

technology with the power to deliver

Available in capacities from 8 to 16 tons, heavy duty diesel counterbalanced Mitsubishi forklift trucks are as strong as they are reliable... and built to deliver high performance in every kind of environment.

The seven model range matches modern design with tried and tested technology, excellent engineering with local back-up, to optimise your productivity.

Because they produce low emissions, these diesel-powered trucks meet all environmental standards. Driver friendly, they also offer smooth lifting, excellent all-round visibility and high levels of driver comfort.

Rapid product selector

Load weight	Wheelbase (mm)	Load centre	Model
8000kg	2650	600	FD80N
9000kg	2650	600	FD90N
10000kg	2800	600	FD100N
12000kg	2800	600	FD120N
13500kg	2800	600	FD135N
15000kg	3100	600	FD150AN
16000kg	3300	600	FD160AN

FD80-135N Series

8.0 - 13.5 tons

FD80/90/100/120/135N

FD150A-160AN Series

15.0 - 16.0 tons

FD150A/160AN



Mitsubishi Forklift Trucks gives you more

Whatever your application... from timber to metals, construction materials to dockyards, container handling to airfreight, Mitsubishi forklift trucks can deliver the muscle to handle the job.

A wide chassis design and low centre of gravity combine to provide good lateral stability – essential on rough terrain, at high lifts and with unusually wide loads. The 6 cylinder diesel engines produce rapid travel speeds and easily accommodate ramps and other gradients. Moreover, because Mitsubishi Forklift Trucks takes its ecological responsibilities very seriously, its low-emission engines meet all current and proposed environmental standards.

But that's not all. From the ground up, every aspect of every truck's design has been carefully considered – and every truck is packed with advanced features designed to make life better for the driver and the service engineer.

supreme ergonomics



The designers at Mitsubishi Forklift Trucks understand that high productivity depends on the combination of quality engineering and a contented and comfortable operator. That is why every truck is built around the operator's needs.

exceptional visibility



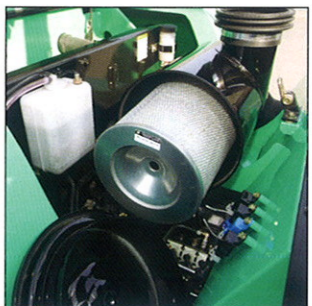
Mitsubishi Forklift Trucks is well known for its unique and innovative approaches to mast design, which provide exceptional forward vision. Similar attention is paid to ensuring clear all-round and upward visibility through the overhead guard.

