UNICARRIERS
A Lifetime of Trusted Value

1F Series

Pneumatic Tire/
Engine-powered Models 1.5-3.5 ton

The Reliability to Keep You Going

In the 1F Series, we have brought together the experience of decades of building superior forklifts and the automobile derived technologies and know-how.
The result is superior reliability, productivity and environmental friendliness, matched with lower costs throughout the life of the truck.

To meet its three key objectives—meeting environmental, operator and owner needs—the super-low-emission engines, drivetrains and other technologies have been used.
The offspring of a proud lineage, the 1F Series gives you the reliability to keep on going.

Key Objectives:

For the Environment
Low Emission and
Low Noise

For Operators
Safety, Comfort and
Ease of Operation

For Owners
Reduced Total Lifecycle Cost

Objective 1: For the Environment

Low Emission and Low Noise

The 1F Series brings together improved environmental protection and a more comfortable working environment. The industry-leading engine technologies have been applied to provide both high performance and super-low emission levels. The 1F Series features the QD32 diesel engine, advanced gasoline and LPG engines in a low-noise design.

Improved Working Environment

Ultra-low Noise Levels

The 1F Series is designed to provide significantly lower noise levels, which helps reduce operator fatigue and allows the operator to better hear the surrounding environment.

Soft Landing System*

Even if the operator continuously holds the control lever down, the soft landing function will help ensure that the forks smoothly decelerate just before reaching the ground. The system also prevents clatter as the fork descends.

*Available only for the 2W mast

Diesel Engine

The QD32 diesel engine has the equivalent emission performance to meet EU Stage IIIA, US EPA Interim Tier4 and Japan Stage 2 Standards.

It is based on engines proven through use over millions of miles in commercial vehicles. In addition, the Quick Glow System provides greatly improved starting in cold weather.

Gasoline and LPG Engines

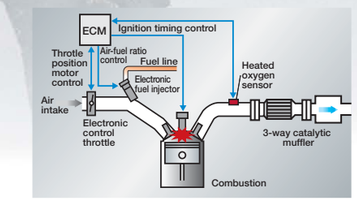
The engines with electronic controlled system represent a further evolution of world-leading clean emission performances with greatly reduced CO, HC and NOx emissions compared to carburetor models.

CO
Electronic controlled models 17%
Carburetor models 100%

HC
Electronic controlled models 10%
Carburetor models 100%

NOx
Electronic controlled models 2%
Carburetor models 100%

Electronic Controlled System and 3-way Catalytic Muffler



*ECM: Engine Control Module

This design includes an automotive-type closed-loop feedback system. Once combustion occurs, a sensor measures oxygen concentration in the exhaust gases before they enter the 3-way catalyst, then sends a signal to the ECM. Based on this signal, the ECM makes the proper air/fuel ratio adjustments, resulting in extremely low emission levels.

Objective 2: For Operators

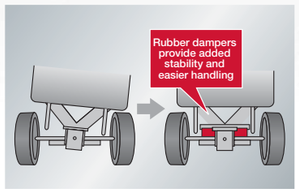
Safety, Comfort and Ease of Operation

Safety and Comfort

Our exclusive Swaying Control System helps provide greater control and stability when turning the forklift. It's part of a full range of safety equipment and features that help make for safer operations. The low-noise, low-vibration design provides a much more comfortable operating environment —and reduced operator fatigue means the operator can concentrate on the job at hand.

Superior Stability

Swaying Control System



Our exclusive Swaying Control System*, which provides confident driving control when turning the forklift, is standard equipment.

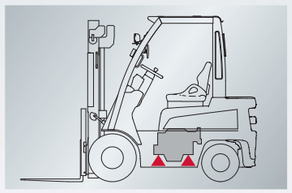
* The Swaying Control System does not completely eliminate the possibility of the forklift tipping over.

Low Center of Gravity Design

Designed for a low center of gravity, the 1F Series provides excellent stability during operation. For difficult working conditions, this can be further enhanced with the use of double tires.

