

**MITSUBISHI**  
**FORKLIFT TRUCKS**

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# SERVICE MANUAL

Chassis

**FBC15**

AFB1-50401

**FBC20**

AFB2-00203

AFB2A-00011 (FW)

**FBC25**

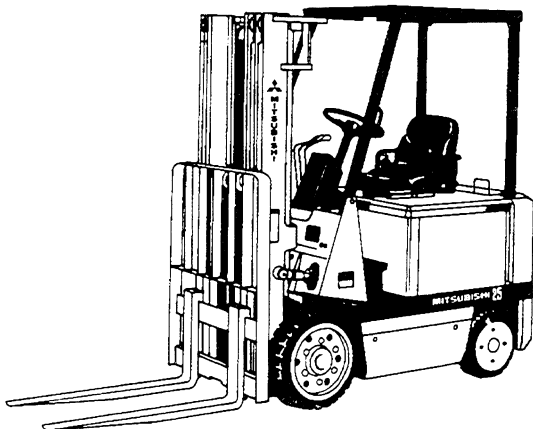
AFB2-50353

AFB2A-50005 (FW)

**FBC30**

AFB3-00067

AFB3A-00011 (FW)



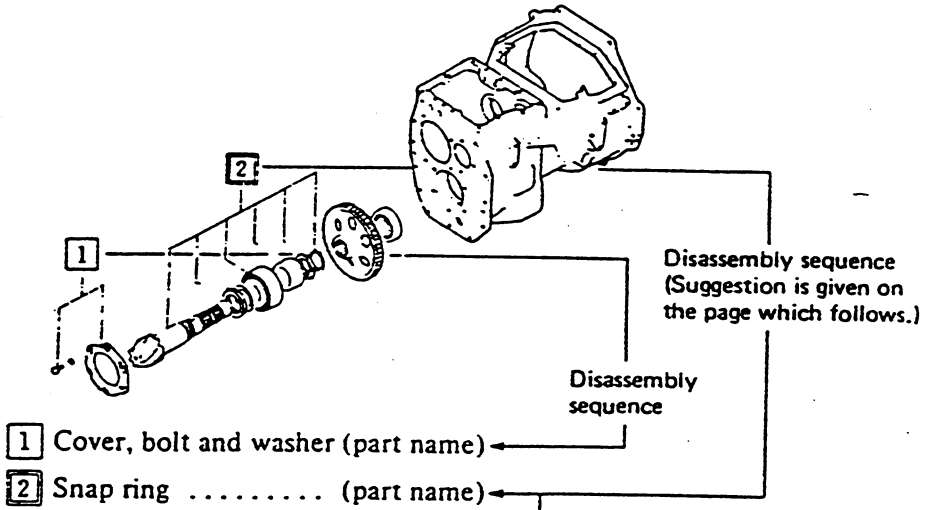
Quality Makes the Difference

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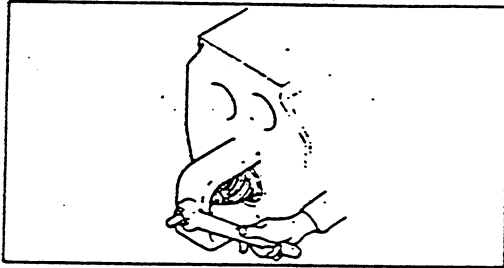
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# HOW TO READ THIS MANUAL

## Disassembly



### 2 Output shaft removal



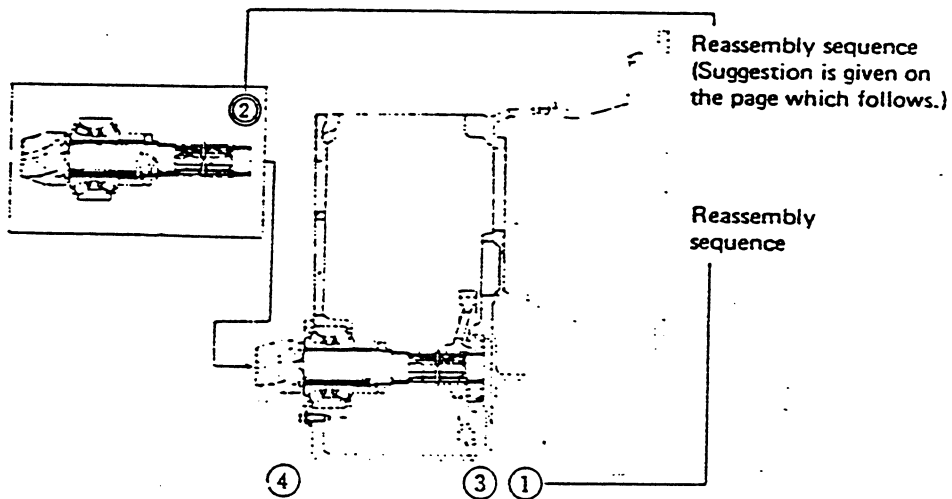
### Service data in the text

Unit: mm (in.)