rapid access servicing

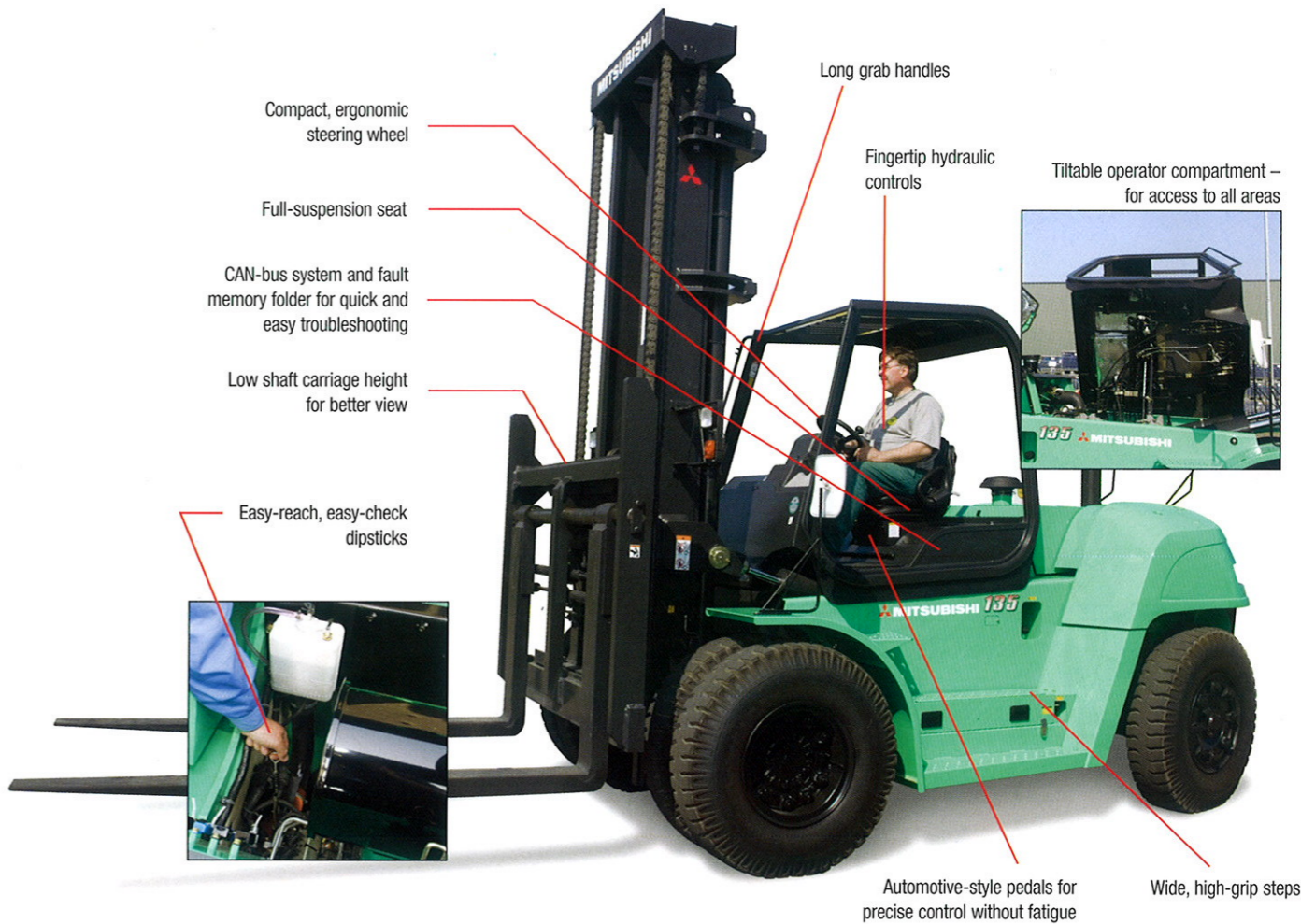


Every model has been designed to allow quick and easy access for checks and maintenance. Dipsticks and reservoirs, for example, are simple to reach, while hoods and panels can be lifted or removed in seconds – without tools – for inspection of all major components and systems.

outstanding economy



Use of high-quality components and careful design has reduced the service requirements of many key systems to a minimum – or eliminated it altogether. Rapid access features, and compatibility of parts between models and series, have further reduced downtime and maintenance costs.



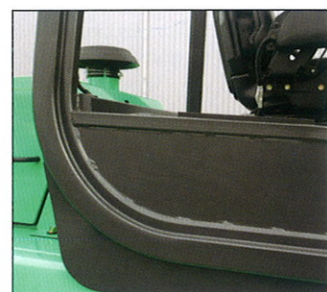
a tough truck... with a gentle touch



Adjustable side rollers



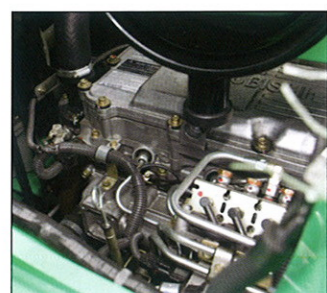
Excellent all-round view



Specially shaped overhead guard



Rear lights protected by chassis



Powerful Mitsubishi 6M60-TL engine



Advanced cooling system



Compact, ergonomic steering wheel



Robust rear axle

capacities

FD80N	FD90N	FD100N	FD120N	FD135N	FD150AN	FD160AN
8.0t	9.0t	10.0t	12.0t	13.5t	15.0t	16.0t

These heavyweight trucks deliver all the productivity and reliability you would expect from a Mitsubishi forklift trucks – in a rugged, extremely powerful package. And although they are tough in action, they are gentle on the driver and the environment. Low noise, effortless hydraulic control and refined ergonomics make driving a pleasure, while emissions have been minimised to meet the strict European exhaust emissions regulations.

Styling is modern and attractive, and a choice of seven capacities is offered to meet every need. Lift speed and gradient performance are exceptional, thanks to the high-powered engine and efficient transmission. High-quality components, protective features and easy service access maximise uptime, while great all-round visibility, a secure operator compartment and the Integrated Presence System (IPS) give peace of mind.

