Oil Pressure Checks

Line pressures
- Drive min. 80-110 PSI max. 228-263 PSI.
- Reverse min. 90-140 PSI max. 282-350 PSI.

Pressure control pressures
- min. 0-15 PSI max. 112-134 PSI.
Air Checks

See next page for more info.
Transmission Test Plate and Gasket

To air check the case area use the test plate shown below or use cut off pieces of hose to reach the bottom of the web areas and—or flat metal plates with holes in them on the passages that the rubber tip air guns will not fit.
Lube

Direct clutch

Forward clutch
Oil Pan & Oil Levels

Torque pan bolts to 8 lb. ft.
Total capacity is 12.7 quarts of Mercon V fluid.
Using other fluids may cause chatters and squawks.

No dipstick
Fill through the fill plug shown or the speed sensor locations
When oil comes out level pipe, transmission it is full.
Check when warm.

Oil level pipe establishes oil level in transmission oil pan.
Remove plug from the bottom side of the pan using 3/16 Allen wrench, let run out what will, then replace plug.
Converter drain plug access.

Torque pan bolts to 8lb. Ft.

3/16 Allen plug
Filter and Pan Gasket

Filter part # 1L2Z 7A 098 AC

Filter bolts 2.615”
Solenoid body bolts—torque to 71 in. lb.

A 1.114” 1 piece Torx

B 2.638” 7 pieces Torx

Valve body & filter bolts—torque to 89 in.lb

C 1.319” 1 piece 8mm

D 1.421” 1 piece 8mm

E 1.817” 7 pieces 8mm

F 1.833” 11 pieces 8mm

G 2.073” 1 piece 10mm

H 2.615” filter bolts 2 pieces 8mm

G 2.947” reverse servo body bolts 4 pieces 8mm
Valve Body
.946” plate bolts 3 pieces
Torque to 89 in. lb.

A locations
Valve Body
VFS1 modulator

#1 booster

Main regulator

#2 booster

Solenoid regulator

Converter limit

Manual

Dimensions:
- VFS1 modulator: .984” x .277” x .023”
- #1 booster: 1.476” x .722” x .036”
- #2 booster: 1.338” x .380” x .037”
- Main regulator: 1.518” x .380” x .037”
- Converter limit: 1.399” x .360” x .036”
Converter clutch modulator control

.879” x .206” x .015”

Converter clutch modulator

OD servo control

.721” x .212” x .027”

Forward engagement control

1.085” x .326” x .029”

RS ISA select

.830” x .245” x .026”

Rear servo control

.836” x .282” x .027”
Install .250” rubber balls at the “B” locations
Converter clutch control
.910” x .241” x .023”

Fluid cooler bypass
1.040” x .625” x .035”

Thermo assembly

Converter clutch back pressure
1.219” x .322” x .028”

Coast clutch control
1.346” x .321” x .030”

.971” x .277” x .025”

VFS2 modulator

Intermediate servo release
1.345” x .321” x .030”

High clutch control
1.457” x .321” x .030”

Reverse modulator
.948” x .323” x .025”

Reverse engagement
.917” x .322” x .028”

18
Separator Plate

Gaskets are bonded to the separator plate
Solenoid Body
Low / Reverse Servo & Band

Make sure arrow on cover is aligned on servo body as shown.

To remove cover align arrow on cover with one of the three slots.
Torque to 90 in. lb.

1.623” x .331” x .038”

Reverse servo check valve

7.650” x .2.350” x .134”

Rubber o-ring
Check band anchor pins for looseness in the case.

Low & reverse band
Valve Body Alignment Pins and Center Support Bolt

Torque center support bolt to 8 lb. ft.

Alignment pin

Use Ford alignment pins #307-334 at locations shown.
A pump puller is necessary to remove the pump.

Torque pump bolts to 18 lb. ft.
1. **Assemble & Align Pump**
Start bolts, leave pump halves loose. Slide **Pump Tool** over stator spline. Push tool, while wiggling pump body making sure tool enters and snug in the pump bushing. Tighten the pump bolts to 18 ft lbs.
Plastic selective thrust washer available in the following sizes

- .060” brown
- .070” red
- .080” black
- .090” orange
- .100” purple

Torque bolts to 18 ft. lb.
Pump wear plate should be scratch free.
Dimples on pump gears face down.

Rubber o-ring

Pump valve and o-ring
Internal Components

Turbine shaft

Overdrive band

Coast clutch drum

Plastic selective washer

Overdrive sun gear

Overdrive ring gear

Overdrive carrier

Roller bearing

Overdrive sun gear spacer adapter

Pump assembly
Tapered side faces up

Roller bearing inner lip faces up

Intermediate band

Selective roller bearing
No notch .110"
One notch .116"
Two notch .124"
Three notch .132"
Inner lip faces down

Forward drum

Intermediate brake drum

Center support

Roller bearing inner lip faces down

Washer
Low and reverse planetary carrier

Roller bearing inner lip faces down

Sun gear shell

Sun gear spacer

Roller bearing inner lip faces up

Forward planetary ring gear

Plastic spacer

Snap ring

Roller bearing inner lip faces up

Forward planetary
Roller bearing inner race faces up.

Teflon sealing ring

Output shaft ring gear

Low and reverse brake drum.

Low and reverse band
Extension housing
Center Support Snap Ring

Snap ring openings are positioned as shown. Tapered side of the snap ring faces up. Snap ring is .141 thick.
Internal parts differences in the 5R55N, W&S series

Turbine shafts are 10.230” in the 5R55W/S models. The 5R55N use a 10.030” length shaft from 1999-2001. 2002 and later 5R55N uses the 10.230” shaft

The coast clutch drum

The 5R55N is used in the Lincoln LS and in the Jaguar. The 5R55W/S models are used in the Explorer and Mountaineer.

Tabs on the sun gear spacer are straight on the 1999-2001 5R55N and has straight slots on the drum. 2002 up 5R55N uses angled slots on the drum and the spacer like the 5R55W/S models.

5R55W/S sun gear spacer is shown actual size. 5R55N has a small inside diameter and only has 24 teeth.

5R55W/S sun gear has 38 teeth. 5R55N has 24 teeth.
5R55W/S overdrive carrier has 28 tooth pinion gears.  
5R55N has 25 tooth pinion gears.

