESTS W/O CODES for intermittent testing procedures.

H - TESTS W/O CODES

This article helps trouble shoot driveability problems based upon available "SYMPTOMS" and "INTERMITTENT TESTING" procedures. Procedures in this section should lead you to specific component or system tests which may or may not be computer monitored.

I - SYS/COMP TESTS

In this article, you will find tests for systems and components related to air induction systems (turbochargers), fuel control, ignition control, and emissions control systems.

J - PIN VOLTAGE CHARTS

PIN VOLTAGE CHARTS are supplied (where available) to speed up the diagnostic process. By checking pin voltages at the electronic control unit, it is possible to determine if the control unit is receiving and transmitting proper voltage signals.

K - SENSOR RANGE CHARTS

Use the SENSOR OPERATING RANGE CHARTS to determine if a sensor is out of calibration. A sensor that is out of calibration may not set a trouble code, but it will cause driveability problems.

L - WIRING DIAGRAMS

Use these WIRING DIAGRAMS to identify and trace component circuits, locate shorts and opens in circuits, and understand how individual circuits function as part of a system. The diagrams in this article are only for fuel, ignition and emission systems

M - VACUUM DIAGRAMS

The VACUUM DIAGRAMS will assist you in finding incorrectly routed vacuum hoses which may cause driveability problems or computer indicated malfunctions.

N - REMOVE/INSTALL/OHAUL

N - REMOVE/INSTALL/OHAUL contains information found in the sub-headings of REMOVAL, OVERHAUL & INSTALLATION. These are procedures and specifications required to remove, overhaul (if possible) and install components related to engine performance.

WHERE TO START

PERFORM BASIC INSPECTION

1) Verify customer complaint.

2) Perform visual inspection. See F - BASIC TESTING.
3) Test engine sub-system to determine that the following systems are functioning properly. See F- BASIC TESTING.

- **Mechanical conditions (compression)**
- **Ignition output**
- **Fuel Delivery**

4) Check air induction system for leaks.
5) Check & adjust basic engine settings listed below to ensure they are to specification. See D - ADJUSTMENTS.

- **Ignition timing**
- **Idle speed**

CHECK FOR TROUBLE CODES

1) If equipped with self-diagnostics, check for trouble codes. Refer to G - TESTS W/ CODES.
2) Repair causes of trouble code(s).
3) Clear control unit memory.

SYMPTOM DIAGNOSIS

1) If no self-diagnostics available, or no trouble codes present, identify symptom.
2) See trouble shooting procedure to repair complaint. See H - TESTS W/O CODES

TEST SYSTEM

1) Perform necessary systems and component tests. See I - SYS/COMP TESTS.
2) Verify that complaint is repaired.

SAFETY PRECAUTIONS

- **Always refer to Engine Tune-Up Decal in engine compartment before performing tune-up. If manual and decal differ, always use decal specifications.**
- **DO NOT allow or create a condition of misfire in more than one cylinder for an extended period of time. Damage to converter may occur due to loading converter with unburned air/fuel mixture.**
- **Always turn ignition off and disconnect negative battery cable BEFORE disconnecting or connecting computer or other electrical components.**

- **DO NOT drop or shock electrical components such as computer,**

airflow meter, etc.

* DO NOT use fuel system cleaning compounds that are not recommended by the manufacturer. Damage to gaskets, diaphragm materials and catalytic converter may result.
* Before performing a compression test or cranking engine using a remote starter switch, disconnect coil wire from distributor and secure it to a good engine ground, or disable ignition.
* Before disconnecting any fuel system component, ensure fuel system pressure is released.

* Use a shop towel to absorb any spilled fuel to prevent fire.
* DO NOT create sparks or have an open flame near battery.
* If any EFI components such as hoses or clamps are replaces, ensure they are replaced with components designed for EFI use.
* Always reassemble throttle body components with new gaskets, "O" rings and seals.
* If equipped with an inertia switch, DO NOT reset switch until fuel system has been inspected for leaks.
* Wear safety goggles when drilling or grinding.
* Wear proper clothing which protects against chemicals and other hazards.