Low-noise, Low-vibration Design for More Comfortable Operations

Powertrain Float Reduces Vibrations



An automobile-style floating powertrain and rigid frame and chassis reduce the transmission of vibrations to the operator, making longer, more comfortable hours of operation possible.

Speed Selector (Option)

Select maximum speed settings based on operator skill level, or the truck operation characteristics of your operations. (Not available for diesel models and gasoline/LPG carburetor models.)

Safety Features

Three seat-actuated safety features have been provided as standard equipment.

* Please note that there is a three-second delay after the operator leaves the seat before these features are activated.

Mast Lock System

The Mast Lock System, standard on all models, automatically locks all lifting and tilting functions when the operator leaves the seat.

Parking Brake Warning Buzzer

An automobile-style parking brake adds to convenience and safety, with a warning buzzer sounding when the operator leaves the seat without setting the parking brake.

Automatic Transmission Power Cut-off System

When the operator leaves the seat or is not seated properly and the shift lever is not in the neutral position, transmission is automatically shifted to neutral, cutting off power from the engine.

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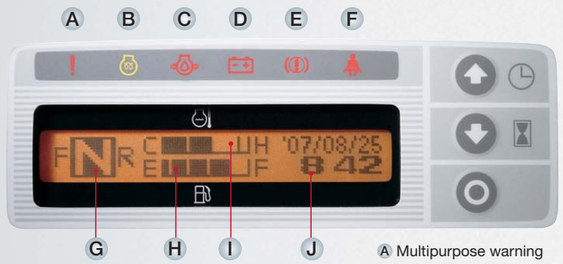
1F

Objective 2: For Operators

Safety, Comfort and Ease of Operation

Smart, Easy-operating Controls

The 1F Series is designed to provide a simply better and more productive place to work. The new Multifunctional LCD Meter, spacious operator compartment, standard full suspension seat, smart control layout and responsive handling, all combine to provide operators with a surprisingly comfortable way to get through every workday.



❶ Multifunctional LCD Meter

The large, easy-to-see Multifunctional LCD Meter lets the operator check on all aspects of operational status at a glance. The many functions such as the Self-diagnosis System, PIN Access and Service Reminder System ease truck operation and maintenance.

- Ⓐ Multipurpose warning
- Ⓑ Glow plug indicator (diesel) Check engine warning (gasoline/LPG)
- Ⓒ Oil pressure warning
- Ⓓ Charge warning
- Ⓔ Brake warning
- Ⓕ Seatbelt warning
- Ⓖ Directional indicator
- Ⓗ Fuel gauge
- Ⓘ Water temperature gauge
- Ⓙ Multifunction display (hour meter, clock/calendar, speedometer, service reminder, warning indicators, error codes)

Speedometer

The Multifunctional LCD Meter includes an easy-to-read speedometer; travel speed is displayed whenever the forklift is moving at 4 kph or higher.

❷ Small-diameter Steering Wheel with Tilt Adjustment

The easy-handling steering wheel with tilt adjustment helps to provide the ideal operating position.

❸ Simple, Small-stroke F/R Lever

The forward-reverse lever swings through a smaller arc than previous models, meaning less effort and less total time spent on this basic, often-performed function.

❹ Automobile-style Light/Turn-signal Lever

The 1F Series features the thoughtful use of an automobile-style light and turn-signal lever, with simple actions that let the operator focus on the job.

❺ Single Control Lever (Option)

Our original Single Control Lever allows for simultaneous lifting and tilting operations, for greater productivity (double control levers are also available).

❻ Easy Entry and Exit

A low floor height makes it easier to step into and out of the forklift, made even more secure with a non-skid steel step.

❼ Restraint Seat with Suspension

This special seat, standard on all models, helps provide a secure, comfortable control center for the operator, with ample suspension and hip-support grips.

❽ Wide-open Foot Space and Automobile-style Pedal Layout

A comfortable pedal angle, automobile-style pedals and a wide area free from obstructions below the seat provide more ergonomic operation.