5R55W/S ring gear has 94 teeth.  
5R55N has 72 teeth.

The retaining snap ring is also different.

5R55W/S measures
.050 thickness  
.194 on wall thickness

5R55N measures
.060 thickness  
.155 on wall thickness
5R55W/S uses a stamped steel piston and spring retainer. The 5R55N uses an aluminum piston and has a spacer ring 1999-01. 2002 and later is the same as 5R55W/S.
5R55W/S forward ring gear uses 101 teeth. The 5R55N has 85 teeth from 1999-01 and then in 2002 and later is the same as 5R55W/S models.

5R55W/S forward planetary is also different having 23 tooth pinion gears. The 5R55N uses 19 tooth gears until 2002 and then is the same as 5R55W/S models.

5R55W/S sun gear has 55 teeth and no roller bearing in bore. The 5R55N has 47 teeth with a roller bearing in the bore until 1999 and then is the same as the 5R55W/S

Uses wide spacer. 5R55N uses a sprag assembly.
Reverse servo housing, piston and valve are different see dimensions below.

Piston are different, make sure rubber o-ring fits snug in bore of piston.

1.640” 5R55W/S
1.170” 5R55N

Rubber o-ring
Servo Assemblies and Band Adjustment

Servo pins wear the case bore causing a slip in 2nd, 3rd and 5th gear. The case usually needs repair by 70,000 miles.

Repair kit is available from servobore.com
Or call 715-458-2617
FAX 715-458-2611

Overdrive servo
Works 2nd and 5th gears.

Intermediate servo
Works 3rd gear.
Overdrive servo

1.627” x .727” x .088”

Intermediate servo

1.627” x .727” x .088”
Servo strut must face as shown.

Overdrive band adjustment
Tighten band adjusting screw to 120 in. lb. then back off two turns. Then tighten lock nut to 40 ft. lb.

Intermediate band adjustment
Tighten band adjusting screw to 120 in. lb. then back off two turns. Then tighten lock nut to 40 ft. lb.
Coast Clutch

Clutch piston return springs measure 1.086” x .323” x .042”

Notice direction of grooves on friction plates.

Clutch pack clearance should be .055”-.075”.

.063” steel  .069” friction  .063” steel

.199” pressure plate

.065” selective snap ring
Direct Clutch

Clutch piston return springs measure 1.086” x .323” x .042”

.065” selective snap ring

.083” friction
Internally splined

.199 pressure plate

.081” friction
Externally splined

Frictions are single sided.
Be sure to alternate internally splined and externally splined clutches as shown.
The back side of frictions operate as a steel plate.

Clutch pack clearance should be .055”-.065”.
Forward Clutch

Grooves in friction should face as shown.

Clutch clearance should be .055”-.080”

.080” selective snap ring

.065” steel

.065” steel

.065” steel

.065” steel

.065” steel

.065” steel

.068” pressure plate

.068” friction

.068” friction

.068” friction

.068” friction

.068” friction

.068” friction

.068” friction
# Clutch Pack Selective Snap Rings

## Coast Clutch and Direct Clutch

### Selective Snap Ring Chart

<table>
<thead>
<tr>
<th>Thickness</th>
<th>Part #</th>
</tr>
</thead>
<tbody>
<tr>
<td>.054”</td>
<td>E8601126-S</td>
</tr>
<tr>
<td>.068”</td>
<td>E8601127-S</td>
</tr>
<tr>
<td>.082”</td>
<td>E8601128-S</td>
</tr>
<tr>
<td>.096”</td>
<td>E8601129-S</td>
</tr>
</tbody>
</table>

## Forward Clutch Selective

### Snap Ring Chart

<table>
<thead>
<tr>
<th>Thickness</th>
<th>Part#</th>
</tr>
</thead>
<tbody>
<tr>
<td>.068”</td>
<td>XW4Z-7D483-AB</td>
</tr>
<tr>
<td>.082”</td>
<td>XW4Z-7D483-AC</td>
</tr>
<tr>
<td>.096”</td>
<td>XW4Z-7D483-AD</td>
</tr>
</tbody>
</table>
Hold O.D. Planet Carrier assembly and rotate O.D. center shaft. It should free-wheel in the direction of the arrow.
Low/Reverse One Way Clutch

Low/Reverse brake drum should rotate clockwise when installed in the case as shown.
Digital Transmission Range (DTR) Sensor and Speed Sensors

Turbine shaft sensor (TSS)
Intermediate shaft sensor (ISS)
Output shaft sensor (OSS)

Torque DTR mounting bolts to 90 in lbs.
Torque manual lever nut to 35 ft .lbs.

Digital Transmission Range (DTR) Sensor

<table>
<thead>
<tr>
<th>Pin Number</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Not used</td>
</tr>
<tr>
<td>2</td>
<td>Signal Return</td>
</tr>
<tr>
<td>3</td>
<td>TR3A</td>
</tr>
<tr>
<td>4</td>
<td>TR1</td>
</tr>
<tr>
<td>5</td>
<td>TR2</td>
</tr>
<tr>
<td>6</td>
<td>TR4</td>
</tr>
<tr>
<td>7</td>
<td>Ground</td>
</tr>
<tr>
<td>8</td>
<td>Neutral</td>
</tr>
<tr>
<td>9</td>
<td>Power Feed</td>
</tr>
<tr>
<td>10</td>
<td>Starter Control</td>
</tr>
<tr>
<td>11</td>
<td>Back-up</td>
</tr>
<tr>
<td>12</td>
<td>Starter to Interrupt relay</td>
</tr>
</tbody>
</table>
All of the sensors are marked XW4P 7H 103AA at this location.

Torque sensor bolts to 90 in. lbs.

The one stamped 0900 installs at the turbine shaft sensor location.

The two stamped 2950 install at the intermediate shaft sensor and the output shaft sensor locations.
Case Connector

- TFT
- Shift solenoid power
- Pressure control C
- Shift solenoid D
- Shift solenoid C
- Pressure control B
- Shift solenoid B
- Shift solenoid A
- Signal return
- Not used
- TCC
- TFT transmission fluid temperature sensor.

