

Product: 1999-2003 Acura 3.2TL Car Service Repair Workshop Manual
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Service Manual 1999-2003 3.2 TL

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<https://www.arepairmanual.com/downloads/1999-2003-acura-3-2tl-car-service-repair-workshop-manual/>



General Information

| | |
|--|-------------|
| Chassis and Paint Codes- 1999 Model | 1-2 |
| Chassis and Paint Codes- 2000 Model | 1-3 |
| Chassis and Paint Codes- 2001 Model | 1-4 |
| Chassis and Paint Codes- 2002 Model | 1-5 |
| Chassis and Paint Codes- 2003 Model | 1-6 |
| Identification Number Locations | 1-7 |
| Warning/Caution Label Locations | 1-8 |
| Under-hood Emission Control Label | 1-12 |
| Lift and Support Points | 1-14 |
| Towing | 1-15 |
| Parts Marking | 1-16 |
| Revised Component Terms | 1-17 |

General Information

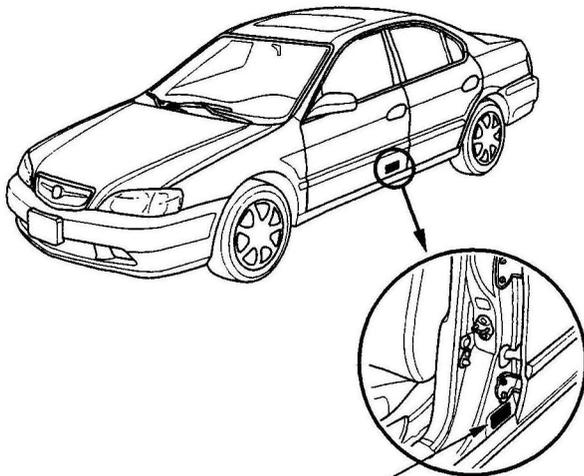
Chassis and Paint Codes - 1999 Model

Vehicle Identification Number

19U UA5 6 4 * X A 000001



- a. Manufacturer, Make and Type of Vehicle**
19U: HONDA OF AMERICA MFG., INC., U.S.A.
ACURA Passenger vehicle
- b. Line, Body and Engine Type**
UA5: ACURA 3.2TL/J32A1
- c. Body Type and Transmission Type**
6: 4-door Sedan/4-speed Automatic
- d. Vehicle Grade (Series)**
US model
4: Base Package
5: With Navigation System
Canada model
4: Base Package
- e. Check Digit**
- f. Model Year**
X: 1999
- g. Factory Code**
A: Marysville, Ohio Factory in U.S.A.
- h. Serial Number**
US model: 000001-
Canada model: 800001-

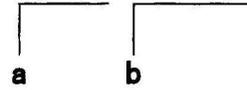


Vehicle Identification Number and Federal Motor Vehicle Safety Standard Certification.

Vehicle Identification Number and Canadian Motor Vehicle Safety Standard Certification.

Engine Number

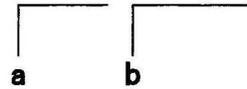
J32A1 - 1000001



- a. Engine Type**
J32A1: 3.2 l SOHC VTEC Sequential Multiport Fuel-injected engine
- b. Serial Number**

Transmission Number

B7VA - 6500001

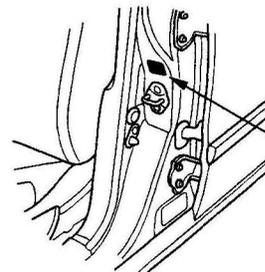


- a. Transmission Type**
B7VA: 4-speed Automatic
- b. Serial Number**

Paint Code

| Code | Color | US model | Canada model |
|---------|-----------------------|-----------------------|-----------------------|
| B-93P | Monterey Blue Pearl | <input type="radio"/> | <input type="radio"/> |
| G-87P | Dark Emerald Pearl | <input type="radio"/> | <input type="radio"/> |
| G-91M | Laguna Metallic | <input type="radio"/> | <input type="radio"/> |
| NH-578 | Taffeta White | <input type="radio"/> | <input type="radio"/> |
| NH-592 | Flamenco Black Pearl | <input type="radio"/> | <input type="radio"/> |
| NH-603P | White Diamond Pearl | <input type="radio"/> | <input type="radio"/> |
| NH-623M | Satin Silver Metallic | <input type="radio"/> | <input type="radio"/> |
| R-507P | Firepepper Pearl | <input type="radio"/> | <input type="radio"/> |
| YR-508M | Heather Mist Metallic | <input type="radio"/> | <input type="radio"/> |

: indicates applicable



COLOR LABEL
Example:

INT. COLOR
TYPE F
EXT. COLOR
YR-508M
A5 XS0K A

Paint Code



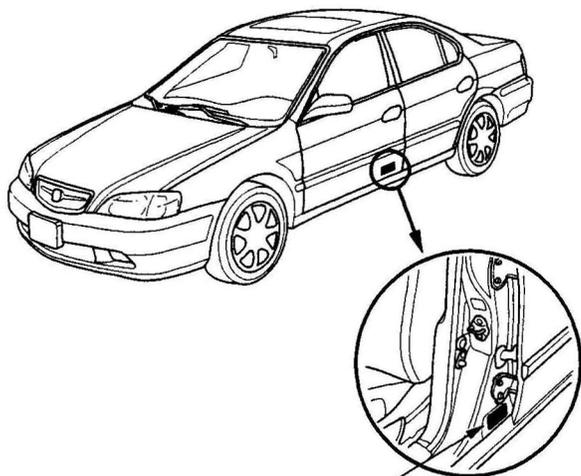
Chassis and Paint Codes - 2000 Model

Vehicle Identification Number

19U UA5 6 4 * Y A 000001



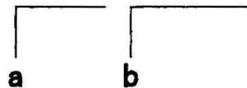
- a. **Manufacturer, Make and Type of Vehicle**
19U: HONDA OF AMERICA MFG., INC., U.S.A.
ACURA Passenger vehicle
- b. **Line, Body and Engine Type**
UA5: ACURA 3.2TL/J32A1
- c. **Body Type and Transmission Type**
6: 4-door Sedan/5-speed Automatic
- d. **Vehicle Grade (Series)**
US model
4: Base Package
5: With Navigation System
Canada model
4: Base Package
- e. **Check Digit**
- f. **Model Year**
Y: 2000
- g. **Factory Code**
A: Marysville, Ohio Factory in U.S.A.
- h. **Serial Number**
US model: 000001--
Canada model: 800001--



Vehicle Identification Number and Federal Motor Vehicle Safety Standard Certification.
Vehicle Identification Number and Canadian Motor Vehicle Safety Standard Certification.

Engine Number

J32A1 - 2000001



- a. **Engine Type**
J32A1: 3.2 l SOHC VTEC Sequential Multiport Fuel-injected engine
- b. **Serial Number**

Transmission Number

M7WA - 1000001

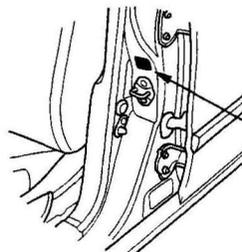


- a. **Transmission Type**
M7WA: 5-speed Automatic
- b. **Serial Number**

Paint Code

| Code | Color | US model | Canada model |
|---------|-----------------------|----------|--------------|
| B-92P | Nighthawk Black Pearl | ○ | ○ |
| B-93P | Monterey Blue Pearl | ○ | ○ |
| G-87P | Dark Emerald Pearl | ○ | ○ |
| G-91M | Laguna Metallic | ○ | ○ |
| NH-578 | Taffeta White | ○ | ○ |
| NH-603P | White Diamond Pearl | ○ | ○ |
| NH-623M | Satin Silver Metallic | ○ | ○ |
| R-507P | Firepepper Pearl | ○ | ○ |
| YR-524M | Naples Gold Metallic | ○ | ○ |

○: indicates applicable



COLOR LABEL
Example:

INT. COLOR
TYPE F
EXT. COLOR
YR-508M
A5 YS0K A

Paint Code

General Information

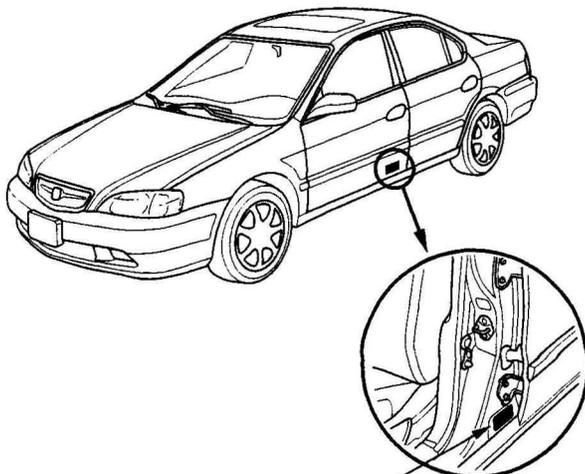
Chassis and Paint Codes - 2001 Model

Vehicle Identification Number

19U UA5 6 6 * 1 A 000001



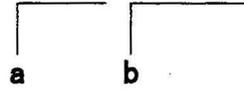
- a. Manufacturer, Make and Type of Vehicle**
19U: HONDA OF AMERICA MFG., INC., U.S.A.
ACURA Passenger vehicle
- b. Line, Body and Engine Type**
UA5: ACURA 3.2TL/J32A1
- c. Body Type and Transmission Type**
6: 4-door Sedan/5-speed Automatic
- d. Vehicle Grade (Series)**
US model
6: With Sunroof
7: With Navigation System
Canada model
6: With Sunroof
- e. Check Digit**
- f. Model Year**
1: 2001
- g. Factory Code**
A: Marysville, Ohio Factory in U.S.A.
- h. Serial Number**
US model: 000001 –
Canada model: 800001 –



Vehicle Identification Number and Federal Motor Vehicle Safety Standard Certification.
Vehicle Identification Number and Canadian Motor Vehicle Safety Standard Certification.