- **Box-shaped structure** with integrated fuel and hydraulic tanks gives the chassis excellent rigidity.
- **Fenders and steps** are bolted to the chassis for easy servicing.
- **Separately constructed mast channels** add extra strength, while straight-positioned roller bearings and adjustable side rollers ensure total reliability.
- **Standard shaft-type carriage** with low shaft height optimises visibility.
- **Carriage design** includes single centre bar with consequently large fork adjustment range for great functionality.
- **Simultaneous and independent fork control** options can be chosen by the driver according to preference.
- **Powerful Mitsubishi 6M60-TL diesel engine** produces high output and torque for increased productivity.



On-board diagnostics



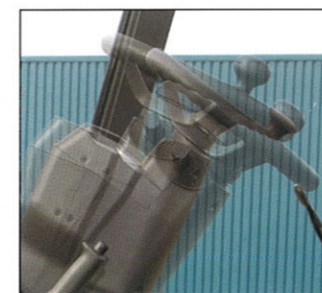
Automotive-style pedals



Lights protected within mast



Integrated Presence System - parking brake alarm, seat belt warning light, hydraulic and travel interlock



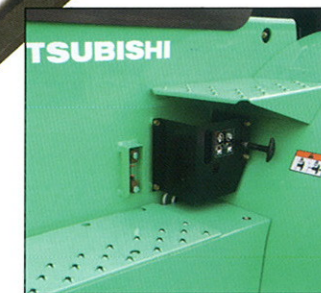
Adjustable steering column



Hydraulic levers



Full-suspension vinyl seat



Wide, high-grip steps

- **Common rail technology** in combination with electronically controlled fuel injection system, turbo charger, intercooler, exhaust gas recirculation and positive crank case ventilation system allows control of torque, noise and emissions to comply with stage IIIA of exhaust emissions regulations (97/68/EC amended by 2004/26/EC).

- **Powerful cooling system** with efficient aluminium radiator maintains excellent temperature control.
- **In-house manufacture of entire drive train** means perfect compatibility of engine, transmission and front axle.
- **Heavy duty auto-shift transmission** through clutches with large friction area, together with reliable inching, ensures trouble-free operation.
- **Robust rear axle** with tapered roller bearings, high-quality seals and fixed tie rods ensures reliability.
- **Standard high-performance drum brakes** are air-assisted and hydraulically actuated.
- **Heavy duty, oil-cooled, disc brakes** reduce operational costs in harsh applications (standard on 16 tons model, optional on all others).

options

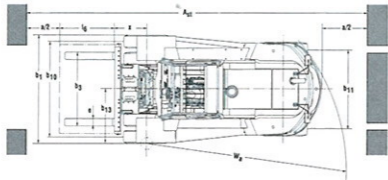
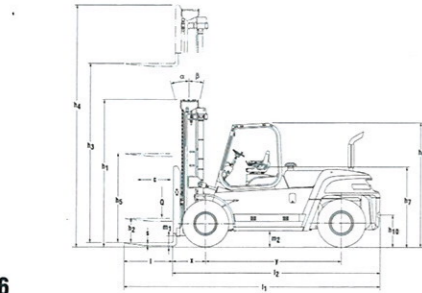
Deluxe cabin
Mast attachments
Air intake options

- **Dependable hydraulic system** uses gear-type hydraulic pump and optimised component layout to reduce build-up of heat in the hydraulic system – for higher efficiency.
- **High-performance hydraulic breather** extends life of vulnerable components in harsh applications.
- **CAN-bus system** together with 32-code fault memory folder makes troubleshooting quick and simple.
- **Automotive-style pedals** with optimum pedal angle are easy to use and give good control without leg strain.
- **500-hour service interval** (conditions apply) and long life of components reduces downtime and associated costs.



FD80-160AN Series
Diesel Counterbalanced • 6 Wheel Pneumatic Tyres
8.0 - 16.0 tons