Case Connector

Pressure control A
Signal return
Not used
TCC
Shift solenoid B
Shift solenoid A
Gear Ratios & Clutch, Band Application Chart

5R55S Gear Ratios

<table>
<thead>
<tr>
<th>Gear</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>3.22</td>
</tr>
<tr>
<td>2nd</td>
<td>2.29</td>
</tr>
<tr>
<td>3rd</td>
<td>1.55</td>
</tr>
<tr>
<td>4th</td>
<td>1.00</td>
</tr>
<tr>
<td>5th</td>
<td>0.71</td>
</tr>
<tr>
<td>Rev.</td>
<td>3.07</td>
</tr>
</tbody>
</table>

5R55W Gear Ratios

<table>
<thead>
<tr>
<th>Gear</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>3.22</td>
</tr>
<tr>
<td>2nd</td>
<td>2.41</td>
</tr>
<tr>
<td>3rd</td>
<td>1.55</td>
</tr>
<tr>
<td>4th</td>
<td>1.00</td>
</tr>
<tr>
<td>5th</td>
<td>0.75</td>
</tr>
<tr>
<td>Rev.</td>
<td>3.07</td>
</tr>
</tbody>
</table>

Band & Clutch Application Chart

<table>
<thead>
<tr>
<th>Gear</th>
<th>Applied Band or Clutch</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>Forward Clutch &amp; low One way “Low Sprag”</td>
</tr>
<tr>
<td>2nd</td>
<td>*, Forward Clutch &amp; Overdrive Band</td>
</tr>
<tr>
<td>3rd</td>
<td>*, Forward Clutch &amp; Intermediate Band</td>
</tr>
<tr>
<td>4th</td>
<td>*, Forward Clutch &amp; Direct Clutch</td>
</tr>
<tr>
<td>5th</td>
<td>Forward Clutch, Direct Clutch &amp; Overdrive Band</td>
</tr>
<tr>
<td>Reverse</td>
<td>Reverse Band, Direct Clutch &amp; Coast Clutch</td>
</tr>
</tbody>
</table>

* = Direct One Way “Overdrive Sprag”
Torque the converter drain plug to 89 in. lb.
Torque these 8 nuts to 33 lb. ft.

Torque these 4 nuts to 28 lb. ft.
Scan Tools

Available from Ford

Worldwide Diagnostic System (WDS)
418-F224

New Generation Star (NGS)
Tester
418-F205 or equivalent scan tool

Aftermarket scan tools:

