

## — DISC BRAKE

### D

#### DEALER INVOICE

The price that the dealer pays the manufacturer for a vehicle, not including hold-backs or incentives.

#### DE-ICER

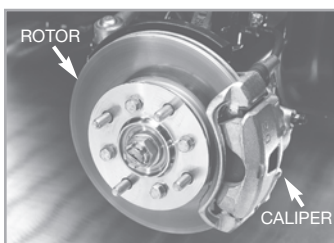
(See “WINDSHIELD WIPER DE-ICER”)

#### DIFFERENTIAL

A gear assembly located between the driven wheels that transfers the engine power coming from the transmission to the drive wheels. Differentials allow one wheel to spin at a different speed than the other when turning a corner. When a vehicle turns a corner, the outside wheels have to travel faster than the inside wheels. Differentials allow the two wheels to spin at different speeds to reduce drivetrain and tire stresses.

#### DIRECTIONAL STABILITY

The ability of a vehicle to maintain a course of travel even when the wheels encounter road surface irregularities.



#### DISC BRAKE

A brake with a caliper astride a rotor. When the brake pedal is applied, the caliper squeezes the rotor between two pads lined with friction material. Disc brakes operate more efficiently at high temperatures and under wet conditions than drum brakes.

◆ **DISPLACEMENT —**

**DISPLACEMENT**

The total volume of an engine's cylinders, usually measured in liters or cubic inches.



**DISTRIBUTOR IGNITION (DI) SYSTEM**

An ignition system that uses a distributor to time and power an engine's spark plugs. A distributor is an adjustable rotating mechanical switch driven by the engine via a gear.

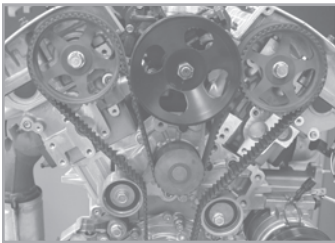
(See "IGNITION SYSTEM")



**DISTRIBUTORLESS IGNITION SYSTEM (ELECTRONIC IGNITION SYSTEM)**

An ignition system which does not utilize a distributor to time and power an engine's spark plugs. Distributorless ignition systems utilize only electrical components to perform the same functions of a distributor ignition system. This eliminates many wear items and reduces the number of parts and high-voltage wires in the ignition system. All current Hyundai models feature distributorless electronic ignition systems.

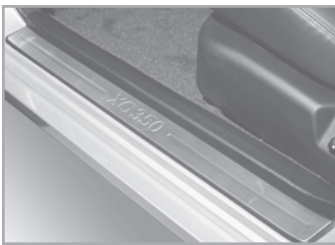
(See "IGNITION SYSTEM")



**DOHC (DUAL OVERHEAD CAMS)**

Refers to a pair of camshafts which are mounted above an engine's valves in the cylinder head. One cam operates the intake valves and one activates the exhaust valves. DOHC camshafts typically activate the valves directly, requiring fewer moving parts than other types of engine valvetrains, resulting in less inertia and wear. Also known as "twin cam."

(See "CAMSHAFT")



**DOOR SCUFF PLATES**

Special trim plates located along the inside of the door opening on the vehicle's body. Door scuff plates cover the painted metal in this area and offer a scratch-resistant decorative appearance.

**DRAG COEFFICIENT**

(See "AERODYNAMIC DRAG")

**"DRIVE-BY-WIRE" THROTTLE**

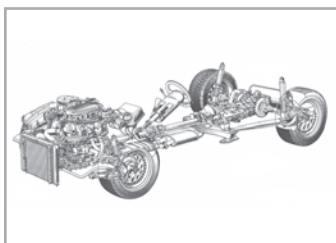
An engine throttle which operates electronically instead of mechanically. The Hyundai "Drive-by-Wire" throttle system uses an Accelerator Position Sensor (APS) which sends an electronic signal (depending upon the accelerator pedal position) to the Throttle Valve Control Module (TVCM), which opens and closes the throttle. Drive-by-Wire (electronic) throttle is designed to be more responsive than a mechanical linkage system and reduces engine complexity.

## —DUAL-MODE AUTOMATIC TRANSMISSION



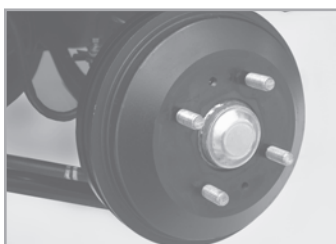
### DRIVE SHAFT

The shaft that transmits power from the transmission or transfer case to the differential(s). In a rear-wheel-drive vehicle, the driveshaft transmits power to the differential. 4-wheel-drive vehicles may use two driveshafts, one for the front and one for the rear differential. Front-wheel-drive vehicles do not utilize a driveshaft since they combine the transmission and differential into the transaxle.



