



SERVICE MANUAL

FG10	F25B-00504-up	FD10	F16C-00175-up
FG15	F25B-50496-up	FD15	F16C-51887-up
FG18	F25B-70764-up	FD18	F16C-70299-up
FG20	F17B-04059-up	FD20	F18B-07060-up
FG25	F17B-53947-up	FD25	F18B-59479-up
FG30	F13D-31118-up	FD30	F14C-35404-up
FG35A	F13D-50271-up	FD35A	F14C-51069-up

NOTE

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

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

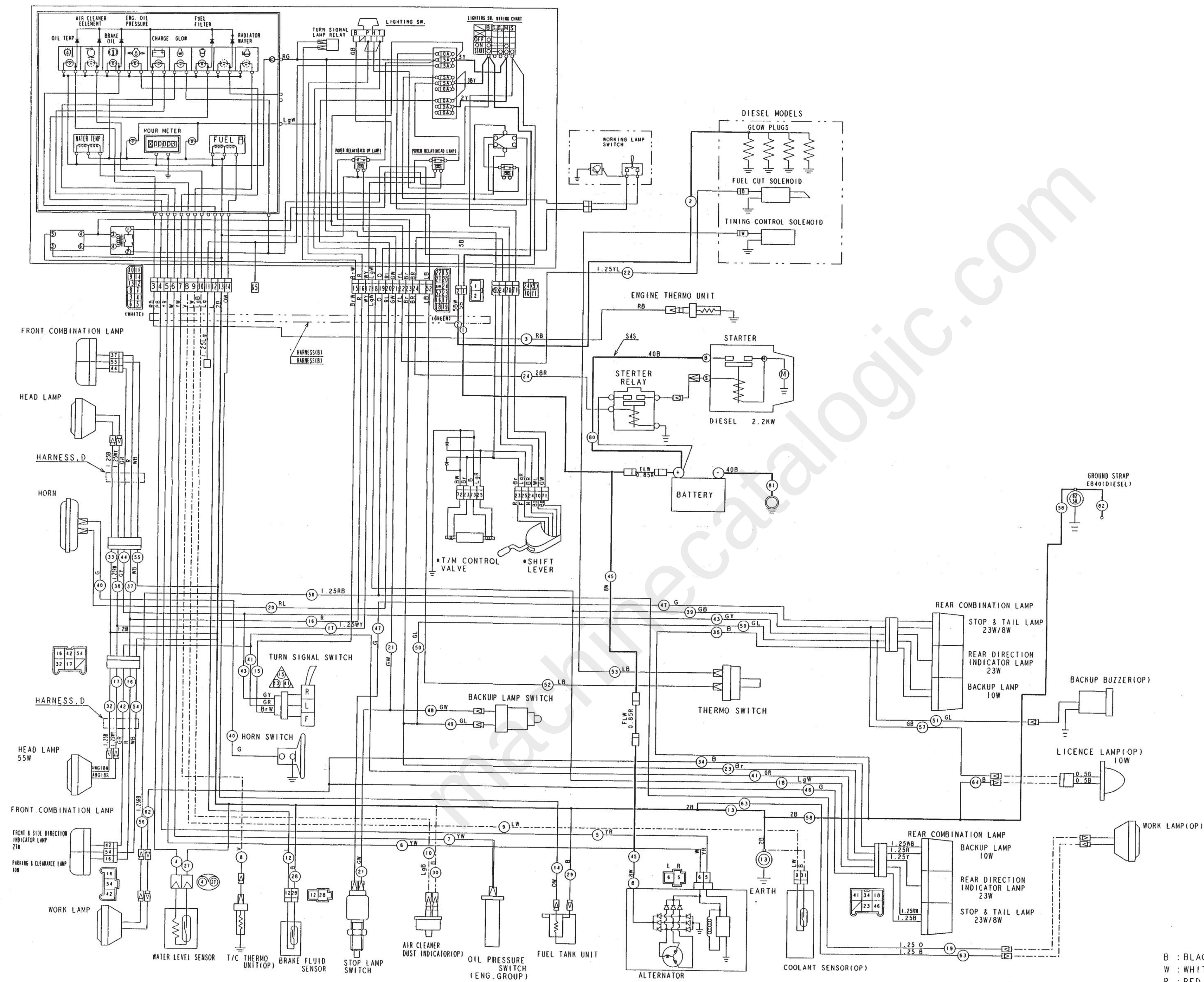
MC
CHASSIS
MAST

ELECTRICAL SYSTEM SCHEMATIC
(DIESEL)