END OF ARTICLE

ABBREVIATIONS
Article Text

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ARTICLE BEGINNING

GENERAL INFORMATION

COMMONLY USED ABBREVIATION

"A" ABBREVIATION TABLE

"A" ABBREVIATION TABLE

ABBREVIATION	DEFINITION
A	Amperes
A/C	Air Conditioning
A/T	Automatic Transmission/Transaxle
AAP	Auxiliary Accelerator Pump
AB	Air Bleed
ABCV	Air Bleed Control Valve
ABDC	After Bottom Dead Center
ABRS	Air Bag Restraint System
ABS	Anti-Lock Brake System
AC	Alternating Current
ACC	A/C Clutch Compressor
ACCS	A/C Cycling Switch
ACCUM	Accumulator
ACCY	Accessory
ACT	Air Charge Temperature Sensor
ACV	Thermactor Air Control Valve
ADJ	Adjust or Adjustable
ADV	Advance
AFS	Airflow Sensor
AI	Air Injection
AIR or A.I.R.	Air Injection Reactor
AIS	Air Injection System
ALCL	Assembly Line Communications Link
ALDL	Assembly Line Diagnostic Link
ARC	Automatic Ride Control
ASCD	Automatic Speed Control Device
ASCS	Air Suction Control Solenoid
ASD	Auto Shutdown
ASDM	Air Bag System Diagnostic Module
ASV	Air Suction Valve
ATC	Automatic Temperature Control
ATDC	After Top Dead Center
ATF	Automatic Transmission Fluid
ATS	Air Temperature Sensor
AXOD	Automatic Transaxle Overdrive

Abs.	Absolute
Accy.	Accessory
Alt.	Alternator or Altitude
Amp.	Ampere
Assy.	Assembly
Auto.	Automatic
Aux.	Auxiliary
Avg.	Average

"B" ABBREVIATION TABLE

"B" ABBREVIATION TABLE

ABBREVIATION	DEFINITION
B/P	Backpressure
BAC	By-Pass Air Control
BAP	Barometric Absolute Pressure Sensor
BARO	Barometric
BBDC	Before Bottom Dead Center
BCM	Body Control Module
BDC	Bottom Dead Center
BHP	Brake Horsepower
BLK	Black
BLU	Blue
BMAP	Barometric & Manifold Absolute Pressure Sensor
BOO	Brake On-Off Switch
BP	Barometric Pressure sensor
BPS	Barometric Pressure Sensor
BPT	Backpressure Transducer
BRN	Brown
BTDC	Before Top Dead Center
BTU	British Thermal Unit
BVSV	Bimetallic Vacuum Switching Valve
Baro.	Barometric
Batt.	Battery
Bbl.	Barrel (Example: 4-Bbl.)
Blst.	Ballast
Blwr.	Blower
Brkr.	Breaker

"C" ABBREVIATION TABLE

"C" ABBREVIATION TABLE

ABBRE

ABBREVIATION	DEFINITION
°C	Celsius (Degrees)
C(3) I	Computer Controlled Coil Ignition
C(4)	Computer Controlled Catalytic Converter
CANP	Canister Purge solenoid
CARB	California Air Resources Board
CAT	Catalytic Converter
CB	Circuit Breaker
CBD	Closed Bowl Distributor
CBVV	Carburetor Bowl Vent Valve
cc	Cubic Centimeter
CCC	Computer Command Control
CCD	Computer Controlled Dwell
CCM	Central Control Module
CCO	Converter Clutch Override
CCOT	Cycling Clutch Orifice Tube
CCW	Counterclockwise
CDI	Capacitor Discharge Ignition
CEC	Computerized Engine Control
CFI	Central Fuel Injection
CID	Cubic Inch Displacement
CID	Cylinder Identification sensor
CIS	Continuous Injection System
CIS-E	Continuous Injection System-Electronic
CKT	Circuit
CLR	Clear
CNG	Compressed Natural Gas
CO	Carbon Monoxide
CO2	Carbon Dioxide
CONV	Convertible
CP	Canister Purge
CPA	Connector Position Assurance
CPS	Crank Position Sensor
CTS	Coolant Temperature Sensor
CV	Check Valve or Constant Velocity
CVC	Constant Vacuum Control
CW	Clockwise
CYL or Cyl.	Cylinder
Calif.	California
Carb.	Carburetor
Chrg.	Charging
Circ.	Circuit
Cntrl.	Control
Comp.	Compressor or Compartment
Conn.	Connector
Cont.	Continued
Conv.	Convertible or Converter

Cu. In.	Cubic Inch
Cyl.	Cylinder

"D" ABBREVIATION TABLE

"D" ABBREVIATION TABLE

ABBREVIATION	DEFINITION
"D"	Drive
DBC	Dual Bed Catalyst
DC	Direct Current or Discharge
DDD	Dual Diaphragm Distributor
DERM	Diagnostic Energy Reserve Module
DFI	Digital Fuel Injection
DIC	Driver Information Center
DIS	Direct Ignition System
DIS	Distributorless Ignition System
DIST	Distribution
DISTR	Distributor
DK BLU	Dark Blue
DK GRN	Dark Green
DME	Digital Motor Electronics (Motronic System)
DOHC	Double Overhead Cam
DOT	Department of Transportation
DP	Dashpot
DRB-II	Diagnostic Readout Box
DVOM	Digital Volt/Ohm Meter (see VOM)
Def.	Defogger or Defroster
Def.	Defrost
Defog.	Defogger
Diag.	Diagnostic
Dist.	Distributor or Distribution
Dr.	Door

