MITSUBISHI FORKLIFT TRUCKS

SERVICE MANUAL

FG10	**F25B-10002-up**	**FD10**	**F16C-10001-up**
FG15	**F25B-60043-up**	**FD15**	**F16C-60013-up**
FG18	**F25B-80014-up**	**FD18**	**F16C-80011-up**
FG20	**F17B-10659-up**	**FD20**	**F18B-10496-up**
FG25	**F17B-60282-up**	**FD25**	**F18B-60709-up**
FG30	**F13D-40131-up**	**FD30**	**F14C-40360-up**
FG35A	**F13D-60044-up**	**FD35A**	**F14C-60176-up**

NOTE

For use with the 4G15, 4G63, 4G64
Gasoline Engine Service Manual.

For use with the S4Q2, S4S
Diesel Engine Service Manual.

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Quality Makes the Difference

99719-21400

GROUP INDEX

Group	Items
GENERAL INFORMATION	Serial Number Locations, Dimentions, Technical Data
COOLING SYSTEM	Description, Removal and Installation, Inspection and Adjustment
ELECTRICAL SYSTEM	Console Box, Combination Meter, Lamp Bulb Specifications, Troubleshooting, Electrical System Schematic
POWER TRAIN	Engine and Transmission
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FRONT AXLE AND REDUCTION DIFFERENTIAL	Front Wheels, Front Axle and Reduction Differential, Tooth Contact Patterns and Adjustment
REAR AXLE	Rear Wheels, Rear Axle, Toe-in Adjustment, Minimum Turning Radius Adjustment
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HYDRAULIC SYSTEM	Hydraulic Line, Hydraulic Tank, Hydraulic Pump, Control Valve, Lift and Tilt Cylinders, Flow Regulator Valve, Down Safety Valve
MAST AND FORK	Simplex Mast, Duplex Mast, Triplex Mast
SERVICE DATA	Inspection Standards, Periodic Replacement of Parts, Lubricant Standards, Main Component Weight, Tightening Torque for Standard Bolts and Nuts, Special Tools

FOREWORD

This service manual is a guide to servicing of Mitsubishi Forklift Trucks for 1.0 thru 3.5 ton models. The instructions are grouped by systems to serve the convenience of your ready reference.

Long productive life of your lift trucks depends to a great extent on correct servicing — the servicing consistent with what you will learn from this service manual. We hope you read the respective sections of this manual carefully and know all the components you will work on before attempting to start a test, repair or rebuild job.

The descriptions, illustrations and specifications contained in this manual were of the trucks of serial numbers in effect at the time it was approved for printing. Mitsubishi reserves the right to change specifications or design without notice and without incurring obligation.

For the items pertaining to the engines, refer to the following service manuals:

- 4G15 Gasoline Engine Service Manual (Pub. No. 99719-96100)
- 4G63/4G64 Gasoline Engine Service Manual (Pub. No. 99719-94100)
- S4Q2 Diesel Engine Service Manual (Pub. No. 99719-73100)
- 4DQ7/S4S Diesel Engine Service Manual (Pub. No. 99719-75100)

SAFETY RELATED SIGNS

The following safety related signs are used in this service manual to emphasize important and critical instructions:

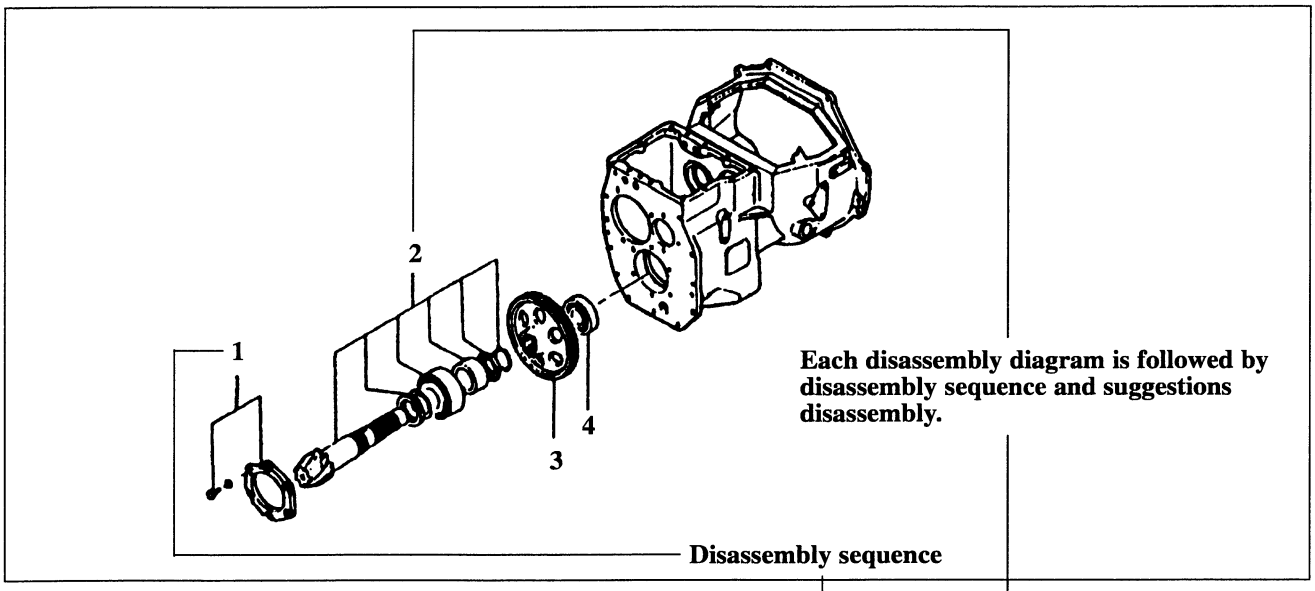
⚠ WARNING — Indicates a specific potential hazard resulting in serious bodily injury or death.

⚠ CAUTION — Indicates a specific potential hazard resulting in bodily injury, or damage to, or destruction of, the machine.

NOTE — Indicates a condition that can cause damage to, or shorten service life of, the machine.

HOW TO READ THIS MANUAL

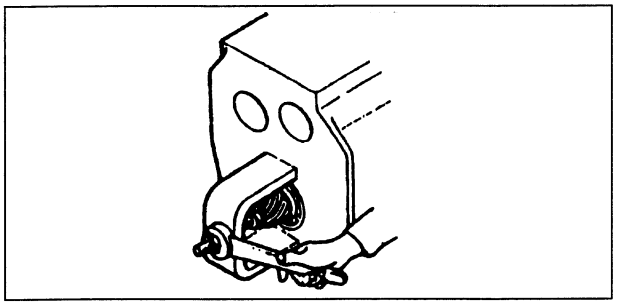
Disassembly Diagram (example)



1 Cover [bolt, washer] (part name)
2 Output shaft (part name)

Suggestion for disassembly

(1) Output shaft removal



Unit: mm (in.)

Clearance between cylinder and piston	A	0.020 to 0.105 (0.00079 to 0.00413)
	B	0.15 (0.0059)

A: Assembly standard
B: Repair or service limit

GENERAL INFORMATION

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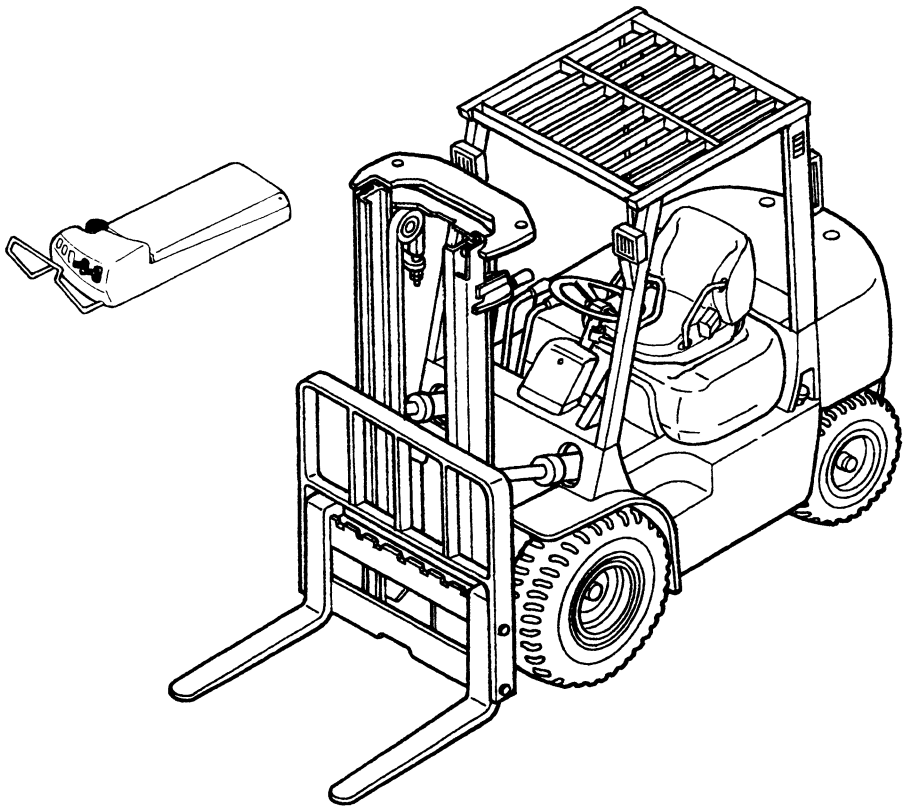
Vehicle Exterior

- This Service Manual deals with all components or systems of the Mitsubishi Forklift trucks, except for the engine and attachment, which are covered in the respective manuals.



