Chapter 3

 Basic Car Controls

3.1 Instruments, Controls, and Devices

Vocabulary:

Alternator warning light

Antilock braking system (ABS)

Blind spot areas

Clutch pedal

Console

Cruise control

Hazard flasher

Head restraint

Ignition switch

Odometer

**Instrument Panel**

Safety belt light / bell – a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to put on safety belt.

Speedometer - tells you how \_\_\_\_\_\_\_\_\_\_ the vehicle is moving (measures tire rotation speed)

Odometer – shows the total \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the car has been driven.

Trip odometer – can be reset to zero to measure travel distances.

Fuel gauge – shows the amount of \_\_\_\_\_\_\_\_\_\_\_ in the gas tank.

Temp. light or gauge – indicates the temp. of the engine \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Light only comes on when there is a problem.

Oil pressure light or gauge – shows if oil is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ at the proper pressure. The pressure is measured in PSI (pounds per square inch)

Alternator light or gauge – warns if there is an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ problem.

 2

Brake system warning light - does two jobs

1. lets you know if the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is on.
2. warns you if \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_ system is failing.

Tachometer – shows engine speed…revolutions per \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Antilock braking system light – warns if antilock brake system is \_\_\_\_\_\_\_\_\_\_\_\_\_\_ properly. ABS keeps the wheels from locking up when braking hard.

Turn signal lights – indicates if the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ turn signals are working.

If it comes on but doesn’t \_\_\_\_\_\_\_\_\_\_\_\_ there is a problem with the signals

On that side of the vehicle.

* signal must be used \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ before turn in city driving.
* Signal must be used \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ before turn in rural area driving.

WHY ?? the distance difference…\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

High beam indicator light –reminder that your \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ beam headlights are on.

* must be dimmed \_\_\_\_\_\_\_\_\_\_\_\_\_before meeting a vehicle
* must be dimmed\_\_\_\_\_\_\_\_\_\_\_\_\_ before overtaking a vehicle

**Car controls**

Steering wheel – controls the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the \_\_\_\_\_\_\_\_\_\_ wheels.

Selector lever – used to select the gear you want(\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)

 3

Gear shift lever – used to change \_\_\_\_\_\_\_\_\_\_ , by moving the lever to another position.

 Console – a compartment found \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the front seats.

 \*gear shift lever or selector lever

 \*parking brake (hand lever type)

 \*storage

 \*etc.

Ignition / starter switch – used to \_\_\_\_\_\_\_\_\_\_\_\_\_\_ the vehicle

 4 positions of the ignition switch

 1. on – position of key when engine is running

 2. start – position of key to start engine, \_\_\_\_\_\_\_ when engine

 starts

 3. lock – position of key when steering wheel and selector

 are \_\_\_\_\_\_\_\_\_\_\_

4. accessory – position of key when using lights, radio, etc.,

 \_\_\_\_\_\_\_\_\_\_\_\_\_ starting vehicle

Parking brake pedal – used to hold the car \_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_ when parked on a \_\_\_\_\_\_\_\_\_\_\_\_\_ or with a heavy load

Clutch pedal – used to \_\_\_\_\_\_\_\_\_\_\_\_\_\_ gears in a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ manual transmission (stick shift)

Foot brake pedal – used to \_\_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the vehicle

Accelerator pedal – controls the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the vehicle…by controlling the mixture of fuel and air to the engine.

 4

**Safety, Communication, and Comfort Devices**

Safety belts - **\_\_\_\_\_\_\_\_\_\_\_\_ be worn!!** Prevents a person from being thrown around the inside of the vehicle.

Air bags - assist safety belts in keeping you from being thrown into items like \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_, or

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Head restraints- help prevent severe \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ injuries.

Mirrors – **required by law** – allows vision to the rear, \_\_\_\_\_\_\_\_ side, and \_\_\_\_\_\_\_\_\_\_\_ side of vehicle

Blind spots – areas \_\_\_\_\_\_\_ covered by mirrors….how to eliminate blind spots…turn and look over shoulder in that \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ direction. Pg. 44 text book

Wipers and Washers- used to keep \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ clean

Hazard lights – 4 way flashing signals, used to \_\_\_\_\_\_\_\_\_\_ other traffic if your car is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to them.

Light switch – use to turn on lights including…headlights, instrument panel light, overhead or dome lights, etc.

Turn signal lever- used to turn on signal lights--- for a right turn push the lever \_\_\_\_\_\_\_\_\_\_\_\_, for a left turn push the lever \_\_\_\_\_\_\_\_\_\_\_\_\_. Other items are also found on the turn signal lever too. What items?

 5

Cruise control – used to hold the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ --- don’t use in bad weather or in city driving

Horn - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ warning device

Hood release – used to hold the engine \_\_\_\_\_\_\_\_\_\_ down and locked… there are \_\_\_\_\_ releases, one inside the vehicle, the other is located under the engine \_\_\_\_\_\_\_\_\_\_.

Heater/Air conditioning/ Defroster – used to \_\_\_\_\_\_\_\_\_\_\_\_ /\_\_\_\_\_\_\_\_\_\_\_\_ the vehicle, or to keep \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ clear.

