

Be Ready, Be Safe, Be Responsible

XIII. Driving Emergencies-Part 1

1. Vehicle Failure
2. Driver Error
3. Dealing With Collisions and Traffic Stops

Lessons and Hints to Work With
Your New Teen Driver
Part 13



IURP Institute for
Rural Health & Safety

EMERGENCY SITUATIONS

Common Driving Emergencies:

1. Vehicle Failure

- Brake Failure
- Tire Failure (Blowout)
- Steering Failure
- Engine Failure (Stalling)
- Accelerator Failure
- Other Accessory Failure
- Fire

2. Driver Errors

- Decision Making/Judgement
- Operation

- Speed
- Steering
- Traction
- Distraction

3. Collision Avoidance

- Objects on road
 - Animals
 - Debris
 - Other Users
- Road and Weather Conditions

AVOIDING EMERGENCY SITUATIONS

Vehicle Failure-One or more device or vehicle system malfunctions or fails.

Prevention:

Regular care and maintenance

- **Check fluids**
 - fill with correct fluid and amount
- **Tire pressure and treadwear**
 - fill with proper amount of air
 - replace when worn
- **Attention to dash warning lights**
 - Steady light means a system isn't working correctly. Should be checked
 - **Flashing means a critical system malfunction that could lead to failure.**

1. Don't Panic !

2. Identify the Problem.

- Clues

3. Act on the Problem.

4. Be aware of vehicles behind

Brake Failure

Causes:

Low Brake Fluid

Fluid leak

Brake lines, hoses

Master Cylinder, Booster

Brake Pads, Rotors

EMERGENCY SITUATIONS

Brake Failure

When Your Brakes Fail

Identify

Brake pedal

- may go to floor
- may feel “mushy”, hard to push
- poor braking response-
 - vehicle not slowing enough for foot pressure on pedal

Dash Warning Lights

Grinding Sounds While Braking

Brake Failure-Respond

Don't Panic

- 1. Rapidly pump the brake pedal**
 - May build up pressure in system
- 2. Hand on steering wheel at 12 o'clock**
- 3. Downshift: slows the movement of car**
 - 3rd or 2nd gear if at higher speed
- 4. Apply the parking brake with steady pressure.**
 - Keep thumb on release button
 - If not, can lock the rear wheels. If the car begins to skid, release the parking brake slightly.

EMERGENCY SITUATIONS

When Your Brakes Fail

- 1. If still no brake control look for place to steer**
 - against the curb,
 - if necessary, sideswipe bushes, something soft
 - or uphill
- 2. Steer into an open area, parking lot**
- 3. Down shift again if able**
 - 1st gear
- 4. Continue using parking brake**

EMERGENCY SITUATIONS

When Your Brakes Fail

[Brake Failure Video](#)

1. Brake Fade

Don't Panic

- a temporary brake failure from overheated brakes
 - can occur on steep descents
 - may cause a smell
- **Downshift to lower gear**
 - helps save brakes
 - pull over to safe area, let brakes cool

2. Wet Brakes

- driving through puddles, higher water, heavy rain
- to dry-apply brakes slightly while applying accelerator

Tire Failure

Blowout- Tire bursts suddenly while driving

Causes:

- Running over object or obstacle
- Poor tire condition

Tire Failure

Identify

Difficulty controlling or steering

Front Tires: Vehicle pulls suddenly to right or left (side of blowout).

Rear Tires: Vehicle wobbles, may also pull in direction of blowout.

May hear thumping sound

EMERGENCY SITUATIONS

Tire Failure-Respond

Don't Panic

- 1. Firm grip on steering wheel**
- 2. Take foot off the accelerator**
- 3. Do not brake hard-Vehicle may swerve or fish tail in direction of blowout**
- 4. Steer smoothly, stay straight, slow gradually**
- 5. Steer to safe area**

Tire Failure

- [Tire Blowout Video1](#)
- [Tire Blowout Video 2](#)

Steering Failure

EMERGENCY SITUATIONS

Causes:

- **Engine stall**
- **Steering fluid leaks**
- **Steering pump malfunctions**
- **Steering linkage breakdowns**
- **Electronics or computer malfunctions**

Steering Failure

EMERGENCY SITUATIONS

Power Steering Loss **Don't Panic**

- Identify that is not due to engine stall
 - check warning lights
 - (if it is, power brakes will have failed too)
- Firmly grasp wheel
- Steering is possible but difficult
 - depends on speed
- Steer to safe area, shut down vehicle.

Be Aware of vehicles BEHIND

Steering Failure

Total Steering Loss

Causes:

Possibly Mechanical

- **Steering arm or rack/pinion failure**
- **Steering linkage failure**
- **Steering column locking system failure**

Steering Failure

Total Steering Loss-Identify

- **Steering wheel locks**
- **No steering response**
- **Steering is impossible**

Steering Failure

EMERGENCY SITUATIONS

Total Steering Loss

Don't Panic

- Firmly grasp wheel
- Hazard flashers
- Bring car to safe, immediate stop
- Remain in car, stay buckled-call 911
 - explain situation, give location
 - request immediate emergency help

Be Aware of vehicles BEHIND

Steering Failure

[Power Steering Failure Video 1](#)

[Steering Failure Video 2](#)

Engine Failure

Stalling-engine quits

Causes:

- **Fuel System:** No gas, moisture in gas, fuel line/filter/ pump problems, carburetor, fuel injector malfunctions, air intake
- **Sparkplugs/distributor**
- **Electrical system:** computer failure, dead battery, alternator failure, sensor failure
- **Broken belts**
- **Overheating:** low coolant
- **Catalytic converter damage**
- **Incorrect clutch/gas with manual transmission**

Engine Failure

Identify :

Systems fail:

- **Power brakes, power steering, some accessories**
- **Loss of power, sputtering**
- **No acceleration**

Engine Failure-Respond

EMERGENCY SITUATIONS

While moving:

Don't Panic

- **Shift to Neutral**
- **Cover brake**
- **Turn on hazard flashers**
- **Try restarting while moving**

If it starts, shift to drive, foot to gas, proceed ahead

If not, coast to side of road-steering and braking**
may be difficult, but still possible if coasting.**

Be Aware of vehicles BEHIND

Engine Failure-Respond

While stopped : **Don't Panic**

- Shift to Neutral
- Turn on hazard flashers
- Try restarting

If it starts, shift to forward gear, proceed ahead

If not, stay safe inside car, call for roadside assistance, or if safely able, get car moved to side of road.

Be Aware of vehicles BEHIND

Accelerator Sticks

Causes :

- **Broken linkage or spring**
- **Obstruction**
 - **floor mat, some other loose object**
 - **ice, snow**

Accelerator Sticks

Identify :

- **Vehicle doesn't slow when foot is taken from accelerator**
- **Vehicle may speed up, engine races**

Accelerator Stick-Respond

Don't panic, Keep eyes on road

Try to remove hang up with right foot

- Kick side of pedal
- Put foot underneath and pull upwards

If that doesn't work:

- Shift to Neutral
- Slow by gentle braking
- Steer to side of road
- Shut down car



**Next :
Part 2
Driver Error**