

SECTION 1 GENERAL

Group 1 Safety Hints	1-1
Group 2 Specifications	1-10
Group 3 Operational Checkout Record Sheet	1-25

CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL

- Thank you very much for reading the preview of the manual.
- You can download the complete manual from: www.heydownloads.com by clicking the link below

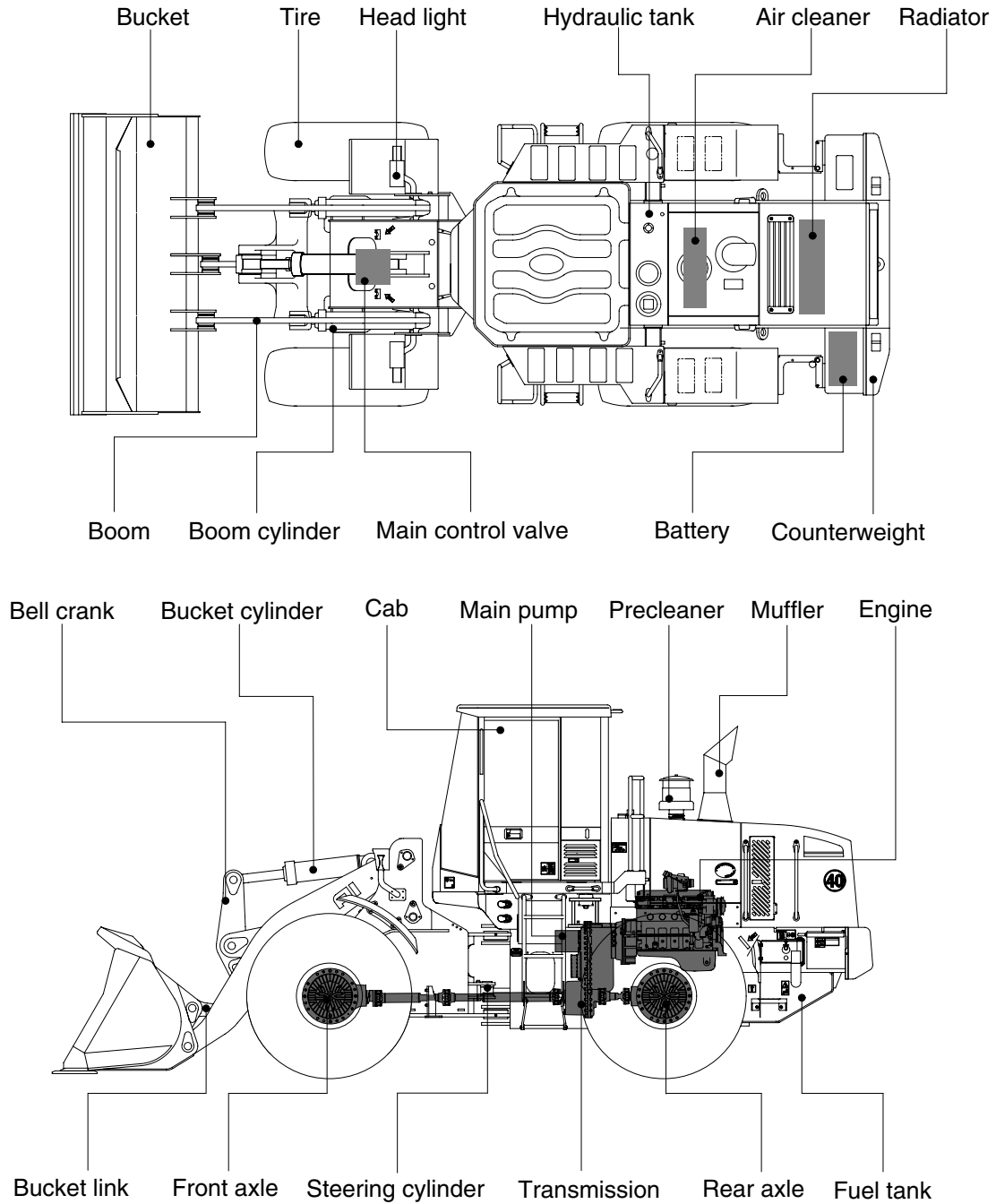


- Please note: If there is no response to CLICKING the link, please download this PDF first and then click on it.

CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL

GROUP 2 SPECIFICATION

1. MAJOR COMPONENT(HL757-7A, HL757XTD-7A)



7577A2SE01

6) CYLINDER

Item		Specification
Boom cylinder	Bore dia × Rod dia × Stroke	∅ 140 × ∅ 75 × 750mm
Bucket cylinder	Bore dia × Rod dia × Stroke	∅ 160 × ∅ 80 × 475mm
*Bucket cylinder	Bore dia × Rod dia × Stroke	∅ 120 × ∅ 65 × 775mm
Steering cylinder	Bore dia × Rod dia × Stroke	∅ 70 × ∅ 45 × 436mm
*Quick coupler cylinder	Bore dia × Rod dia × Stroke	∅ 50 × ∅ 25 × 105mm

*HL757TM-7A

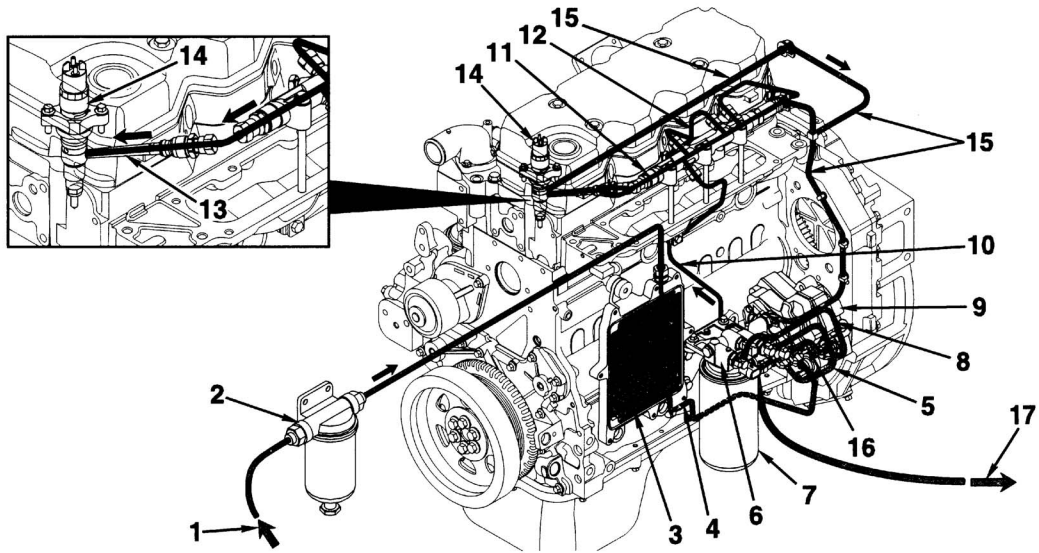
7) DYNAMIC POWER TRANSMISSION DEVICES

Item		Specification	
Transmission	Model	4WG190	
	Type	Converter	Single-stage, single-phase
		Transmission	Full-automatic power shift
	Gear shift	Forward fourth gear, reverse third gear	
	Adjustment	Electrical single lever type, kick-down system	
Axle	Drive devices	4-wheel drive	
	Front	Front fixed location	
	Rear	Oscillation $\pm 13^\circ$ of center pin-loaded	
Wheels	Tires	20.5-25, 16PR(L3)	
Brakes	Travel	Four-wheel, wet-disc type, full hydraulic	
	Parking	Spring applied, hydraulic released brake on transmission	
Steering	Type	Full hydraulic, articulated	
	Steering angle	40° to both right and left angle, respectively	

2. SYSTEM DIAGRAMS

The following drawings show the flow through the engine systems.

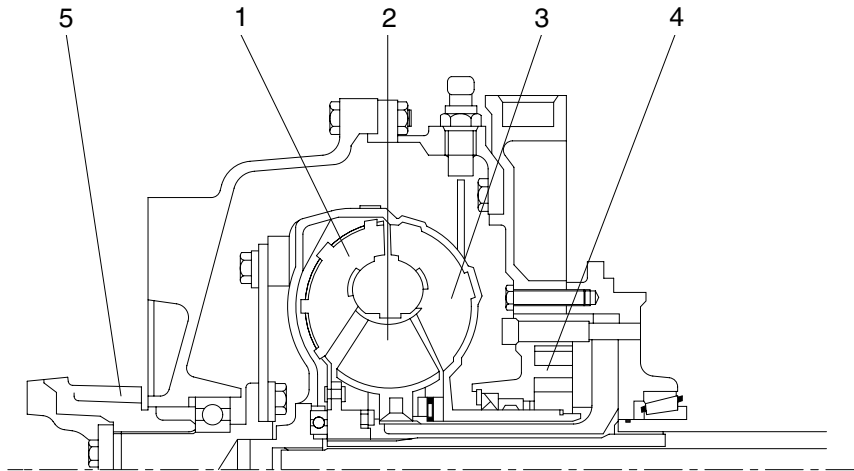
1) FUEL SYSTEM



7607AEG02

- | | | | |
|----|---|----|--|
| 1 | From fuel tank | 11 | Fuel rail |
| 2 | Water/fuel separator(not mounted on engine) | 12 | To injectors |
| 3 | ECM cooling plate | 13 | High-pressure connector |
| 4 | To fuel gear pump | 14 | Injector |
| 5 | To fuel filter | 15 | Fuel return from injectors and fuel rail to fuel filter head |
| 6 | Fuel filter head | 16 | Fuel return from high-pressure pump to fuel filter head |
| 7 | Fuel filter | 17 | To fuel tank |
| 8 | To high-pressure pump | | |
| 9 | High-pressure pump | | |
| 10 | To fuel rail | | |

2. TORQUE CONVERTER



73033TM00

- | | | | | | |
|---|---------|---|-------------------|---|--------------|
| 1 | Turbine | 3 | Pump | 5 | Input flange |
| 2 | Stator | 4 | Transmission pump | | |

The converter is working according to the Trilok-system, i.e. it assumes at high turbine speed the characteristics, and with it the favorable efficiency of a fluid clutch.

The converter is designed according to the engine power so that the most favorable operating conditions are obtained for each installation case.

The Torque converter is composed of 3 main components :
Pump wheel - turbine wheel - stator(Reaction member)

These 3 impeller wheels are arranged in such a ring-shape system that the fluid is streaming through the circuit components in the indicated order.

Pressure oil from the transmission pump is constantly streaming through the converter. In this way, the converter can fulfill its task to multiply the torque of the engine and at the same time, the heat created in the converter is dissipated via the escaping oil.

The oil which is streaming out of the pump wheel, enters the turbine wheel and is there inversed in the direction of flow.

According to the rate of reversion, the turbine wheel and with it also the output shaft is receiving a more or less high reaction torque. The stator(Reaction member), following the turbine, has the task to reverse the oil streaming out of the turbine once more and to deliver it under the suitable discharge direction to the pump wheel.

Due to the reversion, the stator receiving a reaction torque.

The relation turbine torque/pump torque is called torque multiplication. This is the higher, the greater the speed difference of pump wheel and turbine wheel will be.

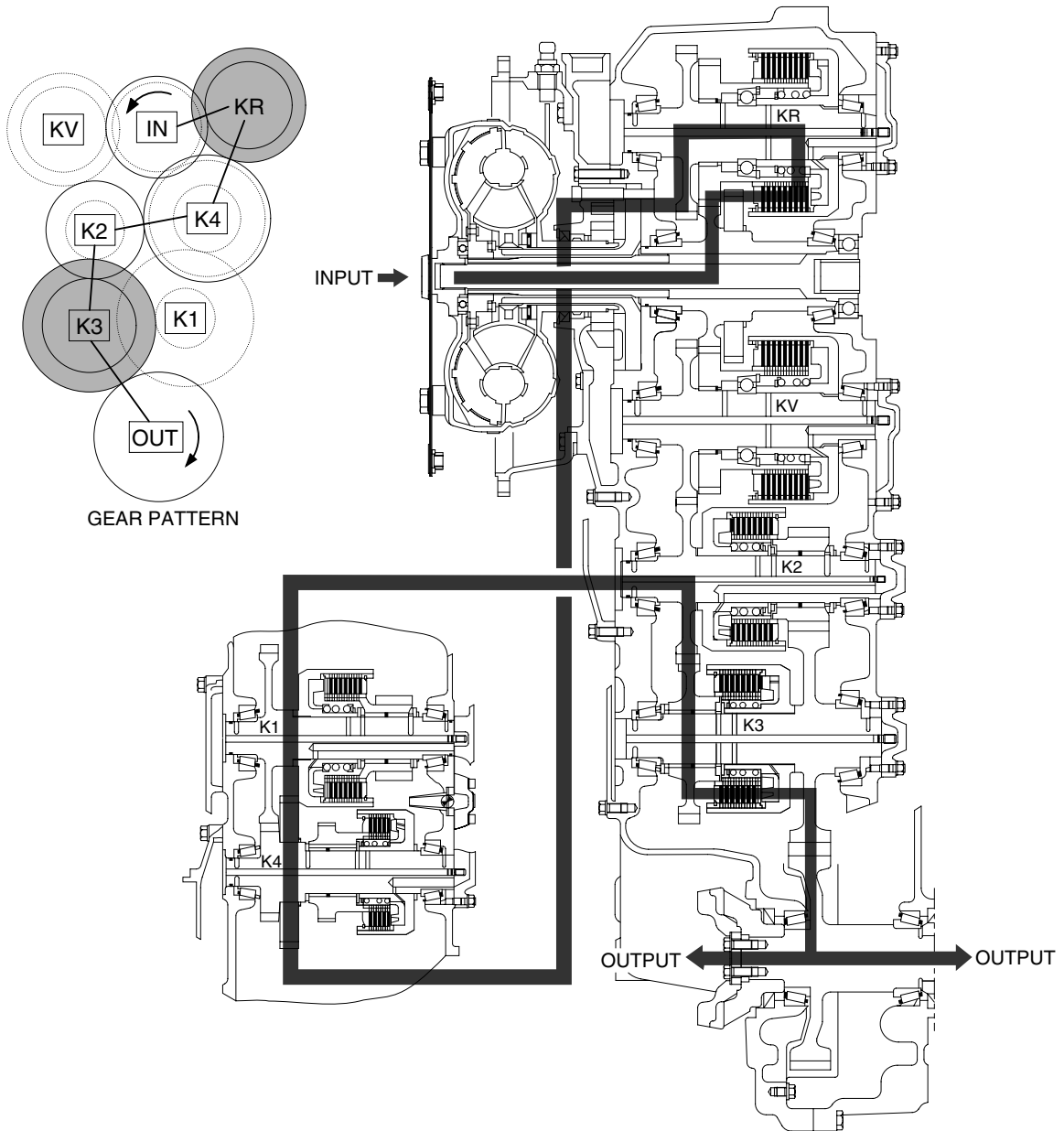
Therefore, the maximum torque multiplication is created at stationary turbine wheel.