"E" ABBREVIATION TABLE

"E" ABBREVIATION TABLE

ABBREVIATION	DEFINITION
EAC	Electric Assist Choke
EACV	Electric Air Control Valve
EBCM	Electronic Brake Control Module
ECA	Electronic Control Assembly

ECAT	Electronically Controlled Automatic Transaxle
ECM	Electronic Control Module
ECT	Engine Coolant Temperature Sensor
ECU	Electronic Control Unit or Engine Control Unit
EDF	Electric Drive Fan relay assembly
EDIS	Electronic Distributorless Ignition System
EEC	Electronic Engine Control
EECS	Evaporative Emission Control System
EEPROM	Electronically Erasable PROM
EFE	Early Fuel Evaporation
EFI	Electronic Fuel Injection
EGO	Exhaust Gas Oxygen sensor (see HEGO)
EGR	Exhaust Gas Recirculation system
EGRC	EGR Control solenoid or system
EGRV	EGR Vent solenoid or system
EMR	Emission Maintenance Reminder Module
ESA	Electronic Spark Advance
ESC	Electronic Spark Control
EST	Electronic Spark Timing
ETR	Emergency Tensioning Retractor
EVAP	Fuel Evaporative System
EVIC	Electronic Vehicle Information Center
EVO	Electronic Variable Orifice
EVP	EGR Valve Position Sensor
EVR	EGR Valve Regulator
EVRV	Electronic Vacuum Regulator Valve
Elect.	Electronic
Eng.	Engine
Evap.	Evaporative
Exc.	Except

"F" ABBREVIATION TABLE

"F" ABBREVIATION TABLE

ABBREVIATION	DEFINITION
o F	Fahrenheit (Degrees)
F/B	Fuse Block
FBC	Feedback Carburetor
FI	Fuel Injector or Fuel Injection
FICD	Fast Idle Control Device
FIPL	Fuel Injector Pump Lever
FP	Fuel Pump
FPM	Fuel Pump Monitor
FPR-VSV	Fuel Pressure Regulator Vacuum Switching Valve

FWD	Front Wheel Drive
Fed.	Federal
Ft. Lbs.	Foot Pounds

"G" ABBREVIATION TABLE

"G" ABBREVIATION TABLE

ABBREVIATION	DEFINITION
g	grams
GND or GRND	Ground
GRN	Green
GRY	Gray
Ga.	Gauge
Gals.	gallons
Gov.	Governor

"H" ABBREVIATION TABLE

"H" ABBREVIATION TABLE

ABBREVIATION	DEFINITION
H/D	Heavy Duty
HAC	High Altitude Compensation
HC	Hydrocarbons
HEDF	High Speed Electro Drive Fan relay or circuit
HEGO	Heated Exhaust Gas Oxygen Sensor
HEGOG	HEGO Ground circuit
HEI	High Energy Ignition
HLDT	Headlight
HO	High Output
HP	High Performance
HSC	High Swirl Combustion
HSO	High Specific Output
HTR	Heater
HVAC	Heating
Headlt.	Headlight
Hg	Mercury
Hgt.	Height
Htr.	Heater
Hz	Hertz (Cycles Per Second)

"I" ABBREVIATION TABLE

"I" ABBREVIATION TABLE

ABBREVIATION	DEFINITION
I.D.	Inside Diameter
IAC	Idle Air Control
IACV	Idle Air Control Valve
IC	Integrated Circuit
ID	Identification
IDM	Ignition Diagnostic Monitor
IGN	Ignition system or circuit
ILC	Idle Load Compensator
In. Hg	Inches of Mercury
INCH Lbs.	Inch Pounds
INFL REST	Inflatable Restraint
INJ	Injector or Injection
IP	Instrument Panel
IPC	Instrument Panel Cluster
ISA	Idle Speed Actuator
ISC	Idle Speed Control
ISS	Idle Stop Solenoid
ITS	Idle Tracking Switch
IVSV	Idle Vacuum Switching Valve
Ign.	Ignition
In.	Inches
Inj.	Injector

"J" ABBREVIATION TABLE

"J" ABBREVIATION TABLE

ABBREVIATION	DEFINITION
J/B	Junction Block

"K" ABBREVIATION TABLE

"K" ABBREVIATION TABLE

ABBREVIATION	DEFINITION
k/ohms	1000 ohms (kilo as in k/ohms)
kg	Kilograms (weight)

kg/cmy	Kilograms Per Square Centimeter
KAM	Keep Alive Memory
KAPWR	Keep Alive Power
KM/H	Kilometers Per Hour
KOEO	Key On Engine Off
KOER	Key On Engine Running
KS	Knock Sensor

