

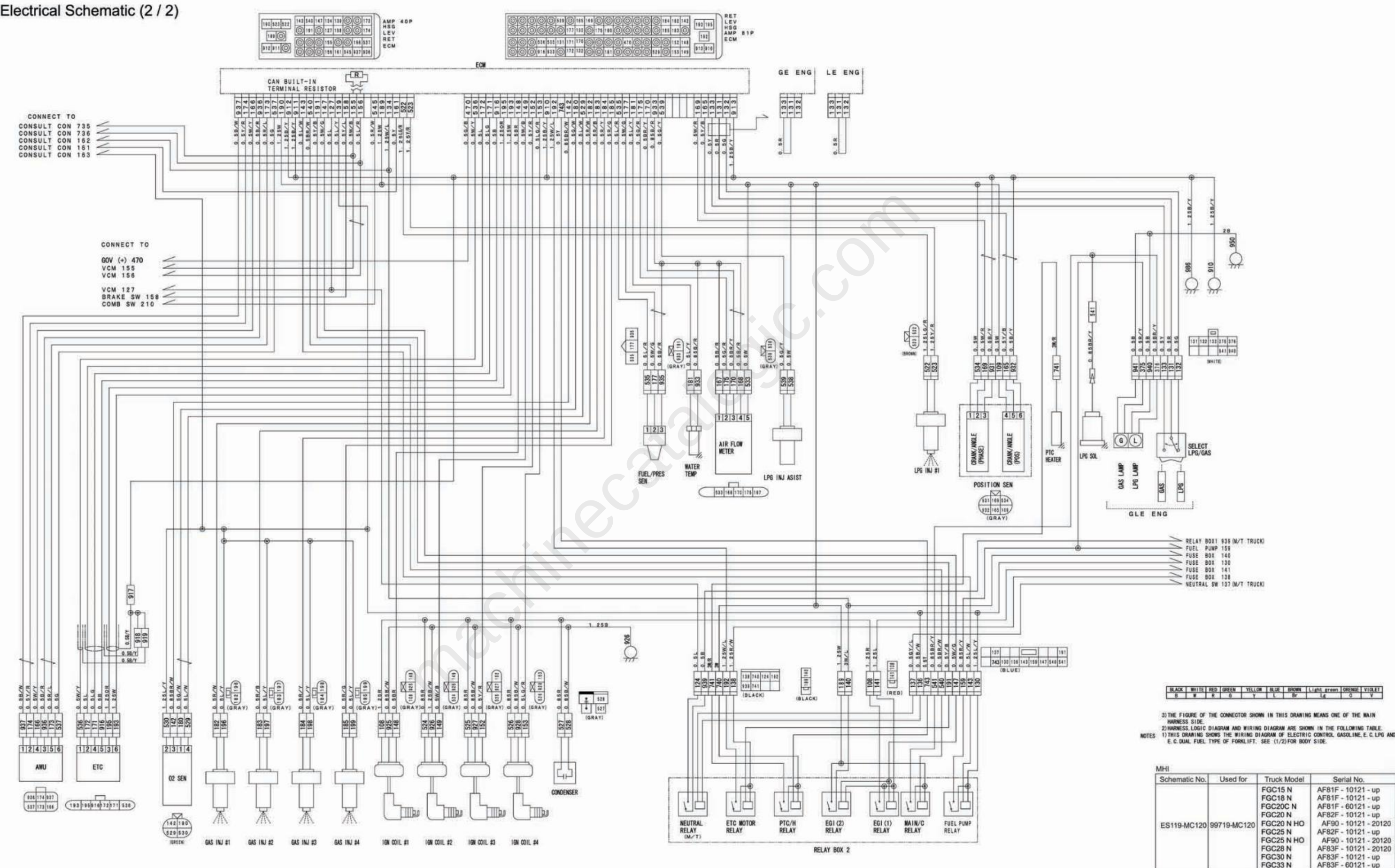


# Service Manual

## Chassis, Mast & Options

|                  |                          |
|------------------|--------------------------|
| <b>FGC15N</b>    | <b>AF81F-10121-up</b>    |
| <b>FGC18N</b>    | <b>AF81F-10121-up</b>    |
| <b>FGC20CN</b>   | <b>AF81F-60121-up</b>    |
| <b>FGC20N</b>    | <b>AF82F-10121-up</b>    |
| <b>FGC20N HO</b> | <b>AF90-10121-20120</b>  |
| <b>FGC25N</b>    | <b>AF82F-10121-up</b>    |
| <b>FGC25N HO</b> | <b>AF90-10121-20120</b>  |
| <b>FGC28N</b>    | <b>AF83F-10121-20120</b> |
| <b>FGC30N</b>    | <b>AF83F-10121-up</b>    |
| <b>FGC33N</b>    | <b>AF83F-60121-up</b>    |

Electrical Schematic (2 / 2)



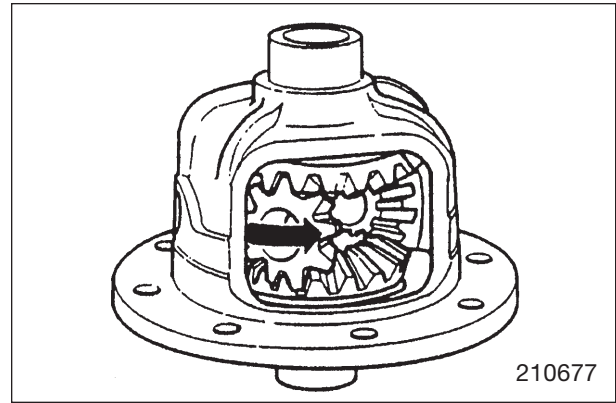
3) THE FIGURE OF THE CONNECTOR SHOWN IN THIS DRAWING MEANS ONE OF THE MAIN HARNESS SIDE.  
2) HARNESS LOGIC DIAGRAM AND WIRING DIAGRAM ARE SHOWN IN THE FOLLOWING TABLE.  
1) THIS DRAWING SHOWS THE WIRING DIAGRAM OF ELECTRIC CONTROL GASOLINE, E.C. LPG AND E.C. DUAL FUEL TYPE OF FORKLIFT. SEE (1/2) FOR BODY SIDE.

| MHI           |             |             |                       |