Gear backlash	A	0.11 – 0.28 (0.0043 – 0.0110)
	B	0.5 (0.020)

A: Assembly standard  
B: Repair limit or service limit

## Reassembly



# GENERAL INFORMATION

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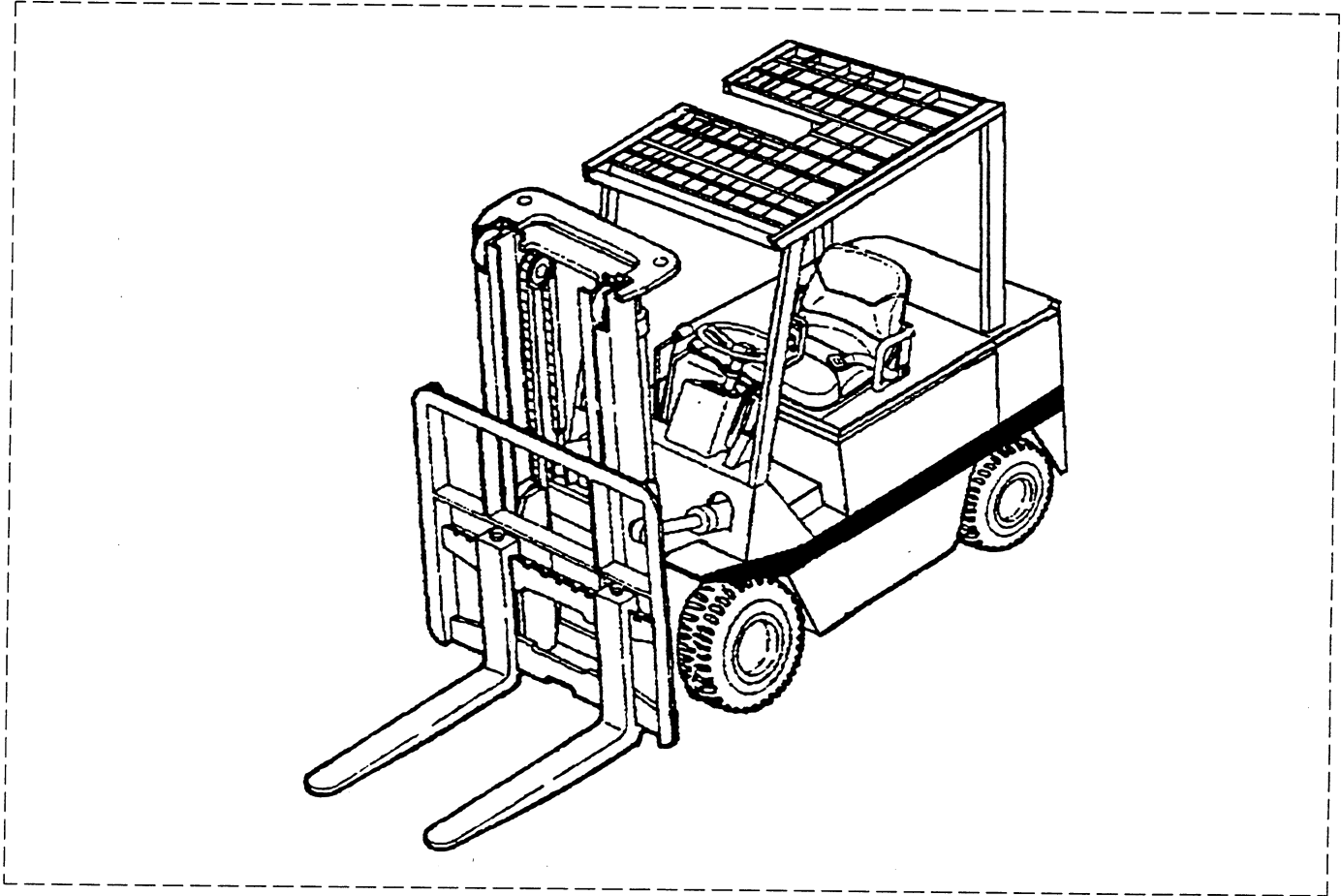
# GENERAL INFORMATION

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# GENERAL INFORMATION

## External View



## Truck Models

This service manual furnishes servicing and maintenance information for the following trucks:

FBC15: AFB1-50401-

FBC25: AFB2-50353-

FBC20: AFB2-00203-

FBC25: AFB2A-50005-(FW)

FBC30: AFB3-00067

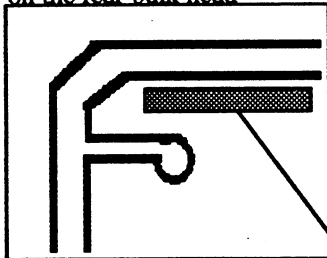
FBC20: AFB2A-00011-(FW)

FBC30: AFB3A-00011-(FW)

**NOTE:** For identification, the letter A is prefixed to the model designations of the lift trucks that are built in the U.S.A.

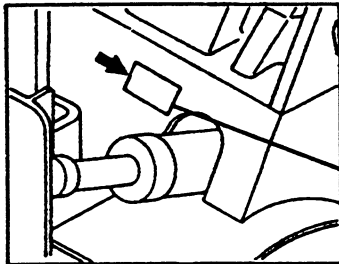
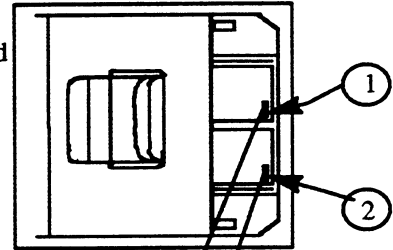
# Name Plate and Serial Number Locations

Inside battery compartment  
on the rear bulk head

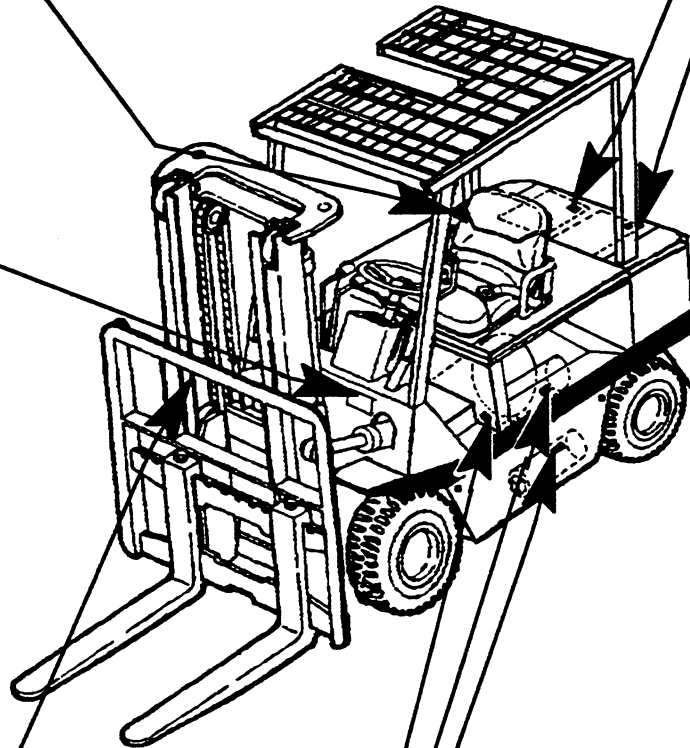


Chassis serial number

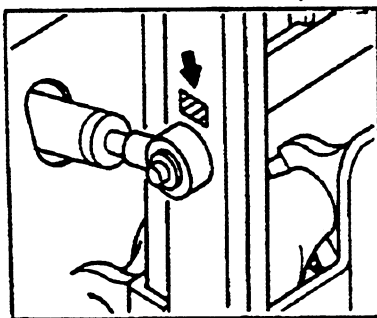
- ① Hydraulic SCR (optional) control card serial number – on top of logic card
- ② Traction control control card serial number – on top of logic card



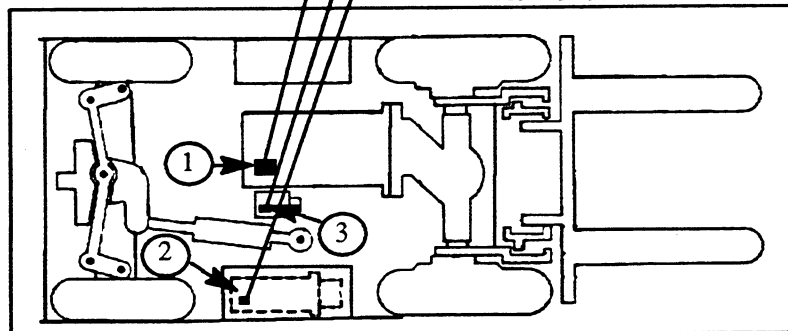
Nameplate



View of bottom of the truck



Mast serial number



- ① Traction motor serial number – bottom of traction motor
- ② Hydraulic pump motor serial number – top of hydraulic motor
- ③ Power steering motor date code – bottom of power steering motor