Engine Number

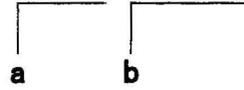
J32A1 - 3400001



- a. Engine Type**
J32A1: 3.2 & SOHC VTEC Sequential Multiport Fuel-injected engine
- b. Serial Number**

Transmission Number

B7WA - 8000001

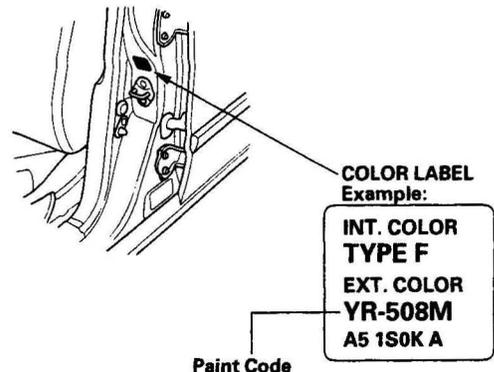


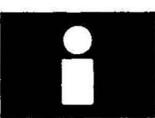
- a. Transmission Type**
B7WA: 5-speed Automatic
- b. Serial Number**

Paint Code

| Code | Color | US model | Canada model |
|---------|-----------------------|----------|--------------|
| B-92P | Nighthawk Black Pearl | ○ | ○ |
| B-93P | Monterey Blue Pearl | ○ | ○ |
| G-87P | Dark Emerald Pearl | ○ | ○ |
| G-91M | Laguna Metallic | ○ | ○ |
| NH-578 | Taffeta White | ○ | ○ |
| NH-603P | White Diamond Pearl | ○ | ○ |
| NH-623M | Satin Silver Metallic | ○ | ○ |
| R-507P | Firepepper Pearl | ○ | ○ |
| YR-524M | Naples Gold Metallic | ○ | ○ |

○: indicates applicable





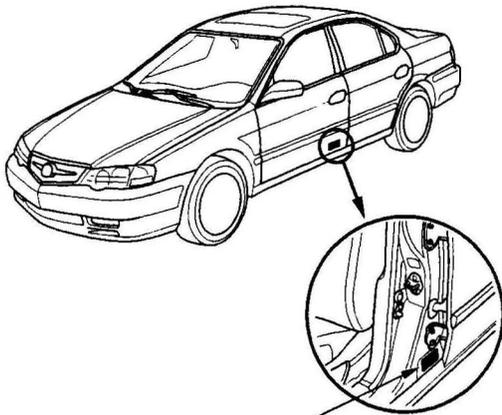
Chassis and Paint Codes - 2002 Model

Vehicle Identification Number

19U UA5 6 6 * 2 A 000001



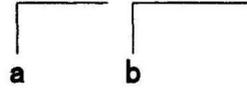
- a. Manufacturer, Make and Type of Vehicle**
19U: HONDA OF AMERICA MFG., INC., U.S.A.
ACURA Passenger vehicle
- b. Line, Body and Engine Type**
UA5: ACURA 3.2TL/J32A1, J32A2
- c. Body Type and Transmission Type**
6: 4-door Sedan/5-speed Automatic
- d. Vehicle Grade (Series)**
US model
6: Premium with sunroof
7: Premium with Navigation System
8: Type-S
9: Type-S with Navigation System
Canada model
6: Premium
8: Type-S
- e. Check Digit**
- f. Model Year**
2: 2002
- g. Factory Code**
A: Marysville, Ohio Factory in U.S.A.
- h. Serial Number**
US model: 000001—
Canada model: 800001—



Vehicle Identification Number and Federal Motor Vehicle Safety Standard Certification.
Vehicle Identification Number and Canadian Motor Vehicle Safety Standard Certification.

Engine Number

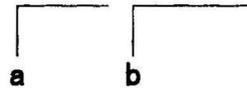
J32A1 - 4400001



- a. Engine Type**
J32A1: 3.2 l SOHC VTEC Sequential Multiport Fuel-injected, 225HP engine
J32A2: 3.2 l SOHC VTEC Sequential Multiport Fuel-injected, 260HP engine
- b. Serial Number**
J32A1: 4400001—
J32A2: 1300001—

Transmission Number

B7WA - 9000001

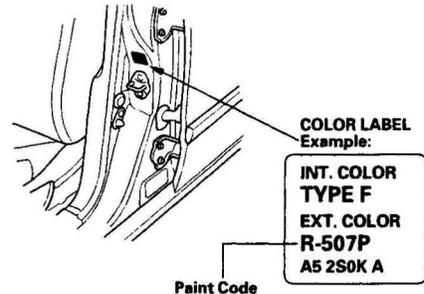


- a. Transmission Type**
B7WA: 5-speed Automatic
- b. Serial Number**

Paint Code

| Code | Color | US model | | Canada model | |
|---------|-----------------------|----------|--------|--------------|--------|
| | | Premium | Type-S | Premium | Type-S |
| B-92P | Nighthawk Black Pearl | ○ | ○ | ○ | ○ |
| B-96P | Eternal Blue Pearl | | | | ○ |
| B-504P | Aegean Blue Pearl | | ○ | | |
| G-87P | Dark Emerald Pearl | | ○ | | |
| G-508P | Noble Green Pearl | ○ | ○ | ○ | ○ |
| NH-603P | White Diamond Pearl | ○ | ○ | | ○ |
| NH-623M | Satin Silver Metallic | ○ | ○ | ○ | ○ |
| NH-643M | Anthracite Metallic | ○ | | ○ | |
| R-507P | Firepepper Pearl | ○ | | ○ | |
| YR-524M | Naples Gold Metallic | ○ | | ○ | ○ |

○: indicates applicable.



General Information

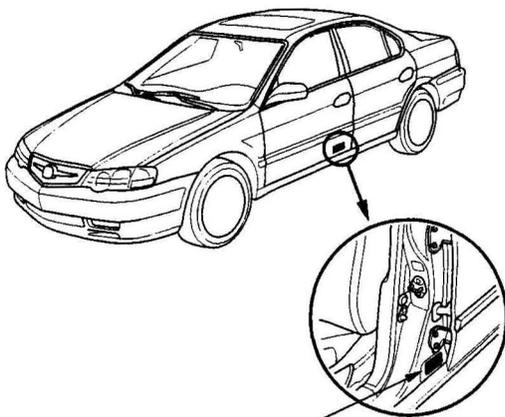
Chassis and Paint Codes - 2003 Model

Vehicle Identification Number

19U UA5 6 6 * 3 A 000001



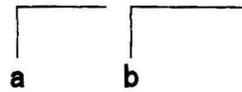
- a. Manufacturer, Make and Type of Vehicle**
19U: HONDA OF AMERICA MFG., INC., U.S.A.
ACURA Passenger vehicle
- b. Line, Body and Engine Type**
UA5: ACURA 3.2TL/J32A1, J32A2
- c. Body Type and Transmission Type**
6: 4-door Sedan/5-speed Automatic
- d. Vehicle Grade (Series)**
US model
6: Premium with sunroof
7: Premium with Navigation System
8: Type-S
9: Type-S with Navigation System
Canada model
6: Premium
8: Type-S
- e. Check Digit**
- f. Model Year**
3: 2003
- g. Factory Code**
A: Marysville, Ohio Factory in U.S.A.
- h. Serial Number**
US model: 000001 –
Canada model: 800001 –



Vehicle Identification Number and Federal Motor Vehicle Safety Standard Certification.
Vehicle Identification Number and Canadian Motor Vehicle Safety Standard Certification.

Engine Number

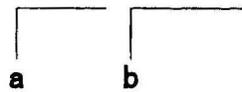
J32A1 - 5400001



- a. Engine Type**
J32A1: 3.2 l SOHC VTEC Sequential Multiport Fuel-injected, 225HP engine
J32A2: 3.2 l SOHC VTEC Sequential Multiport Fuel-injected, 260HP engine
- b. Serial Number**
J32A1: 5400001 –
J32A2: 2300001 –

Transmission Number

B7WA - 5000001

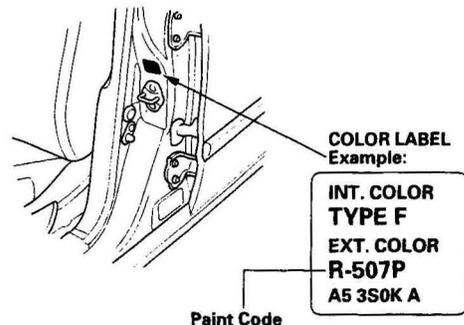


- a. Transmission Type**
B7WA: 5-speed Automatic
- b. Serial Number**

Paint Code

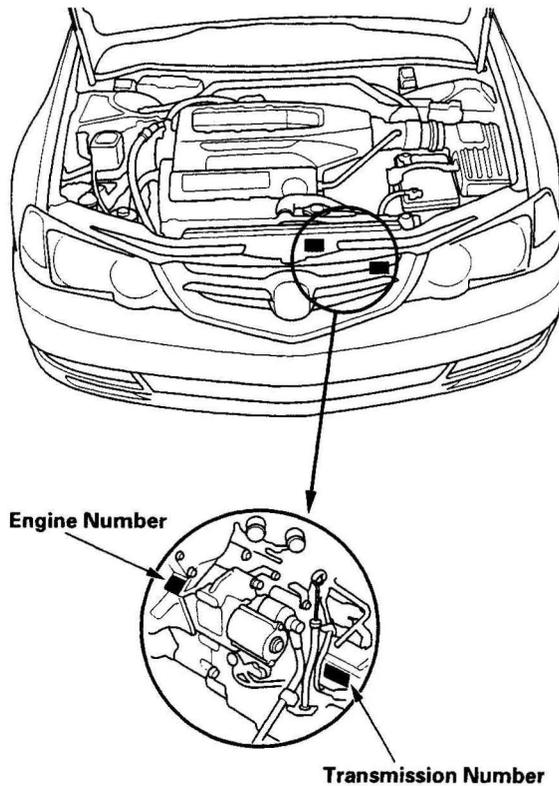
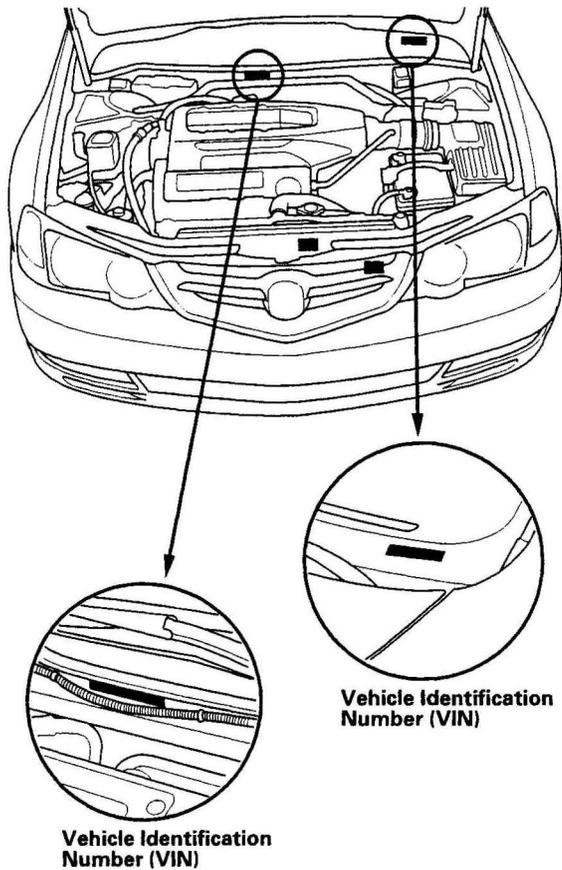
| Code | Color | US model | | Canada model | |
|---------|-----------------------|----------|--------|--------------|--------|
| | | Premium | Type-S | Premium | Type-S |
| B-92P | Nighthawk Black Pearl | ○ | ○ | ○ | ○ |
| B-96P | Eternal Blue Pearl | ○ | | | ○ |
| B-504P | Aegean Blue Pearl | | ○ | | |
| G-508P | Noble Green Pearl | | ○ | | |
| NH-603P | White Diamond Pearl | ○ | ○ | | ○ |
| NH-623M | Satin Silver Metallic | ○ | ○ | ○ | ○ |
| NH-643M | Anthracite Metallic | ○ | ○ | ○ | ○ |
| R-507P | Firepepper Pearl | ○ | | ○ | |
| YR-524M | Naples Gold Metallic | ○ | | ○ | ○ |

○: indicates applicable.