|---------------|-------------|-------------|-----------------------|
| Schematic No. | Used for    | Truck Model | Serial No.            |
| ES119-MC120   | 99719-MC120 | FGC15 N     | AF81F - 10121 - up    |
|               |             | FGC18 N     | AF81F - 10121 - up    |
|               |             | FGC20C N    | AF81F - 60121 - up    |
|               |             | FGC20 N     | AF82F - 10121 - up    |
|               |             | FGC20 N HO  | AF90 - 10121 - 20120  |
|               |             | FGC25 N     | AF82F - 10121 - up    |
|               |             | FGC25 N HO  | AF90 - 10121 - 20120  |
|               |             | FGC28 N     | AF83F - 10121 - 20120 |
|               |             | FGC30 N     | AF83F - 10121 - up    |
|               |             | FGC33 N     | AF83F - 60121 - up    |
|               |             |             |                       |
|               |             |             |                       |

## REDUCTION DIFFERENTIAL

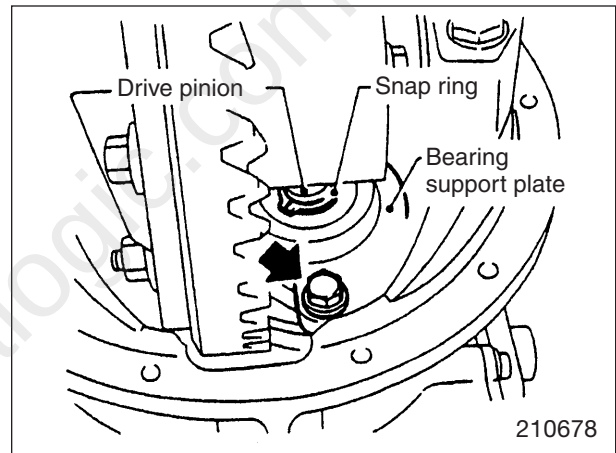
- (9) Draw out pinion mate shaft and remove pinion mate gears, side gears and thrust washers (1 ton class).