**SnapOn**  www.snapon.com or local dealer

Or

**Ease Diagnostics**  www.obd2.com or 888-366-3273
Abbreviations

A Ampere(s)/Amp(s)
AB Abs Antilock Brake System
A/C Air Conditioning
AC Alternating Current
ACC Automatic Climate Control
ACL Air Cleaner
ACR4 Air Conditioning Refrigerant, Recovery, Recycling, Recharging
A/D Analog to Digital
ADL Automatic Door Lock
A/F Air/Fuel Ratio
AIR Secondary Air Injection
ALC Automatic Level Control
AM/FM Amplitude Modulation/Frequency Modulation
Ant Antenna
AP Accelerator Pedal
API American Protection Institute
APP Accelerator Pedal Position
APT Adjustable Part Throttle
ARS Automatic Restraint System
A/T Automatic Transmission/Transaxle
ATC Automatic Temperature Control
ATDC After Top Dead Center
Auto Automatic
avg Average
AWD All Wheel Drive
AWG American Wire Gage
B+ Battery Positive Voltage
B Battery Negative Voltage
BARO Barometric Pressure sensor
batt Battery
BBV Brake Booster Vacuum
BCM Body Control Module
BHP Brake Horsepower
BLK Black
BLU Blue
BOO Brake on/off switch
BP Back Pressure
BPM Brake Pressure Modulator
BPMV Brake Pressure Modulator Valve
BPP Brake Pedal Position
BRN Brown
BTDC Before Top Dead Center
BTDS Brake Transmission Shift Interlock
Btu British Thermal Units
C Degrees Celsius
CAC Charge Air Cooler
CAFÉ Corporate Average Fuel Economy
Cal Calibration
Cam Camshaft
CARB Calif Air Resources Board
cubic centimeters
CCM Central Control Module
CCOT Cycling Clutch Orifice Tube
CPP Climate Control Panel
CD Compact Disc
CE Commutator End
CEAB Cold Engine Air Bleed
CEMF Counter Electromotive Force
cubic feet per minute
cg center of gravity
CID Cubic Inch Displacement
CKP Crankshaft Position sensor
CKT Circuit
CL Closed Loop
C/Ltr Cigar Lighter
CMP Camshaft Position sensor
CNG Compressed Natural Gas
CO Carbon Monoxide
CO2 Carbon Dioxide
Coax Coaxial
COMM Communication
Conn Connector
CPA Connector Position Assurance
CPP Clutch Pedal Position
CPS Central Power Supply
CPU Central Processing Unit
CRT Cathode Ray Tube
CRTC Cathode Ray Tube Controller
CS Charging System
CTP Closed Throttle Position
cubic foot/feet
cu in Cubic inch Inches
CV Constant Velocity (Joint)
Cyl Cylinder(s)
DAB Delayed Accessory Bus
DB Decibels on A-weighted Scale
direct Current
DC Direct Current
DE Drive End
DEC Digital Electronic Controller
DERM Diagnostic Energy Reserve Module
DI Distributor Ignition
dia diameter
DIC Driver Information Center
Diff Differential
DK Dark
DLC Data Link Connector
DMM Digital Multimeter
DOHC Dual Overhead Camshafts
DR Driver
DRL Daytime Running Lamps
DTC Diagnostic Trouble Code
DTM Diagnostic test mode
EBCM Electronic Brake Control Module
EBTCM Electronic Brake & Traction Control Module
EC Electrical Center
ECC Electronic Climate Control
ECI Extended Compressor at Idle
ECL Engine Coolant Level
ECM Engine Control Module
ECS Emission Control System
ECT Engine Coolant Temperature
EEPROM Electronically Erasable Programmable Read Only Memory
EEVIR Evaporator Equalized Values in Receiver
EF E Early Fuel Evaporation
EGR Exhaust Gas Recirculation
EGRTVV Exhaust Gas Recirculation Thermal Vacuum Valve
EI Electronic Ignition
ELAP Elapsed
ELC Electronic Level Control
E/M English/Metric
EMF Electromotive Force
Eng Engine
EOP Engine Oil Pressure
EOT Engine Oil Temperature
EPA Environmental Protection Agency
EPR Exhaust Pressure Regulator
EPROM Erasable Programmable Read Only Memory
ESC Electronic Suspension Control
ESD Electrostatic Discharge
ETC Electronic Throttle Control or Electronic Temperature Control
DM Door Control Module
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETR</td>
<td>Electronically Tuned Receiver</td>
</tr>
<tr>
<td>EVAP</td>
<td>Evaporative Emission</td>
</tr>
<tr>
<td>EVO</td>
<td>Electronic Variable Orifice</td>
</tr>
<tr>
<td>Exh</td>
<td>Exhaust</td>
</tr>
<tr>
<td>F</td>
<td>Degrees Farenheit</td>
</tr>
<tr>
<td>FC</td>
<td>Fan Control</td>
</tr>
<tr>
<td>FDC</td>
<td>Fuel Data Center</td>
</tr>
<tr>
<td>FED</td>
<td>Federal (all United States except Calif)</td>
</tr>
<tr>
<td>FEDS</td>
<td>Fuel Enable Data Stream</td>
</tr>
<tr>
<td>FF</td>
<td>Flexible Fuel</td>
</tr>
<tr>
<td>FI</td>
<td>Fuel Injection</td>
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<tr>
<td>FMEM</td>
<td>Failure management effects mode</td>
</tr>
<tr>
<td>FMVSS</td>
<td>Federal Motor Vehicle Safety Standards</td>
</tr>
<tr>
<td>F/P</td>
<td>Fuel Pump</td>
</tr>
<tr>
<td>Ft</td>
<td>foot/feet</td>
</tr>
<tr>
<td>FT</td>
<td>Fuel Trim</td>
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<tr>
<td>F4WD</td>
<td>Full Time Four Wheel Drive</td>
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<tr>
<td>4WAL</td>
<td>Four Wheel Antilock</td>
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<td>4WD</td>
<td>Four Wheel Drive</td>
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<tr>
<td>FW</td>
<td>Flat Wire</td>
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<tr>
<td>FWD</td>
<td>Front Wheel Drive</td>
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<tr>
<td>g</td>
<td>gram(s) or Gravitational Acceleration</td>
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<td>GA</td>
<td>Gage</td>
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<tr>
<td>gal</td>
<td>gallon(s)</td>
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<td>gas</td>
<td>gasoline</td>
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<tr>
<td>GCW</td>
<td>Gross Combination Weight</td>
</tr>
<tr>
<td>Gen</td>
<td>Generator</td>
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<tr>
<td>GL</td>
<td>Gear Lubricant</td>
</tr>
<tr>
<td>GM</td>
<td>General Motors</td>
</tr>
<tr>
<td>GM SPO</td>
<td>General Motors Service Parts Operations</td>
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<tr>
<td>gnd</td>
<td>ground</td>
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<td>gpm</td>
<td>gallons per minute</td>
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<td>GRN</td>
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<td>GRY</td>
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<td>Gross Vehicle Weight Rating</td>
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<td>H2O</td>
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<td>HC</td>
<td>Hydrocarbons</td>
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<td>H/CMPR</td>
<td>High Compression</td>
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<tr>
<td>HD</td>
<td>Heavy Duty</td>
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<tr>
<td>HDC</td>
<td>Heavy Duty Cooling</td>
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<tr>
<td>hex</td>
<td>hexagon</td>
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<td>Hg</td>
<td>Mercury</td>
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<tr>
<td>Hi Alt</td>
<td>High Altitude</td>
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<tr>
<td>HO2S</td>
<td>Heated Oxygen Sensor</td>
</tr>
<tr>
<td>hp</td>
<td>horsepower</td>
</tr>
<tr>
<td>HPL</td>
<td>High Pressure Liquid</td>
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<td>HPS</td>
<td>High Performance System</td>
</tr>
<tr>
<td>HPV</td>
<td>High Pressure Vapor</td>
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<td>Htd</td>
<td>Heated</td>
</tr>
<tr>
<td>HTR</td>
<td>Heater</td>
</tr>
<tr>
<td>HUD</td>