With increasing output speed, the torque multiplication is decreasing. The adaption of the output speed to a certain required output torque will be infinitely variable and automatically achieved by the torque converter.

③ Reverse 3rd

In 3rd reverse, reverse clutch(KR) and 3rd clutch(K3) are engaged.

Reverse clutch and 3rd clutch are actuated by the hydraulic pressure applied to the clutch piston.



7577APT10 R3

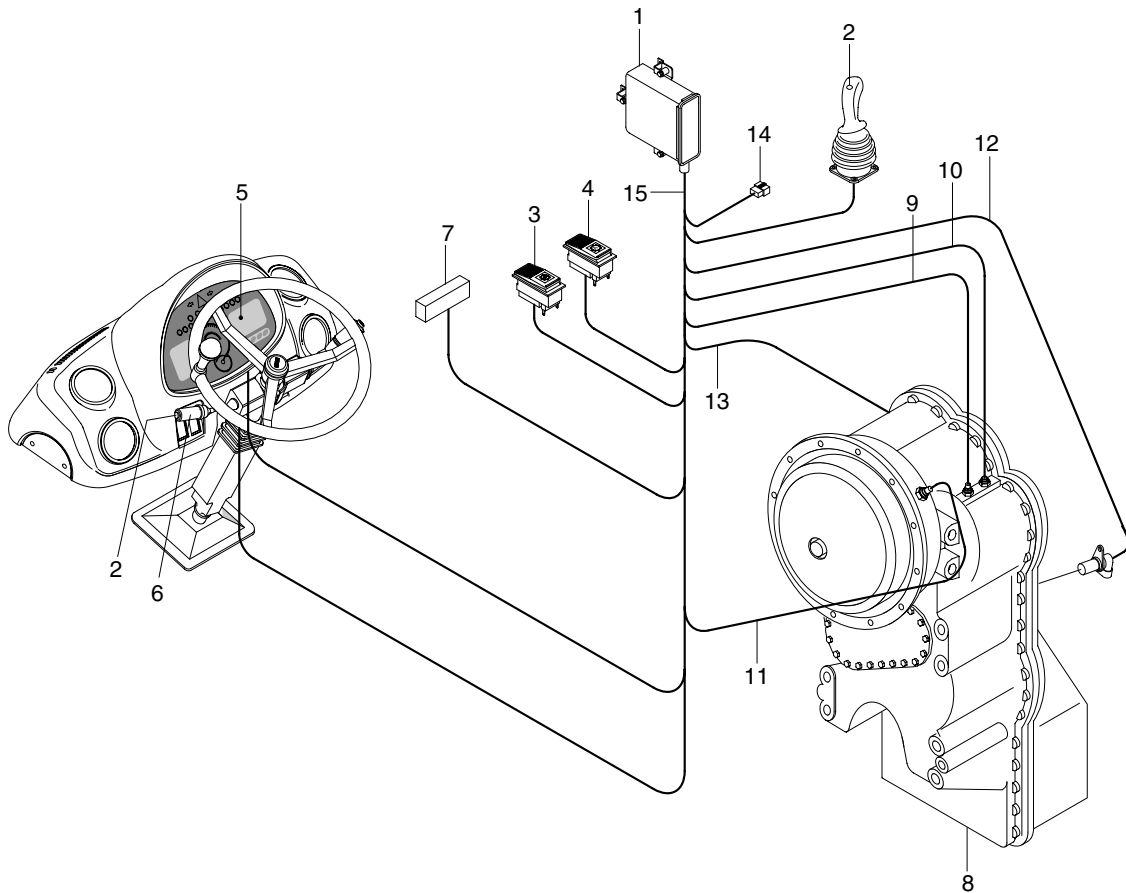
Fault code No.	Reason	Effect (only when fault code is active)
145	Engine Coolant Temperature 1 Sensor Circuit - Voltage Below Normal, or Shorted to Low Source. Low signal voltage detected at engine coolant temperature circuit.	Possible white smoke. Fan will stay ON if controlled by ECM. No engine protection for engine coolant temperature.
146	Engine Coolant Temperature - Data Valid but Above Normal Operational Range - Moderately Severe Level. Engine coolant temperature signal indicates engine coolant temperature is above engine protection warning limit.	Progressive power derate increasing in severity from time of alert.
147	Accelerator Pedal or Lever Position 1 Sensor Circuit Frequency - Data Valid but Below Normal Operational Range - Most Severe Level. A frequency of less than 100 Hz has been detected at the frequency throttle input to the ECM.	Severe derate in power output of the engine. Limp home power only.
148	Accelerator Pedal or Lever Position Sensor 1 - Data Valid but Above Normal Operational Range - Most Severe Level. A frequency of more than 1500 Hz has been detected at the frequency throttle input to the ECM.	Severe derate in power output of the engine. Limp home power only.
151	Engine Coolant Temperature - Data Valid but Above Normal Operational Range - Most Severe Level. Engine coolant temperature signal indicates engine coolant temperature above engine protection critical limit.	Progressive power derate increasing in severity from time of alert. If Engine Protection Shutdown feature is enabled, engine will shut down 30 seconds after Red Stop Lamp starts flashing.
153	Intake Manifold 1 Temperature Sensor Circuit - Voltage Above Normal, or Shorted to High Source. High signal voltage detected at intake manifold air temperature circuit.	Possible white smoke. Fan will stay ON if controlled by ECM. No engine protection for intake manifold air temperature.
154	Intake Manifold 1 Temperature Sensor Circuit - Voltage Below Normal, or Shorted to Low Source. Low signal voltage detected at intake manifold air temperature circuit.	Possible white smoke. Fan will stay ON if controlled by ECM. No engine protection for intake manifold air temperature.
155	Intake Manifold 1 Temperature - Data Valid but Above Normal Operational Range - Most Severe Level. Intake manifold air temperature signal indicates intake manifold air temperature above engine protection critical limit.	Progressive power derate increasing in severity from time of alert. If Engine Protection Shutdown feature is enabled, engine will shut down 30 seconds after Red Stop Lamp starts flashing.
187	Sensor Supply 2 Circuit - Voltage Below Normal, or Shorted to Low Source. Low voltage detected at the sensor supply number 2 circuit.	Engine power derate.
195	Coolant Level Sensor 1 Circuit - Voltage Above Normal, or Shorted to High Source. High signal voltage detected at engine coolant level circuit.	None on performance.
196	Coolant Level Sensor 1 Circuit - Voltage Below Normal, or Shorted to Low Source. Low signal voltage detected at engine coolant level circuit.	None on performance.
197	Coolant Level - Data Valid but Below Normal Operational Range - Moderately Severe Level. Low coolant level has been detected.	None on performance.
221	Barometric Pressure Sensor Circuit - Voltage Above Normal, or Shorted to High Source. High signal voltage detected at barometric pressure circuit.	Engine power derate.

Fault code (Hex)	Meaning of the fault code possible reason for fault detection	Reaction of the TCU	Possible steps to repair
23	<p>S.C. to battery voltage at load sensor input</p> <p>The measured voltage is too high:</p> <ul style="list-style-type: none"> · Cable is defective and is contacted to battery voltage · Load sensor has an internal defect · Connector pin is contacted to battery voltage 	<p>Retarder function is affected TCU uses default load</p> <p>OP mode : Normal</p>	<ul style="list-style-type: none"> · Check the cable from TCU to the sensor · Check the connectors · Check the load sensor · Check the assembly tolerances of load sensor <p>※ Availability of retarder depends on default load</p>
24	<p>S.C. to ground or O.C. at load sensor input</p> <p>The measured voltage is too low:</p> <ul style="list-style-type: none"> · Cable is defective and is contacted to vehicle ground · Cable has no connection to TCU · Load sensor has an internal defect · Connector pin is contacted to vehicle ground or is broken 	<p>Retarder function is affected TCU use default load</p> <p>OP mode : Normal</p>	<ul style="list-style-type: none"> · Check the cable from TCU to the sensor · Check the connectors · Check the load sensor · Check the assembly tolerances of load sensor <p>※ Availability of retarder depends on default load</p>
25	<p>S.C. to battery voltage or O.C. at transmission sump temperature sensor input</p> <p>The measured voltage is too high:</p> <ul style="list-style-type: none"> · Cable is defective and is contacted to battery voltage · Cable has no connection to TCU · Temperature sensor has an internal defect · Connector pin is contacted to battery voltage or is broken 	<p>No reaction, TCU use default temperature</p> <p>OP mode : Normal</p>	<ul style="list-style-type: none"> · Check the cable from TCU to the sensor · Check the connectors · Check the temperature sensor
26	<p>S.C. to battery voltage or O.C. at transmission sump temperature sensor input</p> <p>The measured voltage is too low:</p> <ul style="list-style-type: none"> · Cable is defective and is contacted to vehicle ground · Temperature sensor has an internal defect · Connector pin is contacted to vehicle ground 	<p>No reaction, TCU uses default temperature</p> <p>OP mode : Normal</p>	<ul style="list-style-type: none"> · Check the cable from TCU to the sensor · Check the connectors · Check the temperature sensor
27	<p>S.C. to battery voltage or O.C. at retarder temperature sensor input</p> <p>The measured voltage is too high:</p> <ul style="list-style-type: none"> · Cable is defective and is contacted to battery voltage · Cable has no connection to TCU · Temperature sensor has an internal defect · Connector pin is contacted to battery voltage or is broken 	<p>No reaction, TCU uses default temperature</p> <p>OP mode : Normal</p>	<ul style="list-style-type: none"> · Check the cable from TCU to the sensor · Check the connectors · Check the temperature sensor

Fault code (Hex)	Meaning of the fault code possible reason for fault detection	Reaction of the TCU	Possible steps to repair
9C	<p>S.C. to battery voltage at converter lock up clutch solenoid TCU detected a wrong voltage at the output pin, that looks like a S.C. to battery voltage</p> <ul style="list-style-type: none"> · Cable is defective and has no contacted to battery voltage · Converter clutch solenoid has an internal defect · Connector pin is contacted to battery voltage 	<p>No reaction OP mode : Normal</p>	<ul style="list-style-type: none"> · Check the cable from TCU to the converter clutch solenoid · Check the connectors from converter clutch solenoid to TCU · Check the resistance* of converter clutch solenoid <p>* See page 3-52</p>
9D	<p>S.C. to ground at retarder solenoid TCU detected a wrong voltage at the output pin, that looks like a S.C. to vehicle ground</p> <ul style="list-style-type: none"> · Cable is defective and is contacted to vehicle ground · Retarder solenoid has an internal defect · Connector pin is contacted to vehicle ground 	<p>No reaction OP mode : Normal</p>	<ul style="list-style-type: none"> · Check the cable from TCU to the retarder solenoid · Check the connectors from retarder solenoid to TCU · Check the resistance* of retarder solenoid <p>* See page 3-52</p>
9E	<p>O.C. at retarder solenoid TCU detected a wrong voltage at the output pin, that looks like a O.C. for this output pin</p> <ul style="list-style-type: none"> · Cable is defective and has no connection to TCU · Retarder solenoid has an internal defect · Connector has no connection to TCU 	<p>No reaction OP mode : Normal</p>	<ul style="list-style-type: none"> · Check the cable from TCU to the retarder solenoid · Check the connectors from retarder solenoid to TCU · Check the resistance* of retarder solenoid <p>* See page 3-52</p>
9F	<p>S.C. to battery voltage at retarder solenoid TCU detected a wrong voltage at the output pin, that looks like a S.C. to battery voltage</p> <ul style="list-style-type: none"> · Cable is defective and has no connection to battery voltage · Retarder solenoid has an internal defect · Connector pin is contacted to battery voltage 	<p>No reaction OP mode : Normal</p>	<ul style="list-style-type: none"> · Check the cable from TCU to the retarder solenoid · Check the connectors from retarder solenoid to TCU · Check the resistance* of retarder solenoid <p>* See page 3-52</p>

7) ELECTRIC CONTROL UNIT

(1) Complete system



7607APT11

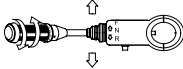
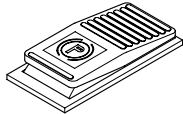
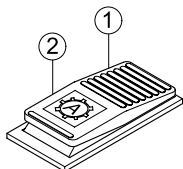
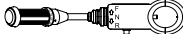
- 1 Transmission control unit(EST-37A)
- 2 Kickdown switch
- 3 Clutch cut off switch
- 4 Full automatic switch
- 5 LCD
- 6 Gear selector(DW-3) with integrated kickdown switch
- 7 Power supply connection
- 8 Transmission
- 9 Cable to inductive transmitter - speed central gear train
- 10 Cable to inductive transmitter - speed turbine
- 11 Cable to inductive transmitter - speed engine
- 12 Cable to speed sensor output and speedometer
- 13 Cable to plug connection on the electro - hydraulic control unit
- 14 CAN-Connection
- 15 Wiring

(2) Description of the basic functions

The powershift transmissions is equipped is electronic transmission control unit(EST-37A), developed for it.

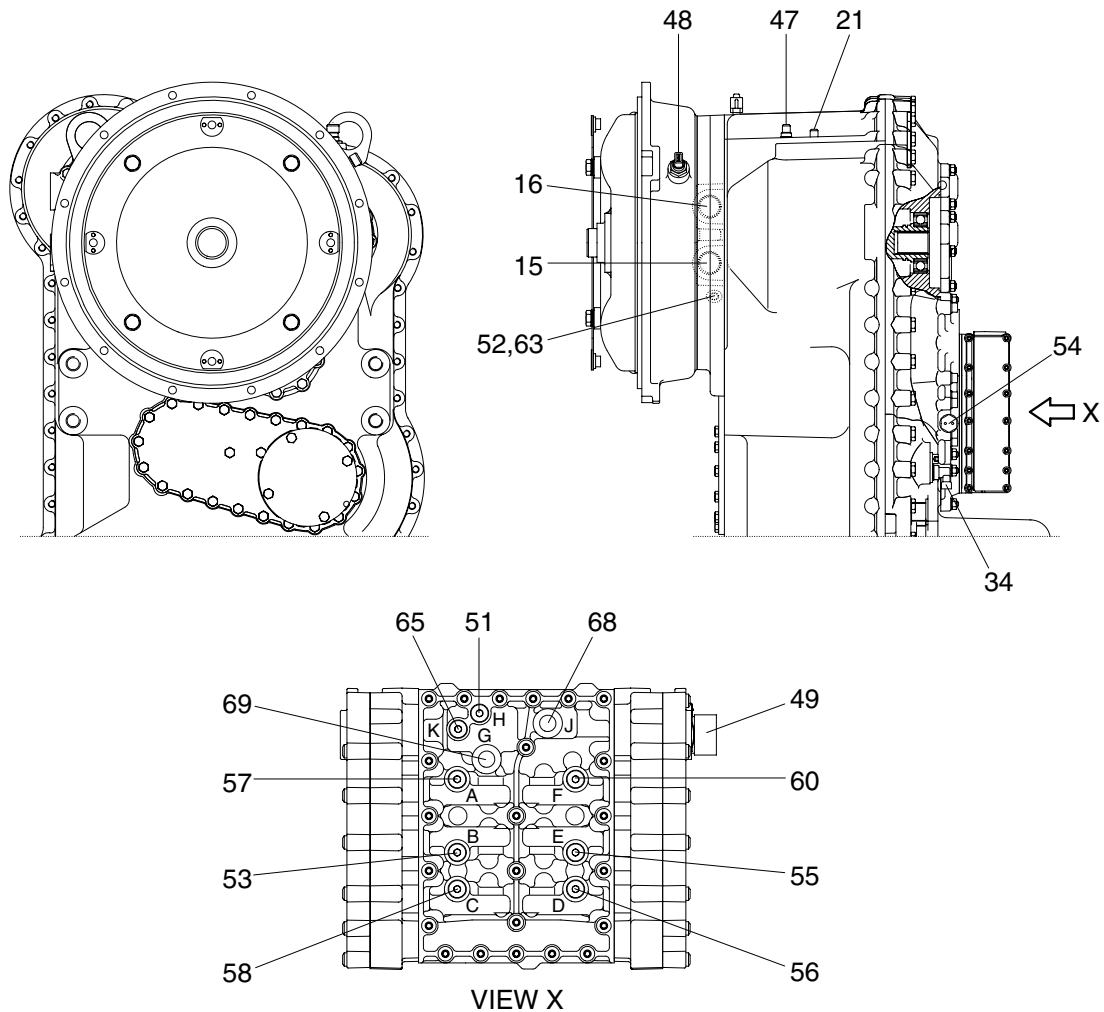
The system is processing the desire of the driver according to the following criteria.