Put marks on gear and thrust washer so that they can be reinstalled in their original positions from which they were removed.

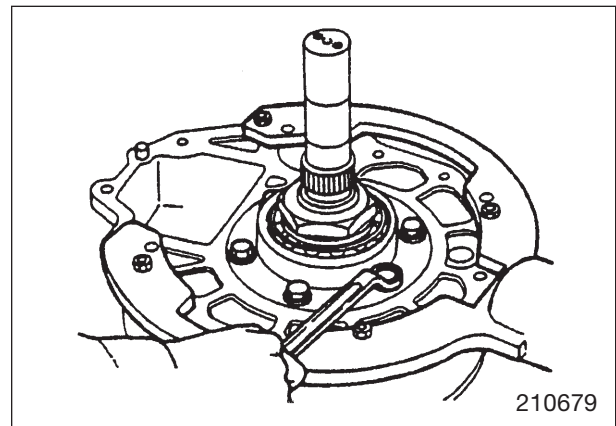


### Drive pinion

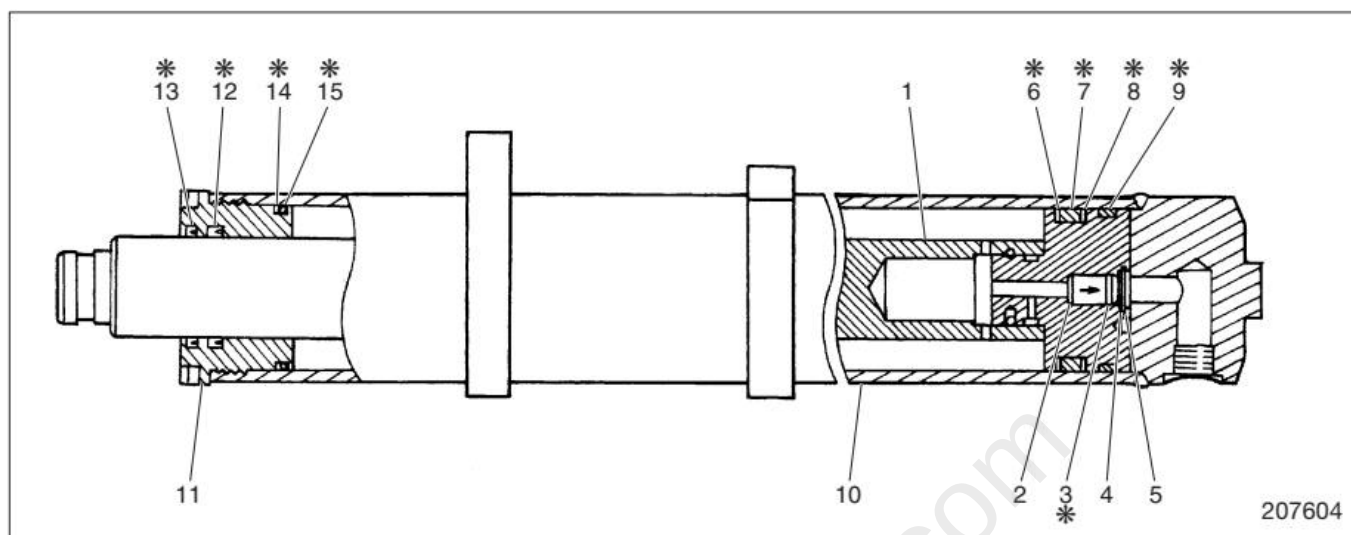
- (1) Remove snap ring on drive pinion front end (3 ton class).