<td>Head-up Display</td>
</tr>
<tr>
<td>HVAC</td>
<td>Heater-Vent-Air Conditioning</td>
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<td>HVACM</td>
<td>Heater-Vent-Air Conditioning Module</td>
</tr>
<tr>
<td>HVM</td>
<td>Heater Vent Module</td>
</tr>
<tr>
<td>Hz</td>
<td>Hertz</td>
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<tr>
<td>IAC</td>
<td>Idle Air Control</td>
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<tr>
<td>IAT</td>
<td>Intake Air Temperature</td>
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<tr>
<td>IC</td>
<td>Integrated Circuit or Ignition Control</td>
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<td>ICM</td>
<td>Ignition Control Module</td>
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<td>ID</td>
<td>Identification or Inside Diameter</td>
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<tr>
<td>IDI</td>
<td>Integrated Direct Ignition</td>
</tr>
<tr>
<td>ign</td>
<td>Ignition</td>
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<tr>
<td>ILC</td>
<td>Idle Load Compensator</td>
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<tr>
<td>in</td>
<td>inch(es)</td>
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<tr>
<td>INJ</td>
<td>Injection</td>
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<tr>
<td>inst</td>
<td>instantaneous</td>
</tr>
<tr>
<td>I/P</td>
<td>Instrument Panel</td>
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<td>Instrument Panel Cluster</td>
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<td>Instrument Panel Electrical Center</td>
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<td>Idle Speed Control</td>
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<td>Input Speed Shaft</td>
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<td>Keyboard Display Driver</td>
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<tr>
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<tr>
<td>lb</td>
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<tr>
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<tr>
<td>lb in</td>
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<tr>
<td>LCD</td>
<td>Liquid Crystal Display</td>
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<td>LDCL</td>
<td>Left Door Closed Locking</td>
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<tr>
<td>LDCM</td>
<td>Left Door Control Module</td>
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<td>LF</td>
<td>Left Front</td>
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<td>Mass Air Flow</td>
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<td>Manual</td>
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<td>MAP</td>
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<td>MFI</td>
<td>Multiport Fuel Injection</td>
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<td>ml</td>
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<td>MLP</td>
<td>Manual lever position sensor</td>
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<td>Manual Transmission/Transaxle</td>
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<td>NAES</td>
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<td>NC</td>
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<tr>
<td>NEG</td>
<td>Negative</td>
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<td>Neutral</td>
</tr>
<tr>
<td>NLGI</td>
<td>National Lubricating Grease Institute</td>
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<tr>
<td>N-m</td>
<td>Newton-meter (torque)</td>
</tr>
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<td>NO</td>
<td>Normally Open</td>
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<tr>
<td>NOx</td>
<td>Nitrogen Oxides</td>
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<td>NPTC</td>
<td>National Pipe Thread-Course</td>
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<tr>
<td>NPTF</td>
<td>National Pipe Thread-Fine</td>
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<tr>
<td>NVRAM</td>
<td>Non-volatile Random Access Memory</td>
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<tr>
<td>O2</td>
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<td>Oxygen Sensor</td>
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<td>OBD II</td>
<td>On-board Diagnostics II</td>
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<td>OC</td>
<td>Oxidation Converter (Catalytic)</td>
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<tr>
<td>OD</td>
<td>Outside Diameter</td>
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<tr>
<td>ODO</td>
<td>Odometer</td>
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<td>OE</td>
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<td>Original Equipment Manufacturer</td>
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<td>OHC</td>
<td>Overhead Camshaft</td>
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<td>ORN</td>
<td>Orange</td>
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<tr>
<td>OSS</td>
<td>Output Shaft Speed</td>
</tr>
<tr>
<td>oz</td>
<td>ounce(s)</td>
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<td>PAG</td>
<td>Polyalkylene Glycol</td>
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<tr>
<td>PASS</td>
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<tr>
<td>Abbreviation</td>
<td>Definition</td>
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<td>--------------</td>
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<tr>
<td>P/B</td>
<td>Power Brakes</td>
</tr>
<tr>
<td>PC</td>
<td>Pressure Control</td>
</tr>
<tr>
<td>PCB</td>
<td>Printed Circuit Board</td>
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<tr>
<td>PCM</td>
<td>Powertrain Control Module</td>
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<td>PCS</td>
<td>Pressure Control Solenoid</td>
</tr>
<tr>
<td>PCV</td>
<td>Positive Crankcase Ventilation</td>
</tr>
<tr>
<td>PM</td>
<td>Permanent Magnet (Generator)</td>
</tr>
<tr>
<td>P/N</td>
<td>Part Number</td>
</tr>
<tr>
<td>PNK</td>
<td>Pink</td>
</tr>
<tr>
<td>PNP</td>
<td>Park/Neutral Position</td>
</tr>
<tr>
<td>PRNDL</td>
<td>Park, Reverse, Neutral, Drive, Low</td>
</tr>
<tr>
<td>POA</td>
<td>Pilot Operated Absolute (Valve)</td>
</tr>
<tr>
<td>POS</td>
<td>Positive</td>
</tr>
<tr>
<td>POT</td>
<td>Potentiometer (Variable Resistor)</td>
</tr>
<tr>
<td>PPL</td>
<td>Purple</td>
</tr>
<tr>
<td>ppm</td>
<td>parts per million</td>
</tr>
<tr>
<td>PROM</td>
<td>Programmable Read Only Memory</td>
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<tr>
<td>P/S</td>
<td>Power Steering</td>
</tr>
<tr>
<td>PSD</td>
<td>Power Sliding Door</td>
</tr>
<tr>
<td>PSP</td>
<td>Power Steering Pressure</td>
</tr>
<tr>
<td>psi</td>
<td>pounds per square inch</td>
</tr>
<tr>
<td>psia</td>
<td>pounds per square inch absolute</td>
</tr>
<tr>
<td>psig</td>
<td>pounds per square inch guage</td>
</tr>
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<td>pt</td>
<td>pint</td>
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<td>PWM</td>
<td>Pulse Width Modulated</td>
</tr>
<tr>
<td>qt</td>
<td>quart(s)</td>
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<tr>
<td>R-12</td>
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</tr>
<tr>
<td>R-134a</td>
<td>Refrigerant-134a</td>
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<tr>