CONSOLE BOX A12DD
A12DT

LIGHTING SWITCH CONNECTION CHART			
MC MODELS			
TERMINAL CORD	OFF	1	2
B A.V. 250			
T A.V. 250			
P A.V. 250			
H A.V. 250			

F.N.R. LEVER SWITCH CONNECTION CHART			
(TORQUE-CONVERTER MODELS)			
LEVER POSITION	BI	DI	F N R
F			
N			
R			



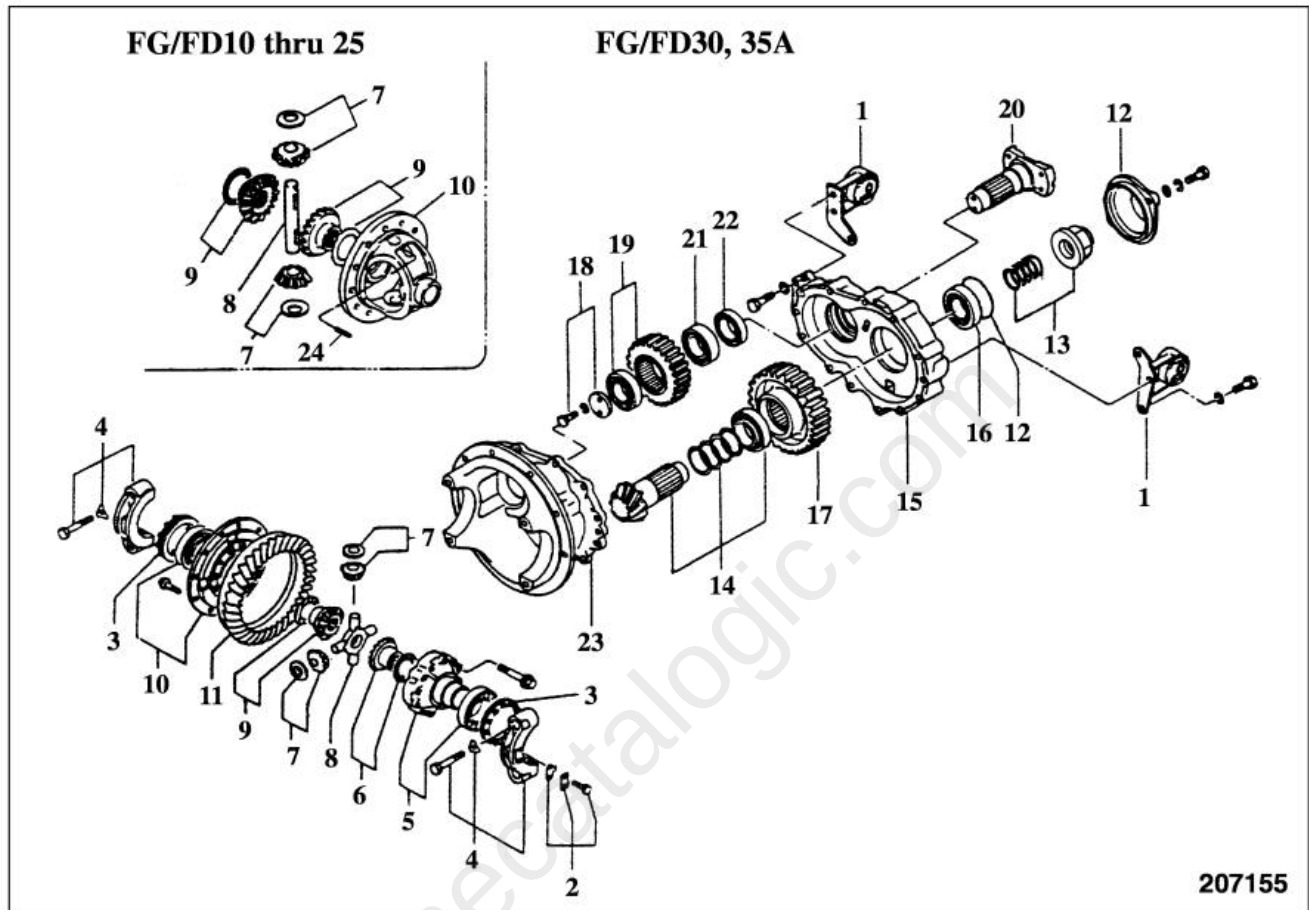
- NOTES:
- (5) *MARK IS FOR TORQUE-CONVERTER MODELS.
 - (4) ARRANGEMENT OF TERMINALS IN FIGURE OF CONNECTOR SHOWS MALE SIDE.
 - (3) CHAIN-LINE SHOWS OPTIONAL WIRING.
 - (2) UNLESS OTHERWISE SPECIFIED, WIRE DIAMETER SHALL BE AVS 0.5mm².
 - (1) THIS FIGURE SHOWS WIRING FOR DIESEL MODELS.

