



Operation & Maintenance Manual

MC/FC

GP15N	T25C-55001-59999	DP15ND(MC)	T16D-54001-63999	DP25ND(MC)	T18C-70001-8999
GP15ZN	T34-52001-59999	DP15NT(MC)	T16D-54001-63999	DP25NT(MC)	T18C-70001-8999
GP18N	T25C-75001-79999	DP15NDS(MC)	T16D-54001-63999	DP25NDS(MC)	T18C-70001-8999
GP18ZN	T34-72001-79999	DP15NTS(MC)	T16D-54001-63999	DP25NTS(MC)	T18C-70001-8999
GP20CN	T34-22001-29999	DP15N(FC)	T16D-64001-69999	DP25N(FC)	T18C-90001-99999
GP20N	T17D-10001-19999	DP18ND(MC)	T16D-74001-83999	DP30ND(MC)	T14E-10001-19999
GP20ZN	T35-10001-19999	DP18NT(MC)	T16D-74001-83999	DP30NT(MC)	T14E-10001-19999
GP25N	T17D-60001-69999	DP18NDS(MC)	T16D-74001-83999	DP30NDS(MC)	T14E-10001-19999
GP25ZN	T35-60001-69999	DP18NTS(MC)	T16D-74001-83999	DP30NTS(MC)	T14E-10001-19999
GP30N	T13F-40001-49999	DP18N(FC)	T16D-84001-89999	DP30N(FC)	T14E-20001-29999
GP35N	T13F-60001-69999	DP20CND(MC)	T16D-24001-27999	DP35ND(MC)	T14E-80001-89999
GPE15N(MC)	T34-00001-18999	DP20CNT(MC)	T16D-24001-27999	DP35NT(MC)	T14E-80001-89999
GPE15N(FC)	T34-19001-19999	DP20CNDS(MC)	T16D-24001-27999	DP35NDS(MC)	T14E-80001-89999
GPE18N(MC)	T34-40001-48999	DP20CNTS(MC)	T16D-24001-27999	DP35NTS(MC)	T14E-80001-89999
GPE18N(FC)	T34-49001-49999	DP20CN(FC)	T16D-28001-29999	DP35N(FC)	T14E-90001-99999
GPE20CN(MC)	T34-30001-38999	DP20ND(MC)	T18C-20001-3999		
GPE20CN(FC)	T34-39001-39999	DP20NT(MC)	T18C-20001-3999		
GPE20N(MC)	T17D-20001-37999	DP20NDS(MC)	T18C-20001-3999		
GPE20N(FC)	T17D-38001-39999	DP20NTS(MC)	T18C-20001-3999		
GPE20ZN(MC)	T35-20001-37999	DP20N(FC)	T18C-40001-49999		
GPE20ZN(FC)	T35-38001-39999				
GPE25N(MC)	T17D-70001-87999				
GPE25N(FC)	T17D-88001-89999				
GPE25ZN(MC)	T35-70001-87999				
GPE25ZN(FC)	T35-88001-89999				
GPE30N(MC)	T13F-10001-19999				
GPE30N(FC)	T13F-20001-29999				
GPE35N(MC)	T13F-80001-89999				
GPE35N(FC)	T13F-90001-99999				

Original Instructions

Keep this manual in your lift truck as a ready reference

99710-36130

◆LPG Equipped

⚠ WARNING

BE SURE to use the proper fuels specified in the 12-4 "Recommended Fuels and Oils". If not, the engine could fail.

⚠ WARNING

- Only trained and authorized personnel must fill or exchange LPG tanks.
- Personnel engaged in filling LPG tanks must wear protective equipment such as a face shield, long sleeves and gauntlet gloves.
- DO NOT refuel or store LPG powered lift trucks near underground entrances, elevator shafts, or other places where LP-Gas could collect in a pocket and cause an explosion.
- Inspect all LPG tanks before filling, and again before reuse for damage to the valves, liquid gauge, fittings and hand wheels.
- All defective or damaged LPG tanks must be removed from service.
- The careless handling of LPG tanks could result in a serious accident.
- To reduce the risk of damage to tanks, use extreme care when transporting them.