- (2) Remove drive pinion sleeve from differential carrier.



## Reassembly



207604

## Sequence

- |                                      |                  |                                         |
|--------------------------------------|------------------|-----------------------------------------|
| 1 Piston rod, Piston                 | 6 Nylon ring     | Install parts 12 through 15 to part 11. |
| Install parts 2 through 9 to part 1. | 7 Piston seal    |                                         |
| 2 Check valve                        | 8 Nylon ring     |                                         |
| 3 O-ring                             | 9 Wear ring      |                                         |
| 4 Washer                             | 10 Cylinder tube |                                         |
| 5 Circlip                            | 11 Retainer      | 12 Rod seal                             |
|                                      |                  | 13 Wiper                                |
|                                      |                  | 14 Backup ring                          |
|                                      |                  | 15 O-ring                               |

## NOTE

Replacement parts marked with an asterisk (\*) are included in the seal kit.

## Suggestions for Reassembly

- (1) Use all parts in the seal kit to replace removed parts.
- (2) After installing seal kit parts, apply hydraulic oil before installing to the cylinder tube or piston rod.
- (3) Fill the space between the cylinder tube and piston rod with the specified amount of hydraulic oil before installing the retainer.

Unit: cc (cu in.)

| Truck Model             | 1 ton class              | 2 ton class | 3 ton class              |
|-------------------------|--------------------------|-------------|--------------------------|
| Item                    |                          |             |                          |
| Amount of hydraulic oil | 20 to 25<br>(1.2 to 1.5) |             | 30 to 35<br>(1.8 to 2.1) |

- (4) Tighten the retainer to the specified torque.

Unit: N·m (kgf·m) [lbf·ft]

| Truck Model                | 1 ton class                              | 2 ton class                              | 3 ton class                              |
|----------------------------|------------------------------------------|------------------------------------------|------------------------------------------|
| Item                       |                                          |                                          |                                          |
| Retainer tightening torque | 353 to 380<br>(36 to 39)<br>[260 to 280] | 380 to 407<br>(39 to 42)<br>[280 to 300] | 434 to 461<br>(44 to 47)<br>[320 to 340] |

**4. Friction plates and mating plates**

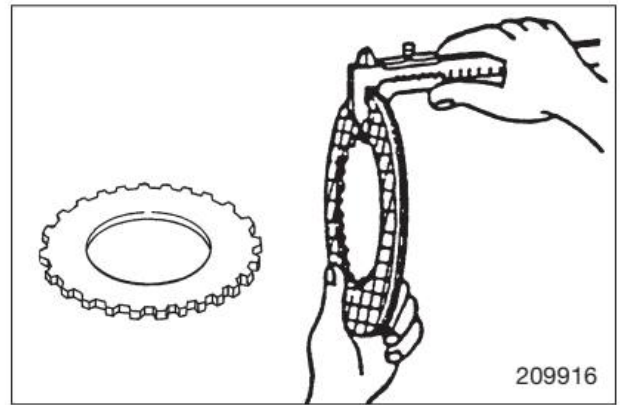
- (1) Check for burns, trace of uneven contact, deformation and wear.
- (2) Check splines for wear or other damage.

**5. Piston ring**

Check piston ring for wear or damage.

A: Standard value    B: Repair or service limit

|                             |   |                                         |
|-----------------------------|---|-----------------------------------------|
| Thickness of friction plate | A | 2.5 to 2.65 mm<br>(0.098 to 0.104 in.)  |
|                             | B | 2.2 mm (0.087 in.)                      |
| Thickness of mating plate   | A | 1.53 to 1.67 mm<br>(0.060 to 0.066 in.) |
|                             | B | 1.4 mm (0.055 in.)                      |



## Full Version Available

### Mitsubishi FGC33N Forklift Service Manual (99719-MC120)

Mitsubishi FGC33N forklift service manual, LPG cushion truck repair, hydraulics, wiring, and engine procedures in PDF. Instant PDF download.

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