Characteristics								
1.1	Manufacturer (abbreviation)		Mitsubishi	Mitsubishi	Mitsubishi	Mitsubishi	Mitsubishi	Mitsubishi
1.2	Manufacturer's model designation		FD80N	FD90N	FD100N	FD120N	FD135N	FD150AN
1.3	Power source: (battery, diesel, LP gas, petrol)		Diesel	Diesel	Diesel	Diesel	Diesel	Diesel
1.4	Operator type: pedestrian, (operator)-standing, -seated		Seated	Seated	Seated	Seated	Seated	Seated
1.5	Load capacity	Q (kg)	8000	9000	10000	12000	13500	15000
1.6	At load centre	c (mm)	600	600	600	600	600	600
1.7	Load distance	x (mm)	675	755	755	765	795	805
1.8	Wheelbase	y (mm)	2650	2650	2800	2800	2800	3100
Weight								
2.1	Truck weight, without load / including battery (simplex mast, lowest lift height)	kg	11740	13510	14800	16060	17700	18050
2.2	Axle loading with maximum load, front/rear (simplex mast, lowest lift height)	kg	17740 / 2000	20290 / 2220	22290 / 2510	25190 / 2870	28060 / 3140	29930 / 3120
2.3	Axle loading without load, front/rear (simplex mast, lowest lift height)	kg	5890 / 5850	6685 / 6825	7450 / 7350	7340 / 8720	7850 / 9850	8190 / 9860
Wheels, Drive Train								
3.1	Tyre type: V=solid, L=pneumatic, SE=solid pneumatic - front/rear		L	L	L	L	L	L
3.2	Tyre dimensions, front		9.00-20-12PR	9.00-20-14PR	10.00-20-14PR	10.00-20-16PR	12.00-20-18PR	12.00-20-18PR
3.3	Tyre dimensions, rear		9.00-20-12PR	9.00-20-14PR	10.00-20-14PR	10.00-20-16PR	12.00-20-18PR	12.00-20-20PR
3.4	Number of wheels, front/rear (x=driven)		4X / 2	4X / 2	4X / 2	4X / 2	4X / 2	4X / 2
3.5	Track width (centre of tyres), front	b10 (mm)	1820	1820	1900	1900	1905	1905
3.6	Track width (centre of tyres), rear	b11 (mm)	1755	1755	1965	1965	1925	1890
Dimensions								
4.1	Mast tilt, forwards/backwards	α/β °	15 / 12	15 / 12	15 / 12	15 / 12	15 / 12	15 / 12
4.2	Height with mast lowered	h1 (mm)	3280	3520	3590	3590	3885	4035
4.3	Free lift	h2 (mm)	220	0	0	0	0	0
4.4	Lift height	h3 (mm)	4000	4000	4000	4000	4000	4000
4.5	Overall height with mast raised	h4 (mm)	5325	5490	5590	5590	5930	6035
4.6	Height to top of overhead guard	h6 (mm)	2845	2845	2915	2915	2960	2960
4.7	Seat height	h7 (mm)	1800	1800	1875	1875	1915	1915
4.8	Tow coupling height	h10 (mm)	565	565	695	695	735	735
4.9	Overall length	l1 (mm)	5285	5460	5510	5595	5750	6260
4.10	Length to fork face (includes fork thickness)	l2 (mm)	4065	4240	4295	4375	4530	5040
4.11	Overall width	b1/b2 (mm)	2390	2390	2515	2515	2600	2635
4.12	Fork dimensions (thickness, width, length)	s / e / l (mm)	64 / 180 / 1220	72 / 180 / 1220	72 / 180 / 1220	79 / 180 / 1220	88 / 180 / 1220	92 / 180 / 1220
4.13	Fork carriage to DIN 15 173 A/B/no		no	no	no	no	no	no
4.14	Fork carriage width	b3 (mm)	1825	2210	2210	2210	2220	2220
4.15	Ground clearance under mast, with load	m1 (mm)	215	205	220	220	260	260
4.16	Ground clearance at centre of wheelbase, with load (forks lowered)	m2 (mm)	230	230	275	275	320	320
4.17	Working aisle width with 1000 x1200 mm pallets, crosswise	Ast (mm)	5925	6105	6165	6235	6365	7030
4.18	Working aisle width with 800 x1200 mm pallets, crosswise	Ast (mm)	-	-	-	-	-	-
4.19	Turning circle radius	Wa (mm)	3830	3930	3990	4050	4150	4545
4.20	Minimum distance between centres of rotation	b13 (mm)	1535	1535	1550	1550	1550	1805
Performance								
5.1	Travel speed, with/without load	km/h	27 / 31	26 / 30	24 / 29	23 / 29	23 / 30	22 / 30
5.2	Lifting speed, with/without load	m/s	0.550 / 0.570	0.440 / 0.460	0.460 / 0.480	0.460 / 0.480	0.380 / 0.400	0.350 / 0.370
5.3	Lowering speed, with/without load	m/s	0.550 / 0.500	0.440 / 0.400	0.460/0.500	0.460 / 0.500	0.480 / 0.510	0.440 / 0.470
5.4	Rated drawbar pull, with/without load	N	85600 / 40700	84800 / 46200	86500 / 50200	85700 / 49700	78800 / 51800	77900 / 60300
5.5	Gradeability, with/without load	%	49 / 31	39 / 28	38 / 30	33 / 27	27 / 26	25 / 27
5.6	Acceleration time (10 metres) with/without load	s	-	-	-	-	-	-
5.7	Service brakes (mechanical/hydraulic/electric/pneumatic)		drum / pneum - hydr	drum / pneum - hydr	drum / pneum - hydr	drum / pneum - hydr	drum / pneum - hydr	WDB / pneum - hydr
IC Engine								
6.1	Manufacturer / Type		MITSUBISHI 6M60-TL	MITSUBISHI 6M60-TL	MITSUBISHI 6M60-TL	MITSUBISHI 6M60-TL	MITSUBISHI 6M60-TL	MITSUBISHI 6M60-TL
6.2	Rated output B to ISO 1585	kW	110	110	110	110	110	110
6.3	Rated speed to DIN 70 020	rpm	2100	2100	2100	2100	2100	2100
6.4	Number of cylinders / cubic capacity	cm³	6 / 7545	6 / 7545	6 / 7545	6 / 7545	6 / 7545	6 / 7545
6.5	Fuel consumption according to VDI cycle	l/h / kg/h	-	-	-	-	-	-
Miscellaneous								
7.1	Type of drive control		Torque converter	Torque converter	Torque converter	Torque converter	Torque converter	Torque converter
7.2	Maximum operating pressure for attachments	bar	181	181	206	206	206	206
7.3	Oil flow for attachments	l/min	-	-	-	-	-	-
7.4	Noise level, mean value at operator's ear	dB(A)	-	-	-	-	-	-
7.5	Towing coupling design / DIN type, ref.		-	-	-	-	-	-