- Gear determination depending on controller position, driving speed and load condition.

Item	Description	Service action
<p>Transmission noise check Engine running.</p>	 <p>Run engine at approximately 1600rpm.</p> <p>Drive unit with transmission in each forward and reverse speed.</p> <p>LISTEN : Transmission must not make excessive noise in any range.</p> <p>Engine rpm must not "lug down" as unit is shifted between gears.</p>	<p>OK Check completed.</p> <p>NOT OK Go to transmission makes excessive noise, chapter 2 in this group.</p>
<p>Transmission "quick shift" check Engine running.</p>	   <p>Release parking brake and select full automatic switch to manual mode①.</p> <p>Shift to 2nd forward.</p> <p>Drive machine at approximately 5km/h and press gear selector lever kick down switch or RCV levers switch once.</p> <p>LOOK/FEEL : Transmission must shift to and remain in 1st gear.</p> <p>Press gear selector lever kick down switch once.</p> <p>LOOK/FEEL : Transmission must shift back to 2nd gear.</p> <p>Shift to (3rd or 4th) gear and press gear selector lever kick down switch once.</p> <p>LOOK/FEEL : Transmission must not shift down.</p> <p>Select full automatic switch to automatic mode②.</p> <p>Drive machine at approximately 90% speed of max speed in each gear(2nd or 3rd or 4th).</p> <p>Shift to(2nd or 3rd or 4th) gear in each forward and reverse speed and press gear selector kick down lever switch or RCV lever switch once.</p> <p>LOOK/FEEL : It shift down quickly from current gear to one step lower speed and recover to original speed quickly when push the switch one more time.(Mode 1)</p>	<p>OK Check completed.</p> <p>NOT OK Check connector at base of control valve.</p> <p>IF OK Go to transmission controller circuit in group 1.</p>

2. TRANSMISSION MEASURING POINTS AND CONNECTIONS

The measurements have to be carried out at hot transmission (About 80-95° C).



7607APT14

1) OIL PRESSURE AND TEMPERATURE

Port	Description		Size
51	Converter inlet-opening pressure(11+2bar)	H	M10×1.0
52	Converter outlet-opening pressure(4.3+3bar)		M14×1.5
53	Forward clutch(16+2bar)	KV B	M10×1.0
55	Reverse clutch(16+2bar)	KR E	M10×1.0
56	1st clutch(16+2bar)	K1 D	M10×1.0
57	2nd clutch(16+2bar)	K2 A	M10×1.0
58	3rd clutch(16+2bar)	K3 C	M10×1.0
60	4th clutch(16+2bar)	K4 F	M10×1.0
63	Converter outlet temperature 100°C, short-time 120°C		M14×1.5
65	System pressure(16+2bar)	K	M10×1.0

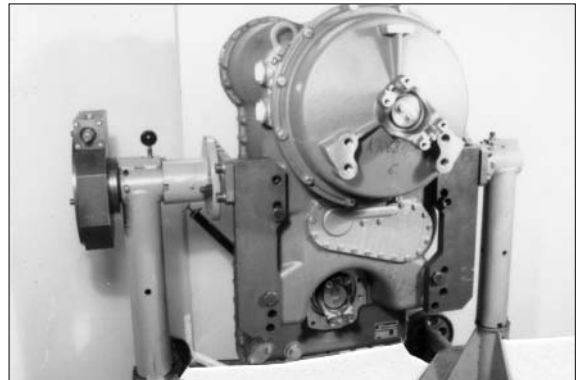
2. POWERSHIFT TRANSMISSION

Fasten transmission of the assembly car.

Assembly car 5870 350 000

Strips 5870 350 063

Support 5870 350 090



75773TM050

1) DISASSEMBLY

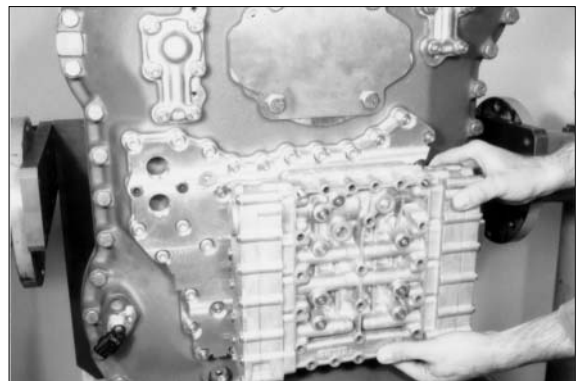
(1) Separate hydraulic control unit and duct plate from gearbox housing

- ① Loosen two socket head screws and install adjusting screws.

Now, loosen remaining socket head screws and separate valve housing from duct plate.

Adjusting screws(M6) 5870 204 063

Box spanner 5873 042 002



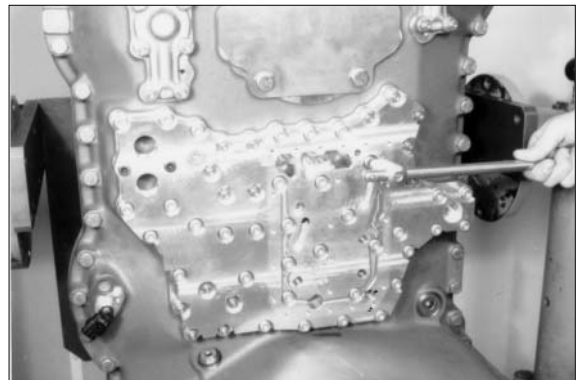
75773TM051

- ② Remove both gaskets and intermediate plate.

Loosen socket head screws as well as hexagon nuts and separate duct plate from gearbox housing.

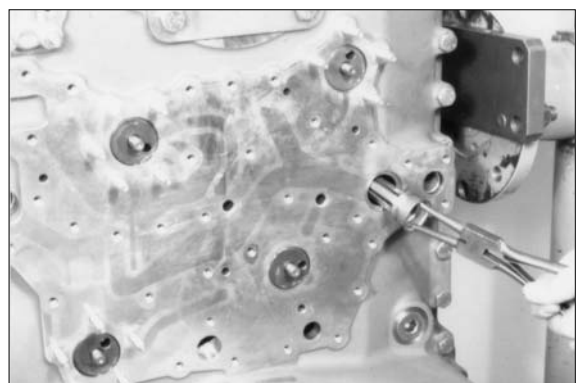
Now, remove gasket.

Box spanner 5873 042 004



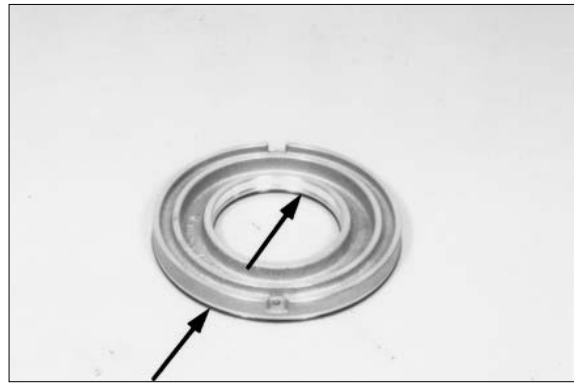
75773TM052

- ③ Pull converter safety valve out of the housing bore.



75773TM053

⑧ Remove both O-rings(Arrows).



75773TM102

⑨ Lift idler gear a bit by means of pry bar.



75773TM103

⑩ Apply puller and separate idler gear from the clutch shaft.

Pry bar 5870 345 065
Puller 5870 971 003



75773TM104

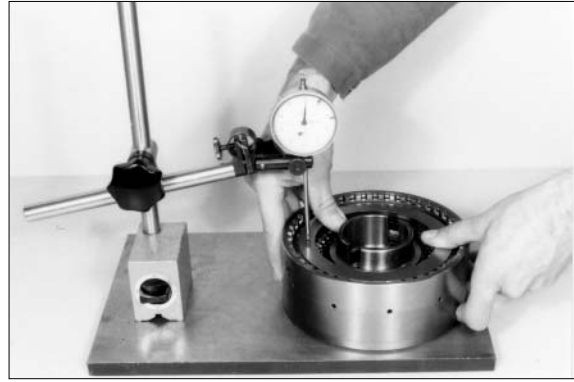
⑪ Squeeze circlip out and remove ball bearing.

※ The disassembly of clutch KR has to be carried out accordingly.



75773TM105

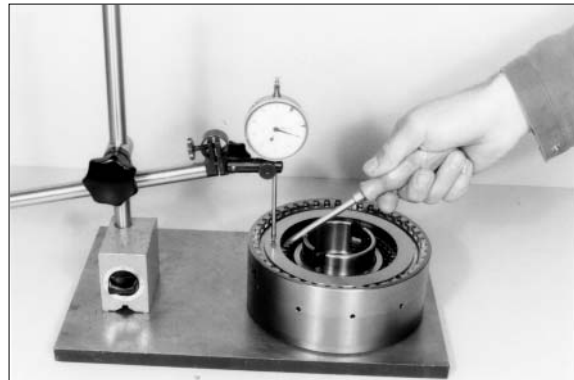
- ⑧ Press on end shim with about 100N (10kg), apply dial indicator and set it at zero.



75773TM157

- ⑨ Now, push the end shim by means of screw driver against snap ring until contact is obtained(Upward) and read plate clearance on the dial indicator.

- ※ In case of a deviation from the required plate clearance, correct with corresponding snap ring(s=2.1~4.2mm). After the adjustment of the plate clearance has been carried out, remove the plate pack, oil plates and install it again.



75773TM158

- ※ Use oil SAE 10W-30/15W-40.

Magnetic stand 5870 200 055
Dial indicator 5870 200 057

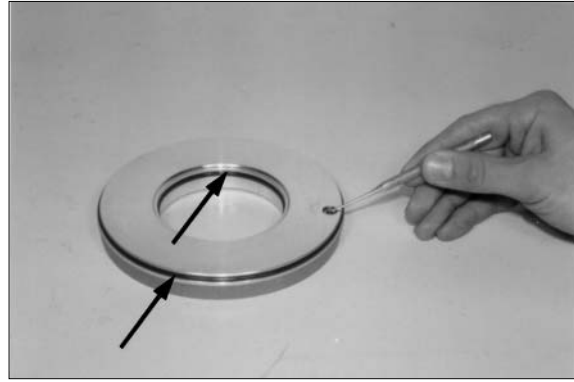
- ⑩ Introduce idler gear until all inner plates are accommodated.

- ※ This step makes the later assembly of the idler gear easier.
Now, remove the idler gear again.



75773TM159

- ④ Check function of the purge valve.
※ Ball must not stick, if necessary clean with compressed air.
Insert both O-ring(Arrow) scrollfree into the grooves of the piston and oil them.



75773TM203

- ⑤ Introduce piston until contact is obtained.
※ Pay attention to the installation position, see figure.



75773TM204

- ⑥ Install cup-spring pack and guide ring.
※ Pay attention to the stacking of the cup springs, see draft, page 3-114.



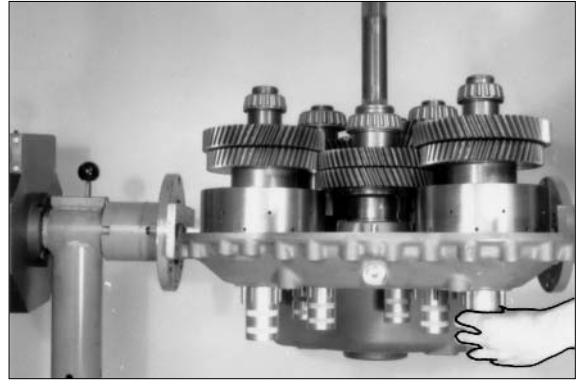
75773TM205

- ⑦ Preload cup-spring pack and fix it by means of snap ring.
Assembly aid 5870 345 088



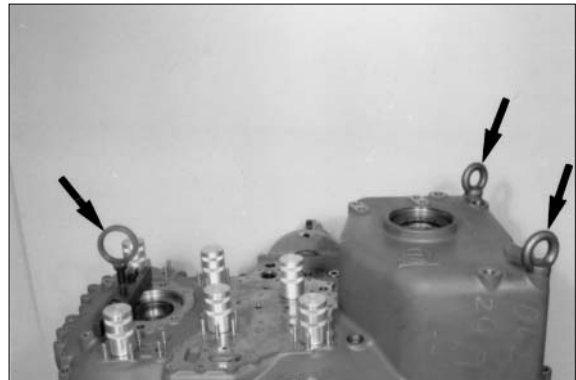
75773TM206

- ⑧ Fix all clutches by means of handles.
 Handle(6 pieces needed) 5870 260 010



75773TM242

- ⑨ Tilt housing cover 180°.
 Install eye bolts(Arrows).
 Eye bolt(M20, 2EA) 0636 804 003
 Eye bolt(M16, 1EA) 0636 804 001
 Puller device 5870 000 017



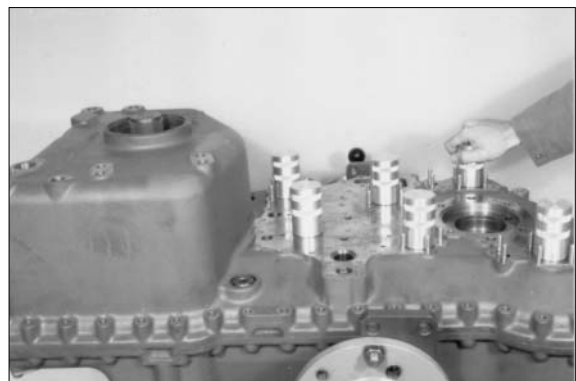
75773TM243

- ⑩ Grease O-rings of the two oil tubes.
 Wet mounting face with sealing compound loctite(Type No.574).
 Position preassembled housing cover by means of lifting device carefully on the gearbox housing until contact is obtained.
 ※ Pay attention to the overlapping of the oil tubes with the bores in the housing cover.
 Lifting chain 5870 281 047



75773TM244

- ⑪ Remove handles again.