⚠ WARNING

The LPG tank must not extend past the counterweight and must be inside the confines of the lift truck.

⚠ WARNING

Reduce the risks of fire caused by static electricity!

Touch grounded metals with bare hand to discharge the static electricity before replacing compressed LPG tanks. If not, the fuel could catch fire due to the static electrical spark.

⚠ CAUTION

LPG tanks can be heavy, follow the instructions below:

- DO NOT insert fingers into the straps or brackets. If this warning is not adhered to, fingers may be pinched.
- DO NOT lift LPG tank with your body in an improper position. You may injure your back.
- Take care not to drop an LPG tank. It may fall on your body and lead to serious injury including bone fractures.
- Wear appropriate personal protective equipment.

⚠ CAUTION

Be careful not to pinch fingers in the bands when installing a LPG tank.

Note:

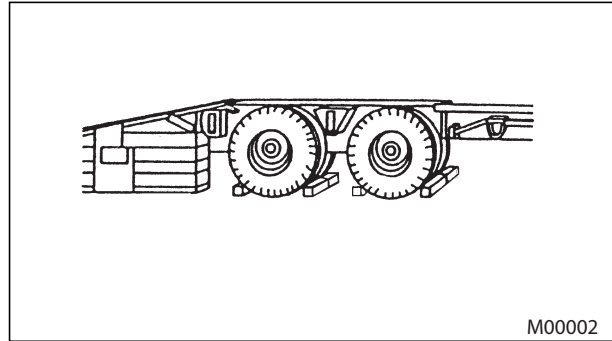
- MOUNT THE TANK PROPERLY. To insure full usage of fuel, use the mounting holes located on the collar for horizontal mounting and the slot in the foot ring for vertical mounting.
- Open the valve slowly so that hose and tank pressure can equalize. Or the valve may shut off.
- For proper operation of LPG system, use HD-5 LPG fuel.

■ TRANSPORTATION HINTS

◆ Lift Truck Loading and Shipping

Be sure to take the following safety precautions before loading and shipping lift trucks.

- Always block the trailer or rail car wheels before loading the lift truck.
- Position the lift truck on the truck bed or rail car.
- Apply the service brake and then apply the parking brake. Place the direction lever in the NEUTRAL position.
- Turn the key switch to the OFF position and remove the key.
- Block the wheels and secure the lift truck with tiedowns.
- Do not turn the steering wheel after the lift truck has been secured. It may loosen the tiedowns.



⚠ WARNING

Check travel route for overpass clearances. Make sure there is adequate clearance if the lift truck being transported is equipped with a high mast or cab. Remove ice, snow or other slippery material from the shipping lift truck and loading dock.

◆ Lift Truck Lifting and Tiedown Information

Take the following safety precautions when lifting or tying down lift trucks.

- Weight and instructions given here apply to lift trucks manufactured by Cat Lift Trucks.
- Use proper rated cables and slings for lifting. Position the crane so the lift truck is level when lifted.
- Spreader bar widths should be sufficient to prevent contact with the lift truck.
- Use the tiedown locations provided for lift truck tiedown.

⚠ CAUTION

Improper lifting or tiedowns may cause a load to shift and cause injury and/or damage.

Note: Check the state and local laws governing weight, width and length of a load. Contact your authorized Cat lift truck dealer for shipping instructions for your lift truck.