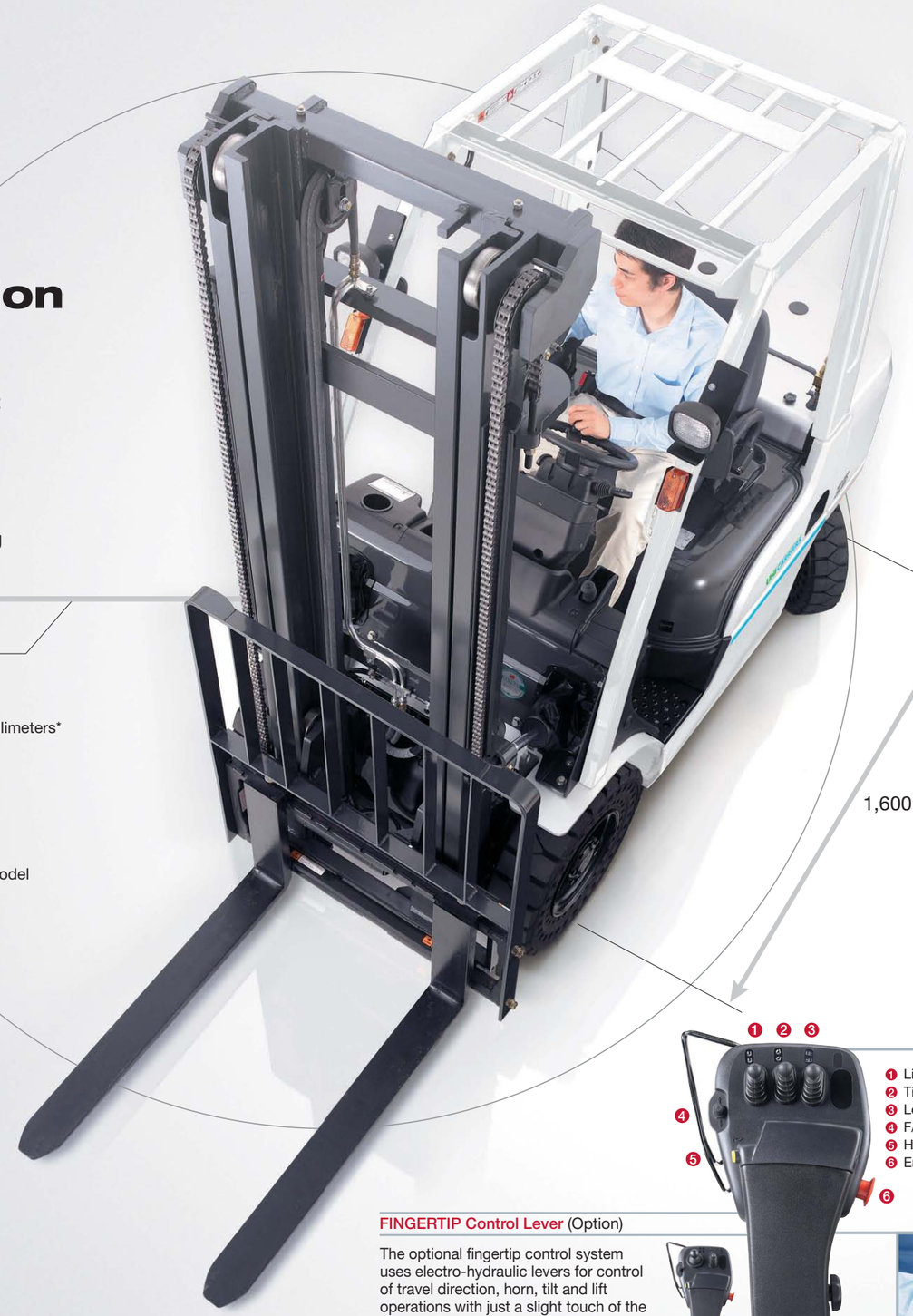
Objective 3: For Owners

Reduced Total Lifecycle Cost

High Productivity and Low Fuel Consumption

The purchase price is not the true cost of the forklift: throughout the lifetime of the truck it will require fuel, maintenance and labor costs. In the 1F Series, we have very carefully considered the total lifecycle cost of a forklift—and answered this with effective solutions for reduced cost and superior productivity.