<td>RAM</td>
<td>Random Access Memory (impermanent memory device; memory contents lost when power removed)</td>
</tr>
<tr>
<td>RAP</td>
<td>Retained Accessory Power</td>
</tr>
<tr>
<td>RAV</td>
<td>Remote Activation Verification</td>
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<tr>
<td>RCDLR</td>
<td>Remote Control Door Lock Receiver</td>
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<tr>
<td>RDCM</td>
<td>Right Door Control Module</td>
</tr>
<tr>
<td>Ref</td>
<td>Reference</td>
</tr>
<tr>
<td>Rev</td>
<td>Reverse</td>
</tr>
<tr>
<td>RF</td>
<td>Right Front or Radio Frequency</td>
</tr>
<tr>
<td>RFA</td>
<td>Remote Function Actuation</td>
</tr>
<tr>
<td>RFI</td>
<td>Radio Frequency Interference</td>
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<tr>
<td>RH</td>
<td>Right Hand</td>
</tr>
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<td>Rly</td>
<td>relay</td>
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<tr>
<td>RM</td>
<td>Relay module</td>
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<tr>
<td>ROM</td>
<td>Read Only Memory (permanent memory device)</td>
</tr>
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<td>RPM</td>
<td>Revolutions Per Minute—Engine Speed</td>
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<tr>
<td>RPO</td>
<td>Regular Production Option</td>
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<tr>
<td>RR</td>
<td>Right Rear</td>
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<td>right</td>
</tr>
<tr>
<td>RTD</td>
<td>Real Time Damping</td>
</tr>
<tr>
<td>RTVL</td>
<td>Room Temperature Vulcanizing (Sealer)</td>
</tr>
<tr>
<td>RWAL</td>
<td>Rear Wheel Antilock</td>
</tr>
<tr>
<td>RWD</td>
<td>Rear Wheel Drive</td>
</tr>
<tr>
<td>S</td>
<td>second(s)</td>
</tr>
<tr>
<td>SAE</td>
<td>Society of Automotive Engineers</td>
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<td>Supercharger</td>
</tr>
<tr>
<td>SCB</td>
<td>Supercharger Bypass</td>
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<td>SCM</td>
<td>Seat Control Module</td>
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<tr>
<td>SDM</td>
<td>Sensing &amp; Diagnostic Module</td>
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<tr>
<td>SEO</td>
<td>Special Equipment Option</td>
</tr>
<tr>
<td>SFI</td>
<td>Sequential Multiport Fuel Injection</td>
</tr>
<tr>
<td>SI</td>
<td>System International (modern version of metric system)</td>
</tr>
<tr>
<td>SIR</td>
<td>Supplemental Inflatable Restraint</td>
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<tr>
<td>SLA</td>
<td>Short/Long Arm</td>
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<tr>
<td>sol</td>
<td>solenoid</td>
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<td>Sulfur Dioxide</td>
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<td>Splice Pack</td>
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<td>SPO</td>
<td>Service Parts Operations</td>
</tr>
<tr>
<td>sq</td>
<td>square foot/feet</td>
</tr>
<tr>
<td>sq in</td>
<td>square inch(es)</td>
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<tr>
<td>SRC</td>
<td>Service Ride Control</td>
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<td>SRI</td>
<td>Service Reminder Indicator</td>
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<td>ST</td>
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<tr>
<td>sw</td>
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<td>synchro</td>
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<td>Tach</td>
<td>Tachometer</td>
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<tr>
<td>TB</td>
<td>Throttle body</td>
</tr>
<tr>
<td>TBI</td>
<td>Throttle Body Fuel Injection</td>
</tr>
<tr>
<td>TC</td>
<td>Turbocharger</td>
</tr>
<tr>
<td>TCC</td>
<td>Torque Converter Clutch</td>
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<td>TCI</td>
<td>Transmission Control Indicator Lamp</td>
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<td>Transmission control switch</td>
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<tr>
<td>TDC</td>
<td>Top Dead Center</td>
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<tr>
<td>TEMP</td>
<td>Temperature</td>
</tr>
<tr>
<td>Term</td>
<td>Terminal</td>
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<tr>
<td>TFP</td>
<td>Transmission Fluid Pressure</td>
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<td>TFF</td>
<td>Transmission Fluid Temperature</td>
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<td>TOC</td>
<td>Transmission Oil Cooler</td>
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<td>TP</td>
<td>Throttle Position</td>
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<td>Terminal Positive Assurance</td>
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<td>TPM</td>
<td>Tire Pressure Monitoring</td>
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<tr>
<td>TR</td>
<td>Transmission Range / Sensor</td>
</tr>
<tr>
<td>TRANS</td>
<td>Transmission/Transaxle</td>
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<tr>
<td>TSS</td>
<td>Turbine shaft sensor</td>
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<tr>
<td>TVRS</td>
<td>Television &amp; Radio Suppression</td>
</tr>
<tr>
<td>TVV</td>
<td>Thermal Vacuum Valve</td>
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<tr>
<td>TWC</td>
<td>Three-way Converter (Catalytic)</td>
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<tr>
<td>TWC+OC</td>
<td>Three-way + Oxidation Converter (Catalytic)</td>
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<td>UART</td>
<td>Universal Asynchronous Receive &amp; Transmit</td>
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<tr>
<td>U/H</td>
<td>Under Hood</td>
</tr>
<tr>
<td>U/H</td>
<td>Under Hood Electrical Center</td>
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<td>U-Joint</td>
<td>Universal Joint</td>
</tr>
<tr>
<td>UTD</td>
<td>Universal Theft Deterrent</td>
</tr>
<tr>
<td>UV</td>
<td>Ultraviolet</td>
</tr>
<tr>
<td>V</td>
<td>Volt(s) or Voltage</td>
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<tr>
<td>V6</td>
<td>V-type 6 Cylinder Engine</td>
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<tr>
<td>V8</td>
<td>V-type 8 Cylinder Engine</td>
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<td>Vac</td>
<td>Vacuum</td>
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<td>VAC</td>
<td>Vehicle Access Code</td>
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<td>VATS</td>
<td>Vehicle Anti-theft System</td>
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<td>VCM</td>
<td>Vehicle Control Module</td>
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<td>Variable Displacement Orifice Tube</td>
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<td>VDV</td>
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<td>vel</td>
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<td>Violet</td>
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<td>Vehicle Identification Number</td>
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<td>Vacuum Modulator Valve</td>
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<td>VR</td>
<td>Voltage Regulator</td>
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<td>V ref</td>
<td>Voltage reference</td>
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<tr>