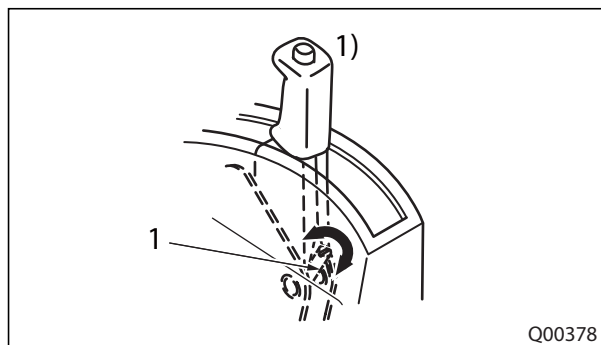
► Parking Brake Lever

Can you pull the parking brake lever all the way back with reasonable effort?

Can you hold your lift truck on a grade by pulling the parking brake lever?

How to adjust:

- (6) Put the lever to the release position.
- (7) Turn the rod clockwise to increase the lever's tension; counterclockwise to decrease it.



1. Rod

1) Release

Lever operating effort

Models	Limit
1 ton	150 to 200 N (15 to 20 kgf) [34 to 45 lbf]
2 ton	200 to 250 N (20 to 25 kgf) [45 to 56 lbf]
3 ton	230 to 250 N (23 to 25 kgf) [52 to 56 lbf]

► Brake Pedal

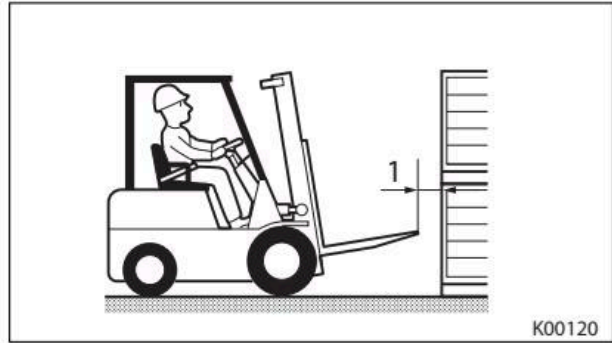
- Do you have sufficient pedal travel?
- Is the free play correct?
- Does the brake pedal return to the full, upward position?

Free play

Models	Powershift	Manual
1 to 3.5 ton	7 mm (0.3 in.)	7 mm (0.3 in.)

◆ Inching Into and Lifting the Load

- (1) Place the direction lever in the FORWARD position.
- (2) Inch into the load and stop the lift truck 20 to 30 cm (8 to 12 in.) short of the load.
- (3) Make sure the lift truck is square with the load and the forks are at the correct height.



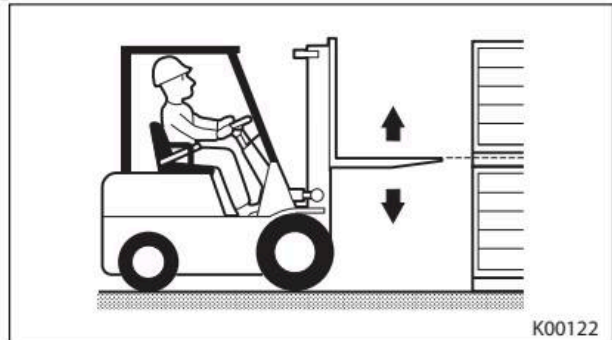
1. 20 to 30 cm (8 to 12 in.)

⚠ WARNING

When you pick up loads that extend above the load backrest extension height, band them together to reduce the risk of items from falling.

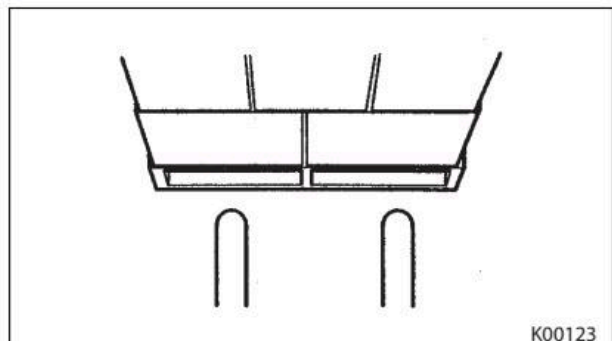


- (4) Place the direction lever in the NEUTRAL position.
- (5) Tilt the mast forward to the vertical position, and again make sure the forks are at the correct height.



