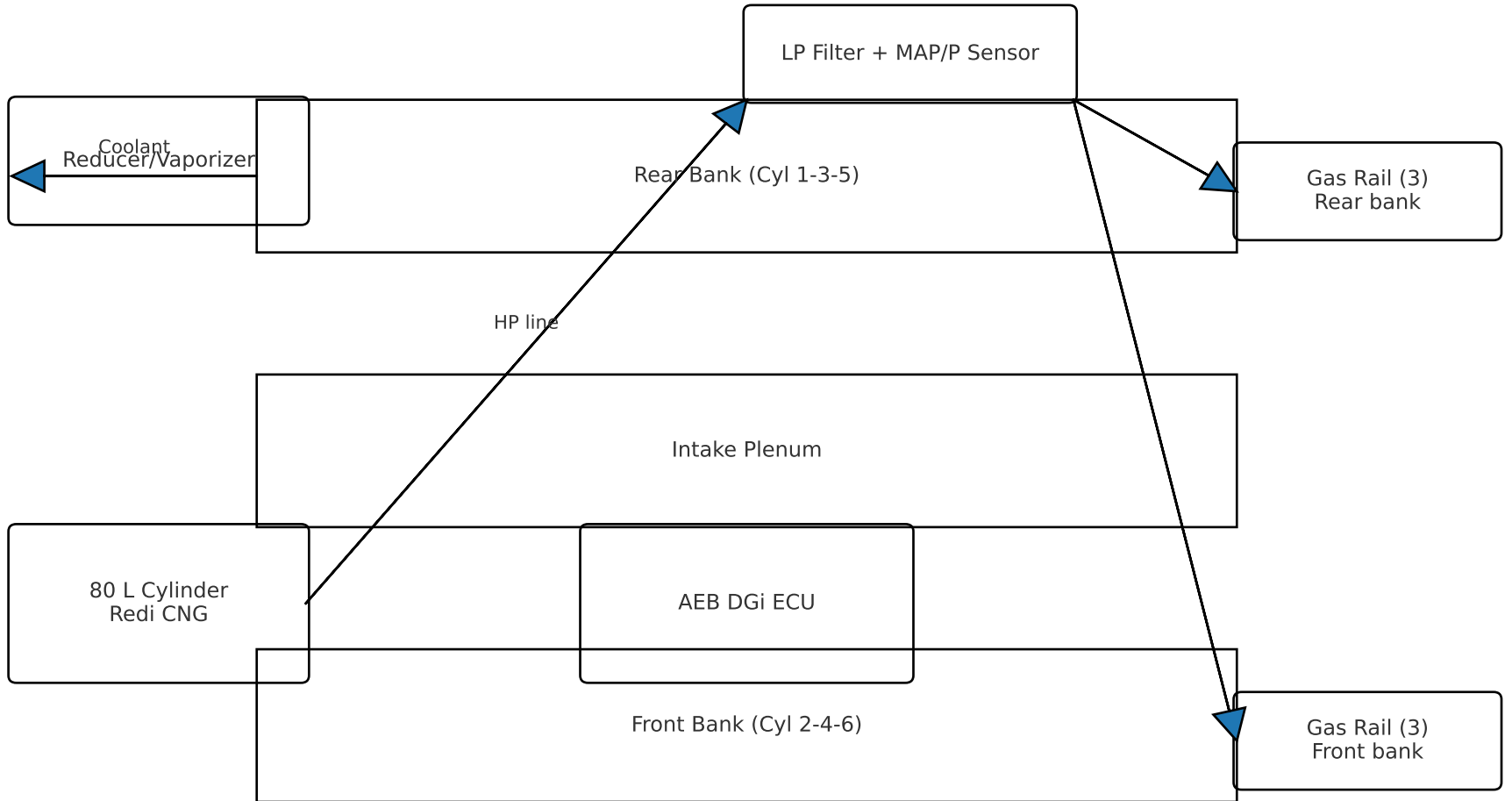
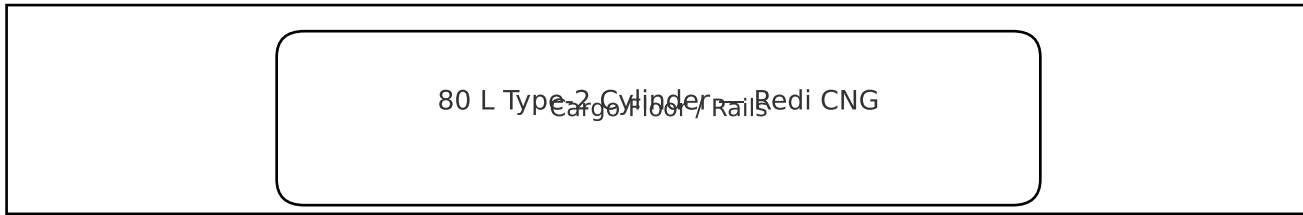