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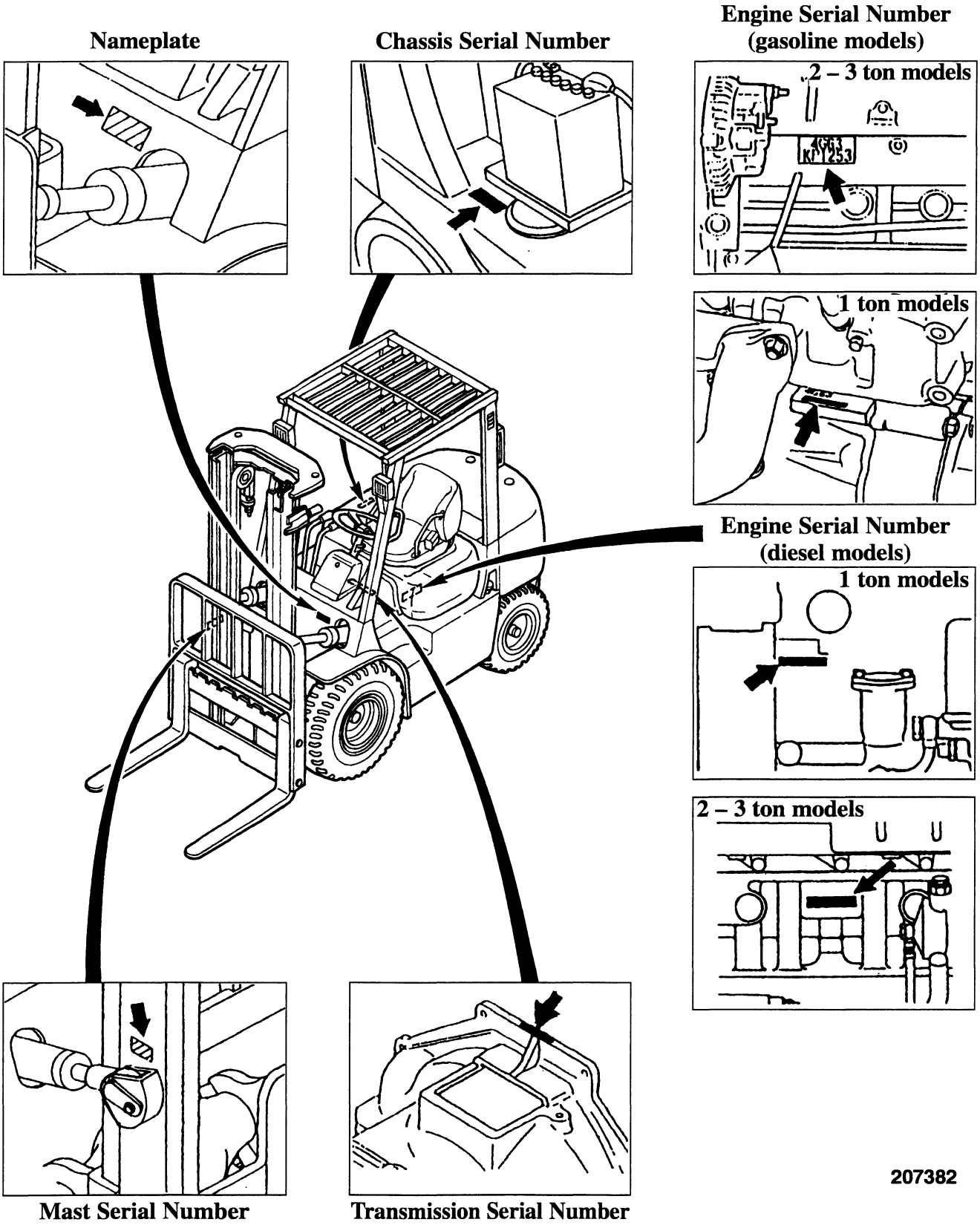
Models

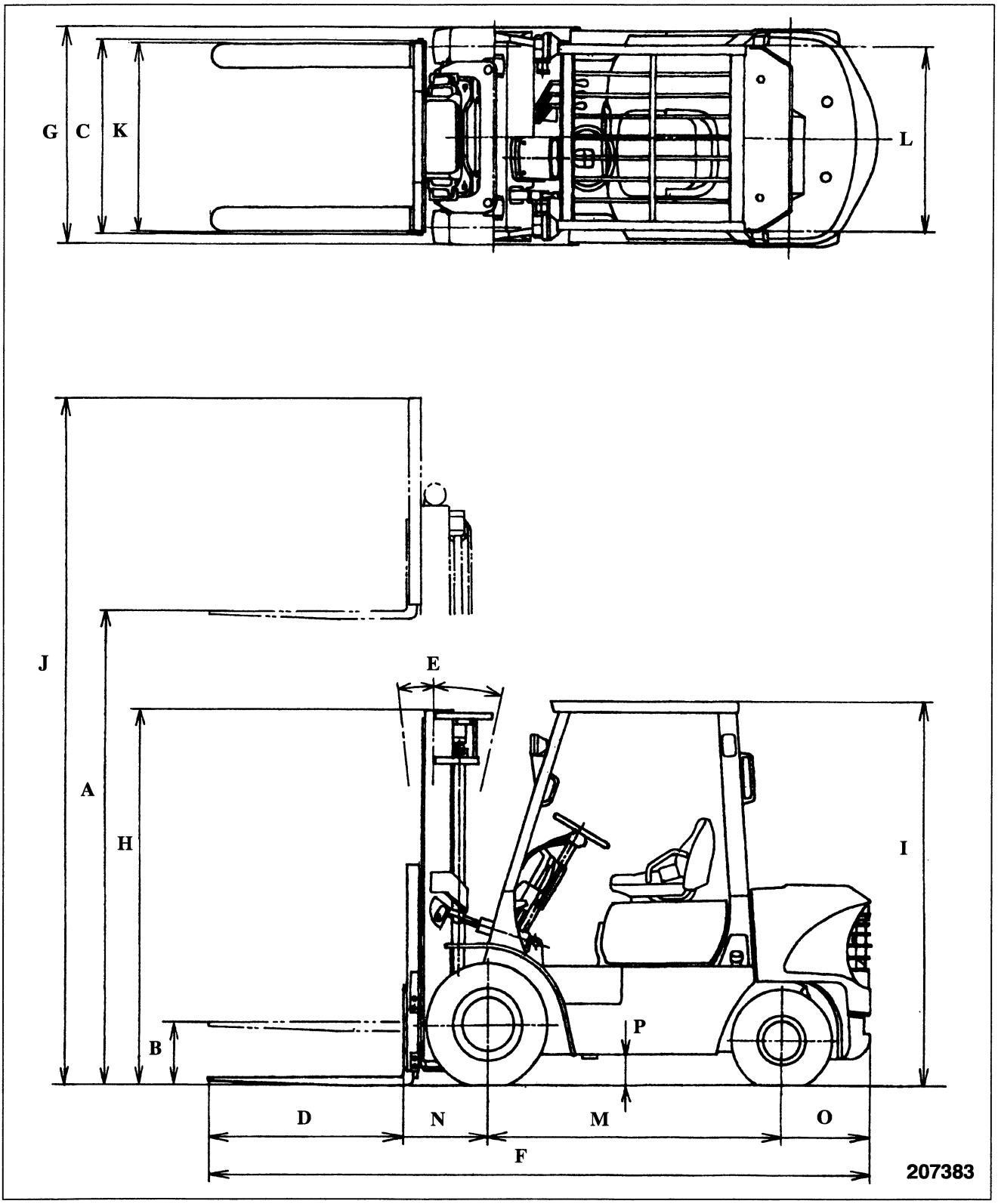
- This Service Manual furnishes servicing and maintenance information for the following trucks:

Truck Models	Serial Number	Engine Mounted
FG10	F25B-10002-up	Mitsubishi 4G15 Gasoline Engine
FD10	F16C-10001-up	Mitsubishi S4Q2 Diesel Engine
FG15	F25B-60043-up	Mitsubishi 4G15 Gasoline Engine
FD15	F16C-60013-up	Mitsubishi S4Q2 Diesel Engine
FG18	F25B-80014-up	Mitsubishi 4G15 Gasoline Engine
FD18	F16C-80011-up	Mitsubishi S4Q2 Diesel Engine
FG20	F17B-10659-up	Mitsubishi 4G63 Gasoline Engine
FD20	F18B-10496-up	Mitsubishi S4S Diesel Engine
FG25	F17B-60282-up	Mitsubishi 4G63 Gasoline Engine
FD25	F18B-60709-up	Mitsubishi S4S Diesel Engine
FG30	F13D-40131-up	Mitsubishi 4G64 Gasoline Engine
FD30	F14C-40360-up	Mitsubishi S4S Diesel Engine
FG35A	F13D-60044-up	Mitsubishi 4G64 Gasoline Engine
FD35A	F14C-60176-up	Mitsubishi S4S Diesel Engine

Serial Number Locations



Dimensions



Unit: mm (in.)

Ref. No.	Item \ Truck Models		FG10 FD10	FG15 FD15	FG18 FD18	FG20 FD20	FG25 FD25	FG30 FD30	FG35A FD35A
A	Maximum lift		3000 (118)	3000 (118)		3000 (118)		3000 (118)	
B	Free lift (floor to fork top)	Simplex mast	110 (4.3)	110 (4.3)		140 (5.5)		150 (5.9)	
		Duplex mast	1120 (44.1)	1120 (44.1)	1125 (44.3)	1125 (44.3)	1130 (44.5)	1160 (45.7)	1295 (51)
		Triplex mast	1120 (44.1)	1120 (44.1)	1125 (44.3)	1125 (44.3)	1130 (44.5)	1160 (45.7)	1295 (51)
C	Fork spread		200 to 920 (7.9 to 36.2)	200 to 920 (7.9 to 36.2)		250 to 1000 (9.8 to 39.4)		250 to 1000 (9.8 to 39.4)	
D	Fork length		920 (36.2)	920 (36.2)		1070 (42)		1070 (42)	
E	Tilt angle (forward-backward)		6° –10°	6° –10°		6° –10°		6° –10°	
F	Overall length		3080 (121.3)	3145 (123.8)	3175 (125)	3535 (139.2)	3595 (141.5)	3800 (149.6)	3840 (151.2)
G	Overall width (w/single tires)		1065 (41.9)	1065 (41.9)		1150 (45.3)		1275 (50.2)	1290 (50.8)
	Overall width (w/double tires) (outside)		1330 (52.4)	1330 (52.4)		1480 (58.3)		1490 (58.7)	
	Overall height (to top of mast lowered)		1995 (78.5)	1995 (78.5)		2015 (79.3)		2060 (81.1)	2220 (87.4)
I	Overall height (to top of overhead guard)		2055 (80.9)	2055 (80.9)		2070 (81.5)		2095 (82.5)	2105 (82.9)
J	Overall height (mast extended)	Simplex mast	4030 (158.7)	4030 (158.7)		4030 (158.7)		4135 (180.1)	
		Duplex mast	4350 (171.3)	4350 (171.3)		4355 (171.5)		4305 (169.5)	4355 (171.5)
		Triplex mast	5805 (228.5)	5805 (228.5)		5805 (228.5)		5755 (226.6)	
K	Tread (front-single tires)		890 (35.0)	890 (35.0)		960 (37.8)		1060 (41.7)	
	Tread (front-double tires)		1025 (40.4)	1025 (40.4)		1140 (44.9)		1140 (44.9)	
L	Tread (rear)		900 (35.4)	900 (35.4)		980 (38.6)		980 (38.6)	
M	Wheelbase		1390 (54.7)	1390 (54.7)		1600 (63.0)		1750 (68.9)	
N	Front overhang		395 (15.6)	400 (15.7)		450 (17.7)	455 (17.9)	495 (19.5)	
O	Rear overhang		375 (14.8)	435 (17.1)	465 (18.3)	415 (16.3)	470 (18.5)	485 (19.1)	525 (20.7)
P	Underclearance (at frame)		150 (5.9)	150 (5.9)		160 (6.3)		190 (7.5)	200 (7.9)