These begin with gasoline/LPG engines and the QD32 diesel engines, which provide high performance and low fuel consumption. They continue with a superior turning radius and smart, easy-operating controls and a range of available options to give operators better, more efficient control and provide higher productivity.



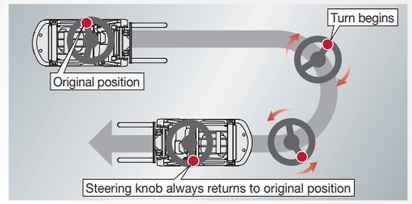
Minimum turning radius
2,230 millimeters*

*2.5 ton model

1,600 millimeters*

Steering Synchronizer (Option)

A sensor checks the steering and tire angle so the steering knob always returns to original position. This function helps ensure the accurate and consistent coordination of steering wheel and tires, for precise steering.

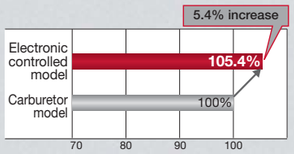


Tilt Leveling System (Option)

A simple press of a button on the mast control lever brings the forks automatically to the horizontal position—a great aid for new operators.

Gasoline/LPG engines with electronic controlled system provides both productivity and low fuel consumption

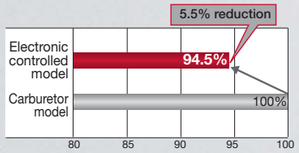
High Productivity



2.0 ton, K21 engine
*Figures are measured under the original test pattern(s).

Based on the number of cycles per hour, the gasoline/LPG model with electronic controlled system in the 1F Series gets more work done, boosting productivity.

Low Fuel Consumption



2.0 ton, K21 engine
*Figures are measured under the original test pattern(s).

The gasoline/LPG model with electronic controlled system provides a 5.5% reduction in fuel consumption compared to the carburetor engine model.

Power/Eco Selector

Standard on the gasoline/LPG model with electronic controlled system, a quick press of the switch to ECO mode provides low noise, a 17% reduction in fuel consumption* and reduction of tire wear compared to POWER mode. This selector is available for QD32 diesel engine models with automatic transmission.

*Figures are measured under the original test pattern(s).

*Performance figures may vary depending on the actual working conditions.

1 Lift and Lower
2 Tilt
3 Lever for Attachment
4 F/R Lever
5 Horn Switch
6 Emergency Stop

FINGERTIP Control Lever (Option)

The optional fingertip control system uses electro-hydraulic levers for control of travel direction, horn, tilt and lift operations with just a slight touch of the finger, providing greater ergonomics and productivity. Both single and double control levers are available.

(Available on 2.0 and 2.5 ton models with 2W and 3F masts.)

Single Lever

Double Lever

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Objective 3: For Owners

Reduced Total Lifecycle Cost

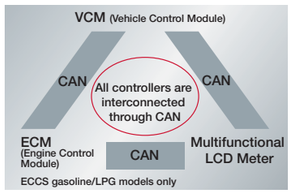
Making Maintenance Easy and Cost Effective

Maintenance is one of the major costs throughout the lifecycle of a forklift. A forklift with the reliability to operate with the lowest amount of downtime also helps to reduce cost over time.

The Self-diagnosis System and easy access for maintenance assure that the time required for maintenance and service is kept to a minimum. Renowned for its top-class reliability, we have further enhanced this with the engines and drivetrains.

Easy Truck Management

VCM and CAN



The Vehicle Control Module (VCM) makes use of information provided by a number of sensors around the forklift, transmitted through the Controller Area Network (CAN), to provide a range of information and control functions. Durability of the VCM has also been increased through the use of waterproof connectors and enclosures meeting the IP65 standard for dust- and water-tightness.