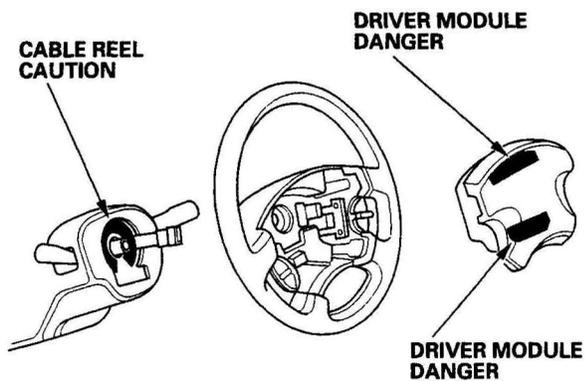
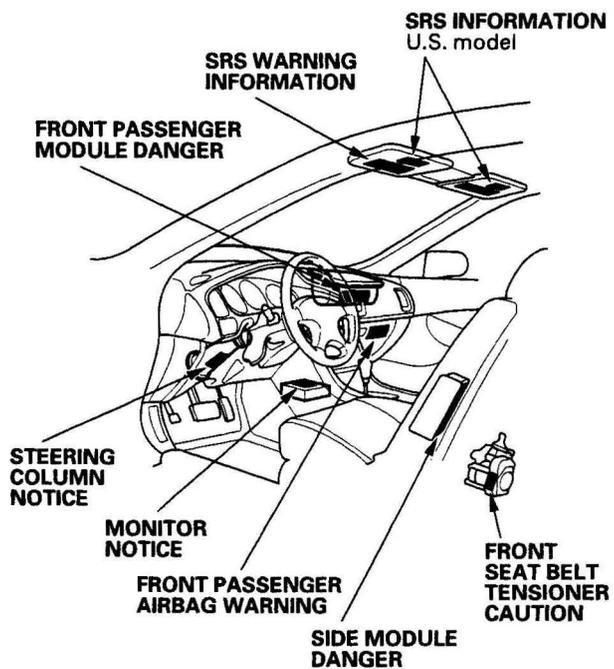


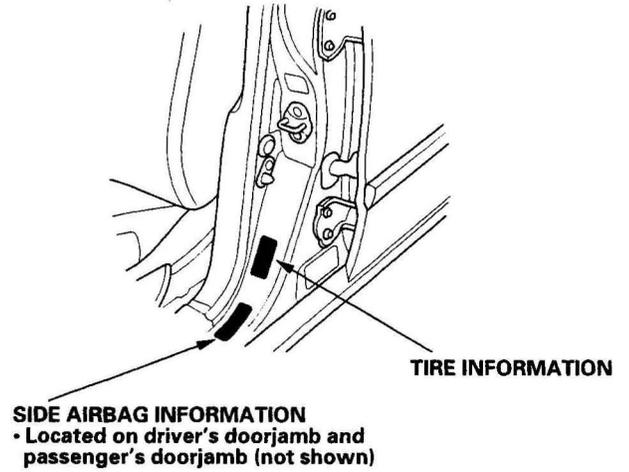
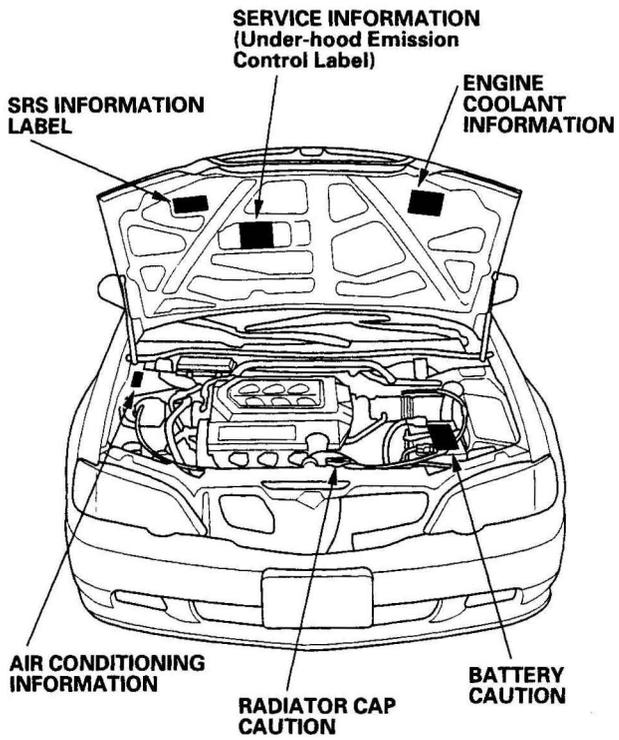
Identification Number Locations



General Information

Warning/Caution Label Locations



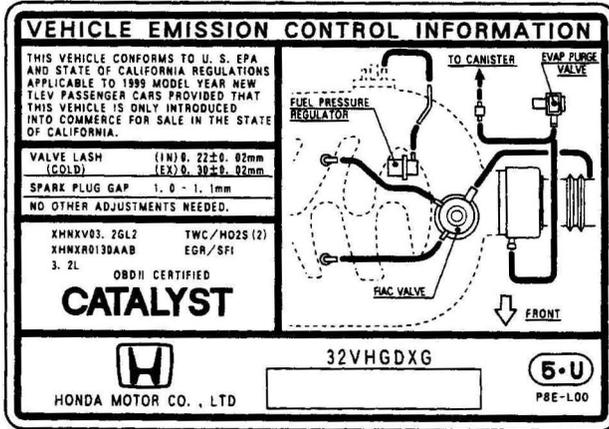


General Information

Under-hood Emission Control Label (1999 Model)

Emission Group Identification

Example:



FEDERAL

THIS VEHICLE CONFORMS TO U.S. EPA REGULATIONS APPLICABLE TO 1999 MODEL YEAR NEW MOTOR VEHICLES.

CALIFORNIA TLEV

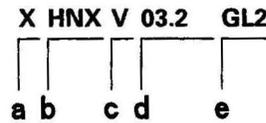
THIS VEHICLE CONFORMS TO CALIFORNIA REGULATIONS APPLICABLE TO 1999 MODEL YEAR NEW TLEV PASSENGER CARS AND TO U. S. EPA NLEV PROGRAM REGULATIONS APPLICABLE TO 1999 MODEL YEAR NEW TLEV PASSENGER CARS. THIS VEHICLE MAY ONLY BE INTRODUCED INTO COMMERCE FOR SALE IN CALIFORNIA, A STATE THAT HAS THE CALIFORNIA STANDARDS IN EFFECT TO WHICH THIS VEHICLE HAS BEEN CERTIFIED, A STATE THAT HAS OPTED INTO THE NLEV PROGRAM, OR A STATE CONTIGUOUS THERETO.

TIER 1

THIS VEHICLE CONFORMS TO U.S. EPA REGULATIONS APPLICABLE TO 1999 MODEL YEAR NEW PASSENGER CARS.

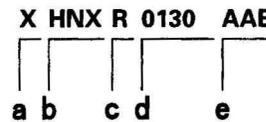
Engine and Evaporative Families:

Engine Family:



- a. Model Year
X: 1999
- b. Manufacturer Subcode
HNX: HONDA
- c. Family Type
V: LDV
- d. Displacement
- e. Sequence Characters
GF1: Federal and Tier 1
GL2: California TLEV

Evaporative Family:



- a. Model Year
X: 1999
- b. Manufacturer Subcode
HNX: HONDA
- c. Family Type
R: EVAP/ORVR
- d. Canister Work Capacity
- e. Sequence Characters



Under-hood Emission Control Label (2000 and 2001 Models)

Emission Group Identification

Example:

| VEHICLE EMISSION CONTROL INFORMATION | |
|--|--|
| THIS VEHICLE CONFORMS TO U.S. EPA NLEV REGULATIONS APPLICABLE TO 2000 MODEL YEAR NEW ULEV PASSENGER CARS AND CALIFORNIA REGULATIONS APPLICABLE TO 2000 MODEL YEAR NEW ULEV PASSENGER CARS. | |
| VALVE LASH (COLD) | (IN) 0.22 ± 0.02mm (EX) 0.30 ± 0.02mm |
| SPARK PLUG GAP | 1.0-1.1mm |
| NO OTHER ADJUSTMENTS NEEDED. | |
| YHNXV03.2GL4 | TWC/HO2S (2) |
| YHNXR0130AAA | EGR/SFI |
| 3.2L | OBD II CERTIFIED |
| CATALYST | |
| 32VHGJJG | |
| | |
| HONDA MOTOR CO., LTD. PBE-L01 | |

FEDERAL LEV

THIS VEHICLE CONFORMS TO U.S. EPA NLEV REGULATIONS APPLICABLE TO 2000, 2001 MODEL YEAR NEW LEV PASSENGER CARS.

CALIFORNIA ULEV

THIS VEHICLE CONFORMS TO U.S. EPA NLEV REGULATIONS APPLICABLE TO 2000, 2001 MODEL YEAR NEW ULEV PASSENGER CARS AND CALIFORNIA REGULATIONS APPLICABLE TO 2000, 2001 MODEL YEAR NEW ULEV PASSENGER CARS.

CANADIAN TIER 1

THIS VEHICLE CONFORMS TO U.S. EPA NLEV REGULATIONS AND CANADIAN TIER 1 STANDARDS FOR 2000, 2001 MODEL YEAR NEW PASSENGER CARS.