Technical Data (Standard Models)

Truck Models					FG10	FD10	FG15	FD15	FG18	FD18
Designation					F25B	F16C	F25B	F16C	F25B	F16C
Work performance	Capacity/load center			kg/mm (lb/in.)	1000/500 (2000/24)		1500/500 (3000/24)		1750/500 (3500/24)	
	Maximum lift height			mm (in.)	3000 (118)		3000 (118)		3000 (118)	
	Lift speed (rated load)			mm/sec (fpm)	490 (96)	600 (118)	490 (96)	600 (118)	490 (96)	600 (118)
	Lowering speed (rated load)				500 (99)		500 (99)		500 (99)	
	Mast tilt (forward - backward)			degree	6-10		6-10		6-10	
	Free lift		(Simplex mast)	mm (in.)	110 (4.3)		110 (4.3)		115 (4.5)	
			(Duplex mast)		1120 (44.1)		1120 (44.1)		1125 (44.3)	
			(Triplex mast)		1120 (44.1)		1120 (44.1)		1125 (44.3)	
Traveling performance	Travel speed	Powershift transmission models	Forward	km/h (mph)	0 to 19 (0 to 11.8)		0 to 19 (0 to 11.8)		0 to 19 (0 to 11.8)	
			Reverse		0 to 19 (0 to 11.8)		0 to 19 (0 to 11.8)		0 to 19 (0 to 11.8)	
	Minimum turning radius			mm (in.)	1905 (75)		1990 (78.3)		2020 (79.5)	
	Minimum intersecting isle		Single wheels		1740 (68.5)		1780 (70.1)		1800 (70.9)	
			Double wheels		1840 (72.4)		1880 (74.0)		1900 (74.8)	
	Gradeability (rated load)		Powershift transmission models	% (tan)	32	37	30	28	28	25
Dimensions	Overall length			mm (in.)	3080 (121.3)		3145 (123.8)		3175 (125)	
	Overall width		Single wheels		1065 (41.9)		1065 (41.9)		1065 (41.9)	
			Double wheels		1330 (52.4)		1330 (52.4)		1330 (52.4)	
	Overall height		To top of mast lowered		1995 (78.5)		1995 (78.5)		1995 (78.5)	
			To top of mast extended		4030 (158.7)		4030 (158.7)		4030 (158.7)	
			To top of overhead guard		2055 (80.9)		2055 (80.9)		2055 (80.9)	
	Wheel base				1390 (54.7)		1390 (54.7)		1390 (54.7)	
	Tread	Front	Single wheels		890 (35.0)		890 (35.0)		890 (35.0)	
			Double wheels		1025 (40.4)		1025 (40.4)		1025 (40.4)	
		Rear			900 (35.4)		900 (35.4)		900 (35.4)	
	Overhang	Front			395 (15.6)		400 (15.7)		400 (15.7)	
		Rear			375 (14.8)		435 (17.1)		465 (18.3)	
	Underclearance (at frame)				150 (5.9)		150 (5.9)		150 (5.9)	
	Tire size and pressure	Front	Single wheels	kPa (kgf/cm^2) [psi]	6.50-10-10 686 (7) [100]		6.50-10-10 686 (7) [100]		6.50-10-10 686 (7) [100]	
			Double wheels		4.50-12-8 686 (7) [100]		4.50-12-8 686 (7) [100]		4.50-12-8 686 (7) [100]	
		Rear			5.00-8-8 686 (7) [100]		5.00-8-8 686 (7) [100]		5.00-8-8 686 (7) [100]	
Weight	Single wheels (without load)	Service weight		kg (lb)	2050 (4520)	2130 (4700)	2480 (5470)	2560 (5640)	2640 (5820)	2720 (6000)

FG20	FD20	FG25	FD25	FG30	FD30	FG35A	FD35A
F17B	F18B	F17B	F18B	F13D	F14C	F13D	F14C
2000/500 (4000/24)		2500/500 (5000/24)		3000/500 (6000/24)		3500/500 (7000/24)	
3000 (118)		3000 (118)		3000 (118)		3000 (118)	
510 (100)	640 (126)	510 (100)	640 (126)	470 (93)	510 (100)	400 (79)	430 (85)
500 (99)		500 (99)		530 (104)		440 (87)	
6-10		6-10		6-10		6-10	
100 (3.9)		105 (4.1)		150 (5.9)		150 (5.9)	
1125 (44.3)		1130 (44.5)		1160 (45.7)		1295 (51)	
1125 (44.3)		1130 (44.5)		1160 (45.7)		1295 (51)	
0 to 18 (0 to 11.2)		0 to 18 (0 to 11.2)		0 to 19 (0 to 11.8)		0 to 19 (0 to 11.8)	0 to 18 (0 to 11.2)
0 to 18 (0 to 11.2)	0 to 19 (0 to 11.8)	0 to 18 (0 to 11.2)	0 to 19 (0 to 11.8)	0 to 19 (0 to 11.8) (0 to 11.8)		0 to 19 (0 to 11.8)	0 to 19 (0 to 11.8)
2185 (86)		2245 (88.4)		2445 (96.3)		2485 (97.8)	
1900 (74.8)		1970 (77.6)		2090 (82.3)		2120 (83.5)	
2020 (79.5)		2090 (82.3)		2170 (85.4)		2190 (86.2)	
28	35	23	29	23	24	19	20
3535 (139.2)		3595 (141.5)		3800 (149.6)		3840 (151.2)	
1150 (45.3)		1150 (45.3)		1275 (50.2)		1290 (50.8)	
1480 (58.3)		1480 (58.3)		1490 (58.7)		1490 (58.7)	
2015 (79.3)		2015 (79.3)		2060 (81.1)		2220 (87.4)	
4030 (158.7)		4030 (158.7)		4135 (162.8)		4135 (162.8)	
2070 (81.5)		2070 (81.5)		2095 (82.5)		2105 (82.9)	
1600 (63.0)		1600 (63.0)		1750 (68.9)		1750 (68.9)	
960 (37.8)		960 (37.8)		1060 (41.7)		1060 (41.7)	
1140 (44.9)		1140 (44.9)		1140 (44.9)		1140 (44.9)	
980 (38.6)		980 (38.6)		980 (38.6)		980 (38.6)	
450 (17.7)		455 (17.9)		495 (19.5)		495 (19.5)	
415 (16.3)		470 (18.5)		485 (19.1)		525 (20.7)	
160 (6.3)		160 (6.3)		190 (7.5)		200 (7.9)	
7.00-12-12 686 (7) [100]		7.00-12-12 686 (7) [100]		28 × 9-15-12 686 (7) [100]		250-15-16 834 (8.5) [120]	
5.00-15-8 686 (7) [100]		5.00-15-8 686 (7) [100]		6.50-10-10 686 (7) [100]		6.50-10-10 686 (7) [100]	
6.00-9-10 686 (7) [100]		6.00-9-10 686 (7) [100]		6.50-10-10 686 (7) [100]		6.50-10-12 883 (9.0) [128]	
3210 (7080)	3330 (7340)	3560 (7850)	3680 (8110)	4260 (9390)	4380 (9660)	4590 (10120)	4710 (10380)

	Truck Models			FG10	FD10	FG15	FD15	FG18	FD18
Weight	Double wheels (without load)	Service weight	kg (lb)	2080 (4590)	2150 (4740)	2510 (5530)	2590 (5710)	2670 (5890)	2750 (6060)
Engine	Engine model			4G15	S4Q2	4G15	S4Q2	4G15	S4Q2
	Manufacturer			Mitsubishi Motors	MHI	Mitsubishi Motors	MHI	Mitsubishi Motors	MHI
	Type			Gasoline	Diesel	Gasoline	Diesel	Gasoline	Diesel
	Cooling System			Water		Water		Water	
	No. of cylinders - arrangement			4 -in-line		4 -in-line		4 -in-line	
	No. of strokes			4		4		4	
	Types of combustion chambers			Semi-spherical	Swirl	Semi-spherical	Swirl	Semi-spherical	Swirl
	Valve arrangement			OHC	OHV	OHC	OHV	OHC	OHV
	Type of cylinder liners			Integral with cylinder block	Dry	Integral with cylinder block	Dry	Integral with cylinder block	Dry
	Cylinder bore × stroke		mm (in.)	75.5 × 82 (2.972×3.228)	88 × 103 (3.465×4.055)	75.5 × 82 (2.972×3.228)	88 × 103 (3.465×4.055)	75.5 × 82 (2.972×3.228)	88 × 103 (3.465×4.055)
	Displacement		cc (cu in.)	1468 (89.5)	2505 (152.8)	1468 (89.5)	2505 (152.8)	1468 (89.5)	2505 (152.8)
	Compression ratio			9.4 :1	22:1	9.4 :1	22:1	9.4 :1	22:1
	Rated output		PS/rpm	30/2400	40/2200	30/2400	40/2200	30/2400	40/2200
	Maximum torque		N·m (kgf·m) [lbf·ft]/rpm	95 (9.7) [70]/1600	136 (13.9) [101]/1600	95 (9.7) [70]/1600	136 (13.9) [101]/1600	95 (9.7) [70]/1600	136 (13.9) [101]/1600
	Dimensions (length × width × height)		mm (in.)	510 × 554 × 707 (20.1 × 21.8 × 27.8)	686 × 493 × 623 (27.0 × 19.4 × 24.5)	510 × 554 × 707 (20.1 × 21.8 × 27.8)	686 × 493 × 623 (27.0 × 19.4 × 24.5)	510 × 554 × 707 (20.1 × 21.8 × 27.8)	686 × 493 × 623 (27.0 × 19.4 × 24.5)
	Weight (service)		kg (lb)	120 (265)	180 (397)	120 (265)	180 (397)	120 (265)	180 (397)
	Location			Rear		Rear		Rear	
	Intake valves	Open BTDC	degree	15	30	15	30	15	30
		Close ABDC		53	50	53	50	53	50
	Exhaust valves	Open BBDC		57	74	57	74	57	74
		Close ATDC		15	30	15	30	15	30
	Valve clearance	Intake valves	mm (in.)	0.20 (0.0079) (hot)	0.25 (0.0098) (cold)	0.20 (0.0079) (hot)	0.25 (0.0098) (cold)	0.20 (0.0079) (hot)	0.25 (0.0098) (cold)
		Exhaust valves		0.25 (0.0098) (hot)	0.25 (0.0098) (cold)	0.25 (0.0098) (hot)	0.25 (0.0098) (cold)	0.25 (0.0098) (hot)	0.25 (0.0098) (cold)
	Injection			Spark	Compression	Spark	Compression	Spark	Compression
	Firing order			1 - 3 - 4 - 2		1 - 3 - 4 - 2		1 - 3 - 4 - 2	
	Ignition timing BTDC		degree/rpm	0/740	–	0/740	–	0/740	–
	Injection timing BTDC		degree	–	18	–	18	–	18
	Fuel tank rated capacity		liter (U.S. gal)	53 (14)		53 (14)		53 (14)	