Sun visor – help block \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_

Seat Adjustment – adjusts seat so driver can reach controls\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

3.2 Getting Ready to Drive

**Outside checks**

 Look for objects around or \_\_\_\_\_\_\_\_\_\_\_\_\_ the vehicle

 \_\_\_\_\_\_\_\_\_\_\_ condition and inflation

 Windows \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Headlights and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ clean

Getting into the Car

 If entering from the street side

 Have \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ready

 Walk facing \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ traffic

 Get in quickly… don’t linger on traffic side

 **6**

**Inside Checks** (pre-start routine)

Lock \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_ into the ignition

Adjust \_\_\_\_\_\_\_\_\_\_\_\_\_

Adjust \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Fasten \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_

* 1. Driving a vehicle w/ automatic transmission

Vocabulary

Backup lights

Shift indicator

Target

Automatic transmission

P Park –

R Reverse –

N Neutral –

D Drive –

OD Over drive – a fuel saving highway gear

L2 Low 2

L1 Low 1

 7

Hand Positions for Controlled Steering

Balanced hand position

1. - 2 or 9 - 3

Knuckles always \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the rim of the steering wheel

Target – a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ object that appears in the distance in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of your path of travel

**Starting the Engine**

Parking brake on…if needed

Transmission in \_\_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Foot brake \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Turn key to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ engine… release \_\_\_\_\_\_\_\_\_\_\_ when car engine starts

Check all \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to make sure all is ok

**Moving the car**

Hold \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ down

Shift to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Release \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, if on

Signal move

Check \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Check blind spots… over shoulder in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ you’re moving

Release \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_ and gently \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ into traffic

 8

**Stopping the Car**

Check mirrors

\_\_\_\_\_\_\_\_\_\_\_\_\_\_ move

Ease of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and steady \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Move to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, with hitting it, stay \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ with the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Hold footbrake down

**Securing the Vehicle**

Shift to \_\_\_\_\_\_\_\_\_\_\_\_

Set Parking \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ …if needed

\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ all accessory items

Turn \_\_\_\_\_\_\_\_ engine, remove keys and keep them in your hand

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ safety belt

\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_ windows

Open door to get out, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Exit \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Why secure car? --- \*\* a vehicle is stolen every 19 seconds in North America

 **9**

**Leaving the Car (exiting safely)**

Traffic side

Check \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ blind \_\_\_\_\_\_\_\_\_\_\_\_

Get out \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ doors

Walk toward the \_\_\_\_\_\_\_\_\_\_ of the car, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ traffic

**Steering Problems of new drivers**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - using too much steering to accomplish maneuver correctly

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - not using enough steering to accomplish maneuver correctly

**Steering**

**Tracking** – steering a car in its \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_

 \*to help with tracking – look well down the \_\_\_\_\_\_\_\_\_\_\_ ahead of you.

 10

3.4 Driving a vehicle with Manual Transmission

Vocabulary

Downshifting

Friction point

Riding the clutch

**Manual Transmission**

1st gear - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ mph

2nd gear - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_mph

3rd gear - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ mph

4th gear - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_mph (4 speed…highway gear)

5th gear - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_mph (5 speed…highway gear)

Reverse – for driving the car \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 11

**Slowing and stopping with a manual transmission**

\*driving at low speeds (city street speeds) – clutch \_\_\_\_\_\_\_\_\_\_\_ then brake to slow or stop

 \*driving at high speeds (highway speeds) – brake \_\_\_\_\_\_\_\_\_\_\_ then clutch to slow or stop

**Reasons for Downshifting**

 1.

 2.

 3.

 4.

 5.

**Manual Transmission Terms**

 **Riding the Clutch** - Resting the foot on the clutch while driving

 **Problems created**: wear out clutch prematurely and give false information to cars behind you (think you’re slowing or stopping)

 **Friction Point** - The point where the engine and transmission start to move the car as you let up on the clutch

 **Downshifting** – shifting from a higher gear to a lower gear

**Reasons for Downshifting**

1. 4.

2. 5.

3.

**Procedure to Start a Manual Transmission Vehicle**

1.

2.

3.

4.

5.

6.

**Putting a Manual Transmission Vehicle into Motion (1st Gear)**

1.

2.

3.

4.

5.

6.

7.

**How to slow down a manual transmission vehicle**

 At street (slow) speeds ---\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_, then brake to slow

 At Highway (fast) speeds ---brake fi rst to slow, \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

**Oil Change procedure**

1. Turn off \_\_\_\_\_\_\_\_\_\_\_, block wheels, set \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_.
2. Remove the \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ drain plug, drain \_\_\_\_\_\_\_\_\_ into a container.
3. Loosen oil \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (use \_\_\_\_\_\_\_\_\_\_\_ wrench), drain oil from filter into container.
4. Take new oil \_\_\_\_\_\_\_\_\_\_\_\_, and coat the \_\_\_\_\_\_\_\_\_\_ with oil. Hand tighten \_\_\_\_\_\_\_\_\_\_\_the \_\_\_\_\_\_\_\_\_\_ filter on. Replace the oil \_\_\_\_\_\_\_\_\_\_\_\_\_ drain plug, and tighten.
5. Add new \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. (amount?- check owners manual) Do not \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
6. Start engine. Let run a few minutes.
7. Turn off \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, check oil \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Check around oil \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ plug and \_\_\_\_\_\_\_\_\_\_\_\_ filter for leaks.
8. Record date and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, to keep record of oil changes.
9. Dispose of oil properly. HOW ??