B : BLACK
W : WHITE
R : RED
G : GREEN
Y : YELLOW
Br : BROWN
L : BLUE
Lg : LIGHT GREEN
V : VIOLET

MHI			
Schematic No.	Used for	Truck Model	Serial No.
ES019-11400	99719-11400	FD10	F16C-00175-up
		FD15	F16C-51887-up
		FD18	F16C-70299-up
		FD20	F18B-07060-up
		FD25	F18B-59479-up
		FD30	F14C-35404-up
		FD35A	F14C-51069-up

Reduction Differential

Disassembly



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Sequence [3-ton models]

- | | |
|---|--|
| 1 Mount bracket assembly (right and left) | 12 Cover, O-ring |
| 2 Lock washer, Lock pawl, Bolt, Plate | 13 Lock nut, Shims |
| 3 (Adjusting) screw | 14 Reduction bevel pinion, Taper roller bearing (inner), Shims |
| 4 Bearing cap, Lock washer, Bolt | 15 Carrier cover |
| 5 Differential case (right), Taper roller bearing | 16 Taper roller bearing |
| 6 Differential gear, Thrust washer | 17 Driven gear |
| 7 Differential pinion, Thrust washer (not used in 1-ton models) | 18 Plate |
| 8 Differential spider | 19 Drive gear, Ball bearing |
| 9 Differential gear, Thrust washer | 20 Input flange |
| 10 Differential case (left), Tapered roller bearing | 21 Ball bearing |
| 11 Reduction bevel gear | 22 Oil seal |
| | 23 Differential carrier |
| | 24 Spring pin |

NOTE

For the disassembly sequence for 1, 2-ton models, see the next page.

Sequence

- | | |
|--------------------------------|---|
| 1 Tie rod bolts, Nuts | 22 Lift section |
| 2 End cover | 23 O-ring |
| 3 O-ring | 24 Spring, Poppet |
| 4 Main relief valve, O-ring | 25 Cap, Screw |
| 5 Connector, O-ring | 26 Spool |
| 6 Plug, O-ring | 27 Screw, O-ring, Seat, Spring |
| 7 Sleeve, Snap ring | 28 Plate, Wiper, O-ring |
| 8 Spool, Spring | 29 Tilt lock valve, Spring |
| 9 Plug | 30 Plate, Wiper, O-ring, Screw |
| 10 Housing, O-ring, Poppet | 31 Tilt section |
| 11 Spring | 32 O-ring |
| 12 Inlet section | 33 Spring, Poppet |
| 13 O-ring | 34 Cap, Screw |
| 14 Spring, Poppet | 35 Spool |
| 15 Cap, Screw | 36 Screw, Seat, Spring |
| 16 Spool | 37 Plate, Wiper, O-ring |
| 17 Screw, Seat, Spring | 38 Plate, Wiper, O-ring, Screw |
| 18 Plate, Wiper, O-ring | 39 Shutoff valve assembly (or Overload relief valve (option)) |
| 19 Plate, Wiper, O-ring, Screw | 40 Attachment section |
| 20 Plug, O-ring | |
| 21 Connector, O-ring | |