FG20	FD20	FG25	FD25	FG30	FD30	FG35A	FD35A
3280 (7230)	3400 (7500)	3630 (8000)	3750 (8270)	4280 (9440)	4400 (9700)	4610 (10160)	4730 (10430
4G63	S4S	4G63	S4S	4G64	S4S	4G64	S4S
Mitsubishi Motors	MHI	Mitsubishi Motors	MHI	Mitsubishi Motors	MHI	Mitsubishi Motors	MHI
Gasoline	Diesel	Gasoline	Diesel	Gasoline	Diesel	Gasoline	Diesel
Water		Water		Water		Water	
4 -in-line		4 -in-line		4 -in-line		4 -in-line	
4		4		4		4	
Semi-spherical	Swirl	Semi-spherical	Swirl	Semi-spherical	Swirl	Semi-spherical	Swirl
OHC	OHV	OHC	OHV	OHC	OHV	OHC	OHV
Integral with cylinder block	Dry	Integral with cylinder block	Dry	Integral with cylinder block	Dry	Integral with cylinder block	Dry
85 × 88 (3.346 × 3.465)	94 × 120 (3.701 × 4.724)	85 × 88 (3.346 × 3.465)	94 × 120 (3.701 × 4.724)	86.5 × 100 (3.406 × 3.937)	94 × 120 (3.701 × 4.724)	86.5 × 100 (3.406 × 3.937)	94 × 120 (3.701 × 4.724)
1997 (121.8)	3331 (203.2)	1997 (121.8)	3331 (203.2)	2350 (143.4)	3331 (203.2)	2350 (143.4)	3331 (203.2)
8.5 : 1	22 : 1	8.5 : 1	22 : 1	8.6 : 1	22 : 1	8.6 : 1	22 : 1
42/2400	60/2200	42/2400	60/2200	50/2400	60/2200	50/2400	60/2200
134 (13.7) [99]/1600	201 (20.5) [148]/1400	134 (13.7) [99]/1600	201 (20.5) [148]/1400	167 (17) [123]/1600	201 (20.5) [148]/1400	167 (17) [123]/1600	201 (20.5) [148]/1400
653 × 604 × 759 (25.7 × 23.8 × 29.9)	647 × 552 × 712 (25.5 × 21.7 × 28)	653 × 604 × 759 (25.7 × 23.8 × 29.9)	647 × 552 × 712 (25.5 × 21.7 × 28)	653 × 604 × 759 (25.7 × 23.8 × 29.9)	647 × 552 × 712 (25.5 × 21.7 × 28)	653 × 604 × 759 (25.7 × 23.8 × 29.9)	647 × 552 × 712 (25.5 × 21.7 × 28)
150 (330)	260 (570)	150 (330)	260 (570)	150 (330)	260 (570)	150 (330)	260 (570)
Rear		Rear		Rear		Rear	
12	30	12	30	12	30	12	30
40	50	40	50	40	50	40	50
54	74	54	74	54	74	54	74
6	30	6	30	6	30	6	30
0.00 (hot)	0.25 (0.0098) (cold)	0.00 (hot)	0.25 (0.0098) (cold)	0.00 (hot)	0.25 (0.0098) (cold)	0.00 (hot)	0.25 (0.0098) (cold)
0.00 (hot)	0.25 (0.0098) (cold)	0.00 (hot)	0.25 (0.0098) (cold)	0.00 (hot)	0.25 (0.0098) (cold)	0.00 (hot)	0.25 (0.0098) (cold)
Spark	Compression	Spark	Compression	Spark	Compression	Spark	Compression
1 - 3 - 4 -2		1 - 3 - 4 -2		1 - 3 - 4 -2		1 - 3 - 4 -2	
6/650	-	6/650	-	6/650	-	6/650	-
-	20	-	20	-	20	-	20
76 (20)		76 (20)		76 (20)		76 (20)	

Truck Models				FG10	FD10	FG15	FD15	FG18	FD18
Ignition system (gasoline models)	Ignition coil	Type		With external resistor	–	With external resistor	–	With external resistor	–
		Manufacturer		Mitsubishi Electric	–	Mitsubishi Electric	–	Mitsubishi Electric	–
	Distributor	Type		Non-contact point type (C.E.I.)	–	Non-contact point type (C.E.I.)	–	Non-contact point type (C.E.I.)	–
		Manufacturer		Mitsubishi Electric	–	Mitsubishi Electric	–	Mitsubishi Electric	–
		Spark advancer		Centrifugal pneumatic type	–	Centrifugal pneumatic type	–	Centrifugal pneumatic type	–
	Spark plugs	Type		W14EX-U	–	W14EX-U	–	W14EX-U	–
		Manufacturer		Nippon Denso	–	Nippon Denso	–	Nippon Denso	–
		Size	mm (in.)	14 × 1.25 (0.55 × 0.049)	–	14 × 1.25 (0.55 × 0.049)	–	14 × 1.25 (0.55 × 0.049)	–
		Gap	mm (in.)	0.7 to 0.8 (0.028 to 0.031)	–	0.7 to 0.8 (0.028 to 0.031)	–	0.7 to 0.8 (0.028 to 0.031)	–
Fuel system (gasoline models)	Carburetor	Type		Down-draft type	–	Down-draft type	–	Down-draft type	–
		Manufacturer		Mikuni Kogyo	–	Mikuni Kogyo	–	Mikuni Kogyo	–
	Governor	Type		Pneumatic type	–	Pneumatic type	–	Pneumatic type	–
		Manufacturer		Mikuni Kogyo	–	Mikuni Kogyo	–	Mikuni Kogyo	–
	Fuel pump	Type		Diaphragm type	–	Diaphragm type	–	Diaphragm type	–
		Manufacturer		Kyosan Electric	–	Kyosan Electric	–	Kyosan Electric	–
	Air cleaner	Type × number		Cyclone-paper element × 1	–	Cyclone-paper element × 1	–	Cyclone-paper element × 1	–
		Manufacturer		Nippon Rokaki	–	Nippon Rokaki	–	Nippon Rokaki	–
Fuel system (diesel models)	Fuel injection pump	Type		–	Distributor type (DPK)	–	Distributor type (DPK)	–	Distributor type (DPK)
		Manufacturer		–	Mikuni Precision	–	Mikuni Precision	–	Mikuni Precision
		Plunger diam.	mm (in.)	–	6.5 (0.256)	–	6.5 (0.256)	–	6.5 (0.256)
		Cam lift (one side)	mm (in.)	–	1.5 (0.059)	–	1.5 (0.059)	–	1.5 (0.059)
	Fuel injection nozzle	Type		–	Throttle type	–	Throttle type	–	Throttle type
		Spray holes, diam. × number	mm (in.)	–	1.00 (0.0394) × 1	–	1.00 (0.0394) × 1	–	1.00 (0.0394) × 1
		Injection pressure	kPa (kgf·cm²) [psi]	–	11768^{+981}_{0} (120^{+10}_{0}) [1706^{+142}_{0}]	–	11768^{+981}_{0} (120^{+10}_{0}) [1706^{+142}_{0}]	–	11768^{+981}_{0} (120^{+10}_{0}) [1706^{+142}_{0}]

FG20	FD20	FG25	FD25	FG30	FD30	FG35A	FD35A
With external resistor	–	With external resistor	–	With external resistor	–	With external resistor	–
Mitsubishi Electric	–	Mitsubishi Electric	–	Mitsubishi Electric	–	Mitsubishi Electric	–
Non-contact point type (C.E.I.)	–	Non-contact point type (C.E.I.)	–	Non-contact point type (C.E.I.)	–	Non-contact point type (C.E.I.)	–
Mitsubishi Electric	–	Mitsubishi Electric	–	Mitsubishi Electric	–	Mitsubishi Electric	–
Centrifugal pneumatic type	–	Centrifugal pneumatic type	–	Centrifugal pneumatic type	–	Centrifugal pneumatic type	–
W14EX-U	–	W14EX-U	–	W14EX-U	–	W14EX-U	–
Nippon Denso	–	Nippon Denso	–	Nippon Denso	–	Nippon Denso	–
14 × 1.25 (0.55 × 0.049)	–	14 × 1.25 (0.55 × 0.049)	–	14 × 1.25 (0.55 × 0.049)	–	14 × 1.25 (0.55 × 0.049)	–
0.7 to 0.8 (0.028 to 0.031)	–	0.7 to 0.8 (0.028 to 0.031)	–	0.7 to 0.8 (0.028 to 0.031)	–	0.7 to 0.8 (0.028 to 0.031)	–
Down-draft type	–	Down-draft type	–	Down-draft type	–	Down-draft type	–
Mikuni Kogyo	–	Mikuni Kogyo	–	Mikuni Kogyo	–	Mikuni Kogyo	–
Pneumatic type	–	Pneumatic type	–	Pneumatic type	–	Pneumatic type	–
Mikuni Kogyo	–	Mikuni Kogyo	–	Mikuni Kogyo	–	Mikuni Kogyo	–
Diaphragm type	–	Diaphragm type	–	Diaphragm type	–	Diaphragm type	–
Kyosan Electric	–	Kyosan Electric	–	Kyosan Electric	–	Kyosan Electric	–
Cyclone-paper element × 1	–	Cyclone-paper element × 1	–	Cyclone-paper element × 1	–	Cyclone-paper element × 1	–
Nippon Rokaki	–	Nippon Rokaki	–	Nippon Rokaki	–	Nippon Rokaki	–
–	Distributor type (DPK)	–	Distributor type (DPK)	–	Distributor type (DPK)	–	Distributor type (DPK)
–	Mikuni Precision	–	Mikuni Precision	–	Mikuni Precision	–	Mikuni Precision
–	7.0 (0.256)	–	7.0 (0.256)	–	7.0 (0.256)	–	7.0 (0.275)
–	1.5 (0.059)	–	1.5 (0.059)	–	1.5 (0.059)	–	1.5 (0.075)
–	Throttle type	–	Throttle type	–	Throttle type	–	Throttle type
–	1.00 (0.0394) × 1	–	1.00 (0.0394) × 1	–	1.00 (0.0394) × 1	–	1.00 (0.0394) × 1
–	13729^{+1079}_{490} (140^{+11}_{5}) [1990^{+156}_{71}]	–	13729^{+1079}_{490} (140^{+11}_{5}) [1990^{+156}_{71}]	–	13729^{+1079}_{490} (140^{+11}_{5}) [1990^{+156}_{71}]	–	13729^{+1079}_{490} (140^{+11}_{5}) [1990^{+156}_{71}]

