



Service Manual

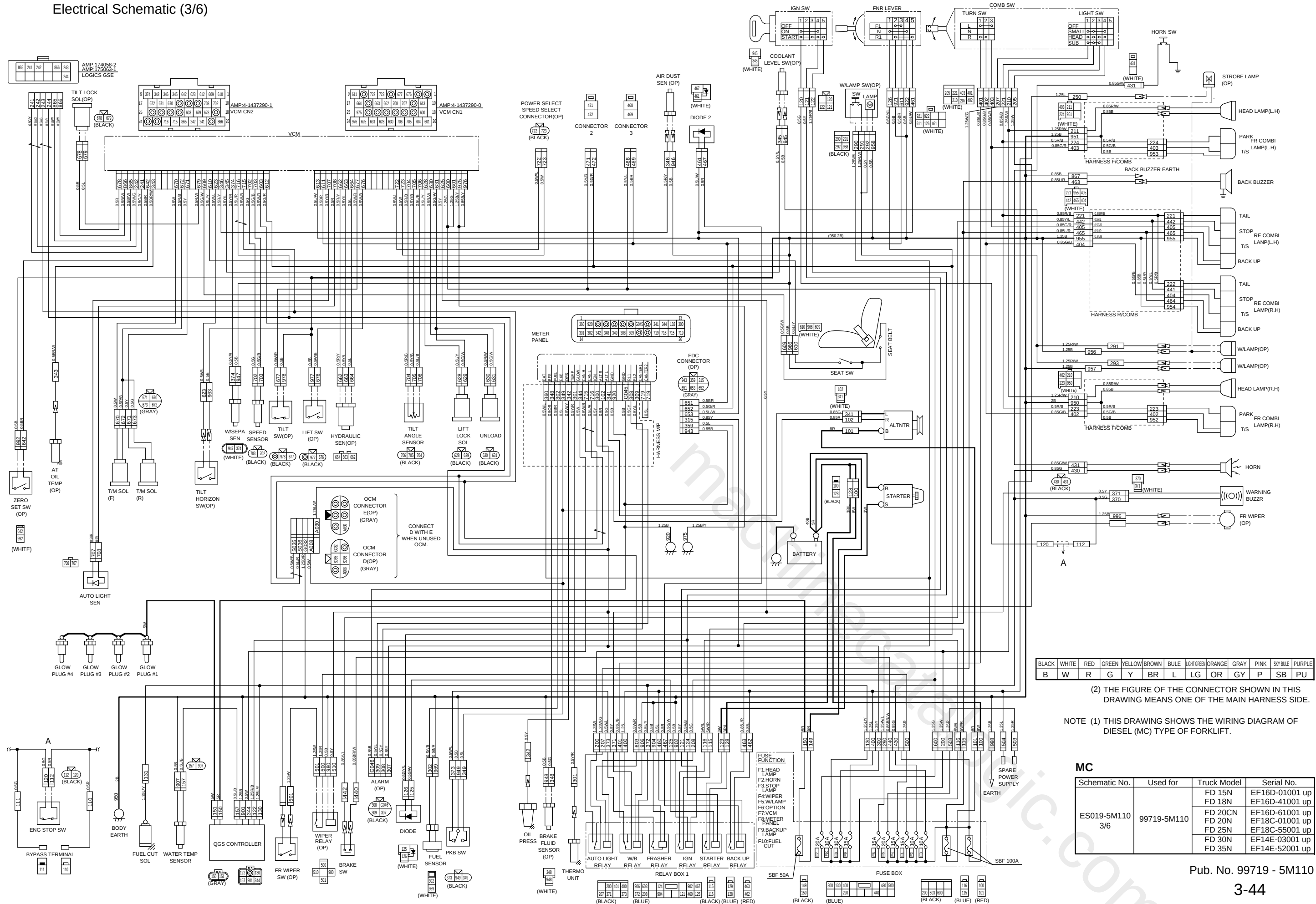
Chassis & Mast

MC/FC

FG15N	EF34L-02001-up
FG18N	EF34L-41001-up
FG20CN	EF34L-61001-up
FG20N	EF17DL-01001-up
FG25N	EF17DL-53001-up
FG30N	EF13FL-02001-up
FG35N	EF13FL-51001-up

FD15N	EF16D-01001-up
FD18N	EF16D-41001-up
FD20CN	EF16D-61001-up
FD20N	EF18C-01001-up
FD25N	EF18C-55001-up
FD30N	EF14E-03001-up
FD35N	EF14E-52001-up

Electrical Schematic (3/6)



BLACK	WHITE	RED	GREEN	YELLOW	BROWN	BLUE	LIGHT GREEN	ORANGE	GRAY	PINK	SKY BLUE	PURPLE
B	W	R	G	Y	BR	L	LG	OR	GY	P	SB	PU

(2) THE FIGURE OF THE CONNECTOR SHOWN IN THIS DRAWING MEANS ONE OF THE MAIN HARNESS SIDE.

NOTE (1) THIS DRAWING SHOWS THE WIRING DIAGRAM OF DIESEL (MC) TYPE OF FORKLIFT.