### DRIVETRAIN

The components of a vehicle that create and transmit power to the wheels. A drivetrain consists of the engine, transmission or transaxle, differential, universal joints or CV joints, transfer case (4-wheel-drive vehicles), and any connecting shafts.

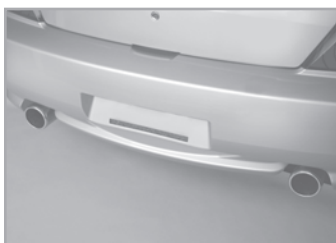


### DRUM BRAKE

A braking system that utilizes a drum with two shoes and a hydraulic piston. The drum rotates with the wheel and curved brake shoes are pressed against the inside of the drum to slow or stop the wheel. Many cars use a front disc/rear drum brake combination.

### DUAL BRAKING SYSTEM

A braking system that has two separate hydraulic braking circuits to prevent a complete loss of braking in the event of a brake component system malfunction. In all Hyundai vehicles, the circuits are divided diagonally, meaning that the left front and right rear wheels are on one circuit, while the front right and rear left wheels are on another circuit. This provides better directional control should one circuit malfunction. (See "**BRAKE SYSTEM**")



### DUAL EXHAUST

An exhaust system that has two separate exhaust pipes, mufflers and other components. Dual exhaust systems are typically used in sporty or performance vehicles with V-type engines because they offer less exhaust back pressure, which increases engine power. Dual exhaust systems also have a sporty exhaust sound and are valued for their performance look as well. All Tiburons with a V6 engine have a performance-tuned dual exhaust system.



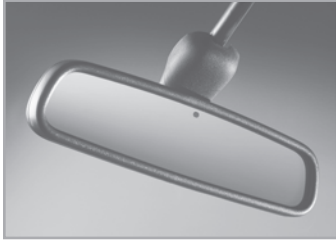
### DUAL-MODE AUTOMATIC TRANSMISSION

An automatic transmission which allows the driver to select fully automatic mode or manual mode. In manual mode, the transmission does not shift until prompted by the driver. Hyundai Tiburon, Azera, Sonata, Tucson and Santa Fe feature automatic transmissions with SHIFTRONIC<sup>®</sup>, a dual-mode automatic transmission.

(See "**SHIFTRONIC<sup>®</sup> AUTOMATIC TRANSMISSION**")

◆ **ELECTROCHROMATIC AUTO-DIMMING** —

◆ **E**



**ELECTROCHROMATIC AUTO-DIMMING INSIDE REARVIEW MIRROR**

An inside rearview mirror that automatically “dims” the mirror during night driving conditions for superior rear visibility. Sensors that are imbedded in the mirror sense when headlights from other vehicles are shining through the rear window and automatically adjust the mirror to eliminate glare. This feature is standard on all Azera models, Santa Fe LX and Sonata LX.

**ELECTRONICALLY CONTROLLED AUTOMATIC TRANSMISSION**

An automatic transmission that is controlled by a vehicle’s on-board computer. The computer calculates when to change gears and when to lock up the torque converter based upon information it receives from sensors in the engine and transmission. This results in more efficient shifting, smoother operation and higher fuel economy.

(See “ADAPTIVE AUTOMATIC TRANSMISSION”)

**ELECTRONIC BRAKE FORCE DISTRIBUTION (EBD)**

Electronic Brake Force Distribution (EBD) proportions brake force to each wheel individually, based on the driving conditions and available traction. For example, in an emergency straight-line braking situation, EBD automatically provides more brake pressure to the front brakes to prevent the unweighted rear wheels from locking. And, if the driver is braking while steering through a corner, EBD automatically controls the brake forces between the left and right wheels, which helps maintain optimum vehicle stability. Additionally, the system will adjust brake pressures front and rear as well if there is more weight being carried in the rear compartment.

**ELECTRONIC STABILITY CONTROL (ESC)**

ESC compares the driver’s intended course, via steering and braking inputs, to the vehicle’s response, via lateral acceleration, rotation (yaw) and individual wheel speeds. If it senses a loss of traction in a turn, such as caused by slippery surfaces, uneven traction or too high a speed for conditions, ESC then brakes the individual front or rear wheels and/or reduces excess engine power as needed to help correct understeer (plowing) or oversteer (fishtailing). In many cases, ESC reacts before the driver is aware of a loss of traction, helping to keep the vehicle on the road and upright. Studies by the National Highway Traffic Safety Administration (NHTSA) indicate ESC reduces fatalities in single-vehicle accidents by 30% in passenger cars and 60% in SUVs. This is a key reason why Hyundai is leading the industry in the standard application of this feature. It’s important to share this information with sales prospects for Tucson, Sonata and Azera—all of which have standard ESC.

**ELR (EMERGENCY LOCKING RETRACTORS) SEATBELTS**

A type of seatbelt system that allows the seatbelt to extend and retract with occupant movement, but will lock during a sudden stop or impact. This type of seatbelt provides greater occupant comfort while retaining emergency locking capability when needed. ELR is on all 3-point seatbelts of Hyundai vehicles.