<td>VSS</td>
<td>Vehicle Speed Sensor – also called OSS sensor</td>
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<tr>
<td>W/</td>
<td>with</td>
</tr>
<tr>
<td>W/B</td>
<td>Wheel Base</td>
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<td>Wheel</td>
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<tr>
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<td>White</td>
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<tr>
<td>W/o</td>
<td>without</td>
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<td>Wide Open Throttle</td>
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<td>Water Pump</td>
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<td>Windshield</td>
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<tr>
<td>WSS</td>
<td>Wheel Speed Sensor</td>
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<td>WU-OC</td>
<td>Warm-up Oxidation Converter (Catalytic)</td>
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<tr>
<td>WU-TWC</td>
<td>Warm-up Three-way Converter (Catalytic)</td>
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<td>Expansion Valve</td>
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<td>Code</td>
<td>Description</td>
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<td>P0100</td>
<td>Mass or Volume Air Flow Circuit Malfunction</td>
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<tr>
<td>P0101</td>
<td>Mass or Volume Air Flow Circuit Range/Performance Problem</td>
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<tr>
<td>P0102</td>
<td>Mass or Volume Air Flow Circuit Low Input</td>
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<tr>
<td>P0103</td>
<td>Mass or Volume Air Flow Circuit High Input</td>
</tr>
<tr>
<td>P0104</td>
<td>Mass or Volume Air Flow Circuit Intermittent</td>
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<tr>
<td>P0105</td>
<td>Manifold Absolute Pressure/Barometric Pressure Circuit Malfunction</td>
</tr>
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<td>P0106</td>
<td>Manifold Absolute Pressure/Barometric Pressure Circuit Range/Performance</td>
</tr>
<tr>
<td>P0107</td>
<td>Manifold Absolute Pressure/Barometric Pressure Circuit Low Input</td>
</tr>
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<td>P0108</td>
<td>Manifold Absolute Pressure/Barometric Pressure Circuit High Input</td>
</tr>
<tr>
<td>P0109</td>
<td>Manifold Absolute Pressure/Barometric Pressure Circuit Intermittent</td>
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<td>P0110</td>
<td>Intake Air Temperature Circuit Malfunction</td>
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<td>P0111</td>
<td>Intake Air Temperature Circuit Range/Performance Problem</td>
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<tr>
<td>P0112</td>
<td>Intake Air Temperature Circuit Low Input</td>
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<tr>
<td>P0113</td>
<td>Intake Air Temperature Circuit High Input</td>
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<td>P0114</td>
<td>Intake Air Temperature Circuit Intermittent</td>
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<td>P0115</td>
<td>Engine Coolant Temperature Circuit Malfunction</td>
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<td>P0116</td>
<td>Engine Coolant Temperature Circuit Range/Performance Problem</td>
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<td>P0117</td>
<td>Engine Coolant Temperature Circuit Low Input</td>
</tr>
<tr>
<td>P0118</td>
<td>Engine Coolant Temperature Circuit High Input</td>
</tr>
<tr>
<td>P0119</td>
<td>Engine Coolant Temperature Circuit Intermittent</td>
</tr>
<tr>
<td>P0120</td>
<td>Throttle/Petal Position Sensor/Switch A Circuit Malfunction</td>
</tr>
<tr>
<td>P0121</td>
<td>Throttle/Petal Position Sensor/Switch A Circuit Range/Performance Problem</td>
</tr>
<tr>
<td>P0122</td>
<td>Throttle/Petal Position Sensor/Switch A Circuit Low Input</td>
</tr>
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<td>P0123</td>
<td>Throttle/Petal Position Sensor/Switch A Circuit High Input</td>
</tr>
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<td>P0124</td>
<td>Throttle/Petal Position Sensor/Switch A Circuit Intermittent</td>
</tr>
<tr>
<td>P0125</td>
<td>Insufficient Coolant Temperature for Closed Loop Fuel Control</td>
</tr>
<tr>
<td>P0126</td>
<td>Insufficient Coolant Temperature for Stable Operation</td>
</tr>
<tr>
<td>P0130</td>
<td>02 Sensor Circuit Malfunction (Bank 1 Sensor 1)</td>
</tr>
<tr>
<td>P0131</td>
<td>02 Sensor Circuit Low Voltage (Bank 1 Sensor 1)</td>
</tr>
<tr>
<td>P0132</td>
<td>02 Sensor Circuit High Voltage (Bank 1 Sensor 1)</td>
</tr>
<tr>
<td>P0133</td>
<td>02 Sensor Circuit Slow Response (Bank 1 Sensor 1)</td>
</tr>
<tr>
<td>P0134</td>
<td>02 Sensor Circuit No Activity Detected (Bank 1 Sensor 1)</td>
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<tr>
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P0160 02 Sensor Circuit No Activity Detected (Bank 2 Sensor 2)
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P0163 02 Sensor Circuit Low Voltage (Bank 2 Sensor 3)
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P0176 Fuel Composition Sensor Circuit Malfunction
P0177 Fuel Composition Sensor Circuit Range/Performance
P0178 Fuel Composition Sensor Circuit Low Input
P0179 Fuel Composition Sensor Circuit High Input
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P0181 Fuel Temperature Sensor A Circuit Range/Performance
P0182 Fuel Temperature Sensor A Circuit Low Input
P0183 Fuel Temperature Sensor A Circuit High Input
P0184 Fuel Temperature Sensor A Circuit Intermittent
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P0191 Fuel Rail Pressure Sensor Circuit Range/Performance
P0192 Fuel Rail Pressure Sensor Circuit Low Input
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P0205 Injector Circuit Malfunction - Cylinder 5
P0206 Injector Circuit Malfunction - Cylinder 6
P0207 Injector Circuit Malfunction - Cylinder 7
P0208 Injector Circuit Malfunction - Cylinder 8
P0209 Injector Circuit Malfunction - Cylinder 9
P0210 Injector Circuit Malfunction - Cylinder 10
P0211 Injector Circuit Malfunction - Cylinder 11
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P0221 Throttle/Petal Position Sensor/Switch B Circuit Range/Performance Problem
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P0223 Throttle/Petal Position Sensor/Switch B Circuit High Input
P0224 Throttle/Petal Position Sensor/Switch B Circuit Intermittent
P0225 Throttle/Petal Position Sensor/Switch C Circuit Malfunction
P0226 Throttle/Petal Position Sensor/Switch C Circuit Range/Performance Problem
P0227 Throttle/Petal Position Sensor/Switch C Circuit Low Input
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P0231 Fuel Pump Secondary Circuit Low
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P0238 Turbocharger Boost Sensor A Circuit High
P0239 Turbocharger Boost Sensor B Malfunction
P0240 Turbocharger Boost Sensor B Circuit Range/Performance
P0241 Turbocharger Boost Sensor B Circuit Low
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P0245 Turbocharger Wastegate Solenoid A Low
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P0247 Turbocharger Wastegate Solenoid B Malfunction
P0248 Turbocharger Wastegate Solenoid B Range/Performance