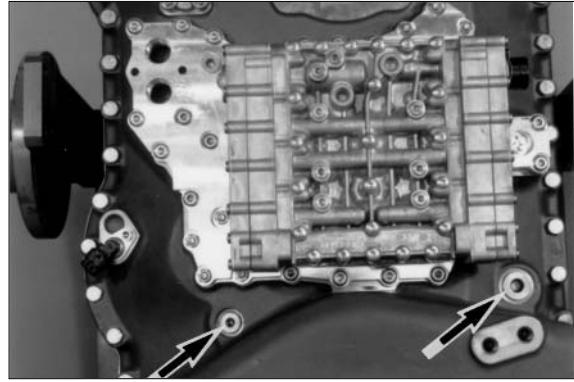


75773TM245

(15) Install plugs and oil level tube

① Equip both plugs(Arrows) with new O-rings and install them.

- Torque limit(M18 × 1.5) : 5.1kgf · m
(36.9lbf · ft)
- Torque limit(M26 × 1.5) : 8.2kgf · m
(59.0lbf · ft)

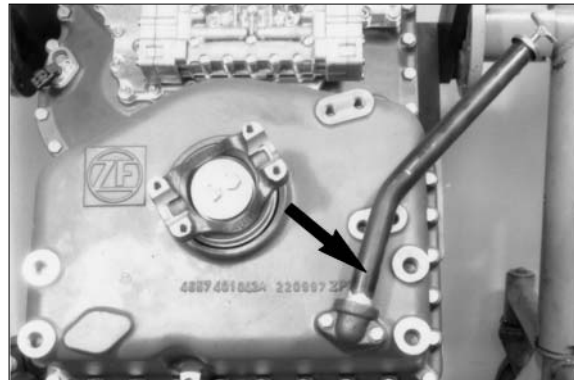


75773TM284

② Install oil level tube(Arrow).

※ Mount new gasket.

- Torque limit(M8/10.9) : 3.5kgf · m
(25.1lbf · ft)



75773TM285

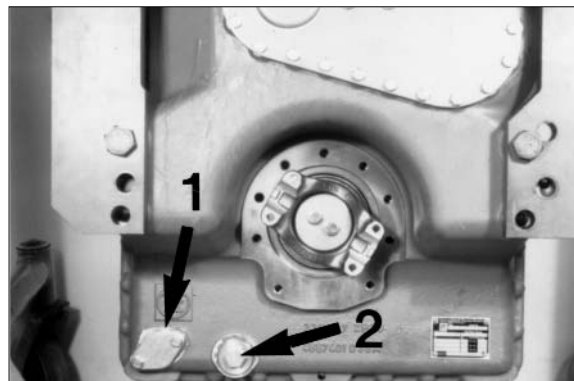
③ Install cover plate(Arrow 1).

※ Install new gasket.

- Torque limit(M8/8.8) : 2.3kgf · m
(17.0lbf · ft)

Equip screw plug(Arrow 2) with new O-ring and install it.

- Torque limit(M38 × 1.5) : 14.3kgf · m
(103lbf · ft)



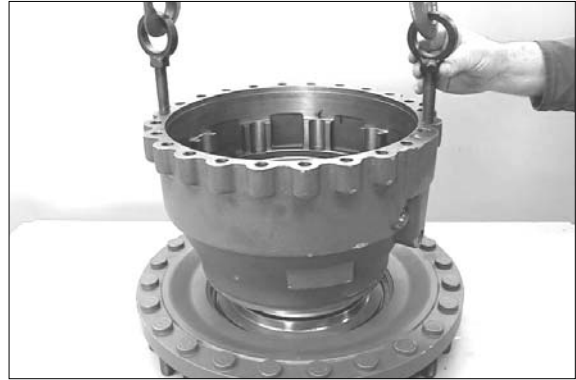
75773TM286

(30) Lift brake housing with lifting tackle from the output shaft.

※ Special tool

Lifting chain 5870 281 047

Eye bolts 5870 204 071



7577AAXF032

(31) If necessary drive both bearing outer rings out of the bearing bores in the brake housing.



7577AAXF033

(32) Press shaft seal out of the brake housing.

※ Special tool

Pry bar set 5870 345 065



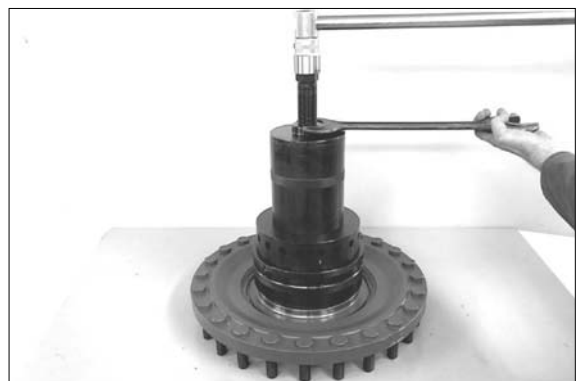
7577AAXF034

(33) Pull bearing inner ring from the output shaft.

※ Special tool

Rapid grip 5873 014 017

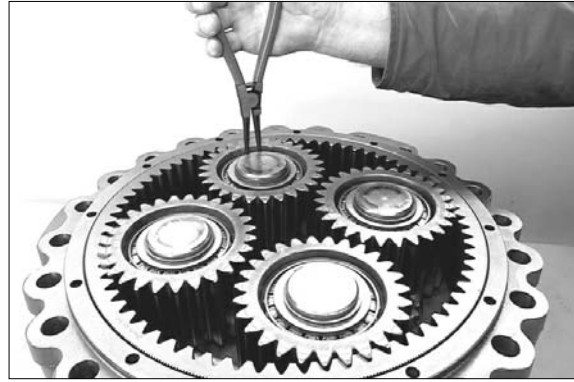
Basic set 5873 004 001



7577AAXF035

(28) Fasten plant gears by means of retaining rings.

- ※ Special tool
Set of external pliers 5870 900 015



7577AAXF067

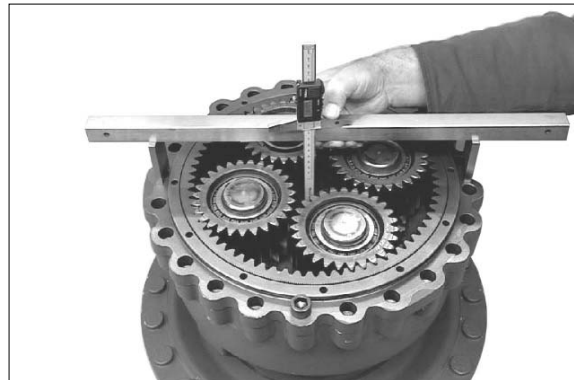
Adjust end play of sun gear shaft 0.5 ~ 2.0mm

(29) Fasten ring gear by means of cap screws until contact.

Then determine dimension I, from the mounting face of the ring gear up to the face of the stop bolt.

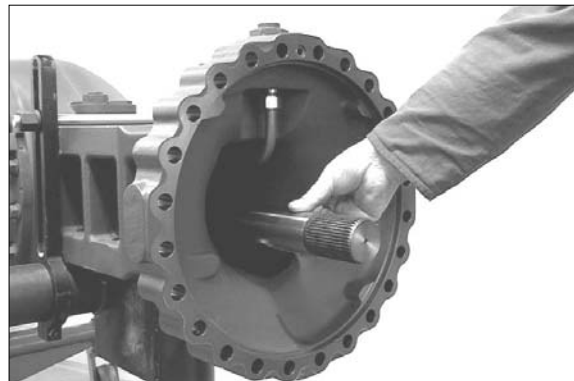
Dimension I e.g 46.20 mm

- ※ Special tool
Digital depth gauge 5870 200 072
Gauge blocks 5870 200 066
Straightedge 5870 200 022



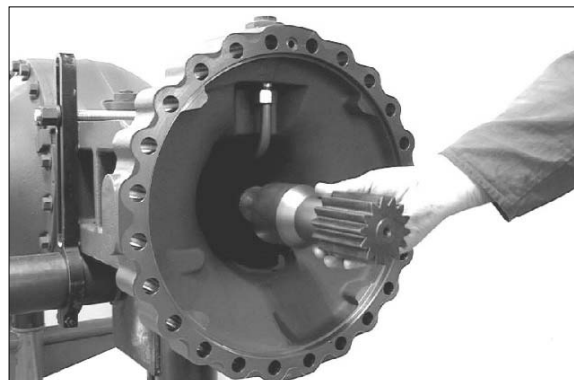
7577AAXF068

(30) Insert stub shaft into spline of the axle bevel gear until contact.



7577AAXF069

(31) Assemble sun gear shaft until contact.



7577AAXF070

Disassembly of drive pinion

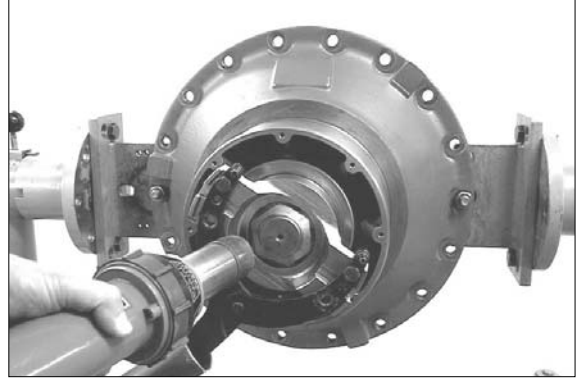
⑩ Heat hexagon nut by means of hot-air blower.

※ Special tool

Hot-air blower 230 V 5870 221 500

Hot-air blower 115 V 5870 221 501

※ Slotted nut is locked with Loctite (Type No. 262).

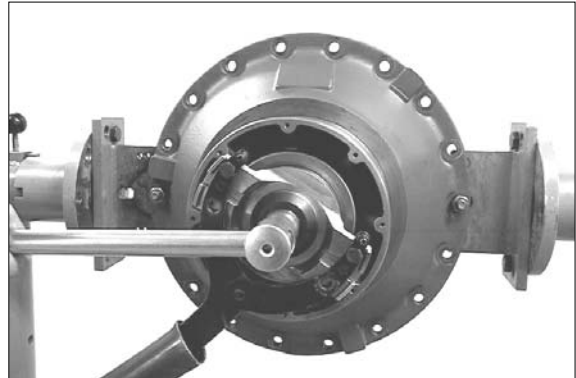


7577AAXF095

⑪ Loosen hexagon nut and remove the washer behind it.

※ Special tool

Fixture 5870 240 002



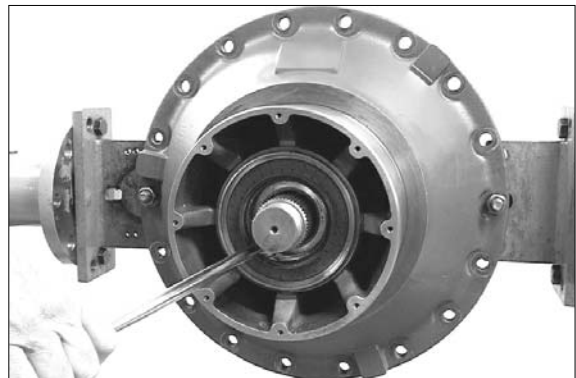
7577AAXF096

⑫ Pull input flange from the drive pinion.



7577AAXF097

⑬ Press shaft seal out of the axle drive housing.



7577AAXF098

- ⑩ Insert preassembled drive pinion into the axle drive housing and assemble the heated bearing inner ring until contact.



7577AAXF126

- ⑪ Press dust protection on the input flange until contact.

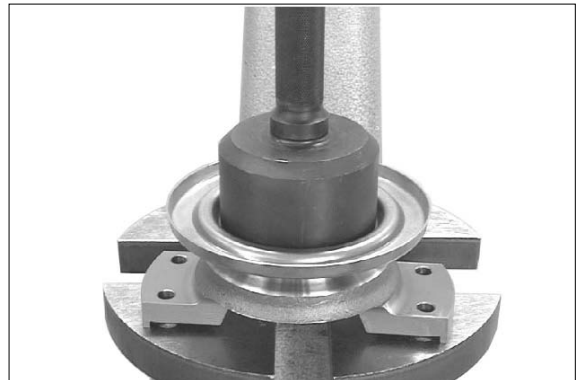
※ Special tool

Driver

5870 056 012

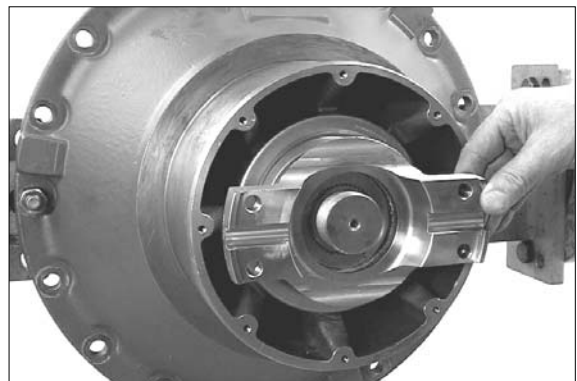
Handle

5870 260 002



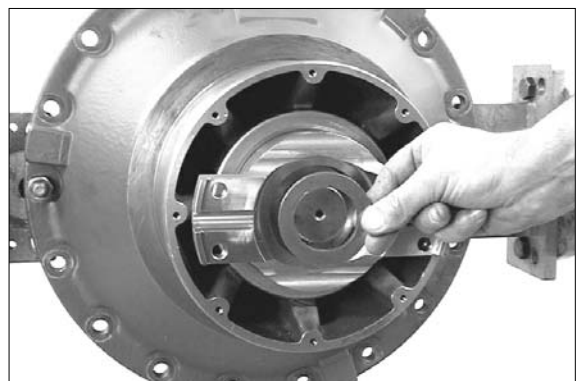
7577AAXF127

- ⑫ Assemble input flange.



7577AAXF128

- ⑬ Assemble washer.