Truck Models				FG10	FD10	FG15	FD15	FG18	FD18
Air and fuel (diesel model)	Heater plugs	Type		–	Sheathed type	–	Sheathed type	–	Sheathed type
		Voltage-current	V-A	–	22 – 5.4	–	22 – 5.4	–	22 – 5.4
	Fuel feed pump	Type		–	Vane type	–	Vane type	–	Vane type
		Manufacturer		–	Lucus CAV	–	Lucus CAV	–	Lucus CAV
	Air cleaner	Type × number		–	Cyclone-paper element × 1	–	Cyclone-paper element × 1	–	Cyclone-paper element × 1
		Manufacturer		–	Nippon Rokaki	–	Nippon Rokaki	–	Nippon Rokaki
Lubrication system	Type			Pressure feed type		Pressure feed type		Pressure feed type	
	Oil pump			Throchoid type		Throchoid type		Throchoid type	
	Oil filter			Paper-element		Paper-element		Paper-element	
	Refill capacities	Oil pan	liter (U.S.gal)	3.5 (0.9)	6.5 (1.7)	3.5 (0.9)	6.5 (1.7)	3.5 (0.9)	6.5 (1.7)
		Oil filter		0.5 (0.1)	0.5 (0.1)	0.5 (0.1)	0.5 (0.1)	0.5 (0.1)	0.5 (0.1)
		Total		4.0 (1.0)	7.0 (1.8)	4.0 (1.0)	7.0 (1.8)	4.0 (1.0)	7.0 (1.8)
Cooling system	Type			Forced circulation		Forced circulation		Forced circulation	
	Radiator			Corrugated fin (pressure) type		Corrugated fin (pressure) type		Corrugated fin (pressure) type	
	Refill capacity		liter (U.S.gal)	6.85 (1.8)	8.15 (2.2)	6.85 (1.8)	8.15 (2.2)	6.85 (1.8)	8.15 (2.2)
	Water pump			Centrifugal type		Centrifugal type		Centrifugal type	
	Thermostat			Wax type		Wax type		Wax type	
Battery	Type			28B19R × 1	75D26R × 1	28B19R × 1	75D26R × 1	28B19R × 1	75D26R × 1
	Voltage		V	12	12	12	12	12	12
	Capacity		Ah	30	65	30	65	30	65
Alternator and regulator	Alternator type			3-phase AC		3-phase AC		3-phase AC	
	Manufacturer			Mitsubishi Electric		Mitsubishi Electric		Mitsubishi Electric	
	Capacity		V-A	12 – 50	12 – 50	12 – 50	12 – 50	12 – 50	12 – 50
	Regulator			Built-in IC type		Built-in IC type		Built-in IC type	
Starter	Type			Lever-shift type		Lever-shift type		Lever-shift type	
	Manufacturer			Mitsubishi Electric		Mitsubishi Electric		Mitsubishi Electric	
	Voltage - output		V-kW	12 – 1.2	12 – 2.2	12 – 1.2	12 – 2.2	12 – 1.2	12 – 2.2
Power train	Clutch	Type		Dry, single-disc type (Op. wet type)		Dry, single-disc type (Op. wet type)		Dry, single-disc type (Op. wet type)	
		Size (OD × ID)	mm (in.)	275 × 180 (10.8 × 7.1)	275 × 175 (10.8 × 6.9)	275 × 180 (10.8 × 7.1)	275 × 175 (10.8 × 6.9)	275 × 180 (10.8 × 7.1)	275 × 175 (10.8 × 6.9)
		Material		EX1A	NF635C	EX1A	NF635C	EX1A	NF635C
	Clutch booster (wet)	Type		Master VAC		Master VAC		Master VAC	
		Master cylinder ID	mm (in.)	15.87 (0.6248)		15.87 (0.6248)		15.87 (0.6248)	
		Release cylinder ID		19.05 (0.7500)		19.05 (0.7500)		19.05 (0.7500)	
	Torque converter	Type		3-element, 1-stage, 2-phase		3-element, 1-stage, 2-phase		3-element, 1-stage, 2-phase	
		Manufacturer's type		Daikin 66H7		Daikin 66H7		Daikin 66H7	
		Stall torque ratio		2.8		2.8		2.8	

FG20	FD20	FG25	FD25	FG30	FD30	FG35A	FD35A
–	Sheathed type	–	Sheathed type	–	Sheathed type	–	Sheathed type
–	22 – 5.4	–	22 – 5.4	–	22 – 5.4	–	22 – 5.4
–	Vane type	–	Vane type	–	Vane type	–	Vane type
–	Lucus CAV	–	Lucus CAV	–	Lucus CAV	–	Lucus CAV
–	Cyclone-paper element × 1	–	Cyclone-paper element × 1	–	Cyclone-paper element × 1	–	Cyclone-paper element × 1
–	Nippon Rokaki	–	Nippon Rokaki	–	Nippon Rokaki	–	Nippon Rokaki
Pressure feed type		Pressure feed type		Pressure feed type		Pressure feed type	
Throchoid type		Throchoid type		Throchoid type		Throchoid type	
Paper-element		Paper-element		Paper-element		Paper-element	
4.5 (1.2)	9.0 (2.4)	4.5 (1.2)	9.0 (2.4)	4.5 (1.2)	9.0 (2.4)	4.5 (1.2)	9.0 (2.4)
0.3 (0.1)	1.0 (0.3)	0.3 (0.1)	1.0 (0.3)	0.3 (0.1)	1.0 (0.3)	0.3 (0.1)	1.0 (0.3)
4.8 (1.3)	10.0 (2.7)	4.8 (1.3)	10.0 (2.7)	4.8 (1.3)	10.0 (2.7)	4.8 (1.3)	10.0 (2.7)
Forced circulation		Forced circulation		Forced circulation		Forced circulation	
Corrugated fin (pressure) type		Corrugated fin (pressure) type		Corrugated fin (pressure) type		Corrugated fin (pressure) type	
8.65 (2.3)	8.75 (2.3)	8.65 (2.3)	8.75 (2.3)	8.95 (2.4)	9.05 (2.4)	8.95 (2.4)	9.05 (2.4)
Centrifugal type		Centrifugal type		Centrifugal type		Centrifugal type	
Wax type		Wax type		Wax type		Wax type	
32C24R × 1	95D31R × 1	32C24R × 1	95D31R × 1	32C24R × 1	95D31R × 1	32C24R × 1	95D31R × 1
12	12	12	12	12	12	12	12
40	80	40	80	40	80	40	80
3-phase AC		3-phase AC		3-phase AC		3-phase AC	
Mitsubishi Electric		Mitsubishi Electric		Mitsubishi Electric		Mitsubishi Electric	
12 – 50	12 – 50	12 – 50	12 – 50	12 – 50	12 – 50	12 – 50	12 – 50
Built-in IC type		Built-in IC type		Built-in IC type		Built-in IC type	
Lever-shift type		Lever-shift type		Lever-shift type		Lever-shift type	
Mitsubishi Electric		Mitsubishi Electric		Mitsubishi Electric		Mitsubishi Electric	
12 – 1.2	12 – 2.2	12 – 1.2	12 – 2.2	12 – 1.2	12 – 2.2	12 – 1.2	12 – 2.2
Dry, single-disc type (Op. wet type)		Dry, single-disc type (Op. wet type)		Dry, single-disc type (Op. wet type)		Dry, single-disc type (Op. wet type)	
275 × 180 (10.8 × 7.1)	275 × 75 (10.8 × 6.9)	275 × 180 (10.8 × 7.1)	275 × 175 (10.8 × 6.9)	275 × 180 (10.8 × 7.1)	275 × 175 (10.8 × 6.9)	275 × 175 (10.8 × 6.9)	275 × 175 (10.8 × 6.9)
EX1A	NF635C	EX1A	NF635C	EX1A	NF635C	EX1A	NF635C
Master VAC		Master VAC		Master VAC		Master VAC	
15.87 (0.6248)		15.87 (0.6248)		15.87 (0.6248)		15.87 (0.6248)	
19.05 (0.7500)		19.05 (0.7500)		19.05 (0.7500)		19.05 (0.7500)	
3-element, 1-stage, 2-phase		3-element, 1-stage, 2-phase		3-element, 1-stage, 2-phase		3-element, 1-stage, 2-phase	
Daikin 66H8		Daikin 66H8		Daikin 66H8		Daikin 66H8	
3.0		3.0		3.0		3.0	

Truck Models					FG10	FD10	FG15	FD15	FG18	FD18
Power train	Transmission	Control and shift			Hydraulic column shift		Hydraulic column shift		Hydraulic column shift	
		Power-shift	Ratios	Forward	2.195		2.195		2.195	
				Reverse	2.258		2.258		2.258	
	Transfer	Type of gears			Spur		Spur		Spur	
		Gear ratio	Manual transmission		1.257	1.167	1.257	1.167	1.257	1.167
			Powershift transmission		1.394	1.257	1.394	1.257	1.394	1.257
	Reduction gear	Type of gears			Spiral bevel		Spiral bevel		Spiral bevel	
		Ratio			4.571		4.571		4.571	
	Differential	Axle housing			Banjo		Banjo		Banjo	
		Type of gears-number		Gears	Straight bevel - 2		Straight bevel - 2		Straight bevel - 2	
				Pinions	Straight bevel - 2		Straight bevel - 2		Straight bevel - 2	
Steering system	Type				Recirculating ball and nut		Recirculating ball and nut		Recirculating ball and nut	
	Gear ratio				19.8		19.8		19.8	
	Turning angle	Inside		degree	83°00'		83°00'		83°00'	
		Outside			55°01'		55°01'		55°01'	
	Steering wheel diameter			mm (in.)	330 (13)		330 (13)		330 (13)	
	Power steering	Type			Semi-integral type		Semi-integral type		Semi-integral type	
		Power cylinder ID × rod OD		mm (in.)	45 × 22 (1.77 × 0.87)		45 × 22 (1.77 × 0.87)		45 × 22 (1.77 × 0.87)	
		Effective stroke			272 (10.7)		272 (10.7)		272 (10.7)	
		Relief pressure		kPa (kgf/cm²) [psi]	7845 (80) [1138]		7845 (80) [1138]		7845 (80) [1138]	
		Flow rate		liter (cu. in.)/min	10.5 ± 0.5 (640.1 ± 30.5)		10.5 ± 0.5 (640.1 ± 30.5)		10.5 ± 0.5 (640.1 ± 30.5)	
Traveling system	Front axle				Full-floating tubular type		Full-floating tubular type		Full-floating tubular type	
	Rear axle				Elliott type		Elliott type		Elliott type	
	Mounting	Front wheels			Fixed type		Fixed type		Fixed type	
		Rear wheels			Center-pivot type		Center-pivot type		Center-pivot type	
	Wheel alignment	Toe-in		mm (in.)	0		0		0	
		Camber		degree	1		1		1	
		Caster			0		0		0	
		Kingpin inclination			0		0		0	
Brake system	Service brake	Type			Hydraulic, duo-servo, mounted on front wheels		Hydraulic, duo-servo, mounted on front wheels		Hydraulic, duo-servo, mounted on front wheels	
		Drum diameter		mm (in.)	254 (10.00)		254 (10.00)		254 (10.00)	
		Lining (lgth × width × thk × number)			274.2 × 48.5 × 4.78 × 2 (10.80 × 1.91 × 0.19 × 2)		274.2 × 48.5 × 4.78 × 2 (10.80 × 1.91 × 0.19 × 2)		274.2 × 48.5 × 4.78 × 2 (10.80 × 1.91 × 0.19 × 2)	
		Master cylinder ID			19.05 (0.7500)		19.05 (0.7500)		19.05 (0.7500)	
		Wheel cylinder ID			22.22 (0.8748)		22.22 (0.8748)		22.22 (0.8748)	
	Parking brake	Type			Mechanical, mounted on front wheels		Mechanical, mounted on front wheels		Mechanical, mounted on front wheels	
		Drum diameter		mm (in.)	254 (10)		254 (10)		254 (10)	