Engine and Evaporative Families:

Engine Family:

Y HNX V 03.2 GL4

a b c d e

- a. Model Year
Y: 2000, 2001
- b. Manufacturer Subcode
HNX: HONDA
- c. Family Type
V: LDV
- d. Displacement
- e. Sequence Characters
GF3: Federal LEV and Canadian Tier 1
GL4: California ULEV

Evaporative Family:

Y HNX R 0130 AAA

a b c d e

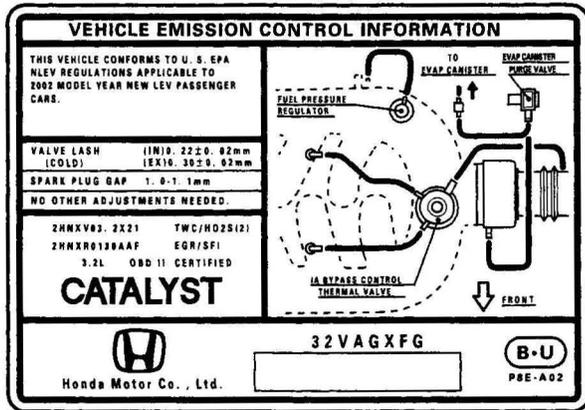
- a. Model Year
Y: 2000, 2001
- b. Manufacturer Subcode
HNX: HONDA
- c. Family Type
R: EVAP/ORVR
- d. Canister Work Capacity
- e. Sequence Characters

General Information

Under-hood Emission Control Label (2002 Model)

Emission Group Identification

Example:



FEDERAL LEV and CANADIAN TIER 1

THIS VEHICLE CONFORMS TO U.S. EPA NLEV REGULATIONS APPLICABLE TO 2002 MODEL YEAR NEW LEV PASSENGER CARS.

CALIFORNIA LEV

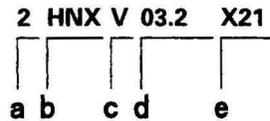
THIS VEHICLE CONFORMS TO U.S. EPA NLEV REGULATIONS APPLICABLE TO 2002 MODEL YEAR NEW LEV PASSENGER CARS AND CALIFORNIA REGULATIONS APPLICABLE TO 2002 MODEL YEAR NEW LEV PASSENGER CARS.

CALIFORNIA ULEV

THIS VEHICLE CONFORMS TO U.S. EPA NLEV REGULATIONS APPLICABLE TO 2002 MODEL YEAR NEW ULEV PASSENGER CARS AND CALIFORNIA REGULATIONS APPLICABLE TO 2002 MODEL YEAR NEW ULEV PASSENGER CARS.

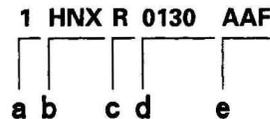
Engine and Evaporative Families:

Engine Family:



- a. **Model Year**
2: 2002
- b. **Manufacturer Subcode**
HNX: HONDA
- c. **Family Type**
V: LDV
- d. **Displacement**
- e. **Sequence Characters**
X21: Federal LEV, Canadian Tier 1 and California LEV
HYT: California ULEV

Evaporative Family:



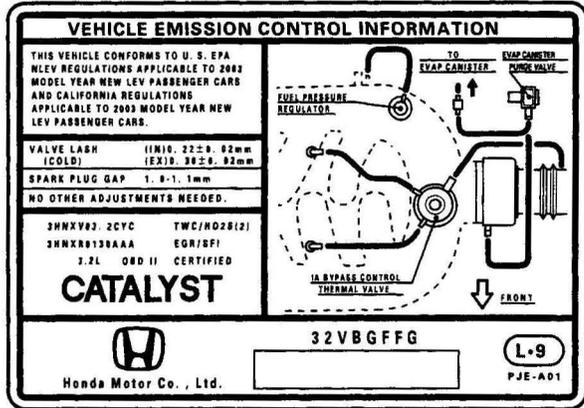
- a. **Model Year**
2: 2002
- b. **Manufacturer Subcode**
HNX: HONDA
- c. **Family Type**
R: EVAP/ORVR
- d. **Canister Work Capacity**
- e. **Sequence Characters**



Under-hood Emission Control Label (2003 Model)

Emission Group Identification

Example:



FEDERAL and CANADIAN TIER 1

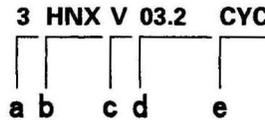
THIS VEHICLE CONFORMS TO U.S. EPA NLEV REGULATIONS APPLICABLE TO 2003 MODEL YEAR NEW LEV PASSENGER CARS AND CALIFORNIA REGULATIONS APPLICABLE TO 2003 MODEL YEAR NEW LEV PASSENGER CARS.

CALIFORNIA ULEV

THIS VEHICLE CONFORMS TO U.S. EPA NLEV REGULATIONS APPLICABLE TO 2003 MODEL YEAR NEW ULEV PASSENGER CARS AND CALIFORNIA REGULATIONS APPLICABLE TO 2003 MODEL YEAR NEW ULEV PASSENGER CARS.

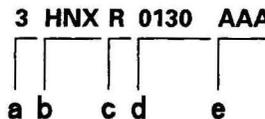
Engine and Evaporative Families:

Engine Family:



- a. **Model Year**
3: 2003
- b. **Manufacturer Subcode**
HNX: HONDA
- c. **Family Type**
V: LDV
- d. **Displacement**
- e. **Sequence Characters**
AYC: Federal and Canadian Tier 1 (J32A1)
CYC: Federal and Canadian Tier 1 (J32A2)
BYT: California ULEV

Evaporative Family:



- a. **Model Year**
3: 2003
- b. **Manufacturer Subcode**
HNX: HONDA
- c. **Family Type**
R: EVAP/ORVR
- d. **Canister Work Capacity**
- e. **Sequence Characters**

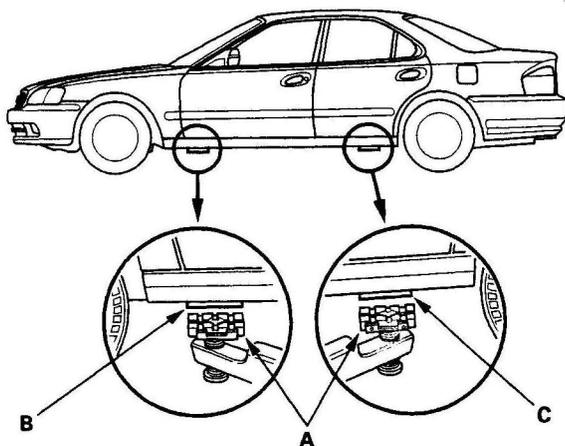
General Information

Lift and Support Points

If you are going to remove heavy components such as suspension or the fuel tank from the rear of the vehicle, first support the front of the vehicle with a tall safety stand. When substantial weight is removed from the rear of the vehicle, the center of gravity can change and cause the vehicle to tip forward on the hoist.

Frame Hoist

1. Position the hoist lift blocks (A), or safety stands, under the vehicle's front support points (B) and rear support points (C).



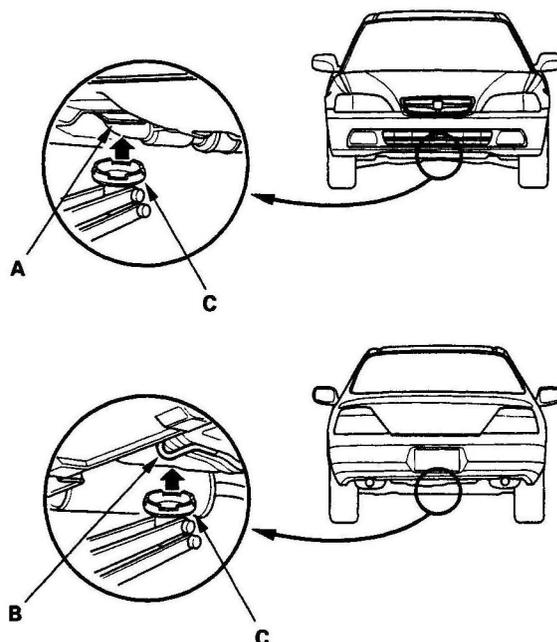
2. Raise the hoist a few inches, and rock the vehicle gently to be sure it is firmly supported.
3. Raise the hoist to full height, and inspect the lift points (B) for solid contact with the lift blocks.

Safety Stands

To support the vehicle on safety stands, use the same support points (B and C) as for a frame hoist. Always use safety stands when working on or under any vehicle that is supported only by a jack.

Floor Jack

1. Set the parking brake.
2. Block the wheels that are not being lifted.
3. When lifting the rear of the vehicle, put the gearshift lever in the Park position.
4. Position the floor jack under the front jacking bracket (A) or rear jacking bracket (B), center the jack lift platform (C) on the jacking bracket, and jack up the vehicle high enough to fit the safety stands under it.



5. Position the safety stands under the support points and adjust them so the vehicle will be level.
6. Lower the vehicle onto the stands.



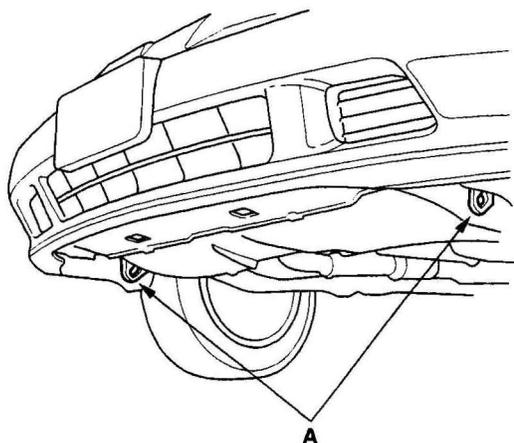
Towing

If the vehicle needs to be towed, call a professional towing service. Never tow the vehicle behind another vehicle with just a rope or chain. It is very dangerous.

There are three popular methods of towing a vehicle.

Flat-bed Equipment— The operator loads the vehicle on the back of a truck. This is the best way of transporting the vehicle.

To accommodate flat-bed equipment, the vehicle is equipped with tie down hooks (A). The tie down hooks can be used to secure the vehicle to the truck.



Wheel Lift Equipment— The tow truck uses two pivoting arms that go under the tires (front or rear) and lift them off the ground. The other two wheels remain on the ground.

Sling-type Equipment— The tow truck uses metal cables with hooks on the ends. These hooks go around parts of the frame or suspension and the cables lift that end of the vehicle off the ground. The vehicle's suspension and body can be seriously damaged. This method of towing is unacceptable.

If the vehicle cannot be transported by flat-bed, it should be towed with the front wheels off the ground. If due to damage, the vehicle must be towed with the front wheels on the ground, do the following:

- Release the parking brake.
- Start the engine.
- Shift to **D₄** position for 1999 model, **D₅** position for 2000-2003 models, position, then **N** position.
- Turn off the engine.

It is best to tow the vehicle no farther than 50 miles (80 km), and keep the speed below 35 mph (55 km/h).

NOTICE

- Improper towing preparation will damage the transmission. Follow the above procedure exactly. If you cannot shift the transmission or start the engine, the vehicle must be transported on a flat-bed.
- Trying to lift or tow the vehicle by the bumpers will cause serious damage. The bumpers are not designed to support the vehicle's weight.