⚠ WARNING

Only stable or safely arranged loads must be handled. DO NOT pick up an off-center load. Make sure the weight of the load is centered between the forks.

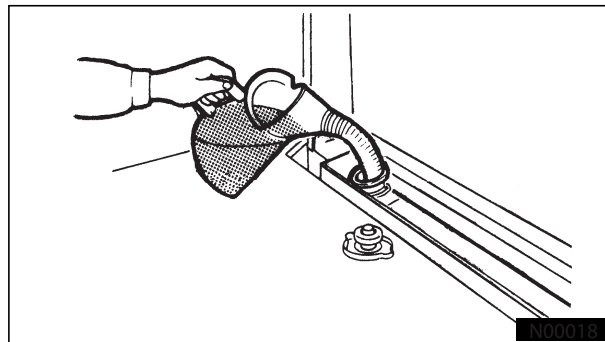


SPECIAL SITUATIONS

► Engine Coolant

- Antifreeze used in the engine cooling system of a new lift truck shipped from the manufacturer provides sufficient freeze protection to -30°C (-22°F).
- If ambient temperatures are below -30°C (-22°F), add antifreeze.

Note: For type and concentration of antifreeze, contact your authorized Cat lift truck dealer.

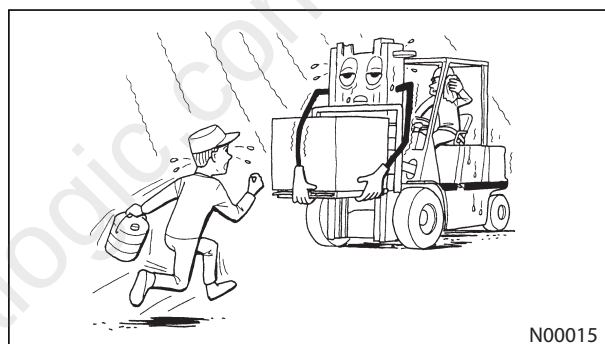


◆ Care in Hot Weather

► Fuel Oils and Lubrication Oils

Use fuel oil, engine oil and gear oil to fit the ambient temperatures.

Note: For selection of fuel oil, engine oil and gear oil, contact your authorized Cat lift truck dealer.



► Battery

In hot and/or dry weather, check the battery cells for proper electrolyte level more often than in cold weather. Add distilled water whenever the level is low.

► Engine Coolant

⚠ WARNING

Be careful NOT to have scalding hot coolant or steam blow out of the reserve tank. Remove the radiator cap only after engine cools.

Note: Coolant evaporates rapidly and the engine is likely to get overheated when the lift truck is operated continuously or on a grade. During such an operation, observe the engine coolant temperature gauge for symptoms of overheating.

⚠ CAUTION

If the engine coolant temperature gauge shows the red zone, the engine may be overheated.

Note: If the engine coolant temperature gauge shows the red zone, see 10-8 "If the Engine Coolant Temperature Gauge Shows Red Zone".

Symbols

The symbols shown on the main display are listed below:

Symbol	Name	Condition
	Brake Fluid Level Warning Icon	When brake fluid level is low (Option)
	Fuel Filter Drain Warning Icon	When fuel filter needs to be drained (Diesel model)
	Coolant Level Warning Icon	When coolant level is low (Option)
	Clogged Air Cleaner Element Warning Icon	When air cleaner element is clogged (Option)
	Low Fuel Level Warning Icon	When fuel level is low (On LPG/Gasoline dual models, when gasoline level is low.)
	LPG Level Warning Icon	When LPG level is low (LPG model) (Option)

► Optional Functions

The following optional functions are available.