FG20	FD20	FG25	FD25	FG30	FD30	FG35A	FD35A
Hydraulic column shift		Hydraulic column shift		Hydraulic column shift		Hydraulic column shift	
2.195		2.195		2.195		2.195	
2.258		2.258		2.258		2.258	
Spur		Spur		Spur		Spur	
1.257	1.135	1.257	1.135	1.394	1.167	1.394	1.167
1.394	1.167	1.394	1.167	1.394	1.257	1.394	1.257
Spiral bevel		Spiral bevel		Spiral bevel		Spiral bevel	
5.667		5.667		5.667		5.667	
Banjo		Banjo		Banjo		Banjo	
Straight bevel - 2		Straight bevel - 2		Straight bevel - 2		Straight bevel - 2	
Straight bevel - 2		Straight bevel - 2		Straight bevel - 2		Straight bevel - 2	
Recirculating ball and nut		Recirculating ball and nut		Recirculating ball and nut		Recirculating ball and nut	
19.8		19.8		19.8		19.8	
80°36'		80°36'		78°05'		78°05'	
52°54'		52°54'		52°14'		52°14'	
330 (13)		330 (13)		330 (13)		330 (13)	
Semi-integral type		Semi-integral type		Semi-integral type		Semi-integral type	
45 × 22 (1.77 × 0.87)		45 × 22 (1.77 × 0.87)		45 × 22 (1.77 × 0.87)		45 × 22 (1.77 × 0.87)	
272 (10.7)		272 (10.7)		272 (10.7)		272 (10.7)	
7845 (80) [1138]		7845 (80) [1138]		7845 (80) [1138]		7845 (80) [1138]	9807 (100) [1422]
10.5 ± 0.5 (640.1 ± 30.5)		10.5 ± 0.5 (640.1 ± 30.5)		10.5 ± 0.5 (640.1 ± 30.5)		10.5 ± 0.5 (640.1 ± 30.5)	12 ± 1.0 (732.3 ± 61.0)
Full-floating tubular type		Full-floating tubular type		Full-floating tubular type		Full-floating tubular type	
Elliott type		Elliott type		Elliott type		Elliott type	
Fixed type		Fixed type		Fixed type		Fixed type	
Center-pivot type		Center-pivot type		Center-pivot type		Center-pivot type	
0		0		0		0	
1		1		1		1	
0		0		0		0	
0		0		0		0	
Hydraulic, duo-servo, mounted on front wheels		Hydraulic, duo-servo, mounted on front wheels		Hydraulic, duo-servo, mounted on front wheels		Hydraulic, duo-servo, mounted on front wheels	
310 (12.20)		310 (12.20)		310 (12.20)		310 (12.20)	
344 × 60.0 × 6.0 × 2 (13.54 × 2.36 × 0.24 × 2)		344 × 60.0 × 6.0 × 2 (13.54 × 2.36 × 0.24 × 2)		344 × 60.0 × 6.0 × 2 (13.54 × 2.36 × 0.24 × 2)		344 × 60.0 × 6.0 × 2 (13.54 × 2.36 × 0.24 × 2)	
19.05 (0.7500)		19.05 (0.7500)		19.05 (0.7500)		19.05 (0.7500)	
28.58 (1.1252)		28.58 (1.1252)		28.58 (1.1252)		28.58 (1.1252)	
Mechanical, mounted on front wheels		Mechanical, mounted on front wheels		Mechanical, mounted on front wheels		Mechanical, mounted on front wheels	
310 (12.2)		310 (12.2)		310 (12.2)		310 (12.2)	

Truck Models				FG10	FD10	FG15	FD15	FG18	FD18
Body-frame				Unitized type		Unitized type		Unitized type	
Hydraulic system	Hydraulic pump	Type		Gear		Gear		Gear	
		Manufacturer's type		KRP4	KFP3240	KRP4	KFP3240	KRP4	KFP3240
		Rated displacement	liter (cu. in.)	58.8 (3588) /2400 rpm	66.0 (4028) /2200 rpm	58.8 (3588) /2400 rpm	66.0 (4028) /2200 rpm	58.8 (3588) /2400 rpm	66.0 (4028) /2200 rpm
		Drive line		Universal joint		Universal joint		Universal joint	
	Control valve	Model		KVSF65		KVSF65		KVSF65	
		Relief pressure	kPa (kgf/cm²) [psi]	$18142^{+490}_{0}(185^{+5}_{0})$ $[2631^{+71}_{0}]$		$18142^{+490}_{0}(185^{+5}_{0})$ $[2631^{+71}_{0}]$		$18142^{+490}_{0}(185^{+5}_{0})$ $[2631^{+71}_{0}]$	
	Flow regulator valve	Type		Variable		Variable		Variable	
		Regulated flow rate	liter (cu. in.)/min	50 (3051)		50 (3051)		50 (3051)	
	Lift cylinders (Simplex)	ID	mm (in.)	45 (1.77)		45 (1.77)		45 (1.77)	
		Stroke		1500 (59)		1500 (59)		1500 (59)	
	No.1 Lift cylinder (Duplex mast)	ID		70 (2.76)		70 (2.76)		70 (2.76)	
		Stroke		850 (33.5)		850 (33.5)		850 (33.5)	
	No.2 Lift cylinder (Duplex mast)	ID		45 (1.77)		45 (1.77)		45 (1.77)	
		Stroke		1595 (62.8)		1595 (62.8)		1595 (62.8)	
	No.1 Lift cylinder (Triplex mast)	ID		70 (2.76)		70 (2.76)		70 (2.76)	
		Stroke		850 (33.5)		850 (33.5)		850 (33.5)	
	No.2 Lift cylinder (Triplex mast)	ID		45 (1.77)		45 (1.77)		45 (1.77)	
		Stroke		1525 (60)		1525 (60)		1525 (60)	
	Tilt cylinders	ID		63 (2.48)		63 (2.48)		63 (2.48)	
		Stroke		125 (4.92)		125 (4.92)		125 (4.92)	
	Hydraulic tank capacity (approx.)	N level	liter (U.S. gal)	27.8 (7.3)		27.8 (7.3)		40.1 (10.6)	
		H level		30.9 (8.2)		30.9 (8.2)		45.1 (11.9)	
Mast and forks	Mast			Roller type CL		Roller type CL		Roller type CL	
	Mast dimensions (Flange inside width × Flange thk (Fr.) × Flange thk (Re.) × Web thk)	Outer	mm (in.)	100 × 15 × 12 (3.94 × 0.59 × 0.47)		100 × 15 × 12 (3.94 × 0.59 × 0.47)		100 × 15 × 12 (3.94 × 0.59 × 0.47)	
		Middle		100 × 17 × 12 (3.94 × 0.67 × 0.47)		100 × 17 × 12 (3.94 × 0.67 × 0.47)		100 × 17 × 12 (3.94 × 0.67 × 0.47)	
		Inner		100 × 17 × 19 × 10 (3.94 × 0.67 × 0.75 × 0.39)		100 × 17 × 19 × 10 (3.94 × 0.67 × 0.75 × 0.39)		100 × 17 × 19 × 10 (3.94 × 0.67 × 0.75 × 0.39)	
	Main roller	Type		#6308 ball bearing		#6308 ball bearing		#6308 ball bearing	
		Diam × width	mm (in.)	100 × 30 (3.94 × 1.18)		100 × 30 (3.94 × 1.18)		100 × 30 (3.94 × 1.18)	
	Side roller	Type		Lubricating type needle roller bearing		Lubricating type needle roller bearing		Lubricating type needle roller bearing	
		Diam × width	mm (in.)	42 × 36 (1.65 × 1.42)		42 × 36 (1.65 × 1.42)		42 × 36 (1.65 × 1.42)	
	Lift chains			BL534		BL534		BL534	
	Fork (lgth × width × thk)		mm (in.)	920 × 100 × 34 (36.2 × 3.9 × 1.2)		920 × 100 × 34 (36.2 × 3.9 × 1.2)		920 × 100 × 37 (36.2 × 3.9 × 1.5)	
	Fork spread (outer width)			200 to 920 (7.9 to 36.2)		200 to 920 (7.9 to 36.2)		200 to 920 (7.9 to 36.2)	