"L" ABBREVIATION TABLE

"L" ABBREVIATION TABLE

ABBREVIATION	DEFINITION
L	Liter(s)
L/D	Light Duty
LCD	Liquid Crystal Display
LED	Light Emitting Diode
LH	Left Hand
LOS	Limited Operation Strategy
LT BLU	Light Blue
LT GRN	Light Green
LUS	Lock-Up Solenoid
Lbs.	Pounds
Lt(s).	Light(s)
Lugg.	Luggage

"M" ABBREVIATION TABLE

"M" ABBREVIATION TABLE

ABBREVIATION	DEFINITION
mA	Milliamps
mV	Millivolts
mfd.	Microfarads
mm	Millimeters
M/T	Manual Transaxle or Transmission
MA PFI	Mass Air Sequential Port Fuel Injection system
MA or MAF	Mass Airflow
MAF	Mass Air Flow sensor
MAFS	Mass Airflow Sensor
MAP	Manifold Absolute Pressure sensor
MAT	Manifold Air Temperature
MCU	Microprocessor Control Unit

?MCV	?Mixture Control Valve
?MEM-CAL	?Memory Calibration Chip
?MFI	?Multiport Fuel Injection
?MIL	?Malfunction Indicator Light
?MLP	?Manual Lever Position
?MPFI	?Multi Point Fuel Injection
?MPH	?Miles Per Hour
?MPI	?Multi-Point (Fuel) Injection
?Man.	?Manual
?Mech.	?Mechanical
?Mem.	?Memory
?Mtr.	?Motor

"N" ABBREVIATION TABLE

"N" ABBREVIATION TABLE

?ABBREVIATION	?DEFINITION
?N.m	?Newton-Meter
?NA	?Not Available
?NDS	?Neutral Drive Switch
?NGS	?Neutral Gear Switch
?NOx	?Oxides of Nitrogen
?NPS	?Neutral Pressure Switch
?No.	?Number
?Nos.	?Numbers

"O" ABBREVIATION TABLE

"O" ABBREVIATION TABLE

?ABBREVIATION	?DEFINITION
?O	?Oxygen
?O.D.	?Outside Diameter
?O/S	?Oversize
?O2	?Oxygen
?OC	?Oxidation Catalyst
?OCC	?Output Circuit Check
?OD	?Overdrive
?ODO	?Odometer
?OHC	?Overhead Camshaft
?ORG	?Orange
?OSC	?Output State Check

?Opt.	?Option or Optional	?
?oz.	?Ounce	?
?ozs.	?Ounces	?

"P" ABBREVIATION TABLE

"P" ABBREVIATION TABLE

?ABBREVIATION	?DEFINITION	?
?"P"	?Park	?
?P/C	?Printed Circuit	?
?P/N	?Park/Neutral	?
?P/S	?Power Steering	?
?PAV	?Pulse Air Valve	?
?PC-SOL	?Purge Control Solenoid	?
?PCM	?Powertrain Control Module	?
?PCS	?Purge Control Solenoid	?
?PCSDM	?Passenger Compartment Sensor/Diagnostic Module	?
?PCV	?Positive Crankcase Ventilation	?
?PFE	?Pressure Feedback EGR sensor or circuit	?
?PFI	?Port Fuel Injection (see MA SEFI)	?
?PGM-CARB	?Programmed Carburetor	?
?PGM-FI	?Programmed Fuel Injection	?
?PIP	?Profile Ignition Pickup	?
?PNK	?Pink	?
?PPL	?Purple	?
?PRNDL	?Park Reverse Neutral Drive Low	?
?PROM	?Programmable Read-Only Memory	?
?psi	?Pounds Per Square Inch	?
?PSPS	?Power Steering Pressure Switch	?
?PTC	?Positive Temperature Coefficient	?
?PTO	?Power Take-Off	?
?PWR GND	?Power Ground circuit	?
?Pkg.	?Package	?
?Press.	?Pressure	?
?Prog.	?Programmed or Programmable	?
?Pts.	?Pints	?
?Pwr.	?Power	?