- password authentication
- service interval display
- over speed warning
- load meter display
- over load warning
- exterior alarm
- speed restrictions

Note: Installation of special devices is required on the lift truck for the load meter display, the over load warning and the exterior alarm.

To use these options, function settings are required. Contact your authorized Cat lift truck dealer for details.

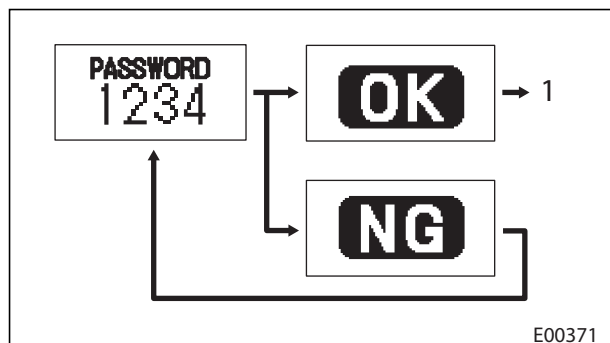
Password authentication

This function prevents an unauthorized person from operating the lift truck. To operate the lift truck, you need to enter the registered four-digit password.

Inputting a password

Turn the key switch to the ON position.

When the password input screen is displayed after brand logo screen, enter the registered four-digit password.



1. To standard screen

◆ Specifications (Standard Models)

Item			Truck model						
			GP15N	DP15ND DP15NT DP15NDS DP15NTS DP15N	GPE15N	GP15ZN	GP20CN	GPE20CN	DP20CND DP20CNT DP20CNDS DP20CNTS DP20CN
Alternator Drive Belt Deflection when pushed inward with 98 N (10 kgf) [22 lbf] pressure, mm (in.)			11 to 13 (0.4 to 0.5)	10 to 12 (0.4 to 0.5)	11 to 13 (0.4 to 0.5)			10 to 12 (0.4 to 0.5)	
Spark Plug	Type	NGK	FR2A-D	---	FR2A-D			---	
	Gap, mm (in.)		0.9 (0.04)	---	0.9 (0.04)			---	
Engine Idling Speed, rpm			700	750	700			750	
Steering Wheel Free Play when measured at rim with engine idling, mm (in.)			15 to 30 (0.6 to 1.2)						
Clutch Pedal Free Play when measured at rim with engine idling, mm (in.)			0 to 6 (0 to 0.2)						
Clutch Pedal Free Play (Dry Clutch), mm (in.)			0 to 6 (0 to 0.2)						
Inching Pedal Free Play, mm (in.)			2.5 to 7.5 (0.1 to 0.3)						
Brake Pedal Free Play, mm (in.)	Manual model		7 (0.3)						
	Powershift model		7 (0.3)						
Parking Brake Lever Operating Effort, N (kgf) [lbf]			150 to 200 (15 to 20) [34 to 45]						
Tire Size	Front Single		6.50-10-10PR			6.50-10 / 5.00			
	Front Dual		4.50-12-8PR			---			
	Rear		5.00-8-8PR			5.00-8 / 3.00			
Tire Pressure, kPa (kgf/cm ²) [BAR] (Pneumatic)	Front Single		700 (7.0) [100]						
	Front Dual		700 (7.0) [100]						
	Rear		700 (7.0) [100]						
Tightening Torque for Wheel Nuts, N·m (kgf·m) [lbf·ft]	Front		157 (16) [116]						
	Rear		157 (16) [116]						
Lift chain elongation limit, mm (in.) / 20 links			327 (12.9)			392 (15.4)			

* Rear tires must have 1050 kg (2315 lb) capacity at 19 km/h (11.8 mph).

Full Version Available

Caterpillar DP35NDS Forklift Operator Manual (99710-36130)

Caterpillar DP35NDS operator manual, covers controls, safety, inspections, and scheduled maintenance. Searchable PDF download.

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