

# CDL AIR BRAKE TEST CHEAT SHEET

Everything you need to know | One page | Print & Study

## SECTION 1 AIR BRAKE SYSTEM COMPONENTS

- **Air compressor:** Pumps air into storage tanks, driven by engine belt
- **Governor:** Controls when compressor pumps (cuts in ~100 PSI, cuts out ~125 PSI)
- **Air storage tanks:** Hold compressed air. Drain moisture daily
- **Brake chambers:** Convert air pressure to mechanical force on brakes
- **Slack adjusters:** Connect brake chambers to brake shoes. Adjust brake gap
- **Brake drums & shoes:** Friction surfaces that stop the wheels
- **S-cam:** Rotates when brakes applied, pushes shoes against drum
- **Spring brakes:** Engage automatically when air drops below 20-45 PSI
- **Supply (emergency) line:** Supplies air to trailer; loss of air = trailer brakes lock
- **Service (control) line:** Carries signal from brake pedal to trailer brakes
- **Glad hands:** Coupling connectors between tractor & trailer air lines
- **Tractor protection valve:** Shuts off air to trailer if breakaway or major leak

## SECTION 2 KEY PSI NUMBERS TO MEMORIZE

PARAMETER	VALUE	NOTES	PARAMETER	VALUE	NOTES
Governor cut-in	<b>~100 PSI</b>	Compressor starts pumping	Leak rate (brakes OFF)	<b>&lt; 2 / &lt; 3 PSI/min</b>	Single / Combo
Governor cut-out	<b>~125 PSI</b>	Compressor stops	Leak rate (brakes ON)	<b>&lt; 3 / &lt; 4 PSI/min</b>	Single / Combo
Build-up rate	<b>85 to 100 PSI</b>	In 45 sec or less	Normal range	<b>100-125 PSI</b>	Operating pressure
Low air warning	<b>Before 60 PSI</b>	MUST activate before this	NEVER drive below	<b>60 PSI</b>	Stop immediately!
Spring brakes engage	<b>20-45 PSI</b>	Parking brakes lock auto.			

## SECTION 3 AIR BRAKE TEST SEQUENCE

- 1 Engine running, build air to governor cut-out (120-145 PSI). Note cut-out pressure.
- 2 Turn off engine. Brakes OFF: watch gauge 1 min. Drop < 2 PSI (single) or < 3 PSI (combo).
- 3 Apply brake pedal: watch gauge 1 min. Drop < 3 PSI (single) or < 4 PSI (combo).
- 4 Fan-brake pedal to drop pressure. Low air warning MUST activate before 60 PSI.
- 5 Continue fanning: parking brake valve pops out at 20-45 PSI.
- 6 Engine running, full pressure: press brake pedal hard 5 sec. Should NOT drift to floor.

## SECTION 4 COMMON TEST QUESTIONS (the ones people miss)

- Q: What does the air compressor governor do?**  
**A:** Controls when the compressor pumps air (cuts in and cuts out at set pressures).
- Q: At what pressure should the low air warning activate?**  
**A:** Before 60 PSI.
- Q: What happens when air pressure drops to 20-45 PSI?**  
**A:** Spring brakes engage automatically (parking brakes).
- Q: Why drain air tanks daily?**  
**A:** To remove moisture that can freeze and cause brake failure.
- Q: Difference between supply and service lines?**  
**A:** Supply provides air to trailer system; service carries braking signal from pedal.
- Q: What is the maximum air leakage rate?**  
**A:** 3 PSI/min (single, brakes off) or 4 PSI/min (combo, brakes on).
- Q: Should you use parking brake to stop a skid?**  
**A:** NEVER. Spring brakes lock wheels and make skid worse.
- Q: Stopping distance: air brakes vs hydraulic?**  
**A:** Air brakes have added brake lag distance (~0.5 sec delay for air to reach brakes).

**REMEMBER:** Air brakes take longer to stop than hydraulic brakes due to brake lag (~0.5 sec for air to travel through lines). NEVER use the parking brake to stop a skid. ALWAYS drain air tanks daily. Low air warning MUST come on before 60 PSI.