"Q" ABBREVIATION TABLE

"Q" ABBREVIATION TABLE

?ABBREVIATION	?DEFINITION	?ABBRE

ABBREVIATION	DEFINITION
Qts.	Quarts

"R" ABBREVIATION TABLE

"R" ABBREVIATION TABLE

ABBREVIATION	DEFINITION
RABS	Rear Anti-Lock Brake System
RAC	Remote Accessory Control
RAM	Random Access Memory
RAP	Retained Accessory Power
RECIRC	Recirculation
RED	Red
RH	Right Hand
ROM	Read Only Memory
RPM	Revolutions Per Minute
RVB	Rear Vacuum Break
RWAL	Rear Wheel Anti-Lock Brake
RWD	Rear Wheel Drive
Recirc.	Recirculate or Recirculation
Reg.	Regulator
Rly.	Relay

"S" ABBREVIATION TABLE

"S" ABBREVIATION TABLE

ABBREVIATION	DEFINITION
SAW	Spark Angle Word
SBC	Single Bed Converter
SBEC	Single Board Engine Controller
SC	Super Charged
SCC	Spark Control Computer
SCS	Air Suction Control Solenoid
SDM	Supplemental Restraint System Diagnostic Module
SDU	SRS Diagnostic Unit
SEN	Sensor
SES	Service Engine Soon
SFI	Sequential (Port) Fuel Injection
SIG RTN	Signal Return circuit
SIL	Shift Indicator Light
SIR	Supplemental Inflatable Restraint

SMEC	Single Module Engine Controller
SOHC	Single Overhead Cam
SOL or Sol.	Solenoid
SPFI	Sequential Port Fuel Injection
SPK	Spark Control
SPOUT	Spark Output Signal
SRS	Supplemental Restraint System (Air Bag)
SS 3/4-4/3	Shift Solenoid circuit
SSI	Solid State Ignition
STAR	Self-Test Automatic Readout
STI	Self Test Input circuit
STO	Self-Test Output
SUB-O2	Sub Oxygen Sensor
Sen. or Sens.	Sensor
Sol.	Solenoid
Sprchg.	Supercharger
Strg.	Steering
Susp.	Suspension
Sw.	Switch
Sys.	System

"T" ABBREVIATION TABLE

"T" ABBREVIATION TABLE

ABBREVIATION	DEFINITION
T.V.	Throttle Valve
TAB	Thermactor Air By-Pass
TAC	Thermostatic Air Cleaner
TAD	Thermactor Air Diverter
TAN	Tan
TBI	Throttle Body Injection
TCC	Torque Converter Clutch
TCCS	Toyota Computer Control System
TDC	Top Dead Center
TDCL	Total Diagnostic Communication Link
TFI	Thick Film Ignition system
TGS	Top Gear Switch (cancels SIL in top gear)
THERMAC	Thermostatic Air Cleaner
THS	Transmission Hydraulic Switch
TP/TPS	Throttle Position Sensor
TPI	Tuned Port Injection
TPS	Throttle Position Sensor/Switch
TS	Temperature Sensor
TSB	Technical Service Bulletin

TTS	Transmission Temperature Switch
TV	Thermovalve
TWC	Three-Way Catalyst
Temp.	Temperature
Trans.	Transaxle/Transmission

"V" ABBREVIATION TABLE

"V" ABBREVIATION TABLE

ABBREVIATION	DEFINITION
V	Valve
VAF	Vane Air Flow sensor or circuit
VAPS	Variable Assist Power Steering
VAT	Vane Air Temperature
VATS	Vehicle Anti-Theft System
VBATT	Vehicle Battery Voltage
VCC	Viscous Converter Clutch
VIN	Vehicle Identification Number
VIO	Violet
VLR	Volt Loop Reserve
VM	Vacuum Modulator
VM	Vane Meter
VOM	Volt-Ohmmeter (Analog)
VPWR	Vehicle Power supply voltage (10-14 volts)
VREF	Voltage Reference (ECA supplied reference voltage
VRV	Vacuum Regulator Valve
VSC	Vehicle Speed Control sensor or signal
VSS	Vehicle Speed Sensor or signal
VSV	Vacuum Switching Valve
Vac.	Vacuum
Volt.	Voltage

"W" ABBREVIATION TABLE

"W" ABBREVIATION TABLE

ABBREVIATION	DEFINITION
W/	With
W/O	Without
WAC	WOT A/C Cut-off switch or circuit
WAC	Wide Open Throttle A/C Switch
WHT	White

?**WOT** ?**Wide Open Throttle** ?
?**YEL** ?**Yellow** ?
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAU

END OF ARTICLE

A/C COMPRESSOR OIL CHECKING
Article Text

1993 Honda Prelude
For Cadi Centre Nsk CA 95051

Sunday, July 08, 2001 11:17AM

ARTICLE BEGINNING

1993 GENERAL SERVICING
Compressor Refrigerant Oil Checking

*** PLEASE READ THIS FIRST ***

NOTE: For compressor applications, see COMPRESSOR APPLICATIONS TABLE below. DO NOT exceed A/C system refrigerant oil capacity, when servicing system. See REFRIGERANT OIL & REFRIGERANT SPECIFICATIONS TABLE.