MC			
Schematic No.	Used for	Truck Model	Serial No.
ES019-5M110 3/6	99719-5M110	FD 15N	EF16D-01001 up
		FD 18N	EF16D-41001 up
		FD 20CN	EF16D-61001 up
		FD 20N	EF18C-01001 up
		FD 25N	EF18C-55001 up
		FD 30N	EF14E-03001 up
		FD 35N	EF14E-52001 up

Pub. No. 99719 - 5M110

Inspections after Disassembly

(1) Axle shaft

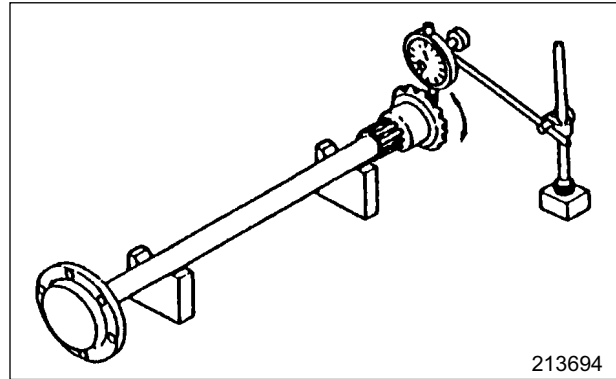
(a) Looseness of mating splines

Mount the differential bevel gear on the splined end of the shaft and set a dial indicator as shown. Rotate the bevel gear in the direction shown and read the free play (looseness of mating splines).

Unit: mm (in.)

Axle shaft Looseness of mating splines	A	0.09 to 0.28 (0.004 to 0.011)
	B	0.5 (0.020)

A: Standard value B: Repair or service limit



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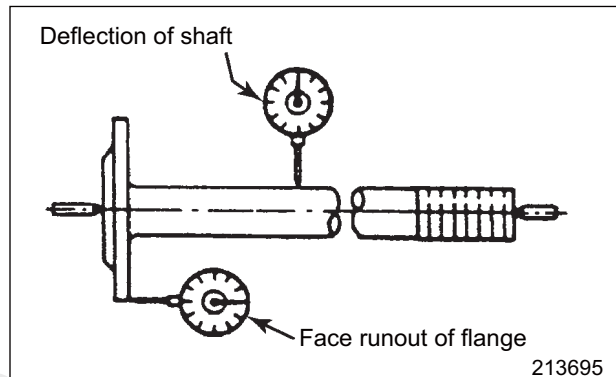
(2) Shaft deflection and flange runout

(a) Set a dial indicator at the middle part of the axle shaft. Rotate the shaft and read the dial indicator (deflection of axial shaft).

Unit: mm (in.)

Shaft deflection (1/2 of indicator reading)	A	0.5 (0.020) maximum
	B	1.0 (0.040)

A: Standard value B: Repair or service limit



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(b) Set a dial indicator against the flange of the axle shaft as shown. Rotate the shaft and read the face runout of flange.

Unit: mm (in.)

Face runout of axle shaft flange	A	0.08 (0.003)
	B	0.5 (0.020)

A: Standard value B: Repair or service limit

(3) Axle housing

- Check the surfaces of axle housing in contact with the mast bearing for damage.
- Check the entire axle housing for distortion, dents and other defects. Pay particular attention to the welds to see if any of the welds are cracked enough to require repair.

