FORKLIFT

SERVICE MANUAL

100D, 120D, 135D, 160D-7

HYUNDAI

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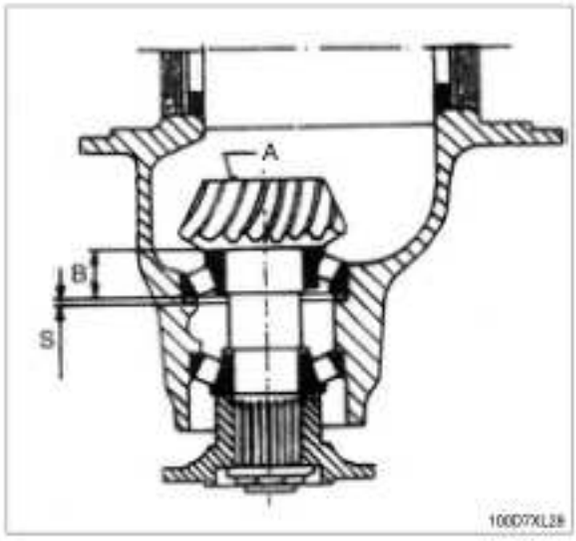
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Fault code (Hex)	Meaning of the fault code possible reason for fault detection	Reaction of the TCU	Possible steps to repair
B5	**Slippage at clutch KV** TCU calculates a differential speed at closed clutch KV. If this calculated value is out of range, TCU interprets this as slipping clutch - Low pressure at clutch KV - Low main pressure - Wrong signal at internal speed sensor - Wrong signal at turbine speed sensor - Wrong size of the sensor gap - Clutch is defective	TCU shifts to neutral OP mode : Limp home If failure at another clutch is pending TCU shifts to neutral OP mode : TCU shutdown	· Check pressure at clutch KV · Check main pressure in the system · Check sensor gap at internal speed sensor · Check sensor gap at turbine speed sensor · Check signal at internal speed sensor · Check signal at turbine speed sensor · Replace clutch
B6	**Slippage at clutch KR** TCU calculates a differential speed at closed clutch KR. If this calculated value is out of range, TCU interprets this as slipping clutch - Low pressure at clutch KR - Low main pressure - Wrong signal at internal speed sensor - Wrong signal at turbine speed sensor - Wrong size of the sensor gap - Clutch is defective	TCU shifts to neutral OP mode : Limp home If failure at another clutch is pending TCU shifts to neutral OP mode : TCU shutdown	· Check pressure at clutch KR · Check main pressure in the system · Check sensor gap at internal speed sensor · Check sensor gap at turbine speed sensor · Check signal at internal speed sensor · Check signal at turbine speed sensor · Replace clutch
B7	**Overtemp sump** TCU measured a temperature in the oil sump that is over the allowed threshold.	No reaction OP mode : Normal	· Cool down machine · Check oil level · Check temperature sensor
B8	**Overtemp retarder** TCU measured a temperature in the retarder oil that is over the allowed threshold	TCU disables retarder OP mode : Normal	· Cool down machine · Check oil level · Check temperature sensor
B9	**Overspend engine**	Retarder applies OP mode : Normal	-
BA	**Differential pressure oil filter** TCU measured a voltage at differential pressure switch out of the allowed range - Oil filter is polluted - Cable/connector is broken or cable/ connector is contacted to battery voltage or vehicle ground - Differential pressure switch is defective	No reaction OP mode : Normal	· Check oil filter · Check wiring from TCU to differential pressure switch · Check differential pressure switch(Measure resistance)

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(3) Adjustment drive pinion distance

To obtain the proper tooth flank contact, adjust the axial position of the drive pinion with the thickness of the adjustment disk.
The necessary thickness of the adjustment disk for first time assembly can be obtained by measurement(see calculation example).
The final thickness of the adjustment disk can be fixed during the checking of gear meshing at the assembled drive assembly(see page 3-123 "Adjustment of gear meshing of gleason gears")



- A = Set value for correct pinion support. This dimension is written on the end face of the pinion in millimeter. It indicates the deviation from the theoretic distance(setpoint dimension).
- B = Measured width of the taper roller bearing.