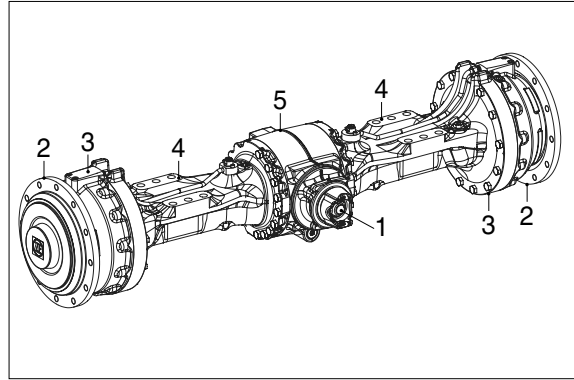


7577AAXF129

4. REAR AXLE

1) DISASSEMBLY - OUTPUT/BRAKE

- 1 Input
- 2 Output
- 3 Brake
- 4 Axle housing
- 5 Axle drive housing

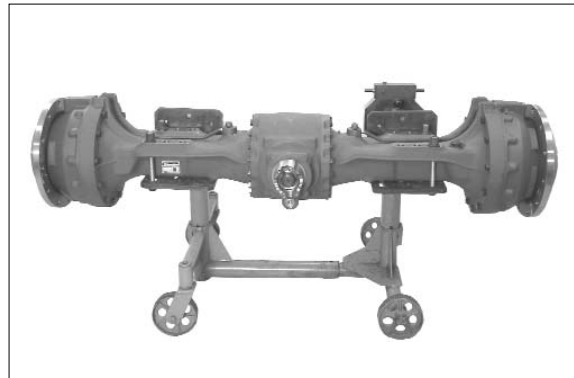


① Mount axle on assembly truck.

※ Special tool

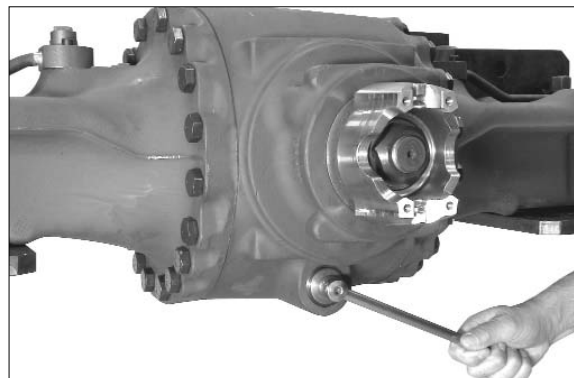
Assembly truck 5870 350 000

Supporting bracket (2EA) 5870 350 106



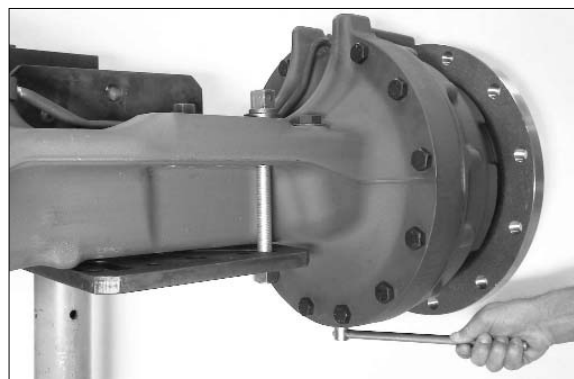
② Drain oil from axle.

※ Use suitable reservoir - environmental protection.



③ Drain oil from both outputs.

※ Use suitable reservoir - environmental protection.

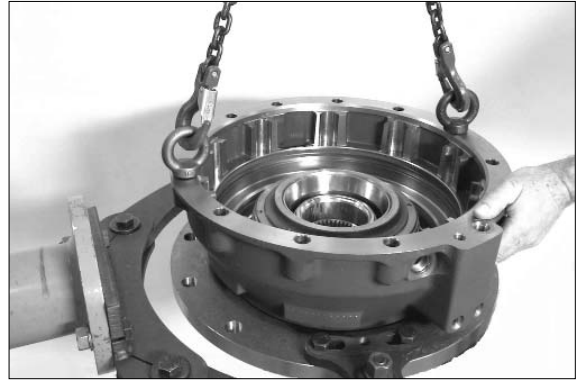


- ④ Position preassembled brake housing on the output shaft.

※ Special tool

Lifting chain 5870 281 047

Eyebolts 5870 204 071



7577AAXR036

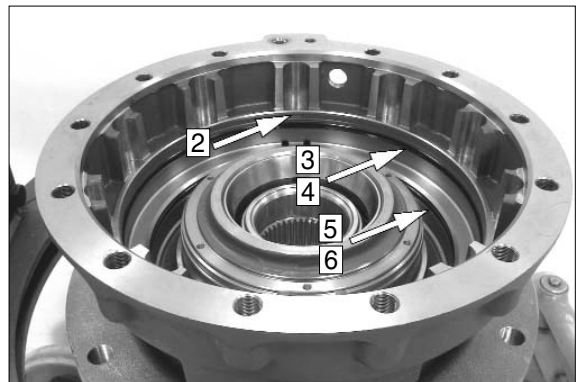
- ⑤ Insert sealing elements (arrows) into annular grooves of brake housing paying attention to installation position and arrangement - in this context refer to figure 7577AAXR028.

▲ Guide ring installation :

Clean annular groove of brake housing with spirit.

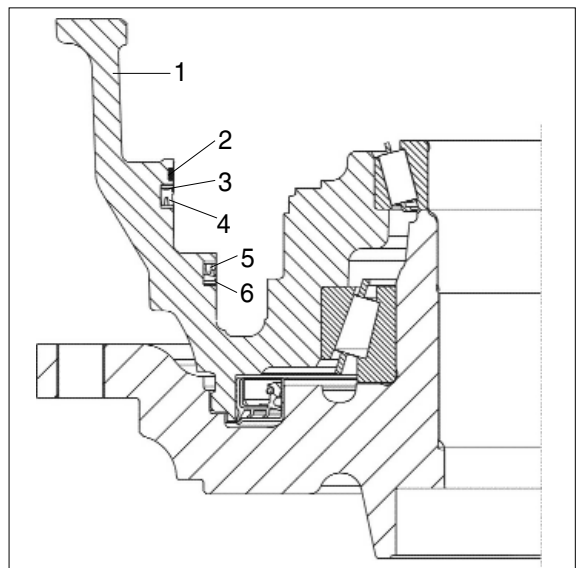
Then insert guide ring into annular groove - Ensure an exact contact position of the whole guide ring circumference - after wards stick guide ring with glue (Loctite no. 415) on its endpoints.

- ※ **Ensure a correct installation position of the guide ring** - Endpoints of guide ring to be in 12 o'clock position in the axle installed in the machine (radial position in brake housing - area of brake oil supply and vent hole).



7577AAXR037

- 1 Brake housing
- 2 Guide ring
- 3 Support ring
- 4 Grooved ring
- 5 Grooved ring
- 6 Support ring



7577AAXR038

3) DISASSEMBLY - DIFFERENTIAL/INPUT

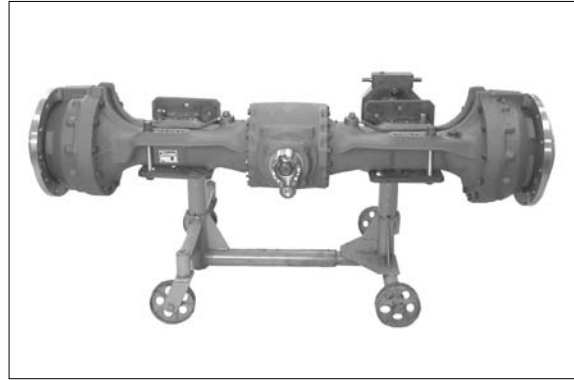
(1) Differential

① Mount axle on assembly truck.

※ Special tool

Assembly truck 5870 350 000

Supporting bracket (2EA) 5870 350 106



7577AAXR002

※ The following illustration shows the removal of the differential in the course of a complete disassembly of the axle.

To remove the differential, however, it is possible to separate the axle half assy (axle housing with output) from the axle drive housing.

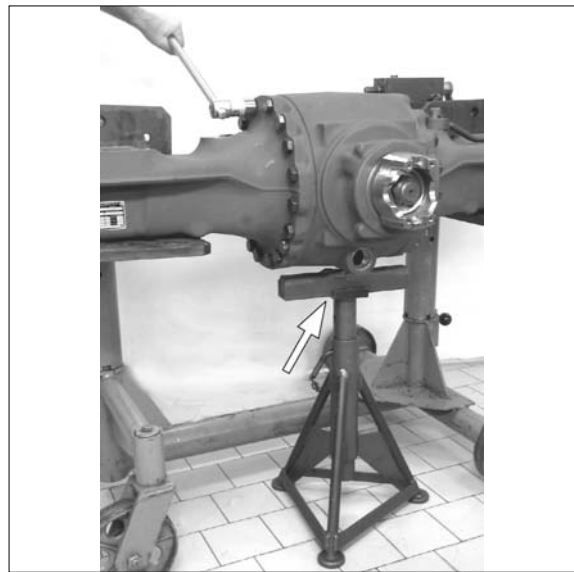
▲ **Secure axle by means of a support (arrow) - risk of accident.**

② Take up axle housing half on crown wheel side with lifting chain (see figure 757AAXR072) and loosen bolted connection (axle housing/axle drive housing).

※ Special tool

Lifting chain 5870 281 047

Eyebolts 5870 204 071



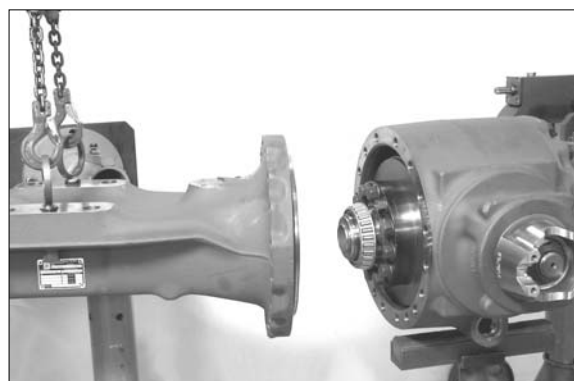
7577AAXR071

③ Separate axle housing from axle drive housing.

※ Pay attention to releasing axial roller ring and differential.

※ Pay attention to releasing stub shaft and sun gear shaft with inserted shim (sun gear shaft - clearance).

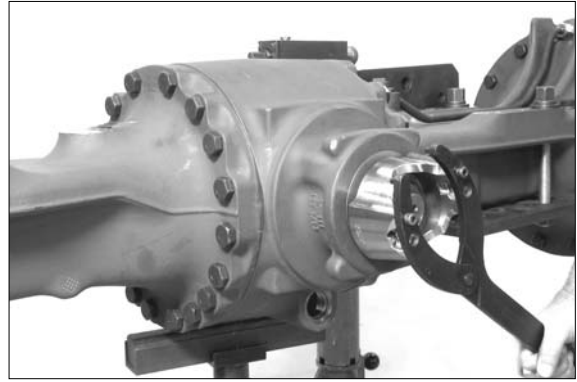
Mark allocation of shim versus sun gear shaft/stub shaft and output side - assembly aid.



7577AAXR072

- ⑮ Roll input pinion over crown wheel in both directions (coast - drive flank meshing - contact pattern).

※ Special tool
Clamping fork 5870 240 025



7577AAXR099

- ⑯ Disassemble differential.

Compare contact pattern to examples – page 3-215.

※ If contact pattern differs considerably, use a suitable shim for correction (see figure 7577AAXR085, page 3-208).



7577AAXR100

- ⑰ If disassembled :

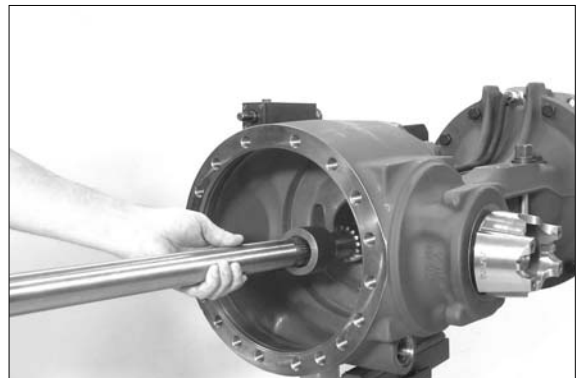
Insert shim(s) (2) into sun gear shaft (1) and mount stub shaft (3).

※ If position was not allocated, as specified in disassembly instructions on page 3-203, figure 7577AAXR072 and sun gear shaft clearance (see page 3-198, figure 7577AAXR58~62) must be set on both output sides.



7577AAXR101

- ⑱ Insert preassembled stub shafts into both outputs (considering allocation to the correct output side).



7577AAXR102

CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL

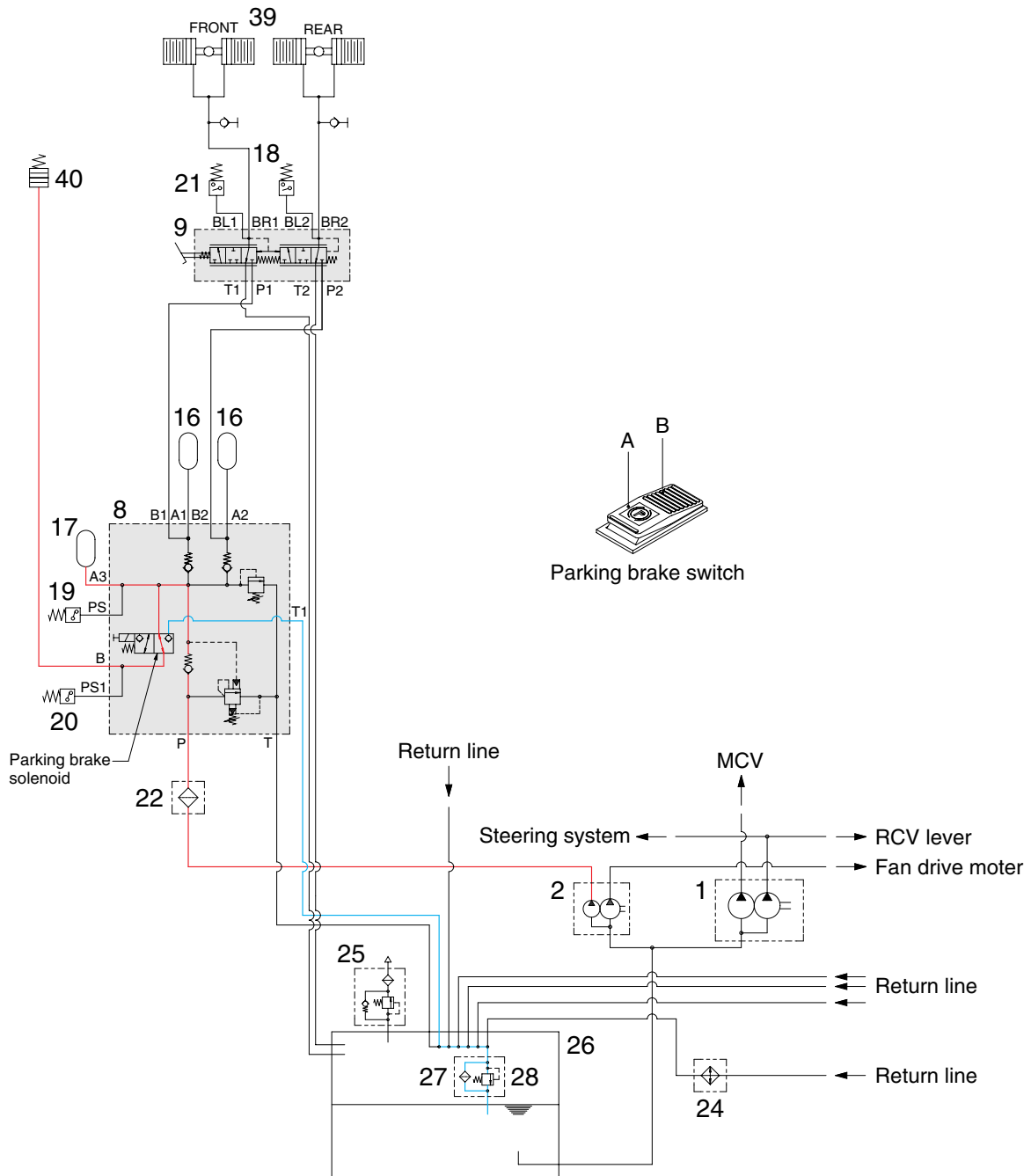
- Thank you very much for reading the preview of the manual.
- You can download the complete manual from: www.heydownloads.com by clicking the link below



- Please note: If there is no response to CLICKING the link, please download this PDF first and then click on it.

CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL

3) PARKING BRAKE RELEASED

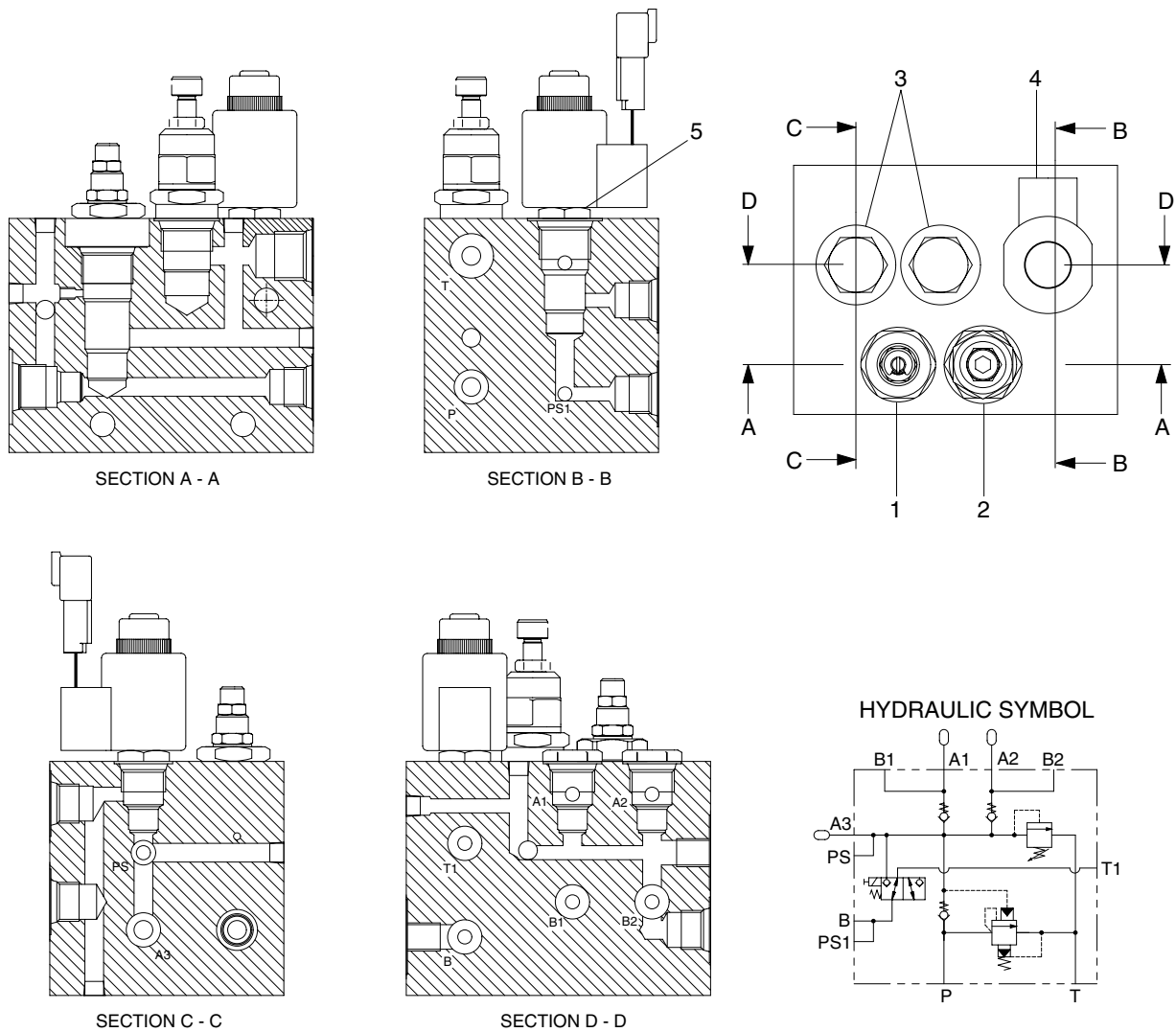


7577ABS04

When the parking brake switch is pressed B position, the solenoid valve is energized and the hydraulic oil controlled the pressure level by the cut-off valve enters the parking brake. It overcomes the force of the spring and pushes the piston rod. This releases the brake. Therefore, the hydraulic oil pressure is applied to the parking brake piston through the solenoid valve and the parking brake is kept released.

5. CUT-OFF VALVE

1) STRUCTURE



- 1 Cut-off valve
- 2 Relief valve
- 3 Check valve

- 4 Coil
- 5 Solenoid valve

2) OPERATION

When the pump works, the oil under the pressure flows into P port.

The oil in P port is stored in the accumulator on A3 port.

As the pressure on P line rises to 150bar, the cut off valve(1) starts cut-offting and the oil in the P port is unloaded. The pressure on P line goes down 120bar by the minute leakage from valve and other factors.

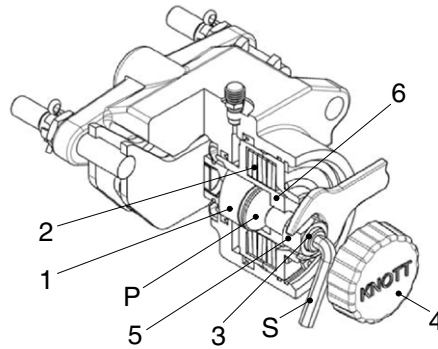
At this pressure, the cut-off valve starts cut-ining.

This process is repeated in the regular period of 30~40 seconds.

7707ABS06

4) EMERGENCY RELEASE OF THE PARKING BRAKE

After the failure of the pressure release the parking brake by using following manual procedure.



100D7BS117

- | | | | | | |
|---|---------------------|---|-----------|---|---------------|
| 1 | Thrust bolt | 4 | Screw cap | P | Even surface |
| 2 | Bank of cup springs | 5 | Lock nut | S | Socket wrench |
| 3 | Adjusting screw | 6 | Piston | | |

- (1) The vehicle has to be secured against rolling away.
- (2) Release the screw cap and unscrew
- (3) Release the lock nut(size 24 or 30) and turn the adjusting screw with socket wrench size 8 or 10 manually counter-clockwise until the brake disc is free.

⚠ For the emergency release is an actuation torque of 40Nm respectively 70Nm required.

- (4) Mount the lock nut and the screw cap and tighten both as far as possible manually.(protection against dirt)

⚠ Now, the vehicle do not have any brake function. The vehicle must be secured against moving away with proper means. Before putting the vehicle into operation again, the brake has to be adjusted again. Refer to previous page. "Assembly and basic setting regulations".

2. TROUBLESHOOTING

1) SERVICE BRAKE

Diagnose malfunction charts are arranged from most probable and simplest to verify, to least likely, more difficult to verify. Remember the following steps when troubleshooting a problem :

Step 1. Operational check out procedure(See section 1)

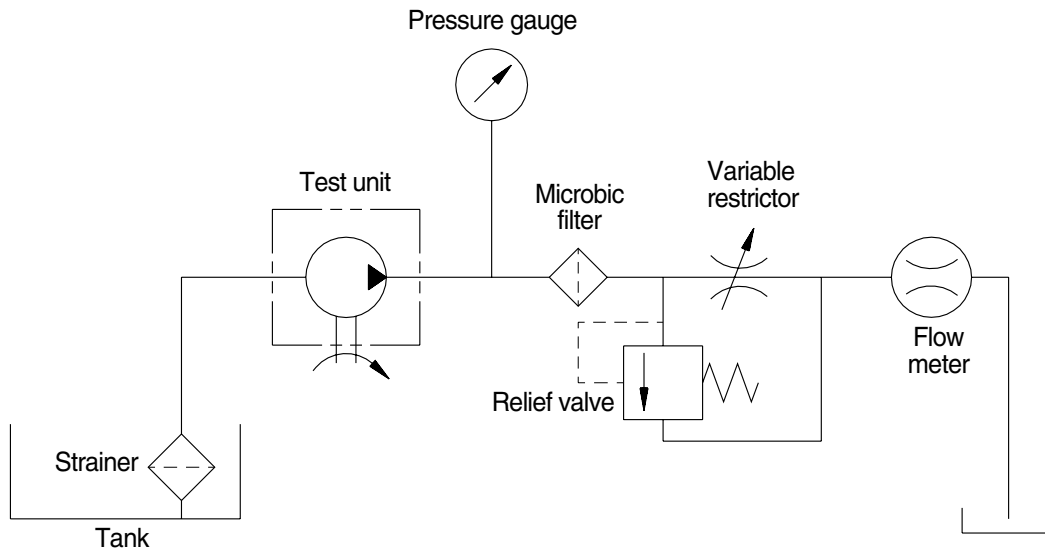
Step 2. Operational checks(In this group)

Step 3. Troubleshooting

Step 4. Tests and adjustments(See group 3)

Problem	Cause	Remedy
Poor or no brakes	Brake accumulator charge low. Brake pump standby pressure low. Brake pressure low. Air in system. Worn brake surface material. Leakage in brake valve. Leakage in brake piston seal.	Do brake accumulator check. Do brake pump standby pressure test. Do brake valve pressure test. Bleed brakes. Inspect brake surface material. Do brake valve leakage test. Check for an over filled differential. Apply brakes and check for leakage from check plug. ※ It is normal for the oil level to be slightly above the check plug.
Aggressive brakes	Internal restriction in circuit. Clutch cut-off switch out of adjustment. Brake valve malfunction. Low oil level.	Remove lines and components. Adjust switch. Disassemble and inspect. Check oil level.
Brakes drag	Brake pedal not returning properly. Debris holding valve partially open in brake valve. Warped brake disk. Stuck brake piston.	Inspect floor mat and pedal. Do brake valve pressure test. Inspect brake disk. Repair.
Brakes lock up	Brake valve malfunction.	Clean or replace brake valve.

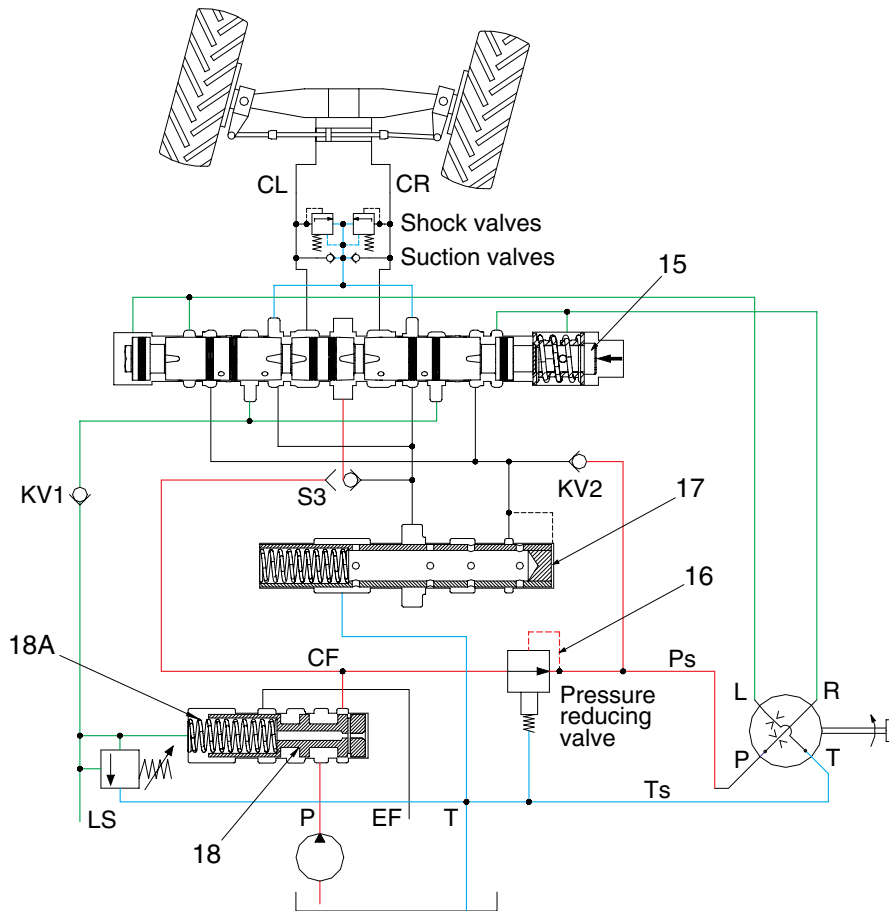
5) RUNNING-IN



(730TM-3C) 4-48

- (1) A unit which has been re-assembled with either new gears, bushes or body, must be carefully run-in before it is subjected to full working conditions.
- (2) Ideally this should be done on a test rig(See figure) where pressure can be gradually applied and any wipings from the body cut-in arrested by filters.
- (3) It is recommended that the unit is run-in at 1500rpm, initially, at zero pressure for one minute then in stages with the pressure increased by 500psi every minute, until maximum rated pressure has been attained. Frequently check the system temperature, ensuring that it does not exceed the maximum permissible figure of 80°C. If the temperature exceeds the system or unit specification the test must be delayed and operated off-load until acceptable temperatures are obtained.

(3) Turning right



7607SE14

- When the steering wheel is turned to the right, the pressure oil from the steering unit fill on the right side chamber of main steering spool(15), and main steering spool(15) moves to the left in the direction.
- At the same time of moving of main steering spool(15), LS signal will be blocked.
- If LS signal of main steering spool(15) is blocked, it cause to increase pressure of left chamber of priority valve(18A) and then priority valve(18) to be pushed to right side. Consequently, oil will flow via CF of priority valve to main spool. that oil will push steering cylinder rod out and it will cause wheel loader to be steered to right side.
- The rate of movement of main steering spool(15) is concluded as flow rate, which is kept in right chamber from steering unit. Furthermore the rate controls speed of movement for cylinder.
- When the cylinder reaches to end position, pressure of oil flowing through main steering spool(15) will get to be increased. If the oil pressure increase up to relief pressure to be set, relief valve will be activated. It result in decreasing pressure of left chamber of priority valve(18A), and will push priority valve(18) to right side. Then, oil flow to cylinder will be blocked.