COMPRESSOR APPLICATION

NOTE: Due to late changes, always refer to underhood A/C specification label in engine compartment or A/C compressor label while servicing A/C system. If A/C Specification label and specifications in this article differ, always use label specifications.

COMPRESSOR APPLICATION TABLE

Application	Compressor
Acura	Nippondenso 10-Cyl.
Audi	
90	Zexel 6-Cyl.
100	Zexel 6-Cyl.
BMW	Nippondenso Or Seiko-Seiki
Chrysler Motors/Eagle	
Colt & Summit	Sanden FX105V Scroll
Colt Vista & Summit Wagon	Nippondenso 10PA15 10-Cyl.
Stealth	Sanden FX105VS Scroll
Ram-50	Sanden FX80 Scroll
Ford Motor Co.	
Capri	Nippondenso 10-Cyl.
Festiva	Nippondenso 6-Cyl.
General Motors & Geo	
LeMans	Harrison V5 5-Cyl.
Metro & Tracker	Nippondenso 10-Cyl.
Prizm	Nippondenso 10PA15 10-Cyl.
Storm	Diesel Kiki KC-50 Rotary Vane
Honda	
Accord	Nippondenso 10-Cyl. Or Hadsys RC-17S 7-Cyl.
Civic	Sanden Scroll

Civic Del Sol	Sanden Scroll
Prelude	Sanden Scroll
Hyundai	
Elantra	Sanden TRF-090 Scroll
Excel	Sanden SD-709 7-Cyl.
Scoupe	Nippondenso 10PA15C 10-Cyl.
Sonata	Ford FX-15 10-Cyl.
Infiniti	
G20	Atsugi NVR 140S Rotary Vane
J30	Calsonic V6 6-Cyl.
Q45	Calsonic V5 5-Cyl.
Isuzu (R-12)	
Amigo	Diesel Kiki DKS-13CH 6-Cyl.
Pickup	
4-Cylinder	Diesel Kiki DKS-13CH 6-Cyl.
V6	Harrison R4 4-Cyl. Radial
Stylus	Diesel Kiki DKV-14D Rotary Vane
Rodeo	
4-Cylinder	Diesel Kiki DKS-17CH 6-Cyl.
V6	Diesel Kiki DKV-14D Rotary Vane
Trooper	Diesel Kiki DKV-14D Rotary Vane
Isuzu (R-134a Option) (1)	
Amigo, Pickup, Rodeo & Trooper	
2.3L & 2.6L Engine	Zexel R-134a 6-Cyl.
3.1L Engine	Harrison R-134a R-4 4-Cyl. Radial
3.2L Engine	Zexel R-134a Rotary Vane
Jaguar	
XJS	Sanden SD-709 7-Cyl.
XJ6	Sanden SD-7H15 7-Cyl.
Lexus	Nippondenso 10PA20 10-Cyl.
Mazda	
B2200 & B2600i	Sanden 5-Cyl.
Miata	Nippondenso TV12 Rotary Vane
MPV	Nippondenso 10-Cyl.
MX-6 & 626	Panasonic Rotary Vane
Navajo	Ford FX-15 10-Cyl.
MX-3, Protege & 323	Panasonic Rotary Vane
929	Panasonic Rotary Vane
RX7	Nippondenso TV12 Rotary Vane
Mercedes-Benz	
190E	Nippondenso 10PA15 10-Cyl.
300D/E, 400E & 500E	Nippondenso 10PA17 10-Cyl.
300SE/SD, 400SE & 500SEL	Nippondenso 10PA20 10-Cyl.
Mitsubishi	
Diamante	
R-12	Sanden FX105VS Scroll
R-134a	Sanden MSC105
Diamante Wagon	Nippondenso 10PA17C 10-Cyl

