1. Landing Gear System Overview

The landing gear system supports the aircraft during ground operations and absorbs landing loads. It includes the **nose landing gear**, **main landing gear**, retraction mechanisms, shock absorbers, wheels, and brakes.

The landing gear is hydraulically actuated and electrically controlled.

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2. Routine Landing Gear Inspection

Routine inspections are conducted at scheduled intervals and include:

- Tire condition and tread depth
- Brake wear indicators
- Hydraulic lines and fittings
- Shock absorber extension
- Gear door operation
- Safety pin installation

Any abnormal wear or damage must be addressed immediately.

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3. Troubleshooting Landing Gear Extension Failure

Possible Causes

- Hydraulic system pressure loss
- Faulty proximity sensors
- Electrical control failure
- Mechanical obstruction

Troubleshooting Steps

1. Verify hydraulic system pressure.
2. Check circuit breakers related to landing gear.
3. Inspect landing gear control panel indications.
4. Attempt alternate extension procedure if required.
5. Inspect actuators and linkage for mechanical damage.

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4. Safety Precautions During Landing Gear Maintenance

- Always install landing gear safety pins.
- Never work under an unsupported aircraft.
- Ensure aircraft is properly jacked before gear retraction tests.
- Follow all lockout/tagout procedures.