General Information

Parts Marking

To deter vehicle theft, certain major components are marked with the vehicle identification number (VIN). Original parts have self-adhesive labels attached with a break-off bolt. Replacement body parts will have self-adhesive labels, and replacement engine and transmission parts will be stamped with a code for spare parts.

NOTE: Be careful not to damage the parts marking labels during body repair. Mask the labels before repairing the part.



Revised Component Terms

Beginning with '01 models, the following component terms have been changed to conform with the standards in SAE document J1930. If you find a terms or abbreviation in a '01 manual that is unfamiliar to you, check this list. If a term is not listed below, it did not change.

| '00 and Earlier Models | | '01-03 Models | |
|---|---------------------------------------|---|---|
| Description | HONDA Abbreviations | Description | New Abbreviations SAE recommendation |
| Heated Oxygen Sensor (for some models) | HO2S | Air Fuel Ratio Sensor | A/F SENSOR |
| Brake Switch | | Brake Pedal Position Switch | BPP Switch |
| Clutch Switch | | Clutch Pedal Position Switch | |
| Distributor Ignition Rotor | DI Rotor | Distributor Rotor | |
| Function Sensor | | Engine Speed Fluctuation Sensor | RPM Fluctuation Sensor |
| Evaporative Emission Control Canister | EVAP Control Canister | Evaporative Emission Canister | EVAP Canister |
| Evaporative Emission Control Canister Vent Shut Valve | EVAP Control Canister Vent Shut Valve | Evaporative Emission Canister Vent Shut Valve | EVAP Canister Vent Shut Valve |
| Evaporative Emission Purge Control Solenoid Valve | EVAP Purge Control Solenoid Valve | Evaporative Emission Canister Purge Valve | EVAP Canister Purge Valve |
| Exhaust Gas Recirculation Valve Lift Sensor | EGR Valve Lift Sensor | Exhaust Gas Recirculation Valve Position Sensor | EGR Valve Position Sensor |
| Exhaust Gas Recirculation Control Solenoid Valve | EGR Control Solenoid Valve | Exhaust Gas Recirculation Valve Vacuum Control Solenoid Valve | EGR Valve Vacuum Control Solenoid Valve |
| Exhaust Gas Recirculation Vacuum Control Valve | EGR Vacuum Control Valve | Exhaust Gas Recirculation Valve Vacuum Control Solenoid Valve | EGR Valve Vacuum Control Solenoid Valve |
| Radiator Fan Control Module | | Fan Control Module | |
| Fuel Tank Evaporative Emission Valve | | Fuel Tank Vapor/Liquid Separation Valve | |
| ORVR Vent Shut Valve | | Fuel Tank Vapor Control Valve | |
| ORVR Vapor Recirculation Tube | | Fuel Tank Vapor Recirculation Tube | |
| First Idle Thermo Valve | | Idle Air Control Thermal Valve | IAC Thermal Valve |
| Fuel Injector | | Injector | |
| Fuel Injection Air Control Valve | FIA Control Valve | Intake Air Bypass Control Valve | |
| Fuel Injection Air Control Solenoid Valve | FIA Control Solenoid Valve | Intake Air Bypass Control Thermal Valve | |
| Intake Air Bypass Check Valve | IAB Check Valve | Intake Manifold Runner Control Vacuum Check Valve | IMRC Vacuum Check Valve |
| | | Intake Manifold Runner Control Actuator | IMRC Actuator |
| | | Intake Manifold Runner Control Actuator Wire | IMRC Actuator Wire |
| Intake Air Bypass Control Diaphragm | IAB Control Diaphragm | Intake Manifold Runner Control Actuator Diaphragm | IMRC Diaphragm |
| | | Intake Manifold Runner Control Module | IMRC Module |

(cont'd)

General Information

Revised Component Terms (cont'd)

| 00 and Earlier Models | | '01-03 Models | |
|---|----------------------------|---|---|
| Description | HONDA Abbreviations | Description | New Abbreviations SAE recommendation |
| Intake Air Bypass Control Solenoid Valve | IAB Control Solenoid Valve | Intake Manifold Runner Control Solenoid Valve | IMRC Solenoid Valve |
| Intake Air Bypass Vacuum Tank | IAB Vacuum Tank | Intake Manifold Runner Control Vacuum | IMRC Vacuum Reservoir |
| Intake Air Bypass Valve Body Assembly | IAB Valve Body Assembly | Intake Manifold Runner Control Valve | IMRC Valve |
| Breather Chamber | | Oil/Air Separator | |
| Fuel Pressure Regulator Control Solenoid Valve | | Pressure Regulator Vacuum Control Solenoid Valve | |
| Air Control Valve Check Valve | | Secondary Air Injection Control Vacuum Check Valve | Air Control Vacuum Check Valve |
| Air Control Valve Vacuum Tank | | Secondary Air Injection Control Vacuum Reservoir | Air Control Vacuum Reservoir |
| Air Control Solenoid Valve | | Secondary Air Injection Control Vacuum Control Solenoid Valve | Air Control Valve Vacuum Control Solenoid Valve |
| Air Pump | | Secondary Air Injection Pump | Air Pump |
| Air Control Valve | | Secondary Air Injection Pump Control Valve | Air Control Valve |
| Air Pump Electric Current Sensor | | Secondary Air Injection Pump Electric Current Sensor | Air Pump Electric Current Sensor |
| Shift/Clutch Pressure Control Solenoid Valve Set | | Shift Solenoid and Automatic Transaxle Clutch Pressure Control Solenoid Valve Set | SS and A/T Clutch Pressure Control Solenoid Valve Set |
| Shift Control Solenoid Valve Set | | Shift Solenoid and Torque Converter Clutch Solenoid Valve Set | SS and TCC Solenoid Valve Set |
| Shift/Lock-up Clutch Control Solenoid Valve Assy | | Shift Solenoid and Torque Converter Clutch Solenoid Valve | SS and TCC Solenoid Valve |
| Shift Control Solenoid Valve A | | Shift Solenoid Valve A | SS Valve A |
| Shift Control Solenoid Valve B | | Shift Solenoid Valve B | SS Valve B |
| Throttle Valve Control Module | | Throttle Actuator | |
| Lock-up Clutch Control Solenoid Valve Set | | Torque Converter Clutch Solenoid and Automatic Transaxle Clutch Pressure Control Solenoid Valve Set | TCC solenoid and A/T Clutch Pressure Control Solenoid Valve Set |
| Lock-up Clutch Control Solenoid Valve | | Torque Converter Clutch Solenoid Valve | TCC solenoid Valve |
| Automatic Transaxle Position Switch | A/T Gear Position Switch | Transmission Range Switch | TR Switch |
| Variable Valve Timing and Valve Lift Electronic Control Pressure Switch | VTEC Pressure Switch | Variable Valve Timing and Valve lift Electronic Control Pressure Switch | VTEC Oil Pressure Switch |

Specifications

Standards and Service Limits

| | |
|--|------|
| Engine Electrical | 2-2 |
| Engine Assembly | 2-2 |
| Cylinder Head | 2-3 |
| Engine Block | 2-4 |
| Engine Lubrication | 2-5 |
| Cooling | 2-5 |
| Fuel and Emissions | 2-5 |
| 4-speed Automatic Transmission and A/T Differential | 2-6 |
| 5-speed Automatic Transmission and A/T Differential | 2-13 |
| Steering | 2-20 |
| Suspension | 2-20 |
| Brakes | 2-21 |
| Air Conditioning | 2-21 |

Design Specifications

| | |
|--------------------------------------|------|
| Dimensions | 2-22 |
| Weight (U.S.A.) | 2-22 |
| Weight (CANADA) | 2-22 |
| Engine | 2-22 |
| Starter | 2-22 |
| 4-speed Automatic Transmission | 2-22 |
| 5-speed Automatic Transmission | 2-23 |
| Steering | 2-23 |
| Suspension | 2-23 |
| Wheel Alignment | 2-23 |
| Brakes | 2-23 |
| Tires | 2-23 |
| Air Conditioning | 2-24 |
| Electrical Ratings | 2-24 |

Body Specifications

| | |
|--------------------|------|
| Illustration | 2-25 |
|--------------------|------|

Standards and Service Limits

Engine Electrical

| Item | Measurement | Qualification | Standard or New | Service Limit |
|----------------------------|--|-------------------------------------|---|---------------------|
| Ignition coil | Rated voltage | | 12 V | |
| | Firing order | | 1-4-2-5-3-6 | |
| Spark plug | Type | J32A1 engine | NGK: PZFR5F-11 DENSO: PKJ16CR-L11 | |
| | | J32A2 engine | NGK: PZFR6E-11 DENSO: PKJ20CR-M11 | |
| | Gap | | 1.0-1.1 mm (0.039-0.043 in.) | 1.3 mm (0.051 in.) |
| Ignition timing | | At idle (check the <i>red</i> mark) | A/T (in N or P): $10 \pm 2^\circ$ BTDC at 680 ± 50 rpm | |
| Alternator-compressor belt | Tension adjustment | | Auto adjuster type | |
| Alternator | Output at 13.5 V and normal engine temperature | J32A1 engine J32A2 engine | 105 A 120 A | |
| | Coil (rotor) resistance at 68°F (20°C) | | 2.9 k Ω | |
| | Slip ring O.D. | | 14.4 mm (0.57 in.) | 14.0 mm (0.55 in.) |
| | Brush length | | 10.5 mm (0.41 in.) | 1.5 mm (0.06 in.) |
| | Brush spring tension | | 3.2 N (0.33 kgf, 0.73 lbs) | |
| Starter | Output | | 1.6 kW | |
| | Commutator mica depth | | 0.4-0.5 mm (0.016-0.020 in.) | 0.15 mm (0.006 in.) |
| | Commutator runout | | 0.02 mm (0.001 in.) max. | 0.05 mm (0.002 in.) |
| | Commutator O.D. | | 28.0-28.1 mm (1.102-1.106 in.) | 27.5 mm (1.083 in.) |
| | Brush length | | 15.8-16.2 mm (0.62-0.64 in.) | 11.0 mm (0.43 in.) |
| | Brush spring tension (new) | | 15.7-17.7 N (1.60-1.80 kgf, 3.53-3.97 lbs) | |

Engine Assembly

| Item | Measurement | Qualification | Standard or New | Service Limit |
|-------------|--|-------------------|--|---------------|
| Compression | Pressure Check at 200 rpm with wide open throttle. (See Design Specs for ratio.) | Minimum | 930 kPa (9.5 kgf/cm ² , 135 psi) | _____ |
| | | Maximum variation | 200 kPa (2.0 kgf/cm ² , 28 psi) | _____ |