## —EPA (ENVIRONMENTAL PROTECTION AGENCY)

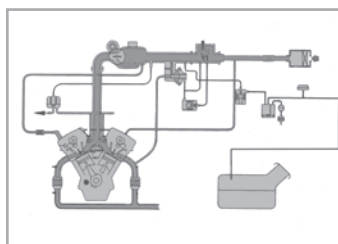


### EMERGENCY TRUNK RELEASE

A glow-in-the-dark trunk release handle located inside a vehicle's trunk. When pulled, this lever will open the trunk from the inside and allow an occupant who may have accidentally become locked in to exit. This feature is standard on all Hyundai sedans. Tiburon, Tucson and Santa Fe models do not need this feature, as their cargo area is open to the passenger compartment.

### EMISSIONS CONTROL

Any device that reduces vehicle exhaust or fuel emissions.



### EMISSIONS CONTROL SYSTEM

The vehicle system designed to reduce exhaust and fuel emissions. Modern emissions control systems utilize a sophisticated computer to continuously monitor the system's various emissions controls and make automatic adjustments to maintain government emissions standards. A typical emissions control system consists of a positive crankcase ventilation system (PCV), exhaust gas circulation system (EGR), catalytic converter, oxygen sensors, emissions control computer and other components.

### ENGINE

Engines come in various sizes, configurations and power capabilities. Some of the most common engine types currently used in the industry:

- **I-4:** An engine with the cylinders arranged in a line; in this case four cylinders
- **V6:** An engine with cylinders arranged in a "V" configuration; in this case six cylinders
- **OHV (overhead valve):** An engine with the valves over the camshaft. Also known as a "pushrod" engine
- **SOHC (single overhead cam):** An engine with a single camshaft over the valves
- **DOHC (dual overhead cam):** An engine with two cams over the valves
- **4-Valve:** An engine with four valves per cylinder; some cars use two, three or even five valves per cylinder

### ENGINE BLOCK

(See "CYLINDER BLOCK")

### ENGINE CONTROL UNIT/MODULE (ECU/ECM)

The primary on-board computer that controls the engine's spark timing and air/fuel mixture. The ECU or ECM may also be linked to other on-board computers controlling the operation of the vehicle's transmission or brakes.

### EPA (ENVIRONMENTAL PROTECTION AGENCY)

The EPA is the federal agency (established in 1970) responsible for establishing and verifying vehicle exhaust emissions standards. The EPA also tests vehicles to determine the fuel economy estimates found on a new vehicle's Monroney label and in the EPA's own Fuel Economy Guide.

◆ **ERGONOMICS—**

**ERGONOMICS**

The science and technology of human engineering. When applied to motor vehicles, ergonomics refers to the seating position, the placement of controls and the overall comfort of a vehicle.

**ETACS (ELECTRONIC TIME AND ALARM CONTROL SYSTEM)**

The Electronic Time and Alarm Control System consolidates the timing and control functions into one computer module. This simplifies the wiring of multiple comfort, convenience and security features. It also allows these features to interact with each other, increasing their functionality and convenience. A few features controlled by the ETACS are:

- Intermittent windshield wipers
- Windshield wiper with washer control
- Rear window defogger
- Driver seatbelt unbuckled warning
- Ignition key in ignition reminder
- Central door lock control
- Keyless entry and alarm control
- Power window relay delay off after ignition off
- Dome light dim to off
- Azera auto-on/off headlights

**ETR (ELECTRONICALLY TUNED RADIO)**

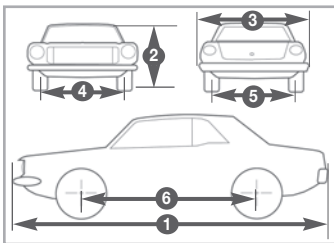
A type of radio that electronically tunes radio stations. ETR stereos tune with more precision than a manually tuned radio and provide additional capabilities such as station seek and scan.

**EUROPEAN-TUNED SUSPENSION**

A suspension tuned to suit European driving styles. A European-tuned suspension typically has a stiffer ride and better handling than a typical American-tuned suspension.

**EXHAUST MANIFOLD**

A ducting system that routes exhaust gases from the cylinder head exhaust ports to the exhaust system.



**EXTERIOR DIMENSIONS**

The external measurements in inches of a vehicle:

1. **Length:** The distance between the vehicle's front and rear bumpers
2. **Height:** The height from the ground to the top of the vehicle's roof
3. **Width:** The width of a vehicle at its widest point; typically, it does not include the rearview mirrors
4. **Front track:** The distance between the centerline of a vehicle's front wheels
5. **Rear track:** The distance between the centerline of a vehicle's rear wheels
6. **Wheelbase:** The distance between the front and rear axles