Personal Identification No. (PIN) Access

This 4-digit PIN access system helps avoid unauthorized truck usage. It is also possible to record the actual operating performance of each operator.

Self-diagnosis System

The onboard diagnostic menu with integrated self-check and dialogue-type functions provides easy troubleshooting while reducing maintenance downtime.

Service Reminder System

When the Service Reminder System is activated by the dealer, a reminder indication is shown in the LCD at startup whenever a specified operating hour or day and date has been reached, reminding of the need for regular service.

Easy Maintenance

Wide-opening Engine Compartment

Access to the engine has never been easier, with a wide-opening hood that provides superior access for maintenance and inspection.

Easily-detached Floor and Side Panels

One-touch removal of the floorboard and side panels allows for quick service operations and reduced downtime—and no tools are required.

Strict Testing for Superior Quality

The superior quality and enhanced reliability are assured through strict testing and development system.

Options and Attachments to Meet Varied Customer Needs

These are just a selection of the many options and attachments available for the 1F Series. For more information, please contact our local sales representative(s) in your country.

Smooth-run System
Two different types of accumulators absorb the shocks transmitted from the road surface making both load handling and travel smoother. This offers extra benefits when working with delicate loads on rough surfaces.

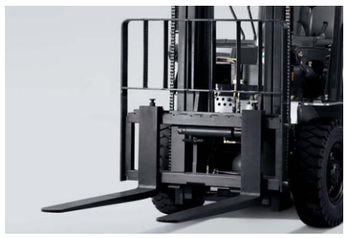
Rain Guard (Resin Type)
While offering good upward visibility, this durable rain-guard protects the operator in inclement weather.

LPG Swing-down Bracket
This ergonomically designed swing-down bracket greatly assists in for the lifting and lowering of tanks. The improved design also provides better rearward visibility (available on all LPG-powered models).

Overhead Exhaust Muffler
This design directs exhaust fumes away from the operator area and minimizes ground debris from entering the engine compartment.

AirBoss® Tires*
These hard-wearing, non-burst solid tires feature a three-layer construction and computer-calculated holes to provide a softer ride and better steering stability.
*AirBoss is a registered trade name of AirBoss of Australia.

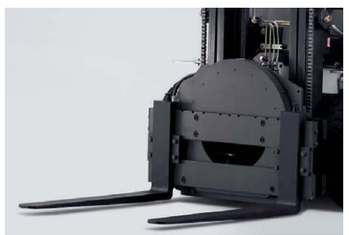
Double Tires
Double tires are available for greater stability when lifting loads high.



Side Shift
This hook-on type side shifter provides right and left fork movement for accurate stacking.

Fork Positioner
A hook-type fork positioner, for accurate positioning of the forks with the load.

Hinged Fork
Securely holds and carries long loads such as lumber or steel pipes.



Rotating Fork
Full 360° rotation, for faster work and easier load discharge.

Other Available Attachments: Roll Clamp, Bale Clamp, Input Bucket (pointed/flat), Load Stabilizer (standard/short) Fork Clamp, etc.

Specifications
Pneumatic Tire / Engine-powered Models 1.5-3.5 ton

Model		1F1A(M)15U/WU P1F1A15JU/DU P1F1A15U/WU F1F1A(M)15U	1F1A18U/WU P1F1A18JU/DU P1F1A18U/WU F1F1A18U	P1F2A20JU/DU P1F2A20U/WU U1F2A20JU/DU U1F2A(M)20U/WU Y1F2A(M)20U	P1F2A25JU/DU P1F2A25U/WU U1F2A25JU/DU U1F2A(M)25U/WU Y1F2A(M)25U	UG1F2A30JU/DU UG1F2A30U/WU YG1F2A(M)30U	UG1F2A35JU/DU UG1F2A35U/WU YG1F2A(M)35U
Engine Type		K15, K21, S4Q2	K15, K21, S4Q2	K21, K25, QD32	K21, K25, QD32	K25, QD32	K25, QD32
Load Capacity	t	1.5	1.75	2.0	2.5	3.0	3.5
Load Center	mm	500	500	500	500	500	500
Max. Fork Height (standard mast)	mm	3000	3000	3000	3000	3000	3000
Overall Width	mm	1065	1065	1150	1150	1250	1280
Overall Length (length to fork face)	mm	2265	2300	2490	2555	2715	2780
Overall Height (overhead guard height)	mm	2115	2115	2115	2115	2150	2155
Turning Radius (outside)	mm	1950	1990	2145	2230	2330	2420