Cylinder Head

| Item | Measurement | Qualification | Standard or New | Service Limit | |
|--------------------------------|---|----------------------|--|------------------------|-------|
| Head | Warpage | | _____ | 0.05 mm (0.002 in.) | |
| | Height | | 120.95 – 121.05 mm (4.762 – 4.766 in.) | _____ | |
| Camshaft | End play | | 0.05 – 0.20 mm (0.002 – 0.008 in.) | 0.20 mm (0.008 in.) | |
| | Camshaft-to-holder oil clearance | | 0.050 – 0.089 mm (0.0020 – 0.0035 in.) | 0.15 mm (0.006 in.) | |
| | Total runout | | 0.03 mm (0.001 in.) max. | 0.04 mm (0.002 in.) | |
| | Cam lobe height J32A1 engine ('99 model) | | Intake, primary | 34.615 mm (1.3628 in.) | _____ |
| | | | Intake, mid | 36.272 mm (1.4280 in.) | _____ |
| | | | Intake, secondary | 31.188 mm (1.2279 in.) | _____ |
| | | | Exhaust | 36.076 mm (1.4203 in.) | _____ |
| | Cam lobe height J32A1 engine ('00-03 models) | | Intake, primary | 34.737 mm (1.3676 in.) | _____ |
| | | | Intake, mid | 36.445 mm (1.4348 in.) | _____ |
| | | | Intake, secondary | 34.919 mm (1.3748 in.) | _____ |
| | | | Exhaust | 36.326 mm (1.4302 in.) | _____ |
| | Cam lobe height J32A2 engine | | Intake, primary | 34.737 mm (1.3676 in.) | _____ |
| | | | Intake, mid | 36.445 mm (1.4348 in.) | _____ |
| Intake, secondary | | | 34.919 mm (1.3748 in.) | _____ | |
| Exhaust | | | 36.389 mm (1.4326 in.) | _____ | |
| Valves | Clearance (cold) | Intake | 0.20 – 0.24 mm (0.008 – 0.009 in.) | _____ | |
| | | Exhaust | 0.28 – 0.32 mm (0.011 – 0.013 in.) | _____ | |
| | Stem O.D. | Intake | 5.485 – 5.495 mm (0.2159 – 0.2163 in.) | 5.455 mm (0.2148 in.) | |
| | | Exhaust | 5.450 – 5.460 mm (0.2146 – 0.2150 in.) | 5.420 mm (0.2134 in.) | |
| | Stem-to-guide clearance | Intake | 0.020 – 0.045 mm (0.0008 – 0.0018 in.) | 0.08 mm (0.003 in.) | |
| | | Exhaust | 0.055 – 0.080 mm (0.0022 – 0.0031 in.) | 0.12 mm (0.005 in.) | |
| Valve seats | Width | Intake | 1.25 – 1.55 mm (0.049 – 0.061 in.) | 2.00 mm (0.079 in.) | |
| | | Exhaust | 1.25 – 1.55 mm (0.049 – 0.061 in.) | 2.00 mm (0.079 in.) | |
| | Stem installed height | Intake | 46.75 – 47.55 mm (1.841 – 1.872 in.) | 47.80 mm (1.882 in.) | |
| | | Exhaust | 46.68 – 47.48 mm (1.838 – 1.869 in.) | 47.73 mm (1.879 in.) | |
| | Free length '99-01 models | Intake | 51.03 mm (2.009 in.) | _____ | |
| | | Exhaust | 53.48 mm (2.106 in.) | _____ | |
| Valve springs '02-03 models | Intake | 51.54 mm (2.029 in.) | _____ | | |
| | Exhaust | 51.06 mm (2.010 in.) | _____ | | |
| Valve guides | I.D. | Intake | 5.515 – 5.530 mm (0.2171 – 0.2177 in.) | 5.55 mm (0.219 in.) | |
| | | Exhaust | 5.515 – 5.530 mm (0.2171 – 0.2177 in.) | 5.55 mm (0.219 in.) | |
| | Installed height | Intake | 21.20 – 22.20 mm (0.835 – 0.874 in.) | _____ | |
| | | Exhaust | 20.63 – 21.63 mm (0.812 – 0.852 in.) | _____ | |
| Rocker arms | Arm-to-shaft clearance | Intake | 0.026 – 0.067 mm (0.0010 – 0.0026 in.) | 0.067 mm (0.0026 in.) | |
| | | Exhaust | 0.026 – 0.077 mm (0.0010 – 0.0030 in.) | 0.077 mm (0.0030 in.) | |

Standards and Service Limits

Engine Block

| Item | Measurement | Qualification | Standard or New | Service Limit | |
|---------------------|---|-----------------------|---|------------------------------------|---------------------|
| Block | Warpage of deck | | 0.07 mm (0.003 in.) max. | 0.10 mm (0.004 in.) | |
| | Bore diameter | | 89.000–89.015 mm (3.5039–3.5045 in.) | 89.065 mm (3.5065 in.) | |
| | Bore taper | | ———— | 0.05 mm (0.002 in.) | |
| | Reboring limit | | ———— | 0.5 mm (0.02 in.) | |
| Piston | Skirt O.D. at 16.0 mm (0.63 in.) from bottom of skirt | | 88.975–88.985 mm (3.5029–3.5033 in.) | 88.965 mm (3.5026 in.) | |
| | Clearance in cylinder | | 0.015–0.040 mm (0.0006–0.0016 in.) | 0.08 mm (0.003 in.) | |
| | Ring groove width | Top (J32A1 engine) | | 1.220–1.230 mm (0.0480–0.0484 in.) | 1.25 mm (0.049 in.) |
| | | Top (J32A2 engine) | | 1.240–1.250 mm (0.0488–0.0492 in.) | 1.27 mm (0.050 in.) |
| | | Second | | 1.220–1.230 mm (0.0480–0.0484 in.) | 1.25 mm (0.049 in.) |
| | Oil | | 2.805–2.825 mm (0.1104–0.1112 in.) | 2.85 mm (0.112 in.) | |
| Piston rings | Ring-to-groove clearance | Top (J32A1 engine) | | 0.035–0.060 mm (0.0014–0.0024 in.) | 0.13 mm (0.005 in.) |
| | | Top (J32A2 engine) | | 0.055–0.080 mm (0.0022–0.0031 in.) | 0.13 mm (0.005 in.) |
| | | Second | | 0.030–0.055 mm (0.0012–0.0022 in.) | 0.13 mm (0.005 in.) |
| | Ring end gap | Top | | 0.20–0.35 mm (0.008–0.014 in.) | 0.60 mm (0.024 in.) |
| | | Second | | 0.40–0.55 mm (0.016–0.022 in.) | 0.70 mm (0.028 in.) |
| Oil | | | 0.20–0.70 mm (0.008–0.028 in.) | 0.80 mm (0.031 in.) | |
| Piston pin | O.D. | | 21.962–21.965 mm (0.8646–0.8648 in.) | 21.954 mm (0.8643 in.) | |
| | Pin-to-piston clearance | | –0.0050–+0.0010 mm (–0.00020–+0.00004 in.) | 0.004 mm (0.0002 in.) | |
| Connecting rod | Pin-to-rod clearance | | 0.005–0.014 mm (0.0002–0.0006 in.) | 0.019 mm (0.0007 in.) | |
| | Small-end bore diameter | | 21.970–21.976 mm (0.8650–0.8652 in.) | ———— | |
| | Large-end bore diameter | Nominal | 58.0 mm (2.28 in.) | ———— | |
| | End play installed on crankshaft | | 0.15–0.35 mm (0.006–0.014 in.) | 0.45 mm (0.018 in.) | |
| Crankshaft | Main journal diameter | | 71.976–72.000 mm (2.8337–2.8346 in.) | ———— | |
| | Rod journal diameter | | 54.976–55.000 mm (2.1644–2.1654 in.) | ———— | |
| | Rod/main journal taper | | 0.005 mm (0.0002 in.) max. | 0.010 mm (0.0004 in.) | |
| | Rod/main journal out-of-round | | 0.005 mm (0.0002 in.) max. | 0.010 mm (0.0004 in.) | |
| | End play | | 0.10–0.35 mm (0.004–0.014 in.) | 0.45 mm (0.018 in.) | |
| | Runout | | 0.020 mm (0.0008 in.) max. | 0.03 mm (0.0012 in.) | |
| Crankshaft bearings | Main bearing-to-journal oil clearance | | 0.020–0.044 mm (0.0008–0.0017 in.) | 0.050 mm (0.0020 in.) | |
| | Rod bearing clearance | | 0.020–0.044 mm (0.0008–0.0017 in.) | 0.050 mm (0.002 in.) | |

Engine Lubrication

| Item | Measurement | Qualification | Standard or New | Service Limit |
|--------------|---|---------------|---|---|
| Engine oil | Capacity | | 5.0 ℓ (5.3 US qt) for engine overhaul 4.4 ℓ (4.6 US qt) for oil change, including filter 4.0 ℓ (4.2 US qt) for oil change, without filter | |
| Oil pump | Inner-to-outer rotor clearance | | 0.04–0.16 mm (0.002–0.006 in.) | 0.20 mm (0.008 in.) |
| | Pump housing-to-outer rotor clearance | | 0.14–0.19 mm (0.006–0.007 in.) | 0.20 mm (0.008 in.) |
| | Pump housing-to-outer rotor axial clearance | | 0.02–0.07 mm (0.001–0.003 in.) | 0.12 mm (0.005 in.) |
| | Oil pressure with oil temperature at 176°F (80°C) | at idle | | 70 kPa (0.7 kgf/cm ² , 10 psi) |
| at 3,000 rpm | | | 490 kPa (5.0 kgf/cm ² , 71 psi) | |

Cooling

| Item | Measurement | Qualification | Standard or New | Service Limit |
|--------------------------------------|---|----------------------------------|--|---------------|
| Radiator | Coolant capacity (includes engine, heater, hoses and reservoir) | Engine overhaul | 7.5 ℓ (7.9 US qt) | |
| | | Coolant change | 5.6 ℓ (5.9 US qt) | |
| Reservoir | Coolant capacity | '99-01 models | 0.6 ℓ (0.6 US qt) | |
| | | '02-03 models | 0.8 ℓ (0.8 US qt) | |
| Radiator cap | Opening pressure | | 93–123 kPa (0.95–1.25 kgf/cm ² , 14–18 psi) | |
| Thermostat | Opening temperature | Begins to open: '99 model | 163–171°F (73–77°C) | |
| | | Begins to open: '00-03 models | 169–176°F (76–80°C) | |
| | | Fully open | 194°F (90°C) | |
| | Valve lift at fully open | | 10.0 mm (0.39 in.) min. | |
| Radiator fan switch A | Thermoswitch "ON" temperature | | 196–203°F (91–95°C) | |
| | Thermoswitch "OFF" temperature | | Subtract 5–15°F (3–8°C) from actual "ON" temperature | |
| Radiator fan switch B | Fan timer "ON" temperature | | 212–226°F (100–108°C) | |
| | Fan timer "OFF" temperature | | Subtract 5–23°F (3–13°C) from actual "ON" temperature | |
| Radiator fan switch C (J32A2 engine) | Thermoswitch "ON" temperature | | 205–216°F (96–102°C) | |
| | Thermoswitch "OFF" temperature | | Subtract 5–23°F (3–13°C) from actual "ON" temperature | |