Galant & Mirage	Sanden FX105V Scroll
Eclipse	Nippondenso 10PA17 10-Cyl.
Expo/Expo LRV	Nippondenso 10PA17C 10-Cyl.
Pickup	Sanden FX80 Scroll
Montero	Nippondenso 10PA15 10-Cyl.
Precis	Sanden SD-709 7-Cyl.
3000GT	
R-12	Sanden FX105VS Scroll
R-134a	Sanden MSC105
Nissan	
Altima	Zexel DKV-14C Rotary Vane
Maxima & 300ZX	Zexel DKS-16H 6-Cyl.
Quest	Ford FX-15 10-Cyl.
Pathfinder & Pickup	Zexel DKV-14C Rotary Vane
Sentra & NX	Zexel DKV-14D Rotary Vane
240SX	Calsonic V5 5-Cyl.
Porsche	
911 America Roadster,	
RS America & Carrera 2/4	Nippondenso 10-Cyl.
Saab	
900	Sanden 5-Cyl.
9000	Seiko-Seiki SS121 DN1 Rotary Vane
Subaru	
Impreza	Zexel Rotary Vane
Legacy	Zexel DKS-15CH 5-Cyl.
	Calsonic V5-15C 5-Cyl.
Loyale	Hitachi MJS170-5DP 6-Cyl.
SVX	Calsonic V5 5-Cyl.
Suzuki	Nippondenso 10-Cyl.
Toyota	
Camry	Nippondenso 10PA17C 10-Cyl.
Celica	
4A-FE Engine	Nippondenso 10PA15C 10-Cyl.
3S-GTE & 5S-FE Engine	Nippondenso 10PA17C/VC 10-Cyl.
Corolla	Nippondenso 10PA15 10-Cyl.
Land Cruiser	Nippondenso 10PA17 10-Cyl.
MR2	Nippondenso 10P13C 10-Cyl.
Paseo	Matsushita Rotary Vane
Pickup & 4Runner	Nippondenso 10-Cyl.
Previa	Nippondenso 10PA17E 10-Cyl.
Supra	Nippondenso 10-Cyl.
Tercel	Matsushita TV10B Rotary Vane
T100	Nippondenso 10PA15 10-Cyl.
Volkswagen	
Cabriolet	Sanden SD-508 5-Cyl.
	Or SD-709 7-Cyl.
Corrado SLC	Sanden SD-709 7-Cyl.
EuroVan	Sanden SD7H15 7-Cyl

Golf, GTI & Jetta	Sanden SD7-V16/SD7-V16L 7-Cyl.
Fox	Nippondenso 6-Cyl.
Passat	Sanden SD7-V16/SD7-V16L 7-Cyl.
Volvo	
240	Seiko-Seiki SS-121DS5
850	Zexel DKS-15CH 6-Cyl.
940 & 960	Sanden SD-510 5-Cyl., Sanden SD-709 7-Cyl. Or Seiko-Seiki SS-121DS5

(1) - Standard equipment on some models built after 5/1/93.

REFRIGERANT OIL & REFRIGERANT CAPACITY

REFRIGERANT OIL & REFRIGERANT CAPACITY (ACURA THROUGH INFINITI)

Application	(1) Oil Ounces	Refrigerant Ounces
Acura		
Integra	(2) 2.0-3.4	32-34
Legend		
Sedan	(2) (3) 4.7	(4) 24.7-26.5
Coupe	(3) 4.7	24.7-26.5
Vigor	(2) 4.7-4.9	26.5-28.0
Audi		
90	7.8-9.2	(5) 23.0-24.8
100	7.8-9.2	(5) 21.0-22.8
BMW		
318 & 325 Series	3.4-4.8	(6) 35-36
525i & 535i	4.7-6.1	(6) 53.0-55.5
740i & 740iL	4.7-6.1	(6) 53.0-55.5
Chrysler Motors/Eagle		
Colt & Summit	(2) 4.4-5.1	26-30
Colt Vista & Summit		
Wagon	(2) 2.0-3.4	30
Ram-50	(2) 4.4-5.1	30
Stealth	(2) 4.6-6.0	29
Ford Motor Co.		
Capri	2.4-3.0	23-27
Festiva	10	25
General Motors & Geo		
LeMans	8.0	35
Metro	2.7	18
Prizm & Prizm LSi	6.0	25
Storm	5.1	21

Tracker	2.7	21
Honda		
Accord		
Nippondenso	3.0-4.1	28-30
Hadsys	4.1-4.3	28-30
Civic	4.0-4.7	21-23
Civic Del Sol	4.0-4.7	21-23
Prelude	(7) 4.3-5.0	21-23
Hyundai		
Excel	8.1	30-32
Scoupe	2-3	28-32
Elantra	4.0	32
Sonata	6.9-7.7	30-32
Infiniti		
G20	6.8	24-29
J30	8.5	(8) 24-26
Q45	9.7	38-42

(1) - Total system capacity, unless otherwise noted.
(2) - Compressor refrigerant oil capacity.
(3) - Capacity revised by manufacturer in Acura Service News bulletin number ASN 0793-02.
(4) - Use R-134a refrigerant and ND-Oil 8 (Part No. 38899-PR7-003).
(5) - Use R-134a refrigerant and Polyalkylene Glycol (PAG) oil.
(6) - Use R-134a and Poyalkylene Glycol Oil (Part No. 81-22-9-407-724).
(7) - Use R-134a refrigerant and PAG Refrigerant Oil (Part No. 38899-P13-003).
(8) - Use R-134a refrigerant and Type "S" Oil (Part No. KLH00-PAGS0).