FG20	FD20	FG25	FD25	FG30	FD30	FG35A	FD35A
Unitized type		Unitized type		Unitized type		Unitized type	
Gear		Gear		Gear		Gear	
KRP4	KFP3240	KRP4	KFP3240	KRP4	KFP3240	KRP4	KFP3240
72.0 (4394) /2400 rpm	85.0 (5187) /2200 rpm	72.0 (4394) /2400 rpm	85.0 (5187) /2200 rpm	79.9 (4876) /2400 rpm	85.0 (5187) /2200 rpm	79.9 (4876) /2400 rpm	85.0 (5187) /2200 rpm
Universal joint		Universal joint		Universal joint		Universal joint	
KVSF65		KVSF65		KVSF65		KVSF65	
$18142^{+490}_{0}(185^{+5}_{0})$ $[2631^{+71}_{0}]$		$18142^{+490}_{0}(185^{+5}_{0})$ $[2631^{+71}_{0}]$		$18142^{+490}_{0}(185^{+5}_{0})$ $[2631^{+71}_{0}]$		$18142^{+490}_{0}(185^{+5}_{0})$ $[2631^{+71}_{0}]$	
Variable type		Variable type		Variable type		Variable type	
65 (3967)		65 (3967)		75 (4577)		75 (4577)	
50 (1.97)		50 (1.97)		55 (2.17)		60 (2.56)	
1500 (59)		1500 (59)		1500 (59)		1500 (59)	
75 (2.95)		75 (2.95)		85.2 (3.35)		90 (3.54)	
850 (3.35)		850 (3.35)		835 (32.9)		850 (33.5)	
45 (1.77)		45 (1.77)		50 (1.97)		55 (2.16)	
1600 (63)		1600 (63)		1580 (62.2)		1600 (63)	
75 (2.95)		75 (2.95)		85.2 (3.35)		90 (3.54)	
850 (33.5)		850 (33.5)		835 (32.9)		850 (33.5)	
50 (1.97)		50 (1.97)		55.2 (2.17)		60 (2.36)	
1525 (60)		1525 (60)		1515 (59.6)		1500 (59.1)	
70 (2.76)		70 (2.76)		80 (3.15)		80 (3.15)	
160 (6.30)		160 (6.30)		160 (6.30)		160 (6.30)	
40.1 (10.6)		40.1 (10.6)		40.1 (10.6)		40.1 (10.6)	
45.1 (11.9)		45.1 (11.9)		45.1 (11.9)		45.1 (11.9)	
Roller type CL		Roller type CL		Roller type CL		Roller type CL	
115 × 20 × 13 (4.53 × 0.79 × 0.51)		115 × 20 × 13 (4.53 × 0.79 × 0.51)		115 × 20 × 13 (4.53 × 0.79 × 0.51)		115 × 20 × 13 (4.53 × 0.79 × 0.51)	
115 × 20 × 13 (4.53 × 0.83 × 0.51)		115 × 21 × 13 (4.53 × 0.83 × 0.51)		115 × 21 × 13 (4.53 × 0.83 × 0.51)		115 × 21 × 13 (4.53 × 0.83 × 0.51)	
115 × 22 × 23 × 11 (4.53 × 0.87 × 0.91 × 0.43)		115 × 22 × 23 × 11 (4.53 × 0.87 × 0.91 × 0.43)		115 × 22 × 23 × 11 (4.53 × 0.87 × 0.91 × 0.43)		115 × 22 × 23 × 11 (4.53 × 0.87 × 0.91 × 0.43)	
#6309 ball bearing		#6309 ball bearing		#6309 ball bearing		#6309 ball bearing	
115 × 35 (4.53 × 1.38)		115 × 35 (4.53 × 1.38)		115 × 35 (4.53 × 1.38)		115 × 35 (4.53 × 1.38)	
Lubricating type needle roller bearing		Lubricating type needle roller bearing		Lubricating type needle roller bearing		Lubricating type needle roller bearing	
42 × 36 (1.65 × 1.42)		42 × 36 (1.65 × 1.42)		42 × 36 (1.65 × 1.42)		42 × 36 (1.65 × 1.42)	
BL634		BL634		BL634		BL634	
1070 × 110 × 40 (42 × 5 × 1.7)		1070 × 110 × 40 (42 × 5 × 1.7)		1070 × 125 × 45 (42 × 5 × 1.8)		1070 × 125 × 45 (42 × 5 × 1.8)	
250 to 1000 (9.8 to 39.4)		250 to 1000 (9.8 to 39.4)		250 to 1000 (9.8 to 39.4)		250 to 1000 (9.8 to 39.4)	

COOLING SYSTEM

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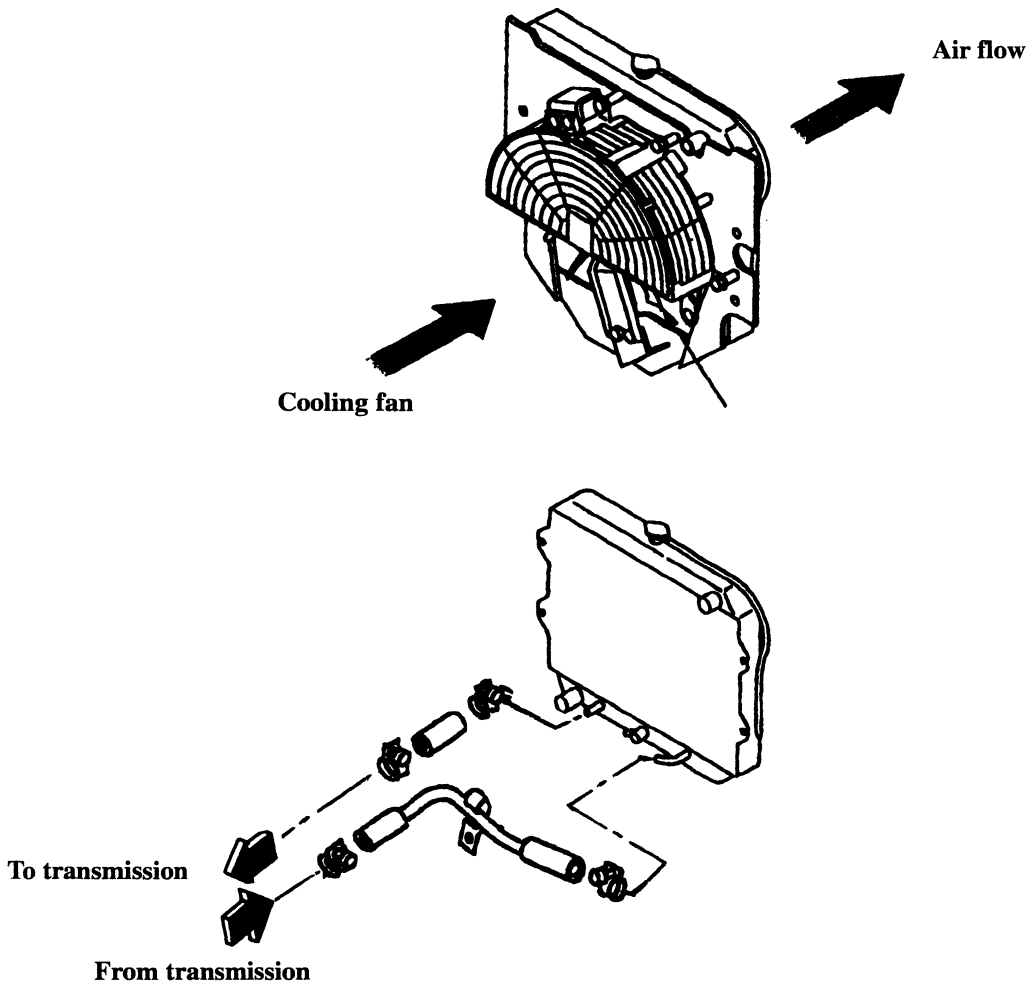
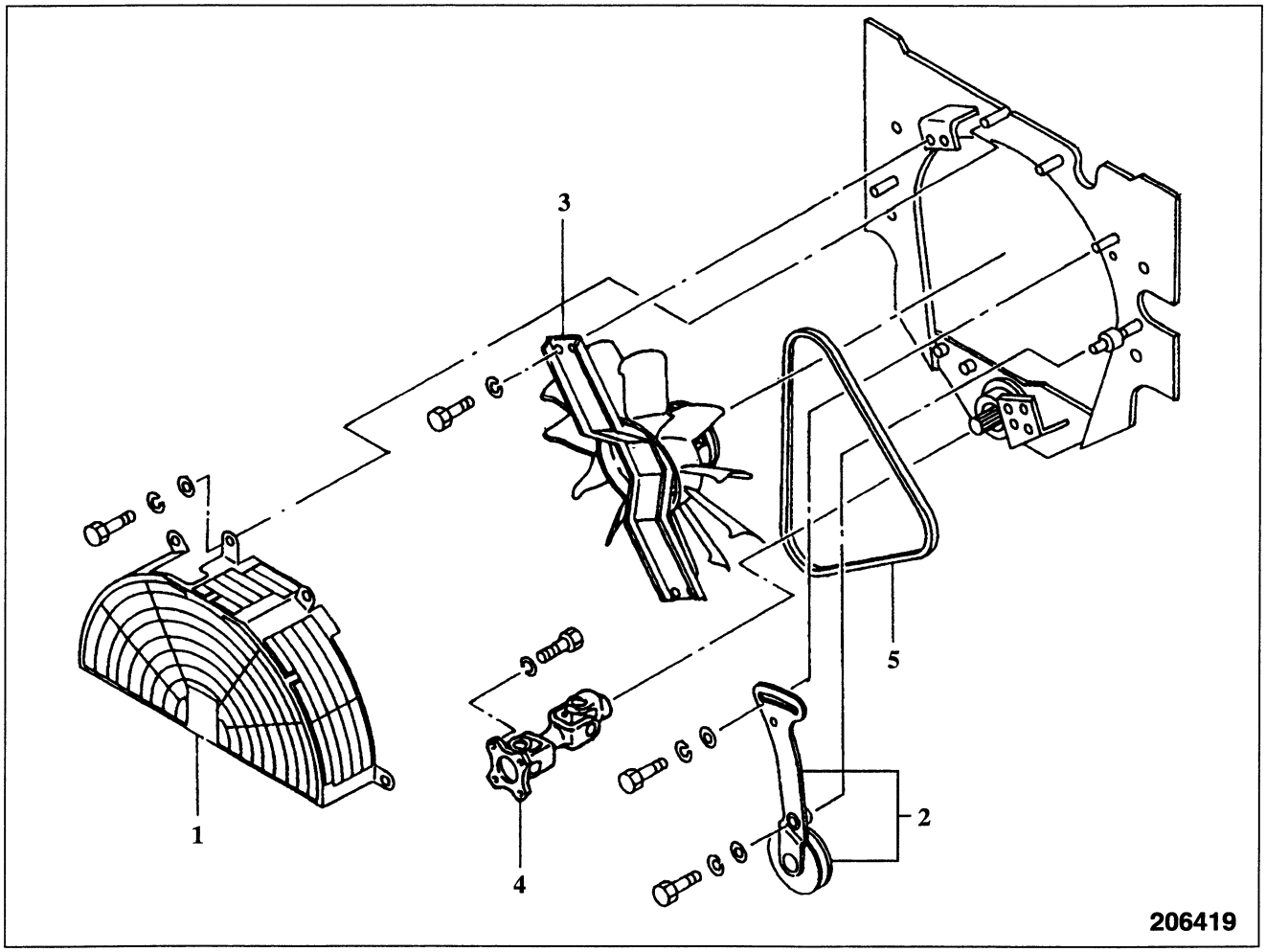
Description



The cooling fan is installed inside with the radiator (in the engine compartment). This helps minimize radiator core clogging and retain high cooling efficiency even in continuous operation for hours. In the powershift transmission models, the radiator lower tank has a built-in transmission oil cooler.