※ Calculation example to ascertain the thickness S from the adjustment disk :

A = + 0.10 ; B = 37.95

S = 3.00mm(theorem)

+ 0.05mm → B = 0.05mm smaller than B theorem.

= 3.05mm

- 0.10mm → Drive pinion value A

= **2.95mm** → Necessary thickness of the adjustment disk

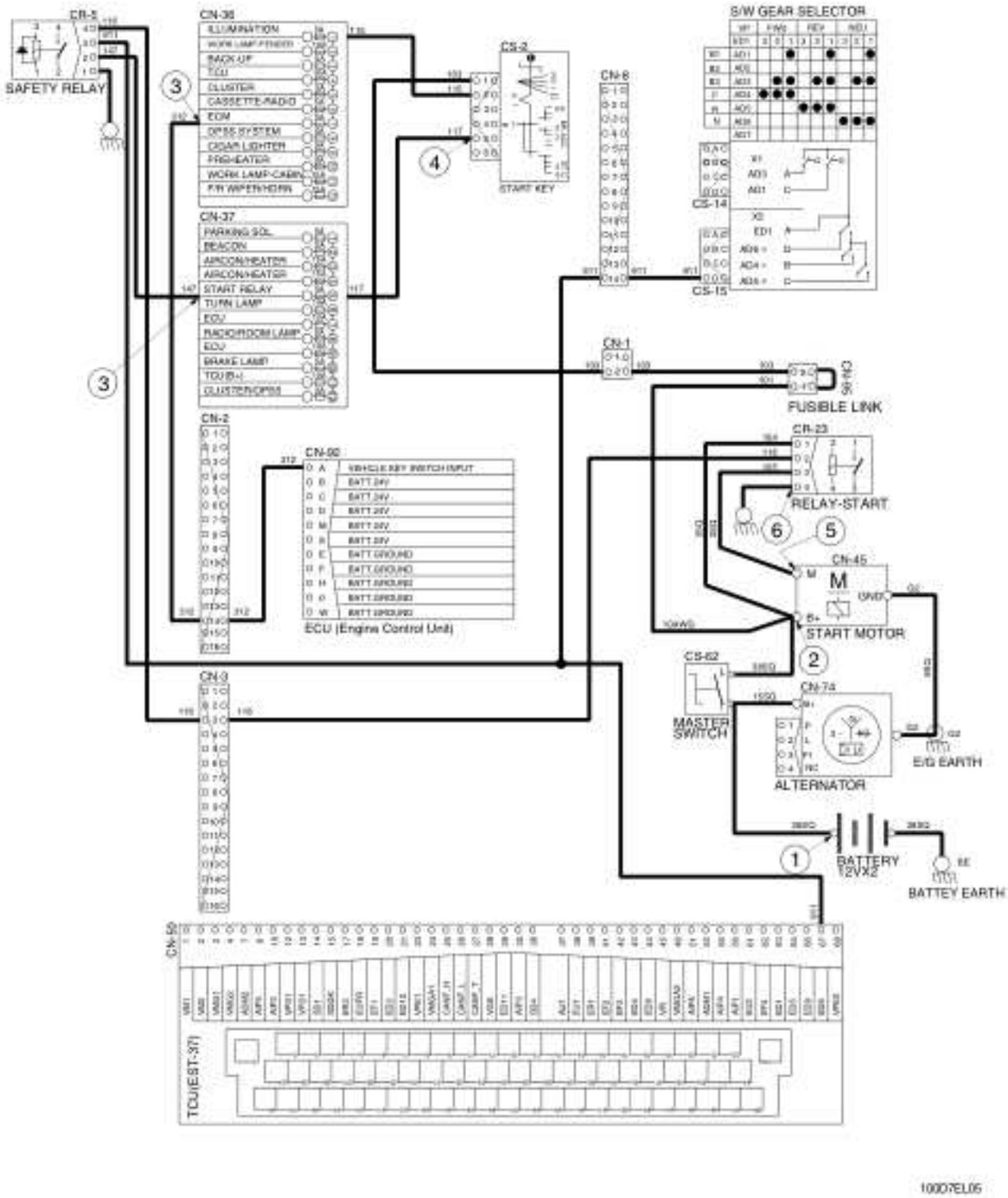
Fit corresponding disk and outer rings of the taper roller bearings.