Problem	Cause	Remedy
Erratic steering	Air in oil. Low oil level. Sticking priority valve spool. Loose cylinder piston. Damaged steering unit.	Check for foamy oil. Add recommended oil. Remove and inspect spool. Remove rod to inspect piston. Remove and inspect.
Spongy or soft steering	Air in oil. Low oil level.	Check for foamy oil. Add recommended oil.
Free play at steering wheel	Loose steering wheel nut. Worn or damaged splines on steering column or unit.	Tighten. Inspect.
Steering unit binding or steering wheel does not immediately return to neutral when released	Binding in steering column or misalignment of column. High return pressure. Contamination in steering unit. Large particles of contamination in steering unit.	Inspect. Check for a pinched or damaged return line. Inspect hydraulic filter for contamination. Repair cause of contamination. Flush hydraulic system. Inspect hydraulic filter for contamination. Repair cause of contamination. Flush hydraulic system.
Steering unit locks up	Worn or damaged steering unit.	Repair or replace steering unit.
Abrupt steering wheel oscillation	Improperly timed gerotor gear in steering unit.	Time gerotor gear.
Steering wheel turns by itself	Lines connected to wrong port.	Reconnect lines.
Vibration in steering system or hoses jump	High priority valve setting.	Do priority valve pressure test.
Neutral position of steering wheel cannot be obtained, i.e. there is a tendency towards "motoring"	Steering column and steering unit out of line. Too little or no play between steering column and steering unit input shaft. Pinching between inner and outer spools.	Align the steering column with steering unit. Adjust the play and, if necessary, shorten the splines journal. Contact the nearest service shop.

6. STEERING VALVE(EHPS) RELIEF CARTRIDGE LEAKAGE TEST

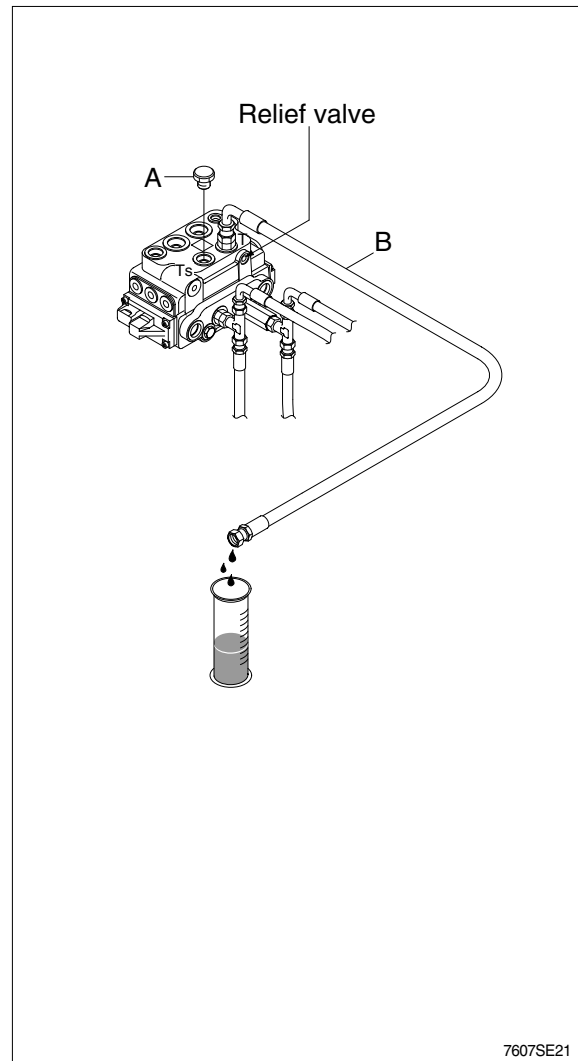
· SPECIFICATION

Oil temperature $45 \pm 5^{\circ}\text{C}$ ($113 \pm 9^{\circ}\text{F}$)
Engine speed High idle
Maximum leakage 1 m l /min (16 drops per min)

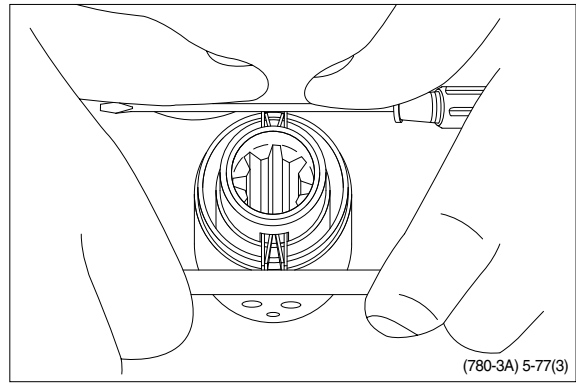
· GAUGE AND TOOL

Temperature reader
Measuring container
Stop watch

- 1) Install temperature reader.
(See temperature reader installation procedure in this group).
- 2) Heat hydraulic oil to specifications.
(See hydraulic oil warm up procedure at page 6-51).
- 3) Install plug(A) in Ts port.
Disconnect line from T port on steering valve. Install plug in line.
- 4) Connect line(B) to steering valve.
- 5) Start engine and run at specification.
- 6) Measure oil leakage from T port.
- 7) If leakage is more than specification, disassemble and inspect relief cartridge for damage or debris.

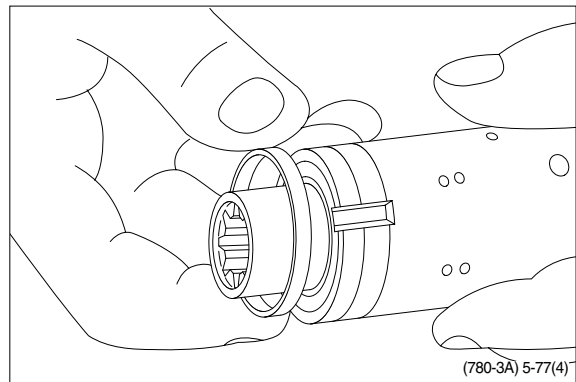


(5) Line up the springs and center them.

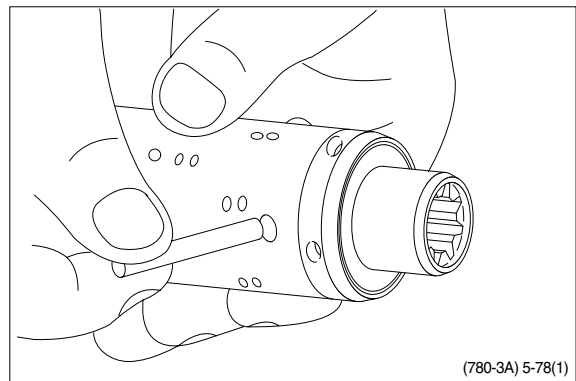


(6) Guide the ring down over the sleeve.

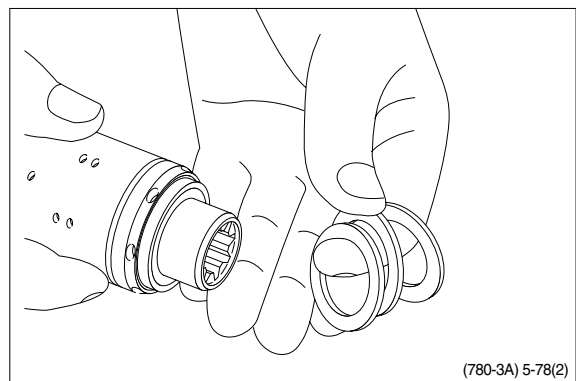
※ The ring should be able to move-free of the springs.



(7) Fit the cross pin into the spool / sleeve.



(8) Fit bearing races and needle bearing.
(See the next page)

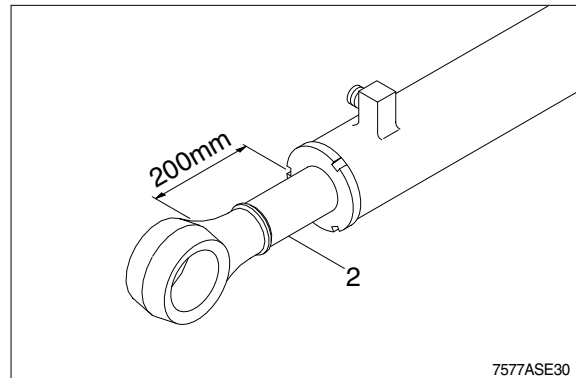


3) DISASSEMBLY

(1) Remove cylinder head and piston rod

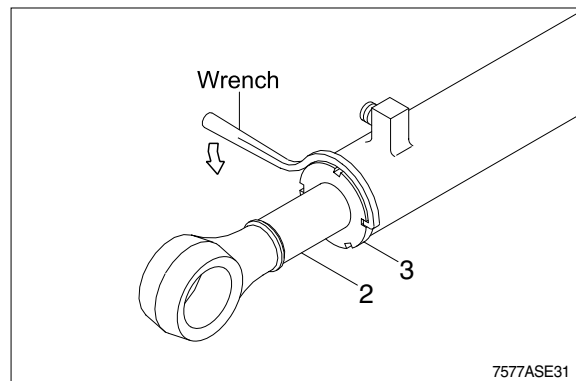
- ① Hold the clevis section of the tube in a vise.
- ※ Use mouth pieces so as not to damage the machined surface of the cylinder tube. Do not make use of the outside piping as a locking means.

- ② Pull out piston rod(2) about 200mm (7.8in). Because the piston rod is rather heavy, finish extending it with air pressure after the oil draining operation.



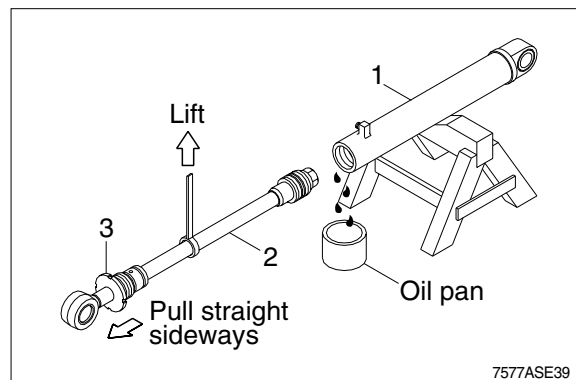
- ③ Loosen and remove the gland(3).

- ※ Cover the extracted piston rod(2) with rag to prevent it from being accidentally damaged during operation.

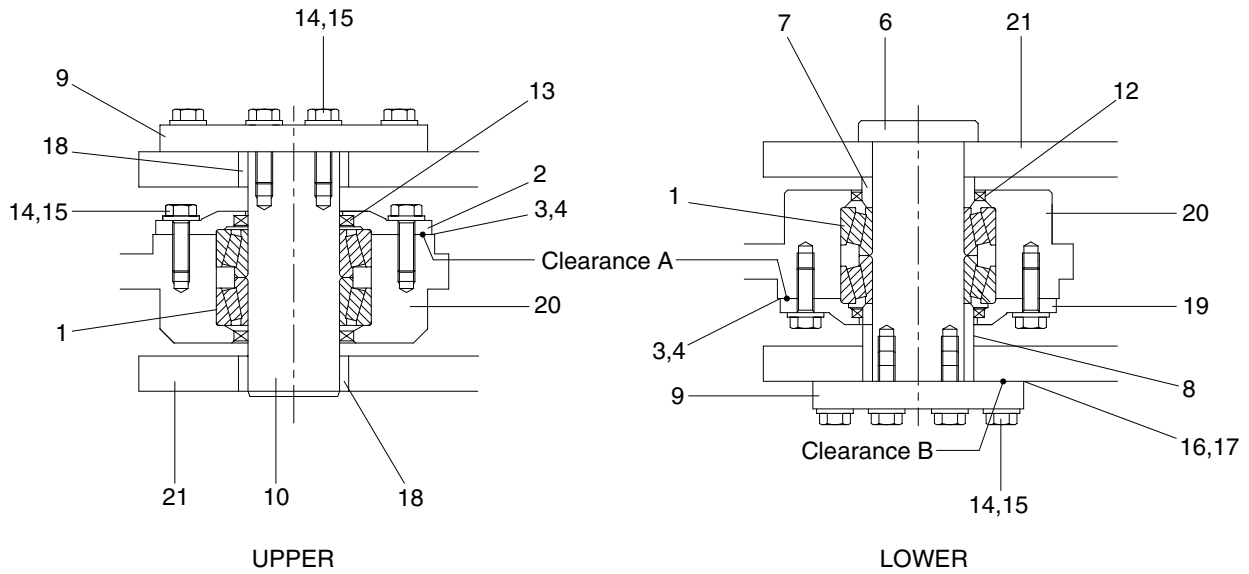


- ④ Draw out gland(3) and piston rod (2) assembly together from cylinder tube(1).

- ※ Since the piston rod assembly is heavy in this case, lift the tip of the piston rod(2) with a crane or some means and draw it out. However, when piston rod(2) has been drawn out to approximately two thirds of its length, lift it in its center to draw it completely.



4) ASSEMBLY

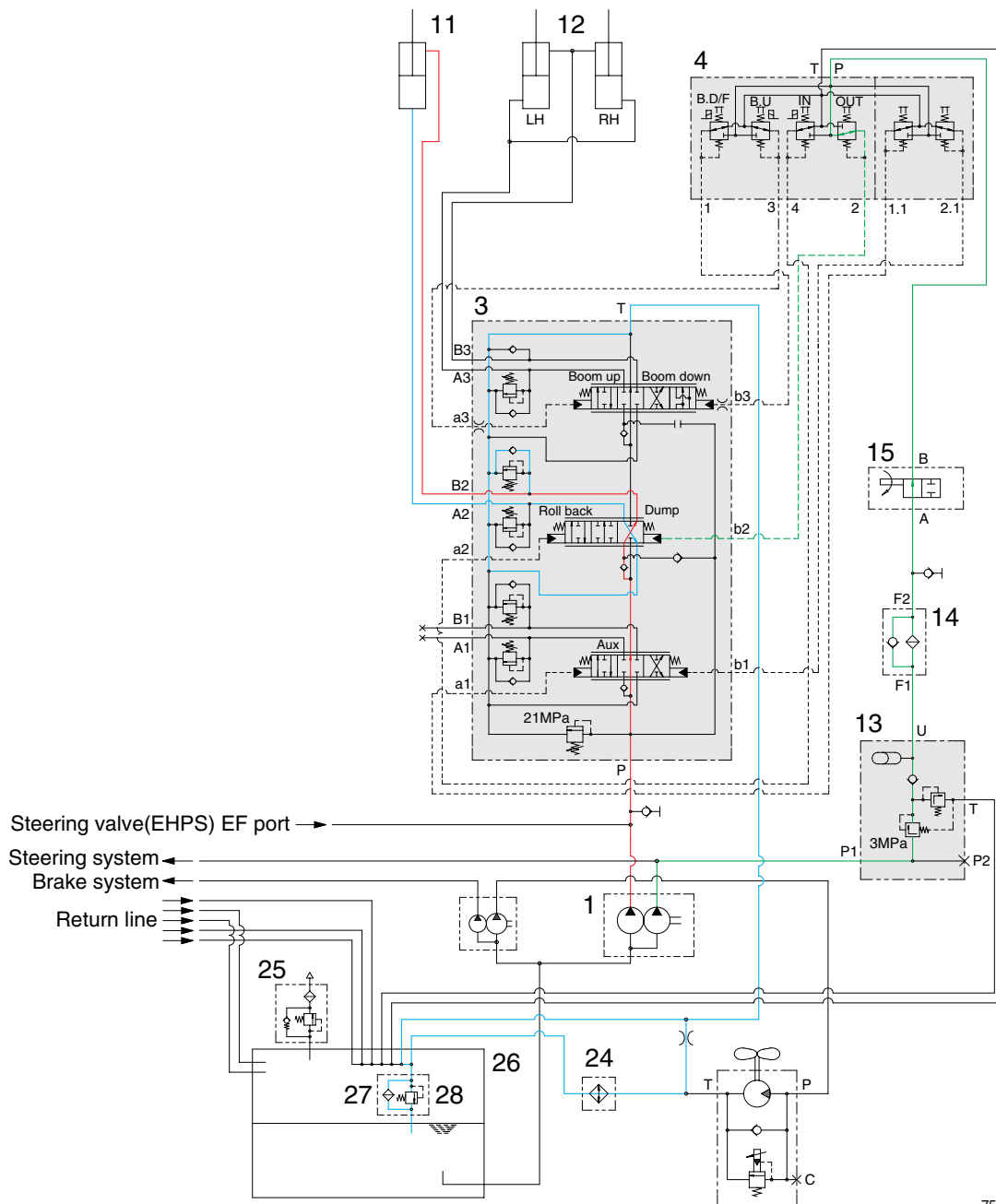


7707ASE13

Assemble the center pivot group by reversing the order of disassembly while paying close attention to the following.