Ast = Wa + x + l6 + a
Ast = Working aisle width with load
a = Safety clearance (200 mm)
l6 = Pallet length (800 or 1000 mm)
b12 = Pallet width (1200 mm)



Drive

- **Powerful Mitsubishi 6M60-TL diesel engine** produces high output and torque for increased productivity.
- **Common rail technology** in combination with electronically controlled fuel injection system, turbo charger, intercooler, exhaust gas recirculation and positive crank case ventilation system allows control of torque, noise and emissions to comply with stage IIIA of exhaust emissions regulations (97/68/EC amended by 2004/26/EC).
- **Powerful cooling system** with efficient aluminium radiator maintains excellent temperature control.
- **In-house manufacture of entire drive train** means perfect compatibility of engine, transmission and front axle.
- **Heavy duty auto-shift transmission** through clutches with large friction area, together with reliable inching, ensures trouble-free operation.

Steering system

- **Robust rear axle** with tapered roller bearings, high-quality seals and fixed tie rods ensures reliability.



Brakes

- **Standard high-performance drum brakes** are air-assisted and hydraulically actuated.
- **Heavy duty, oil-cooled, disc brakes** reduce operational costs in harsh applications (standard on 16 tonne model, optional on all others).
- **Dependable hydraulic system** uses gear-type hydraulic pump and optimised component layout to reduce build-up of heat in the hydraulic system – for higher efficiency.
- **High-performance hydraulic breather** extends life of vulnerable components in harsh applications.

Electrical and control systems

- **CAN-bus system** together with 32-code fault memory folder makes troubleshooting quick and simple.
- **Integrated Presence System** provides parking brake alarm, seat belt warning light and hydraulic and travel interlock system for added safety.



Operator compartment and controls

- **Wide, high-grip steps and long grab handles** allow easy on-off access from both sides.
- **Full-suspension vinyl seat** is easy to keep clean and keeps driver comfortable through the longest of shifts.
- **Fingertip hydraulic controls** integrated into fully adjustable, comfortable armrest allow effortless precision.
- **Automotive-style pedals** with optimum pedal angle are easy to use and give good control without leg strain.
- **Low noise levels at operator's ear** increase comfort and reduce fatigue.

Other features

- **500-hour service interval** (conditions apply) and long life of components reduces downtime and associated costs.
- **Rapid access features** include easy reach for daily checks, without tilting the cabin and with no need for tools.
- **Standard tiltable operator compartment** gives quick and easy entry to all areas for maintenance.

Options

- **Deluxe cabin**
- **Mast attachments**
- **Air intake options**