P0249 Turbocharger Wastegate Solenoid B Low
P0250 Turbocharger Wastegate Solenoid B High
P0251 Injection Pump Fuel Metering Control "A" Malfunction (Cam/Rotor/Injector)
P0252 Injection Pump Fuel Metering Control "A" Range/Performance (Cam/Rotor/Injector)
P0253 Injection Pump Fuel Metering Control "A" Low (Cam/Rotor/Injector)
P0254 Injection Pump Fuel Metering Control "A" High (Cam/Rotor/Injector)
P0255 Injection Pump Fuel Metering Control "A" Intermittent (Cam/Rotor/Injector)
P0256 Injection Pump Fuel Metering Control "B" Malfunction (Cam/Rotor/Injector)
P0257 Injection Pump Fuel Metering Control "B" Range/Performance (Cam/Rotor/Injector)
P0258 Injection Pump Fuel Metering Control "B" Low (Cam/Rotor/Injector)
P0259 Injection Pump Fuel Metering Control "B" High (Cam/Rotor/Injector)
P0260 Injection Pump Fuel Metering Control "B" Intermittent (Cam/Rotor/Injector)
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P0262 Cylinder 1 Injector Circuit High
P0263 Cylinder 1 Contribution/Balance Fault
P0264 Cylinder 2 Injector Circuit Low
P0265 Cylinder 2 Injector Circuit High
P0266 Cylinder 2 Contribution/Balance Fault
P0267 Cylinder 3 Injector Circuit Low
P0268 Cylinder 3 Injector Circuit High
P0269 Cylinder 3 Contribution/Balance Fault
P0270 Cylinder 4 Injector Circuit Low
P0271 Cylinder 4 Injector Circuit High
P0272 Cylinder 4 Contribution/Balance Fault
P0273 Cylinder 5 Injector Circuit Low
P0274 Cylinder 5 Injector Circuit High
P0275 Cylinder 5 Contribution/Balance Fault
P0276 Cylinder 6 Injector Circuit Low
P0277 Cylinder 6 Injector Circuit High
P0278 Cylinder 6 Contribution/Balance Fault
P0279 Cylinder 7 Injector Circuit Low
P0280 Cylinder 7 Injector Circuit High
P0281 Cylinder 7 Contribution/Balance Fault
P0282 Cylinder 8 Injector Circuit Low
P0283 Cylinder 8 Injector Circuit High
P0284 Cylinder 8 Contribution/Balance Fault
P0285 Cylinder 9 Injector Circuit Low
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P0287 Cylinder 9 Contribution/Balance Fault
P0288 Cylinder 10 Injector Circuit Low
P0289 Cylinder 10 Injector Circuit High
P0290 Cylinder 10 Contribution/Balance Fault
P0291 Cylinder 11 Injector Circuit Low
P0292 Cylinder 11 Injector Circuit High
P0293 Cylinder 11 Contribution/Balance Fault
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P0305 Cylinder 5 Misfire Detected
P0306 Cylinder 6 Misfire Detected
P0307 Cylinder 7 Misfire Detected
P0308 Cylinder 8 Misfire Detected
P0309 Cylinder 9 Misfire Detected
P0311 Cylinder 11 Misfire Detected
P0312 Cylinder 12 Misfire Detected
P0320 Ignition/Distributor Engine Speed Input Circuit Malfunction
P0321 Ignition/Distributor Engine Speed Input Circuit Range/Performance
P0322 Ignition/Distributor Engine Speed Input Circuit No Signal
P0323 Ignition/Distributor Engine Speed Input Circuit Intermittent
P0325 Knock Sensor 1 Circuit Malfunction (Bank 1 or Single Sensor)
P0326 Knock Sensor 1 Circuit Range/Performance (Bank 1 or Single Sensor)
P0327 Knock Sensor 1 Circuit Low Input (Bank 1 or Single Sensor)
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P0336 Crankshaft Position Sensor A Circuit Range/Performance
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P0355 Ignition Coil E Primary/Secondary Circuit Malfunction
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P0413  Secondary Air Injection System Switching Valve A Circuit Open
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P0415  Secondary Air Injection System Switching Valve B Circuit Malfunction
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P0421  Warm Up Catalyst Efficiency Below Threshold (Bank 1)
P0422  Main Catalyst Efficiency Below Threshold (Bank 1)
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P0453  Evaporative Emission Control System Pressure Sensor High Input
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P0727 Engine Speed Input Circuit No Signal
P0728 Engine Speed Input Circuit Intermittent
P0730 Incorrect Gear Ratio
P0731 Gear 1 Incorrect ratio
P0732 Gear 2 Incorrect ratio
P0733 Gear 3 Incorrect ratio
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P0740 Torque Converter Clutch Circuit Malfunction
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P0752 Shift Solenoid A Stuck On
P0753 Shift Solenoid A Electrical
P0754 Shift Solenoid A Intermittent
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P0756 Shift Solenoid B Performance or Stuck Off
P0757 Shift Solenoid B Stuck On
P0758 Shift Solenoid B Electrical
P0759 Shift Solenoid B Intermittent
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P0761 Shift Solenoid C Performance or Stuck Off
P0762 Shift Solenoid C Stuck On
P0763 Shift Solenoid C Electrical
P0764 Shift Solenoid C Intermittent
P0765 Shift Solenoid D Malfunction
P0766 Shift Solenoid D Performance or Stuck Off
P0767 Shift Solenoid D Stuck On
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P0801 Reverse Inhibit Control Circuit Malfunction
P0803 1-4 Upshift (Skip Shift) Solenoid Control Circuit Malfunction
P0804 1-4 Upshift (Skip Shift) Lamp Control Circuit Malfunction
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<td>B1342</td>
<td>ECU internal failure</td>
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<td>B1342B</td>
<td>ECU is defective</td>
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<td>B1485</td>
<td>Stop lamp switch input circuit battery short</td>
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<td>B1676</td>
<td>Battery voltage out of range</td>
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<td>B1869</td>
<td>Lamp air bag warning indicator circuit open</td>
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<td>B1870</td>
<td>Lamp air bag warning indicator circuit short to battery</td>
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<td>B1871</td>
<td>Passenger air bag disable module fault</td>
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<tr>
<td>B1877</td>
<td>Seatbelt driver pretensioner circuit open</td>
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<tr>
<td>B1878</td>
<td>Seatbelt driver pretensioner circuit short to battery</td>
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<tr>
<td>B1879</td>
<td>Seatbelt passenger pretensioner circuit short to ground</td>
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<tr>
<td>B1881</td>
<td>Seatbelt passenger pretensioner circuit open</td>
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<tr>
<td>B1882</td>
<td>Seatbelt passenger pretensioner circuit short to battery</td>
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<tr>
<td>B1883</td>
<td>Seatbelt passenger pretensioner circuit short to ground</td>
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<td>B1884</td>
<td>PAD warning lamp inoperative</td>
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<tr>
<td>B1885</td>
<td>Seatbelt driver pretensioner circuit resistance low on squib</td>
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<tr>
<td>B1886</td>
<td>Seatbelt passenger pretensioner circuit resistance low on squib</td>
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<tr>
<td>B1887</td>
<td>Air bag driver circuit short to ground</td>
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<td>B1888</td>
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