# Specifications

Group	Dimension	Model				
		FBC15	FBC20	FBC25	FBC30	
General	Capacity	Rated capacity lbs (kg)	3,000 (1,500)	4,000 (2,000)	5,000 (2,500)	6,000 (3,000)
	Load Center	Face of forks to load CG in. (mm)	24 (500)			
	Power Type	Electric	36V/48V			
	Operator Type	Stand or sit	Sit			
	Tire Type	Cushion, pneumatic, etc.	Cushion			
	Wheels	Number (X = driven) front/rear	2X/2			
	Upright in. (mm)	Standard lift (top of fork)	130 (3,300)			
	Forks in. (mm)	Standard free lift (top of fork)	4.1 (105)			
	Tilt Angle deg.	Standard fork size (L × W × T)	36 × 4 × 1.3 (920 × 100 × 34)			
	Basic Dimensions	Overall Dimensions in. (mm)	Standard upright forward/backward	5/10		
Length to face of forks		Length to face of forks	73.2 (1,860)	77.6 (1,970)	80.9 (2,055)	87.8 (2,230)
		Width (std. tires)	37.2 (945)	41.5 (1,055)		
Height, standard overhead guard		(OLH) Height, upright lowered	83.1 (2,110)			
		(OMH) Height, upright ext. (with backrest)	179.5 (4,560)			
Turning Radius		Minimum (outside) in. (mm)	86.0 (2,185)			
		Center of wheel to face of forks in. (mm)	66.1 (1,680)	70.7 (1,795)	73.6 (1,870)	79.3 (2,015)
Aisle Width in. (mm)		Min. intersecting aisle	14.2 (360)	14.6 (370)		
		Min. intersecting aisle	65.7 (1,670)	71.5 (1,815)	74.4 (1,890)	80.5 (2,045)



# Specifications

Group	Dimension	Model				
		FBC15	FBC20	FBC25	FBC30	
Performance	Stability	Yes				
	Travel Speeds	6.7 (10.8)				
	With load, 36V					
	mph (km/h)	9.4 (15.1)	8.9 (14.3)	6.2 (10.0)	5.9 (9.5)	
	Without load, 36V					
	mph (km/h)	7.7 (12.4)	8.1 (13)	7.8 (12.6)	8.1 (13.0)	
	Without load, 48V					
	mph (km/h)	11.1 (17.8)	10.8 (17.4)	10.4 (16.7)	10.2 (16.4)	
	Lift Speeds					
	With load, 36V	40 (0.20)			50 (0.25)	
	fpm (m/s)	61 (0.31)	72 (0.37)	69 (0.35)	57 (0.29)	
	Without load, 36V	72 (0.37)			83 (0.42)	
	Without load, 48V	102 (0.52)			112 (0.57)	92 (0.47)
	Lowering	With load	102 (0.52)			98 (0.50)
	Speeds fpm (m/s)	Without load	98 (0.50)			104 (0.53)
Chassis	Tires	2/2				
	Number, front/rear					
	Size, front	18 x 6 x 12-1/8	21 x 7 x 15		21 x 8 x 15	
	Size, rear	14 x 14-1/2 x 8	16 x 5 x 10-1/2	16 x 6 x 10-1/2		
	Wheelbase	in. (mm)	46.0 (1,170)	49.2 (1,250)	53.1 (1,350)	
	Tread	Center of fires				
	Front	31.3 (795)	34.4 (875)		35.4 (900)	
	Rear	32.5 (825)	38.5 (910)		34.8 (885)	
	Ground	Without load at lowest point	2.9 (75)			
	Clearance	Without load at center of wheelbase	3.5 (90)			
Brakes	Service	Foot operated, hydraulic				
	Parking	Hand operated, mechanical				
	Steering	Type Semi-integral				

# Specifications

Group	Dimension	Model		
		FBC15	FBC20	FBC25
Control	Traction motor control	SCR		
	Regenerative braking	Standard		
	1A speed	Standard		
	Field weakening	N/A	Optional	
	Hydraulic motor control	Contactor		
	Hydraulic motor control (option)	SCR Control		
Traction Motor	Battery discharge indicator with lift interrupt	Standard		
	Type	Series wound		
Transfer Gear Ratio	Rating (48V) HP (1 hr) (kw)	11.9 (8.9)	17.3 (12.9)	
	Type	3.538		
Reduction Gear	Type	Skew bevel gear		
	Ratio	4.571	5.0	
Differential	Type	Banjo		
	Type of gears—number:	Straight bevel—2		
	Gear			
	Pinion			