Engine

Model			K15	K21	K25	S4Q2	QD32
Displacement		cc	1486	2065	2488	2505	3153
Rated Output	Electronic controlled	kW/rpm	—	41/2700	46.9/2700	36/2500	38/2000
	Carburetor	kW/rpm	26/2450	34/2200	40/2200		
Rated Torque	Electronic controlled	N-m/rpm	—	151/2000	188/2000	149/2000	186/1800
	Carburetor	N-m/rpm	109/2000	158/1600	186/1600		

Option Availability

Standard ■ Options ■

Item		Gasoline/LPG				Diesel
		Electronic controlled Gasoline	Electronic controlled Dual	Carburetor Gasoline	Carburetor Dual	
Truck management	VCM	■	■	■	■	■
Powertrain	Power train floating	■	■	■	■	■
	Electronic controlled	■	■			
	Carburetor type			■	■	
	Speed Selector	□	□			
	Power / Eco Selector	■	■			
	Radiator screen	□	□	□	□	□
	3-way catalytic muffler	■	■			
	Overhead exhaust muffler	□	□	□	□	□
LPG system * (Dual fuel)	Complete system		□		□	
	Swing-back bracket		□		□	
	Swing-open bracket		□		□	
	Swing-down bracket		□		□	
Instruments	Multifunctional LCD Meter	■	■	■	■	■
Warning buzzer	Back-up buzzer	■	■	■	■	■
	Parking brake warnig buzzer	■	■	■	■	■
Light	Head lights (without guard)	■	■	■	■	■
	Rear combination lamps	□	□	□	□	□
	Rear working light	□	□	□	□	□
	Rotating light (yellow)	□	□	□	□	□
Tires	J-lug tires (Textile)	■	■	■	■	■
	Solid tires	□	□	□	□	□
	AirBoss tires **	□	□	□	□	□
	Double tires	□	□	□	□	□
Body	Rain guard (Vinyl type)	□	□	□	□	□
	Rain guard (Resin type)	□	□	□	□	□
	Canvas cabin	□	****	□	****	□
	Rearview mirrors (both sides)	□	□	□	□	□
	Windshield	□	□	□	□	□
Seat	Restraint seat with suspension	■	■	■	■	■
	Without seat	□	□	□	□	□
Mast	2W mast	■	■	■	■	■
	2F mast	□	□	□	□	□
	3F mast	□	□	□	□	□
	Without mast	□	□	□	□	□
	Tilt cylinder cover	□	□	□	□	□
	Tilt cylinder boot	□	□	□	□	□
	Tilt Leveling System	□	□	□	□	□
Steering system	Small-diameter steering wheel with tilt adjustment	■	■	■	■	■
	Steering Synchronizer	□	□	□	□	□
Hydraulic control system	2 spool valve	■	■	■	■	■
	3 spool valve	□	□	□	□	□
	4 spool valve	□	□	□	□	□
	Single control lever	□	□	□	□	□
	Double control lever	■	■	■	■	■
	FINGERTIP control (single type) ***	□	□	□	□	□
	FINGERTIP control (double type) ***	□	□	□	□	□
	3 spool piping to carriage	□	□	□	□	□
	4 spool piping to carriage	□	□	□	□	□
	Smooth-run System	□	□	□	□	□

* Swing-back type is standard ** AirBoss tire is registered by AirBoss of Australia
*** Not available on 1.5 and 1.8 ton dual fuel models **** Available on 2.0 to 2.5 ton models with 2W and 3F masts

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