Fuel and Emissions

| Item | Measurement | Qualification | Standard or New | Service Limit |
|-------------------------|--|--|---|---------------|
| Fuel Pressure regulator | Pressure with regulator vacuum hose disconnected | '99-'00 models: through engine number 2057690 | 280–330 kPa (2.9–3.4 kgf/cm ² , 41–48 psi) | |
| | | '00 model (engine number 2057691 and later), and '01-'03 models: | 330–380 kPa (3.4–3.9 kgf/cm ² , 48–55 psi) | |
| Fuel tank | Capacity | | 65 ℓ (17.1 US gal) | |
| Engine idle | Idle speed with headlights and radiator fan off | In N or P | 680 ± 50 rpm | |
| | Idle CO % | | 0.1 max. | |

Standards and Service Limits

4-speed Automatic Transmission and A/T Differential

| Item | Measurement | Qualification | Standard or New | Service Limit |
|------------------------------------|--|---|--|--|
| ATF (Automatic Transmission Fluid) | Capacity | Use Honda ATF-Z1 (ATF) | For fluid change: 2.7 ℓ (2.9 US qt) For overhaul: 7.1 ℓ (7.5 US qt) | |
| ATF pressure | Line pressure | At 1,500 rpm in N or P position | 800–860 kPa (8.2–8.8 kgf/cm ² , 120–130 psi) | 760 kPa (7.7 kgf/cm ² , 110 psi) |
| | 4th clutch pressure | At 2,000 rpm in D4 position | 790–870 kPa (8.1–8.9 kgf/cm ² , 120–130 psi) | 750 kPa (7.6 kgf/cm ² , 110 psi) |
| | 3rd clutch pressure | At 2,000 rpm in D4 position | 790–870 kPa (8.1–8.9 kgf/cm ² , 120–130 psi) | 750 kPa (7.6 kgf/cm ² , 110 psi) |
| | 2nd clutch pressure | At 1,500 rpm in 2 position | 790–870 kPa (8.1–8.9 kgf/cm ² , 120–130 psi) | 750 kPa (7.6 kgf/cm ² , 110 psi) |
| | 1st clutch pressure | At 1,500 rpm in 1 position | 790–870 kPa (8.1–8.9 kgf/cm ² , 120–130 psi) | 750 kPa (7.6 kgf/cm ² , 110 psi) |
| Torque converter | Stall speed | Check with vehicle on level ground | | 2,250–2,550 rpm |
| Clutches | Clutch end plate-to-top disc clearance | 1st | | 1.2–1.4 mm (0.047–0.055 in.) |
| | | 2nd | | 0.85–1.05 mm (0.033–0.041 in.) |
| | | 3rd | | 0.55–0.75 mm (0.022–0.030 in.) |
| | | 4th | | 0.55–0.75 mm (0.022–0.030 in.) |
| | Clutch return spring free length | 1st | 45.7 mm (1.80 in.) | 43.7 mm (1.72 in.) |
| | | 2nd | 63.0 mm (2.48 in.) | 61.0 mm (2.40 in.) |
| | | 3rd, 4th | 33.5 mm (1.32 in.) | 31.5 mm (1.24 in.) |
| | Clutch disc thickness | | 1.94 mm (0.076 in.) | — |
| | Clutch plate thickness | 1st | 2.0 mm (0.079 in.) | When discolored |
| | | 2nd | 2.0 mm (0.079 in.) | When discolored |
| | | 3rd | 2.3 mm (0.091 in.) | When discolored |
| | | 4th | 2.0 mm (0.079 in.) | When discolored |
| | 1st and 2nd clutch end plate thickness | Mark 1 | 3.10 mm (0.122 in.) | When discolored |
| | | Mark 2 | 3.20 mm (0.126 in.) | When discolored |
| | | Mark 3 | 3.30 mm (0.130 in.) | When discolored |
| | | Mark 4 | 3.40 mm (0.134 in.) | When discolored |
| | | Mark 6 | 2.60 mm (0.102 in.) | When discolored |
| | | Mark 7 | 2.70 mm (0.106 in.) | When discolored |
| | | Mark 8 | 2.80 mm (0.110 in.) | When discolored |
| | | Mark 9 | 2.90 mm (0.114 in.) | When discolored |
| | | Mark 0 | 3.00 mm (0.118 in.) | When discolored |
| | 3rd and 4th clutch end plate thickness | Mark 1 | 2.10 mm (0.083 in.) | When discolored |
| | | Mark 2 | 2.20 mm (0.087 in.) | When discolored |
| Mark 3 | | 2.30 mm (0.091 in.) | When discolored | |
| Mark 4 | | 2.40 mm (0.094 in.) | When discolored | |
| Mark 5 | | 2.50 mm (0.098 in.) | When discolored | |
| Mark 6 | | 2.60 mm (0.102 in.) | When discolored | |
| Mark 7 | | 2.70 mm (0.106 in.) | When discolored | |
| Mark 8 | | 2.80 mm (0.110 in.) | When discolored | |
| Mark 9 | | 2.90 mm (0.114 in.) | When discolored | |

| Item | Measurement | Qualification | Standard or New | Service Limit |
|---------------------------------|--|---|---|---------------------------|
| Valve body | Stator shaft needle bearing contact I.D. | Torque converter side | 27.000–27.021 mm (1.0630–1.1638 in.) | When worn or damaged |
| | | ATF pump side | 29.000–29.021 mm (1.1417–1.1426 in.) | When worn or damaged |
| | ATF pump gear thrust clearance | | 0.03–0.05 mm (0.001–0.002 in.) | 0.07 mm (0.003 in.) |
| | ATF pump gear-to-body clearance | Drive gear | 0.210–0.265 mm (0.0083–0.0104 in.) | — |
| | | Driven gear | 0.070–0.125 mm (0.0028–0.0049 in.) | — |
| | ATF pump driven gear I.D. | | 14.016–14.034 mm (0.5518–0.5525 in.) | When worn or damaged |
| ATF pump driven gear shaft O.D. | | 13.980–13.990 mm (0.5504–0.5508 in.) | When worn or damaged | |
| Reverse shift fork | Fork finger thickness | | 5.60–6.00 mm (0.220–0.236 in.) | 5.40 mm (0.213 in.) |
| Park gear and pawl | | | | When worn or damaged |
| Servo body | Shift fork shaft bore I.D. | | 14.000–14.010 mm (0.5512–0.5516 in.) | — |
| | Shift fork shaft valve bore I.D. | | 37.000–37.039 mm (1.4567–1.4582 in.) | 37.045 mm (1.4585 in.) |
| Regulator valve body | Sealing ring contact I.D. | | 32.000–32.025 mm (1.2598–1.2608 in.) | 32.050 mm (1.2618 in.) |
| Accumulator body | Sealing ring contact I.D. | | 35.000–35.025 mm (1.3780–1.3789 in.) | 35.05 mm (1.3799 in.) |
| Stator shaft | Sealing ring contact I.D. | | 29.000–29.013 mm (1.1417–1.1422 in.) | 29.050 mm (1.1437 in.) |

(cont'd)

Standards and Service Limits

4-speed Automatic Transmission and A/T Differential (cont'd)

| Item | Measurement | Qualification | Standard or New | Service Limit | |
|-------------------------------|---|--------------------|---|---------------------------------------|----------------------|
| Mainshaft | Diameter of needle bearing contact area | at stator shaft | 22.984 – 23.000 mm (0.9049 – 0.9055 in.) | When worn or damaged | |
| | | at 3rd gear | 52.975 – 52.991 mm (2.0856 – 2.0863 in.) | When worn or damaged | |
| | | at 4th gear collar | 33.975 – 33.991 mm (1.3376 – 1.3382 in.) | When worn or damaged | |
| | I.D. of 3rd gear | | 59.000 – 59.019 mm (2.3228 – 2.3236 in.) | When worn or damaged | |
| | I.D. of 4th gear | | 40.000 – 40.016 mm (1.5748 – 1.5754 in.) | When worn or damaged | |
| | End play of 3rd gear | | 0.03 – 0.31 mm (0.001 – 0.012 in.) | — | |
| | End play of 4th gear | | 0.10 – 0.22 mm (0.004 – 0.009 in.) | — | |
| | 41 x 73 mm thrust shim thickness | No. 1 | | 7.85 mm (0.309 in.) | When worn or damaged |
| | | No. 2 | | 7.90 mm (0.311 in.) | When worn or damaged |
| | | No. 3 | | 7.95 mm (0.313 in.) | When worn or damaged |
| | | No. 4 | | 8.00 mm (0.315 in.) | When worn or damaged |
| | | No. 5 | | 8.05 mm (0.317 in.) | When worn or damaged |
| | | No. 6 | | 8.10 mm (0.319 in.) | When worn or damaged |
| | Thrust washer thickness | 27 x 47 x 5 mm | | 5.00 mm (0.197 in.) | When worn or damaged |
| | Length of 4th gear collar | | | 58.5 – 58.6 mm (2.303 – 2.307 in.) | — |
| | 4th gear collar flange thickness | | | 4.45 – 4.60 mm (0.175 – 0.181 in.) | When worn or damaged |
| | Sealing ring thickness | 32 mm sealing ring | | 1.85 – 1.95 mm (0.073 – 0.077 in.) | 1.800 mm (0.071 in.) |
| | | 29 mm sealing ring | | 1.85 – 1.95 mm (0.073 – 0.077 in.) | 1.800 mm (0.071 in.) |
| | Width of sealing ring groove | | | 2.025 – 2.060 mm (0.080 – 0.081 in.) | 2.080 mm (0.082 in.) |
| | Clutch feed pipe O.D. | 3rd clutch | | 5.97 – 5.98 mm (0.2350 – 0.2354 in.) | 5.95 mm (0.2343 in.) |
| 4th clutch | | | 11.47 – 11.48 mm (0.4516 – 0.4520 in.) | 11.45 mm (0.4508 in.) | |
| Clutch feed pipe bushing I.D. | 3rd clutch | | 6.018 – 6.030 mm (0.2369 – 0.2374 in.) | 6.045 mm (0.2380 in.) | |
| | 4th clutch | | 11.500 – 11.518 mm (0.4528 – 0.4535 in.) | 11.530 mm (0.4539 in.) | |