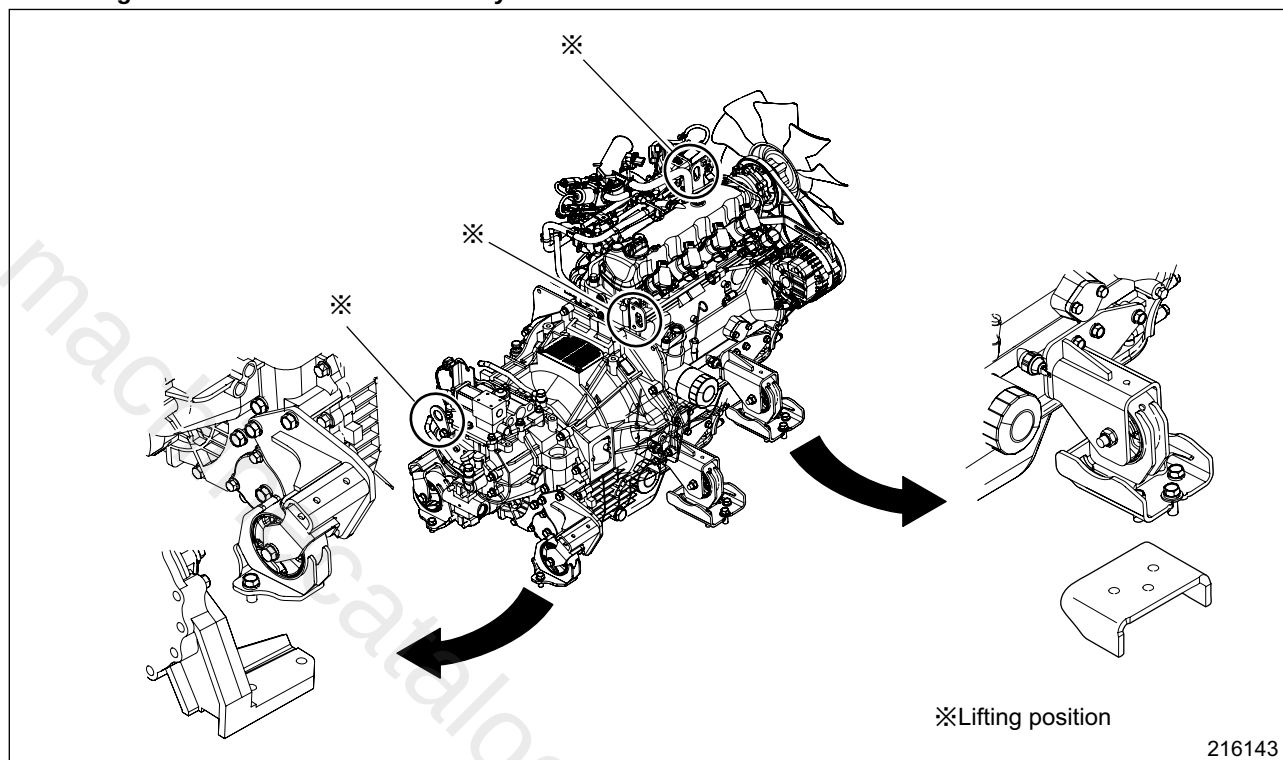
(4) Others

- Check the outer surface of oil seal and retainer for wear or damage.
- Check the outer and inner oil seals for wear or damage.

4. Troubleshooting

Hydraulic tank	Hydraulic tank heats excessively	Not enough oil in hydraulic tank	Refill.
		Oil viscosity improper	Change upon referring to "Fuel and Lubricant Specifications" on chapter 13 Service data 4.2 Fuel and Lubricant Specifications.
		Overload	Check working conditions and, if overloaded, urge the operator to stay within the load limit.
		Local overheating of oil line due to a large restriction to flow	Clean oil line.
		Relief valve adjustment improper	Readjust pressure setting.
		Pressure drop due to fatigued or broken springs	Disassemble or replace and readjust pressure.
		Gear pump worn	Replace pump.
		Outlet pipe or tube flattened, or restriction to flow	Repair or replace.
	Cylinders move too slow	Shortage of oil due to a natural loss	Replenish oil upon referring to "Fuel and Lubricant Specifications" on chapter 13 Service data 4.2 Fuel and Lubricant Specifications.
		Oil leakage due to damaged oil line and seals	Repair or replace.
		Oil viscosity too high	Change upon referring to "Fuel and Lubricant Specifications" on chapter 13 Service data 4.2 Fuel and Lubricant Specifications.
Gear pump	Cylinders move too slow	Gear pump does not pump oil	Check pump and piping; repair or replace.
		Oil leakage from oil line	Check oil for level and condition; add or change oil.
		Gear pump internally leaking	Replace pump.
	Noisy	Poor pumping	Replenish oil upon referring to "Fuel and Lubricant Specifications" on chapter 13 Service data 4.2 Fuel and Lubricant Specifications.
		Cavitation	(1) Check suction pipe for any flat portion or loose connection; retighten or replace. (2) Check shaft oil seal for airtightness; replace pump. (3) Check pump body for any outside interference; repair.
	Pump case, drive gear or pump port flange damaged	Pressure too high	Replace pump. (Check to see if relief valve setting is correct.)
		Distortion or damage due to external strain or stress	Replace pump. (1) Check to see if return line is blocked or restricted. (2) Check to see if pipe connections have been externally strained or stressed.
	Oil leakage from pump	Oil oozes out through the oil seal	Replace shaft seal.
		Oil oozes out onto the drive shaft sliding surfaces	Replace whole pump assembly.
		Loose bolts that secure the pump	Retighten. Replace if needed.
		Degraded performance of sealing inside pump	Replace gasket.

1.1.4 Engine and transmission assembly



Removal sequence

- 1 Transmission mounting bolt
- 2 Engine mounting bolt

3 Engine and transmission assembly

Start by

Lift the engine and transmission assembly with a hoist and slings.

Unit: kg (lb)

Weight	Approx. 250 (551.3)
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Suggestions for Removal

- (1) Lift the engine and transmission assembly just the amount necessary to remove the load on the mounting cushion before removing the mounting bolts 1 and 2. Remove the engine support mounting bolts.
- (2) By hooking wire into 3 hooks, slowly lift the engine and transmission assembly 3 out by moving it backwards while maintaining its balance.

Note: 1. With the engine and transmission assembly suspended, drain the transmission oil and clutch oil.

2. There is only one drain plug in the powershift transmission.

Full Version Available

Mitsubishi FD35N Forklift Service Manual (99719-5M110)

Mitsubishi FD35N forklift service manual PDF, full engine, hydraulics, drive train, and wiring repair info. Instant PDF download.

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