※ If value A is positive(f.e. +0.1) the adjustment disk has to be 0.1mm thinner than theorem.
S. If value A is negative(f.e. -0.1) the adjustment disk has to be 0.1mm thicker than theorem S.

※ If measure B is positive(f.e. 38.05) the adjustment disk has to be 0.05mm thinner than theorem S.
If measure B is negative(f.e. 37.95) the adjustment disk has to be 0.05mm thicker than theorem S.

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STARTING CIRCUIT



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Locate new or repaired working section in right position according to the order of functions.

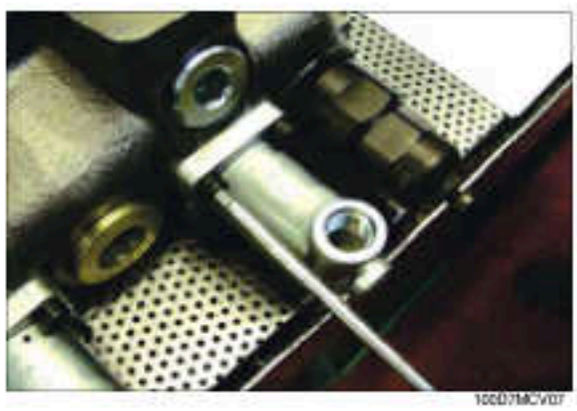


Tighten four nuts (M17) in a crisscross pattern with proper assembling torque of 4.3kgf · m(31lbf · ft).

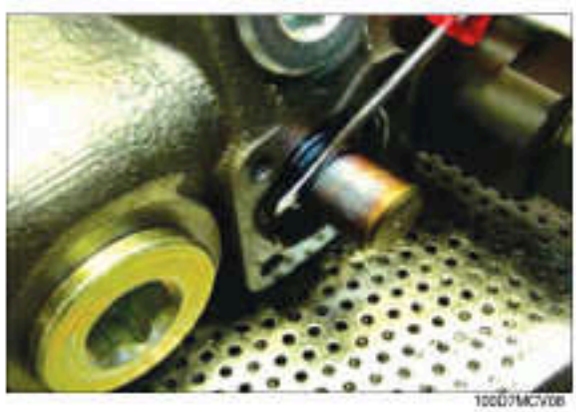


(2) **Replacing spool & control kit**

Loosen 4 screws holding aluminum kits to the body with 5mm wrench.

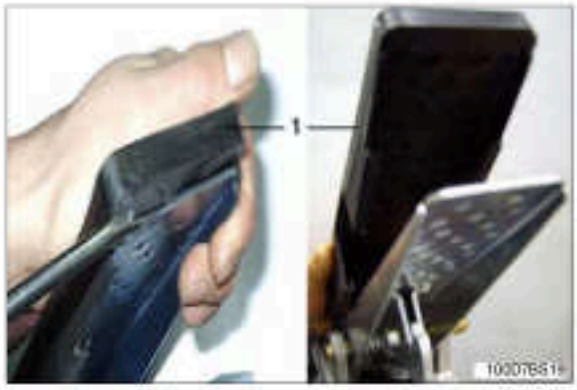


Take off all components and O-ring, valve inside, with attention not to give any damage to it.
Don't use anything with sharp edge.