| Item | Measurement | Qualification | Standard or New | Service Limit |
|---------------------------|---|---|---|----------------------|
| Countershaft | Diameter of needle bearing contact area | at 4th gear | 34.975 – 34.991 mm (1.3770 – 1.3776 in.) | When worn or damaged |
| | | at 2nd gear | 39.979 – 40.000 mm (1.574 – 1.575 in.) | When worn or damaged |
| | | at park gear | 41.964 – 41.980 mm (1.6521 – 1.6528 in.) | When worn or damaged |
| | | at right end | 38.505 – 38.515 mm (1.5159 – 1.5163 in.) | When worn or damaged |
| | I.D. of 4th gear | | 41.000 – 41.016 mm (1.6142 – 1.6148 in.) | When worn or damaged |
| | I.D. of idler gear | | 50.000 – 50.016 mm (1.9685 – 1.9691 in.) | When worn or damaged |
| | I.D. of reverse gear | | 46.000 – 46.016 mm (1.8110 – 1.8116 in.) | When worn or damaged |
| | End play of 1st gear | | 0.00 – 0.33 mm (0.000 – 0.013 in.) | — |
| | End play of 4th gear | | 0.04 – 0.27 mm (0.002 – 0.011 in.) | — |
| | End play of idler gear | | 0.015 – 0.045 mm (0.0006 – 0.0018 in.) | — |
| | End play of reverse gear | | 0.10 – 0.25 mm (0.004 – 0.010 in.) | — |
| | Length of distance collar | | 53.92 – 53.96 mm (2.123 – 2.124 in.) | — |
| | Cotter thickness | | 1.99 – 2.02 mm (0.078 – 0.080 in.) | — |
| Reverse selector hub O.D. | | 55.87 – 55.90 mm (2.1996 – 2.2008 in.) | When worn or damaged | |

(cont'd)

Standards and Service Limits

4-speed Automatic Transmission and A/T Differential (cont'd)

| Item | Measurement | Qualification | Standard or New | Service Limit | |
|-------------------------------|---|--------------------------------------|---|---|----------------------|
| Secondary shaft | Diameter of needle bearing contact area | at 1st gear | 37.978 – 37.993 mm (1.495 – 1.4958 in.) | When worn or damaged | |
| | | at 2nd gear | 33.986 – 33.999 mm (1.3380 – 1.3385 in.) | When worn or damaged | |
| | I.D. of 1st gear | | 44.000 – 44.016 mm (1.7323 – 1.7329 in.) | When worn or damaged | |
| | I.D. of 2nd gear | | 40.000 – 40.016 mm (1.5748 – 1.5754 in.) | When worn or damaged | |
| | End play of 1st gear | | 0.07 – 0.15 mm (0.003 – 0.006 in.) | — | |
| | End play of 2nd gear | | 0.04 – 0.12 mm (0.002 – 0.005 in.) | — | |
| | 38 x 56.5 mm splined washer thickness | No. 1 | | 6.85 mm (0.270 in.) | When worn or damaged |
| | | No. 2 | | 6.90 mm (0.272 in.) | When worn or damaged |
| | | No. 3 | | 6.95 mm (0.274 in.) | When worn or damaged |
| | | No. 4 | | 7.00 mm (0.276 in.) | When worn or damaged |
| | | No. 5 | | 7.05 mm (0.278 in.) | When worn or damaged |
| | | No. 6 | | 7.10 mm (0.280 in.) | When worn or damaged |
| | 37 x 55 mm thrust shim thickness | No. 1 | | 4.90 mm (0.193 in.) | When worn or damaged |
| | | No. 2 | | 4.95 mm (0.195 in.) | When worn or damaged |
| | | No. 3 | | 5.00 mm (0.197 in.) | When worn or damaged |
| | | No. 4 | | 5.05 mm (0.199 in.) | When worn or damaged |
| | | No. 5 | | 5.10 mm (0.201 in.) | When worn or damaged |
| | | No. 6 | | 5.15 mm (0.203 in.) | When worn or damaged |
| | | No. 7 | | 5.20 mm (0.205 in.) | When worn or damaged |
| | Cotter thickness | | | 1.99 – 2.02 mm (0.078 – 0.080 in.) | — |
| Sealing ring thickness | | | 1.890 – 1.950 mm (0.074 – 0.077 in.) | 1.800 mm (0.071 in.) | |
| Width of sealing ring groove | | | 2.025 – 2.060 mm (0.080 – 0.081 in.) | 2.080 mm (0.082 in.) | |
| Clutch feed pipe O.D. | | | 7.97 – 7.98 mm (0.3138 – 0.3142 in.) | 7.95 mm (0.3130 in.) | |
| Clutch feed pipe bushing I.D. | | | 8.000 – 8.015 mm (0.3150 – 0.3156 in.) | 8.030 mm (0.3161 in.) | |
| Reverse idler gear | Diameter of needle bearing contact area | at reverse idler gear shaft | 13.990 – 14.000 mm (0.5508 – 0.5512 in.) | When worn or damaged | |
| | End play | | 0.03 – 0.36 mm (0.001 – 0.014 in.) | — | |
| | I.D. | | 18.007 – 18.020 mm (0.7089 – 0.7094 in.) | When worn or damaged | |
| | Thrust washer thickness | Transmission housing side | | 0.97 – 1.03 mm (0.038 – 0.041 in.) | — |
| | | Reverse idler gear shaft holder side | | 0.97 – 1.03 mm (0.038 – 0.041 in.) | — |
| | I.D. of reverse idler gear shaft holder | | | 14.006 – 14.024 mm (0.5514 – 0.5521 in.) | When worn or damaged |
| | I.D. of transmission housing of reverse idler gear shaft contact area | | | 14.006 – 14.024 mm (0.5514 – 0.5521 in.) | — |

| Item | Measurement | Qualification | Standard or New | | | |
|---|-------------------------------------|---------------|------------------------|------------------------|------------------------|--------------|
| | | | Wire Diameter | O.D. | Free Length | No. of Coils |
| Main valve body springs (see page 14-171). | Modulator valve spring | | 1.6 mm (0.063 in.) | 10.4 mm (0.409 in.) | 33.5 mm (1.319 in.) | 9.8 |
| | Shift valve C spring | | 0.8 mm (0.031 in.) | 6.6 mm (0.260 in.) | 49.5 mm (1.949 in.) | 21.7 |
| | Shift valve D spring | | 0.7 mm (0.028 in.) | 6.6 mm (0.260 in.) | 35.7 mm (1.406 in.) | 17.2 |
| | Shift valve E spring | | 0.7 mm (0.028 in.) | 6.1 mm (0.240 in.) | 17.8 mm (0.701 in.) | 7.9 |
| | Relief valve spring | | 1.1 mm (0.043 in.) | 8.6 mm (0.339 in.) | 30.1 mm (1.185 in.) | 10.7 |
| | Lock-up shift valve spring | | 0.9 mm (0.035 in.) | 7.6 mm (0.299 in.) | 63.0 mm (2.480 in.) | 22.4 |
| | Cooler check valve spring | | 0.6 mm (0.024 in.) | 5.8 mm (0.228 in.) | 14.4 mm (0.567 in.) | 6.8 |
| | Torque converter check valve spring | | 1.2 mm (0.047 in.) | 8.6 mm (0.339 in.) | 34.4 mm (1.354 in.) | 11.7 |
| | Servo control valve spring | | 0.7 mm (0.028 in.) | 6.6 mm (0.260 in.) | 35.7 mm (1.406 in.) | 17.2 |
| | Reverse CPC valve spring | | 0.7 mm (0.028 in.) | 6.1 mm (0.240 in.) | 17.8 mm (0.701 in.) | 7.9 |
| Regulator valve body springs (see page 14-174). | Stator reaction spring | | 5.5 mm (0.217 in.) | 37.4 mm (1.472 in.) | 30.3 mm (1.193 in.) | 2.12 |
| | Regulator valve spring A | | 1.9 mm (0.075 in.) | 14.7 mm (0.579 in.) | 77.4 mm (3.047 in.) | 15.2 |
| | Regulator valve spring B | | 1.6 mm (0.063 in.) | 9.2 mm (0.362 in.) | 44.0 mm (1.732 in.) | 12.5 |
| | Lock-up control valve spring | | 0.8 mm (0.031 in.) | 6.6 mm (0.260 in.) | 44.3 mm (1.744 in.) | 25.5 |
| | Lock-up timing valve spring | | 0.65 mm (0.026 in.) | 6.6 mm (0.260 in.) | 34.8 mm (1.370 in.) | 15.6 |
| Servo body springs (see page 14-175). | Shift valve B spring | | 0.8 mm (0.031 in.) | 7.1 mm (0.280 in.) | 40.4 mm (1.591 in.) | 16.9 |
| | Shift valve A spring | | 0.8 mm (0.031 in.) | 7.1 mm (0.280 in.) | 40.4 mm (1.591 in.) | 16.9 |
| | CPC valve A spring | | 0.7 mm (0.028 in.) | 6.1 mm (0.240 in.) | 17.8 mm (0.701 in.) | 7.9 |
| | CPC valve B spring | | 0.7 mm (0.028 in.) | 6.1 mm (0.240 in.) | 17.8 mm (0.701 in.) | 7.9 |
| | 4th accumulator spring A | | 2.6 mm (0.102 in.) | 19.6 mm (0.772 in.) | 66.4 mm (2.614 in.) | 9.7 |
| | 4th accumulator spring B | | 2.4 mm (0.094 in.) | 12.8 mm (0.504 in.) | 51.5 mm (2.028 in.) | 11.5 |
| | 3rd accumulator spring A | | 2.6 mm (0.102 in.) | 19.6 mm (0.772 in.) | 66.4 mm (2.614 in.) | 9.7 |
| | 3rd accumulator spring B | | 2.4 mm (0.094 in.) | 12.8 mm (0.504 in.) | 51.5 mm (2.028 in.) | 11.5 |
| Accumulator body springs (see page 14-176). | 1st accumulator spring B | | 2.7 mm (0.106 in.) | 14.8 mm (0.583 in.) | 52.5 mm (2.067 in.) | 11.3 |
| | 1st accumulator spring A | | 2.6 mm (0.102 in.) | 21.6 mm (0.850 in.) | 80.5 mm (3.169 in.) | 11.2 |
| | 2nd accumulator spring B | | 2.4 mm (0.094 in.) | 12.6 mm (0.496 in.) | 53.5 mm (2.106 in.) | 12.9 |
| | 2nd accumulator spring A | | 2.7 mm (0.106 in.) | 19.6 mm (0.772 in.) | 66.3 mm (2.610 in.) | 9.9 |

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