

LANDING GEAR SYSTEMS

When the gear is retracted on takeoff, the landing gear lever in the cockpit is placed in an “UP” position. This allows the sequence valves to initially lower the gear doors, then direct hydraulic pressure to release the downlock link actuator, enabling the main actuator to retract the gear into position. Once the gear is up and locked, the sequence valves direct hydraulic pressure to close the doors.



The nosewheel serves to steer during taxi. This also has the taxi and turnoff lights as well as a damper to prevent nosewheel shimmy (or vibration). On large aircraft, the mechanism for the nosewheel steering disconnection allows for towing the aircraft by cutting off any hydraulics to the steering mechanism. In addition, a centering mechanism centres the nose gear before retraction...

Figure 2 – Nosewheel assembly Brake systems on aircraft can be of a single disk or multiple disk type. These are hydraulically actuated by pressing on the rudder pedals in the flight deck. General aviation aircraft have a master brake cylinder that forces hydraulic fluid to the brake pistons or an expander tube. Large aircraft have hydraulically actuated pistons that squeeze the multiple disk rotors against a pressure plate to provide more efficient braking action. The brake units are installed on the main landing gear rather than the nose; however, some earlier aircraft such as the Boeing 727 and Convair CV-990 Coronado also had options to install nose gear brakes (although rare).