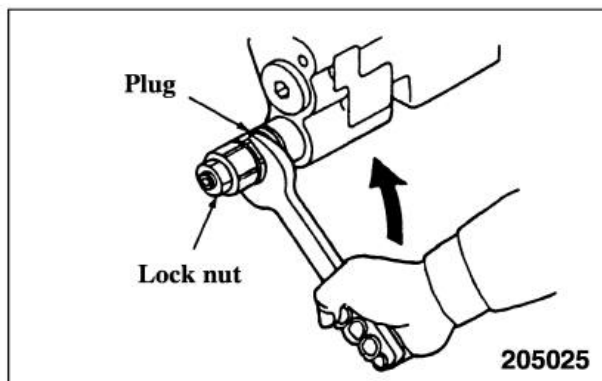
Suggestions

1. Main relief valve

Do not remove main relief valve 4 unless it is defective. This applies to overload relief valve 39 (option) of the attachment section.

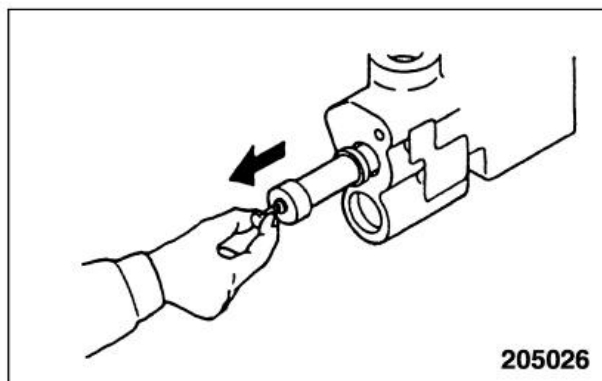
NOTE

To remove the main relief valve for cleaning or inspection, loosen its plug. Loosening the lock nut will disturb the pressure setting.

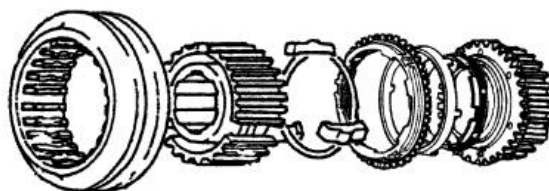


2. Inlet section

- (1) To remove connector 5, loosen plug 6 two or three full turns.
- (2) To remove spool 8, screw a bolt into the hole (M6 × 1) of the spool and pull out the spool squarely by gripping the bolt before removing sleeve 7.



F - R



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- (2) Check the coned surfaces for excessive wear or flaws. Also check the axial clearance between the gear and synchronizer ring.

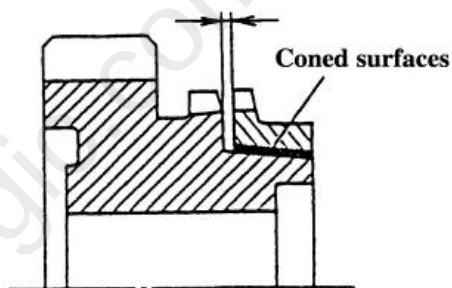
A-Assembly standard

B-Repair or service limit

Unit: mm (in.)

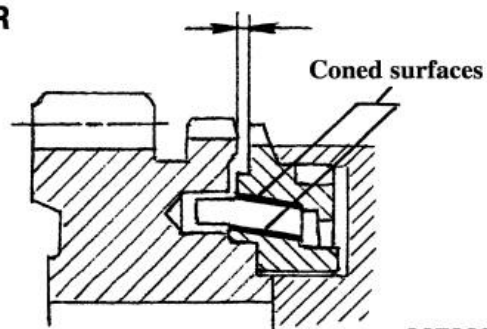
Axial clearance between gear and synchronizer ring	A	1.1 to 2.2 (0.043 to 0.087)
	B	0.2 (0.008) minimum

H - L



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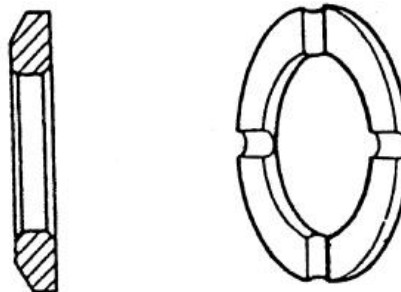
F - R



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Thrust washers

Check for excessive wear or other defects.



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Full Version Available

Mitsubishi FD20 Forklift Service Manual (99719-11400)

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