# Specifications

Group	Dimension	Model		
		FBC15	FBC20	FBC25
Front Axle		Full-floating tubular type		
Rear Axle		Elliott type		
Axles & Wheels	Front wheel	Fixed type		
	Rear wheel	Center pivot type		
	Toe-in	0		
	Camber	1		
	Caster	0		
King pin inclination		5		
Service Brake	Type	Self-adjusting duo-servo		
	Drum diameter mm (in.)	254 (10.00)	310 (12.20)	
	Lining (length × width × thickness × number)	274.2 × 48.5 × 4.78 × 2 (10.8 × 1.9 × 0.19 × 2)	3,44.0 × 60.0 × 6.0 × 2 (13.5 × 2.4 × 0.24 × 2)	
	Master cylinder ID mm (in.)	19.05 (0.75)		
	Wheel cylinder ID mm (in.)	22.22 (0.8748)	28.58 (1.13)	
Parking Brake	Type	Mechanical, mounted on wheels		
	Drum diameter mm (in.)	254 (10.00)	310 (12.20)	
Frame		Assembled		

# Specifications

Group	Dimension	Model		
		FBC15	FBC20	FBC25
	Type	Recirculating ball-and-nut		
	Gear Ratio	19.8		
Steering System	Steering Angle	83 6'		83
	Outside	54 12'		56 5'
	Steering Wheel Diameter mm (in.)	380 (15)		
	Type	Permanent magnet type		
Steering Motor	Power Rating (48V) HP	0.75 (0.56)		
	Drive Type	Tang shaft		
	Type	Vane		
Steering Pump	Rated Capacity (U.S. gal/min. (liter/min.) RPM	2.7 (10.4 )/1,500		
	System Pressure	1,140 psi (80 kg/cm2)		
	Type	Semi-integral		
Power Steering	Power Cylinder ID × Rod OD	45 × 22 (1.77 × 0.87)		
	Effective Stroke mm (in.)	272 (10.7)		
	Relief Pressure kgf/cm2 (psi)	80 (1,138)		
	Flow Rate liter (U.S. gal)/min.	10.5 (2.8) @ 1,500 RPM		

# Specifications

Group	Dimension	Model		
		FBC15	FBC20	FBC25
Oil Pump	Type	Gear		
	Rated Capacity liter (U.S. gal) min/rpm	45.6 (12.0)/2,400		
	Drive	55.2 (14.6)/2,400		
	Relief pressure kgf/cm <sup>2</sup> (psi)	Spline shaft 185 + 5 (2,631 + 71) 0 0		
Hydraulic System	Lift Cylinders	45 (1.77)	50 (1.97)	55 (2.17)
	Stroke	1,650 (64.96)		
	Tilt Cylinders	63 (2.48)	70 (2.76)	80 (3.15)
	Stroke	111 (4.37)		
Hydraulic Tank Refill Capacity liter (U.S. gal)/min	4.8 (18)			
Pump Motor	Type	Series wound		
Hydraulic Pressure for Attachment (max.)	Rating (48V) HP	10 (7.5)	15.5 (11.6)	
	20% (kw)	2,630 psi (185 kg/cm <sup>2</sup> )		

# Specifications

Group	Dimension	Model							
		FBC15		FBC20		FBC25		FBC30	
Battery	Voltage	36	48	36	48	36	48	36	48
	Amp.-hr, Min. 6 hrs.	525	400	800	600	800	600	925	700
	Amp.-hr, Max. 6 hrs.	900	700	1,300	800	1,300	800	1,300	1,000
	A Minimum	15" (381 mm)							
	H Maximum	22.7" (576 mm)							
	L Minimum	22.1 (563)	25.1" (637 mm)						
	L Maximum	27.3" (693 mm)	30.6" (777 mm)						
	W Minimum	24.2" (614 mm)	28.4" (721 mm)						
	W Maximum	36.4" (924 mm)	40.7" (1,033)						
	Weight Minimum	1,900 lbs (860 kg)	2,430 lbs (1,100 kg)						
Weight Maximum	2,650 lbs (1,200 kg)	3,310 lbs (1,500 kg)							

Minimum battery cable size: 00.

Battery connector type: Anderson SB 350 (gray)

Battery connector orientation: TypeB

Dimension H refers to the overall height of the battery box.

# REDUCTION DIFFERENTIAL AND FRONT AXLE

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