Toyota Highlander 2024 V6 GDI Redi CNG Layout

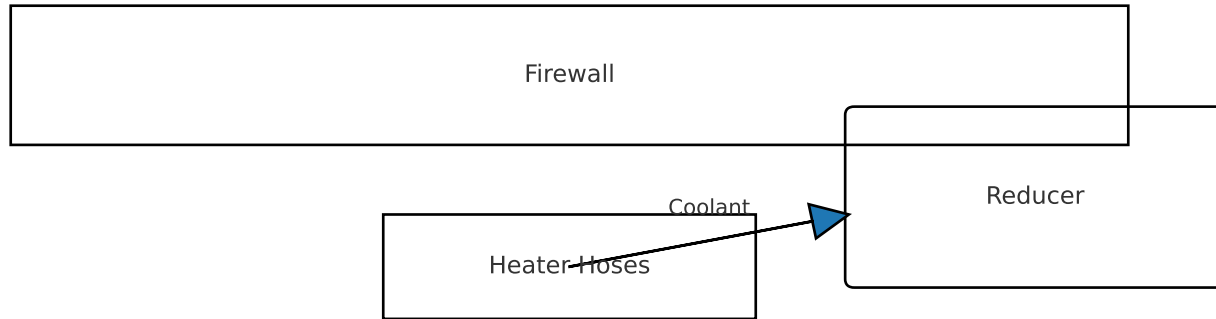


Step 1 – 80 L Cylinder Placement



- Vent PRD outside
- Label 'Redi CNG'
- Saddles to rails

Step 2 — Reducer & Heater Hoses



- Continuous coolant
- HP solenoid before reducer

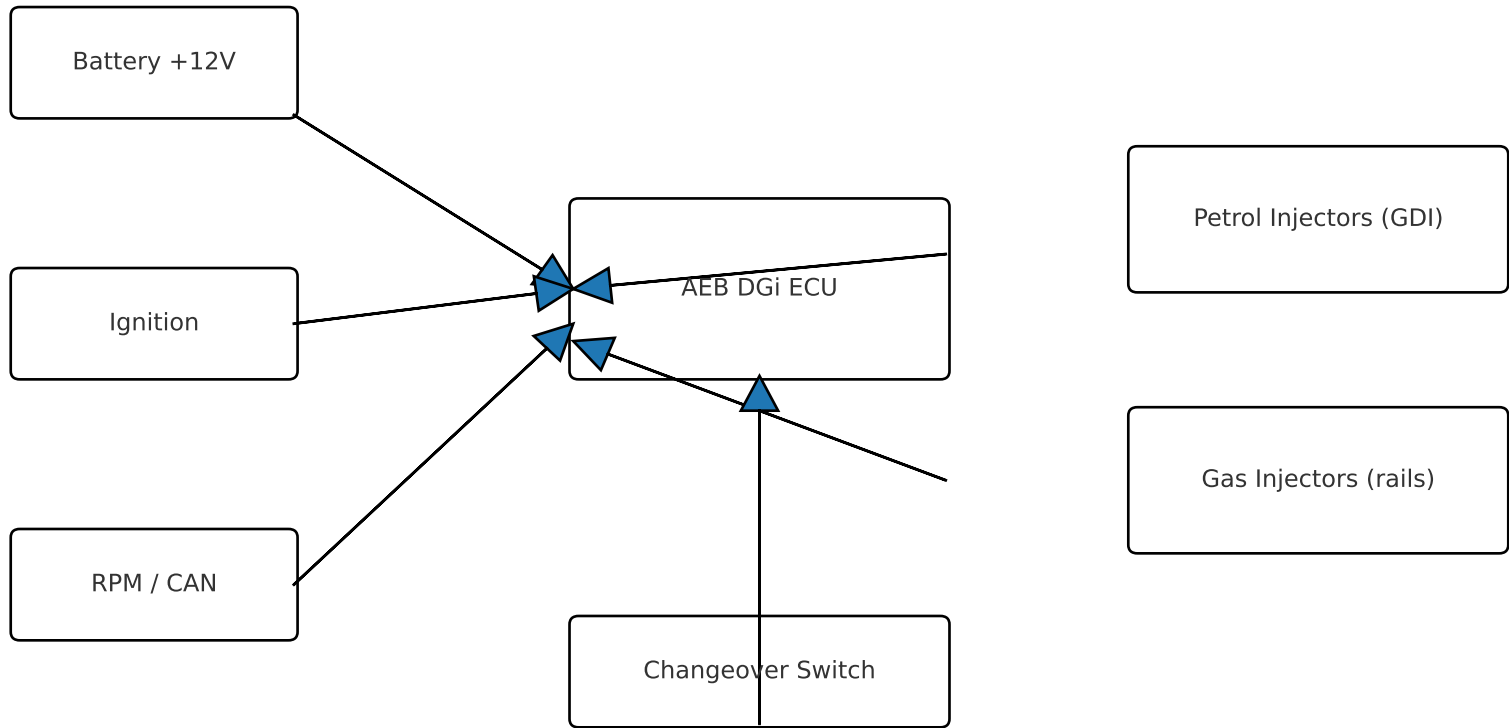
Step 3 — Gas Rails & Runner Nozzles



- Equal hose lengths
- Drill ~70 mm from valves
- Angle toward airflow



Step 4 - AEB DGi ECU Wiring



- ECU adapts GDI injectors
- Gas provides bulk fuel, petrol pilots
- Switch in cabin

Step 5 Blend Strategy for Combustion Calibration (AEB DGi)

Typical sequence:

- 1) Engine type: 6-cyl GDI sequential
- 2) Set reducer pressure, nozzle size, rails
- 3) Idle calibration, then 2000–3000 rpm
- 4) Road tune under light/med/high load
- 5) Adjust blend: ~70–80% CNG, 20–30% petrol
- 6) Verify trims within $\pm 5\%$
- 7) Set safety cutoffs (low gas, RPM loss)

Step 6 — Leak Test & Final Checks

Leak Test & Final Checks

- Leak check: HP & LP lines with spray
- PRD vent routing verified
- Manual shutoff & solenoid operation
- Start on petrol, switch to CNG at 45 °C
- Switchover smoothness test
- User training: refuel, switch, emergency shutoff
- Maintenance schedule: LP filter 15k km, HP filter 60k km