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④ Rubber cover(1)



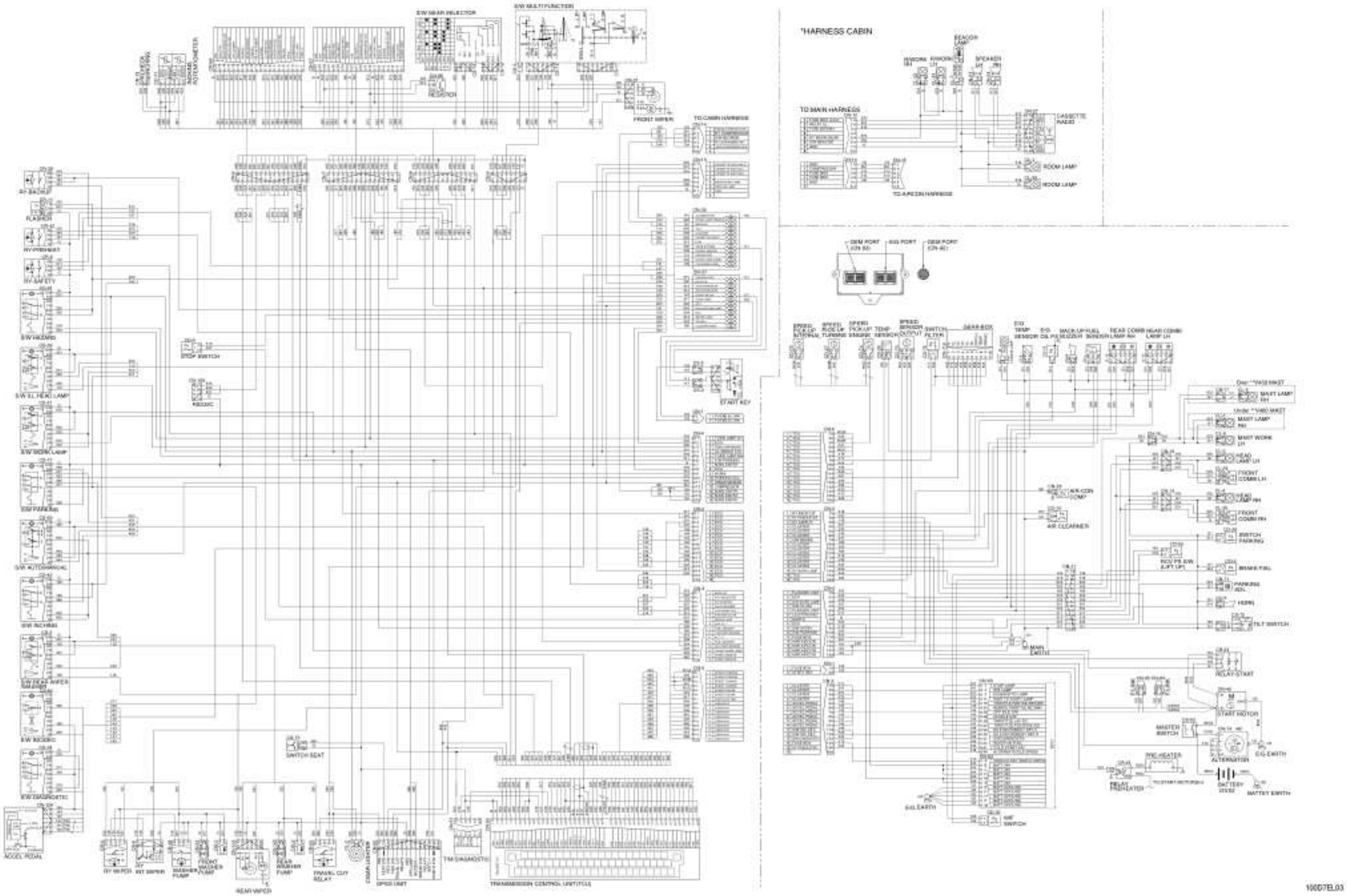


⑤ Hexagon bolt(5)
- Tool : 13mm spanner
- Tightening torque : 2.0kgf · m



⚠ **Never remove the hexagon bolt.**
(Pressure setting valve deviation occurs)

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