REFRIGERANT OIL & REFRIGERANT CAPACITY (ISUZU THROUGH MERCEDES)

Application	(1) Oil Ounces	Refrigerant Ounces
Isuzu (R-12)		
Amigo	5.0	26
Pickup		
2.3L & 2.6L Engine	5.0	26
3.1L Engine	6.0	26
Rodeo		
2.6L Engine	5.0	26
3.2L Engine	5.0	26
Stylus	5.0	21
Trooper	5.0	30

Isuzu (R-134a Option) (3)			
Amigo & Pickup			
2.3L & 2.6L Engine	**5.0**		**23**
3.1L Engine	**7.5-8.5**		**23**
Rodeo	**5.0**		**23**
Trooper	**5.0**		**26**
Jaguar			
XJS	**(2) 4.6**		**40**
XJ6	**(2) 4.5**	**(4)**	**40**
Lexus			
ES300	**(2) 3.5**		**32-35**
GS300	**(2) 4.0**	**(5)**	**28-32**
LS400	**(2) 2.8-3.5**	**(5)**	**32**
SC300 & SC400	**(2) 4.0**		**32-35**
Mazda			
B2200 & B2600i	**(2) 4.5**		**28**
Miata	**(2) 2.7-3.3**		**28**
MPV			
Dual Unit	**(2) 2.7-3.3**		**51**
Single Unit	**(2) 2.7-3.3**		**37**
MX-3	**(2) 5.0**		**28**
MX-6 & 626	**(2) 4.3**		**26**
Protege & 323	**(2) 3.9-4.6**		**28**
Navajo	**7.0**		**28-29**
929	**3.6**		**28**
RX7	**3.4-4.7**		**21**
Mercedes-Benz			
190E	**(2) 4.0**		**36**
300D/E, 400E & 500E	**(2) 5.4**	**(6)**	**36**
300SE/SD, 400SE & 500SEL	**(2) 5.4**	**(7)**	**43**

(1) - Total system capacity, unless otherwise noted.
(2) - Compressor refrigerant oil capacity.
(3) - Standard equipment on some models built after 5/1/93. Use R-134a Swash Plate Compressor Oil (Part No. 2-90188-300-0)on 2.3L and 2.6L engine. Use R-134a R-4 Compressor Oil (Part No. 2-90222-320-0) on 3.1L engine. Use R-134a Rotary Vane Compressor Oil (Part No. 2-90188-301-0) on 3.2L engine.
(4) - Use R-134a refrigerant and PAG SP20 refrigerant oil.
(5) - Use R-134a refrigerant and ND-Oil 8 (Part No. 38899-PR7-003).
(6) - Use R-134a refrigerant and Densooil 8 (Part No. A 001 989 08 03).
(7) - Use R-134a refrigerant and Densooil 8 (Part No. A 001 989 08 03).Use 50 ounces if equipped with rear passenger compartment A/C-heater system.

REFRIGERANT OIL & REFRIGERANT CAPACITY (MITSUBISHI THRU SUBARU)

Application	(1) Oil Ounces	Refrigerant Ounces
Mitsubishi		
Diamante		
R-12	5.4-6.0	34-38
R-134a	(3) 5.7-6.4	26-28
Diamante Wagon	5.4	28
Eclipse	(2) 2.0-3.4	33
Expo/Expo LRV		
1.8L	(2) 3.4-4.0	30
2.4L	(2) 2.0-3.4	30
Galant	(2) 5.0-5.7	33
Mirage	(2) 4.4-5.1	26-30
Pickup	(2) 4.4-5.1	30
Montero	(2) 2.0-3.4	28
Precis	8.1	30-32
3000GT		
R-12	4.7-6.0	29
R-134a	(3) 4.7-6.0	26-28
Nissan		
Altima	(4) 6.8	25-28
Maxima	(5) 6.8	30-33
Pathfinder & Pickup	(4) 6.8	26-30
Quest		
Front A/C	7.0	36
Front & Rear A/C	10	56
Sentra & NX	6.8	23-26
240SX	8.0	29-32
300ZX	6.8	26-30
Porsche		
911 America Roadster, RS America & Carrera 2/4	4.6	(6) 29.5
Saab		
900	5.9	34-36
9000	6.6	(3) 33-34
Subaru		
Impreza	6.1	23-26
Legacy		
Zexel	(2) 2.4	29-32
Calsonic	(2) 3.2	29-32
Loyale	(2) 2.4	26-28
SVX	(2) 2.4	(7) 22-23

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