Removal and Installation

Fan Belt Removal



Sequence

1 Fan guard
2 Tensioner, Tensioner pulley
3 Support, Cooling fan
4 Universal joint
5 Fan belt

Start by:

At first stop the engine, then remove the engine hood and gas spring

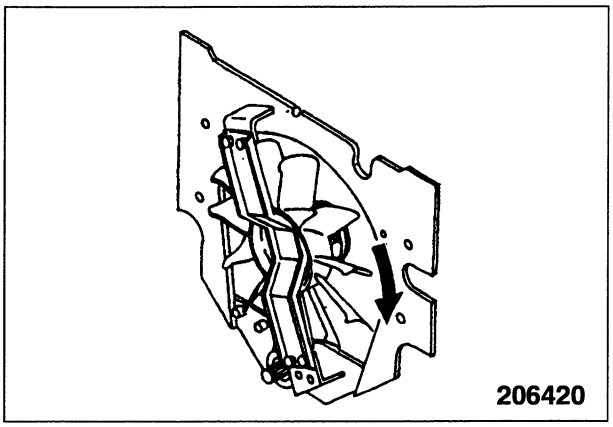
Suggestions

Make sure the muffler, engine and exhaust pipe are cool enough to touch with your hand.

To install, follow the reverse of removal sequence and take the following steps:

(1) After removing the belt, turn the fan to examine the bearings for abnormal noise. Replace the bearings if abnormally noisy.

(2) After installing the belt, push it inward midway between the pulleys to make sure the tensioner pulley moves freely before tightening the tensioner lock bolt and mounting bolt.



Inspection and Adjustment

Fan Belt Inspection

(1) Make sure the belt is free from oil, grease or other foreign matter. Replace the belt if necessary. A slightly dirty belt can be reused by cleaning with cloth or paper. Do not clean the belt with gasoline or the like.
(2) At the time of overhauling the engine or adjusting the belt tension, check the belt and replace it if defective.

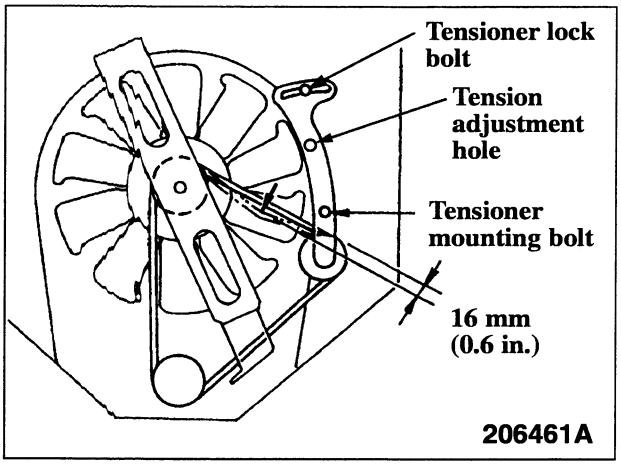
Fan Belt Adjustment

(1) Loosen the tensioner lock bolt and mounting bolt.
(2) Insert a small-diameter bar (or screwdriver) into the tension adjustment hole for leverage, and adjust the belt tension.

NOTE

Be careful not to damage the radiator core with the bar (screwdriver) during belt tension adjustment.

(3) Adjust the belt so that its deflection is 16 mm (0.6 in.) when the belt is pushed downward with 98 N (10 kgf) [22 lbf] force exerted midway between the fan pulley and tensioner pulley.
(4) Tighten the tensioner lock bolt and mounting bolt.
(5) After the adjustment, install the fan guard.
If cracks or other abnormalities are found in the fan guard, replace the fan guard.



ELECTRICAL SYSTEM

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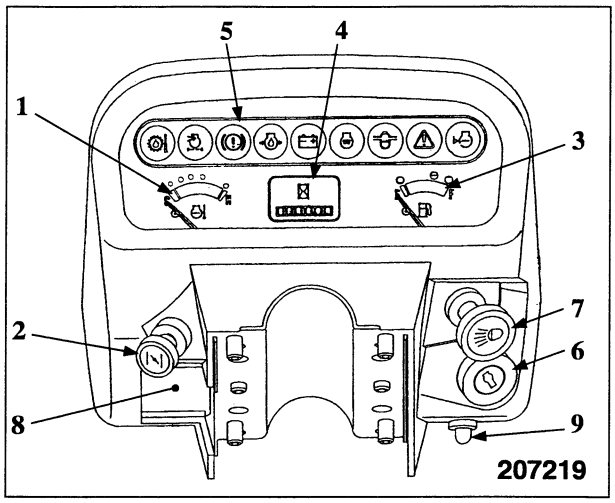
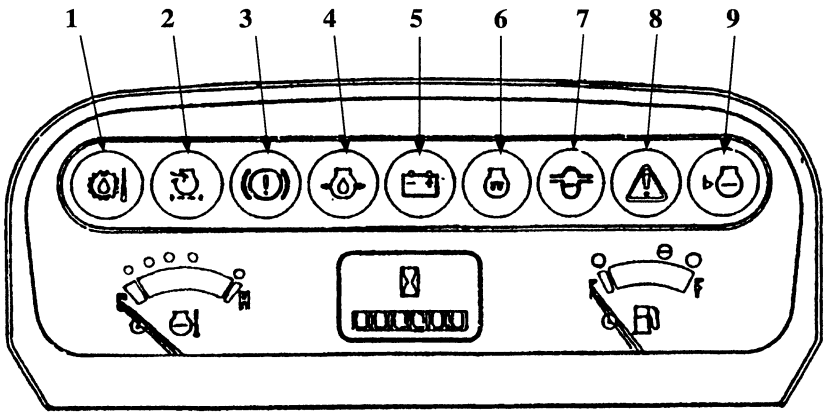
Description

Console Box

1 Engine coolant temperature gauge
2 Choke control (GAS only)
3 Fuel gauge
4 Service hourmeter
5 OK monitor
6 Starter switch
7 Light switch
8 Fuse box
9 Auto-light switch



OK Monitor



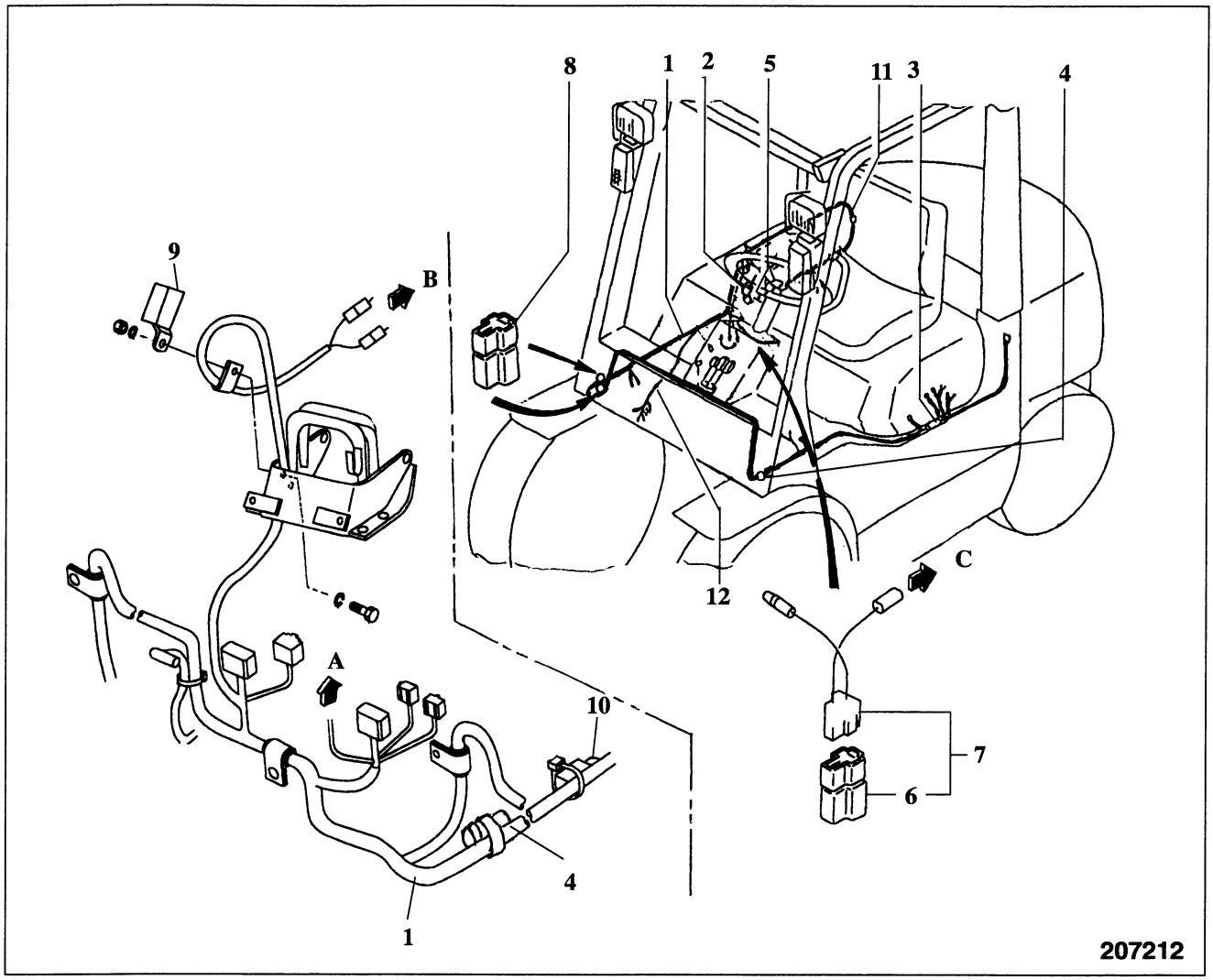
Function

No.	Indicator light	OFF	On or flickering	Remarks
1	Powershift transmission oil temp. indicator light	Normal	Overheating	Option
2	Air cleaner element indicator light	Normal	Clogged	Option
3	Brake fluid level indicator light	Normal	Low	
4	Engine oil pressure indicator light	Normal	Low	
5	Alternator not charging indicator light	Normal	Abnormal	
6	Glow plug indicator light	Heating completed	Heating	Diesel models
7	Fuel filter indicator light	Normal	Drain water	Diesel models
8	System indicator light	Normal	Abnormal	Option
9	Engine coolant level indicator light	Normal	Low	

How to check indicator light bulbs

The bulbs are normal if the indicator lights 1, 2, 3, 7 and 9 come ON when the starter switch key is turned to I (ON) position. (The indicator lights will go OFF when the engine starts.)

Electrical Components Mounted on Body



1 Main harness
2 Fusible link (R.H.)
3 Fusible link (L.H.)
4 Fuse
5 Fuse
6 Diode
7 Diode assembly
8 Diode
9 Power relay (AC vehicle)
10 Alternator relay
11 Engine cover harness
12 System harness
A: to Forward/Reverse lever
B: to Turn signal switch
C: to Ignition coil

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