- (1) Put the dust seal(12,13) into cover(2, 19) and front frame(20).
 - ※ Apply grease to the lip of the dust seal. Insert the dust seal so that the dust seal lip faces out and punch four places on the outer circumference of the seal to lock it.
- (2) Lower the temperature of the lower bearing cup to $-75 \pm 5^{\circ}\text{C}$ ($-103 \pm 9^{\circ}\text{F}$) and install it to front frame until it contacts the bottom of the frame.
- (3) Coat lightly with oil and install lower bearing in bore in front frame. Coat lightly with oil and install upper bearing in bore in upper front frame.
- (4) Position the cover(2, 19) and hold in place with bolt(14). At this time, adjust shims(3,4) to press the shoulder of bearing(1) against retainer.
 - **Adjustment method of clearance A**
 - ① Install bearing and cover without shim(3, 4)
Install four of bolt(14) so that each bolt is separated by 90 degrees.
 - Tightening torque : $0.8 \sim 1.0 \text{kgf} \cdot \text{m}$ ($5.8 \sim 7.2 \text{lbf} \cdot \text{ft}$)
 - ② Adjust shims in order to control the clearance A.
 - Clearance A : Below 0.1mm
 - Shim thickness : 0.1mm, 0.5mm

4) WHEN THE RCV LEVER IS IN THE DUMP POSITION

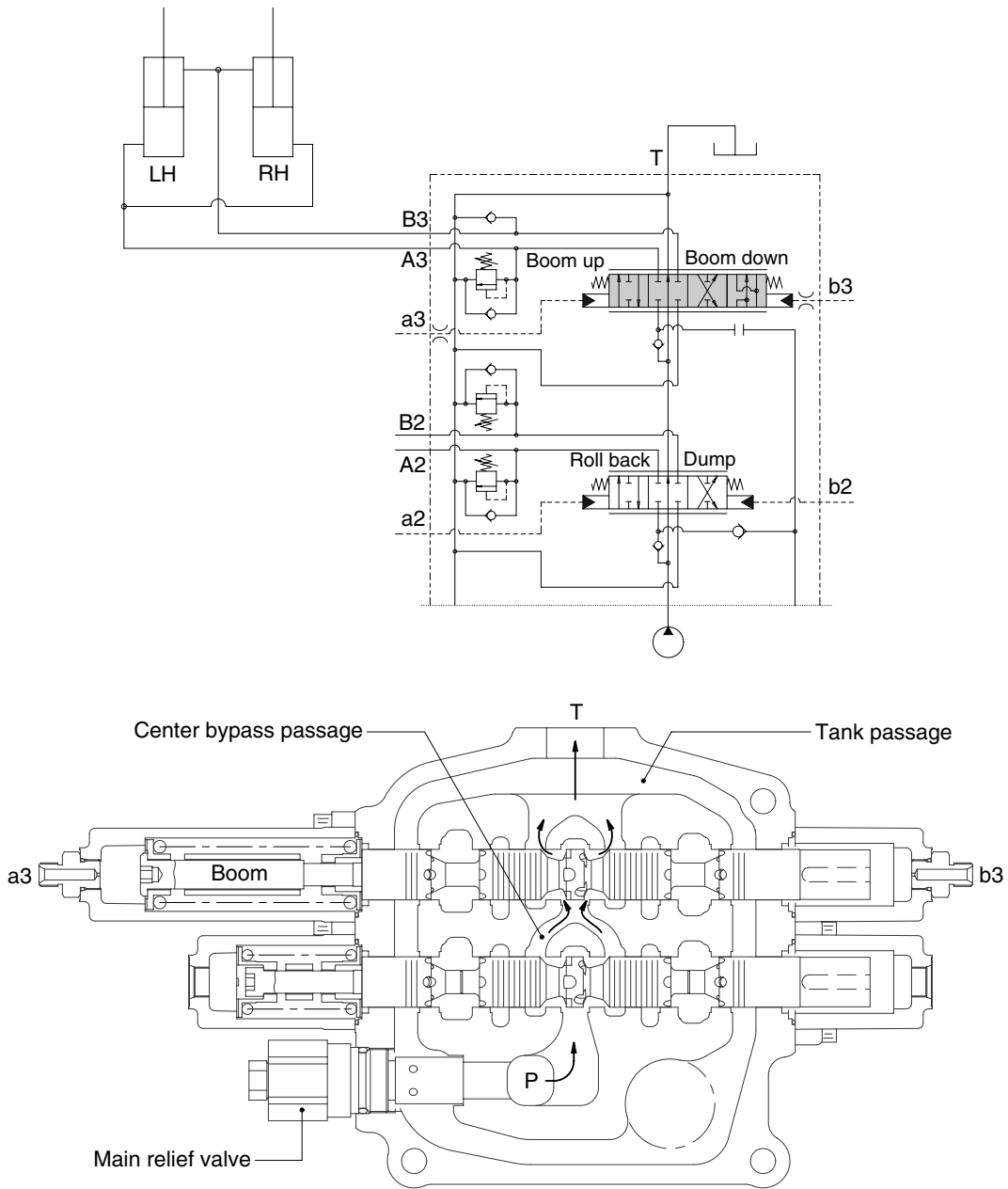


7577AWE06

- If the RCV lever(4) is pushed right, the bucket spool is moved to dump position by pilot oil pressure from port 2 of RCV.
- The oil from main pump(1) flows into main control valve(3) and then goes to the small chamber of bucket cylinder(11) by pushing the load check valve of the bucket spool.
- The oil at the large chamber of bucket cylinder(11) returns to hydraulic tank(26) through the bucket spool.
- When this happens, the bucket is dumped.
- When the dumping speed of bucket is faster, the oil returned from the large chamber of bucket cylinder combines with the oil from the pump, and flows into the small chamber of the cylinder. This prevents cylinder cavitation by the negative pressure when the pump flow cannot match the bucket dump speed.

2) BOOM SECTION OPERATION

(1) Spool in neutral

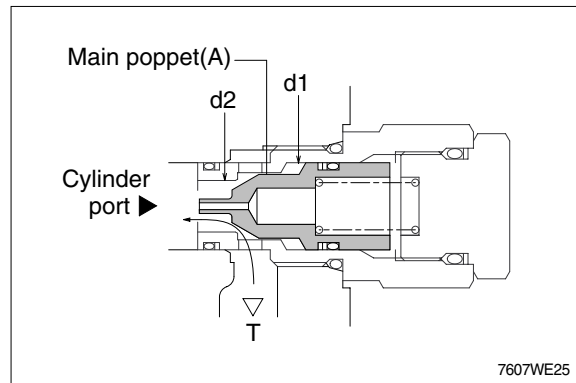


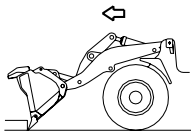
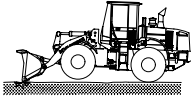
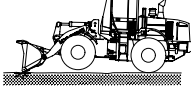

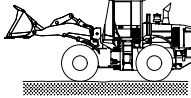
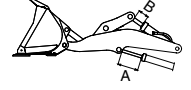
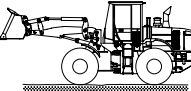
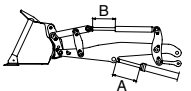
7607WE11

When the boom plunger is in neutral position, oil from the pump flows to the tank through the center bypass line.

The cylinder port(A3, B3) are shut off from the high pressure feed passage and tank passage by the boom plunger.

(2) When the cylinder port pressure comes to lower than the tank passage pressure (closer to negative pressure), the poppet (A) opens receiving the tank passage pressure for the difference in area between d_2 and d_1 . Oil from the tank passage flows to the cylinder port in order to prevent cavitation.



Item	Description	Service action
Bucket rollback circuit relief valve check	 <p>Position bucket at a 45° angle against an immovable object.</p> <p>Engage transmission in 3rd speed forward.</p> <p>LOOK : Bucket angle must not change.</p>	<p>OK Check complete.</p> <p>NOT OK Replace boom lower check valve.</p>
Bucket dump circuit relief valve low pressure check	 <p>Raise front of machine which bucket at 45° angle.</p> <p>Backdrag with bucket while observing bucket angle.</p> <p>LOOK : Bucket must not rollback</p>	<p>OK Go to next check.</p> <p>NOT OK Do loader system and circuit relief valve test at page 6-52.</p>
Pilot control valve float check Run engine at low idle.	  <p>With the bucket partially dumped, lower boom to raise front of machine.</p> <p>Push control lever to the float detent position and release lever.</p> <p>LOOK : Front of machine lower to the ground and valve must remain in float position when lever is released.</p>	<p>OK Check complete.</p> <p>NOT OK Do pilot control valve pressure test in group 3.</p>
Boom cylinder and bucket cylinder drift check Heat hydraulic oil to operating temperature.	 <p>Set the boom and bucket horizontal, then stop the engine.</p> <p>Stop the engine, wait for 5 minutes, then start measuring.</p>  <p>Measure the amount the lift and dump cylinder rods retract during 15 minutes.(Unloaded bucket)</p> <p>A : Retraction of boom cylinder rod B : Retraction of bucket cylinder rod</p>  <p>Boom cylinder must drift less than 40mm Bucket cylinder must drift less than 50mm</p> 	<p>OK Check complete.</p> <p>NOT OK Go to next check.</p>

5) Start the filter caddy. Check to be sure oil is flowing through the filters.

Operate filter caddy approximately 10 minutes so oil in hydraulic oil tank is circulated through filter a minimum of four times.

※ **Hydraulic oil tank capacity : 125 l (33U.S. gal)**

Leave filter caddy operation for the next steps.

6) Start the engine and run it at high idle.

※ **For the most effective results, cleaning procedure must start with the smallest capacity circuit then proceed to the next largest capacity circuit.**

7) Operate all functions, one at a time, through a complete cycle in the following order: Clam, steering, bucket, and boom. Also include all auxiliary hydraulic functions.

Repeat procedure until the total system capacity has circulated through filter caddy seven times, approximately 30 minutes.

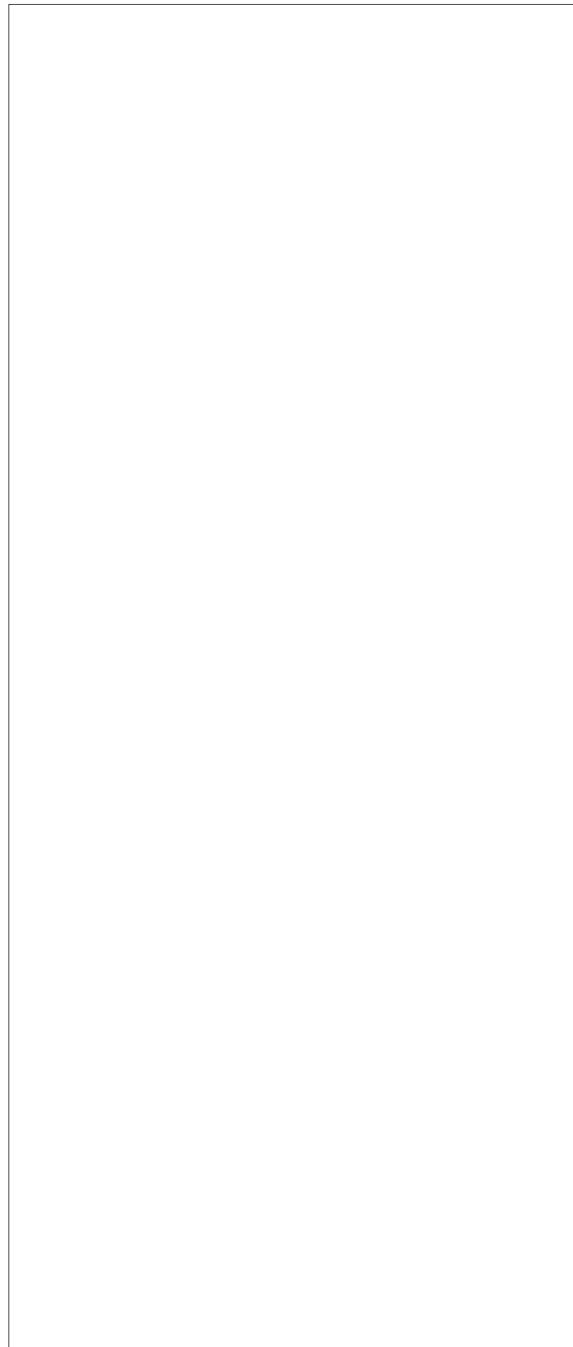
Each function must go through a minimum of three complete cycles for a through cleaning for oil.

※ **Filtering time for machines with auxiliary hydraulic functions must be increased because system capacity is larger.**

8) Stop the engine. Remove the filter caddy.

9) Install a new return filter element.

10) Check oil level in reservoir; Add oil if necessary.



10. PILOT CONTROL VALVE PRESSURE TEST

· SPECIFICATION

Oil temperature $45 \pm 5^{\circ}\text{C}$ ($113 \pm 9^{\circ}\text{F}$)

Engine speed Low idle

Begin metering $1/4"$ of lever travel

Pressure in detent :

Boom float detent 1.9MPa (19bar)

Pressure at feel position :

Boom power down 19~22bar

Boom raise 19~22bar

Bucket rollback 19~22bar

Bucket dump 19~22bar

· GAUGE AND TOOL

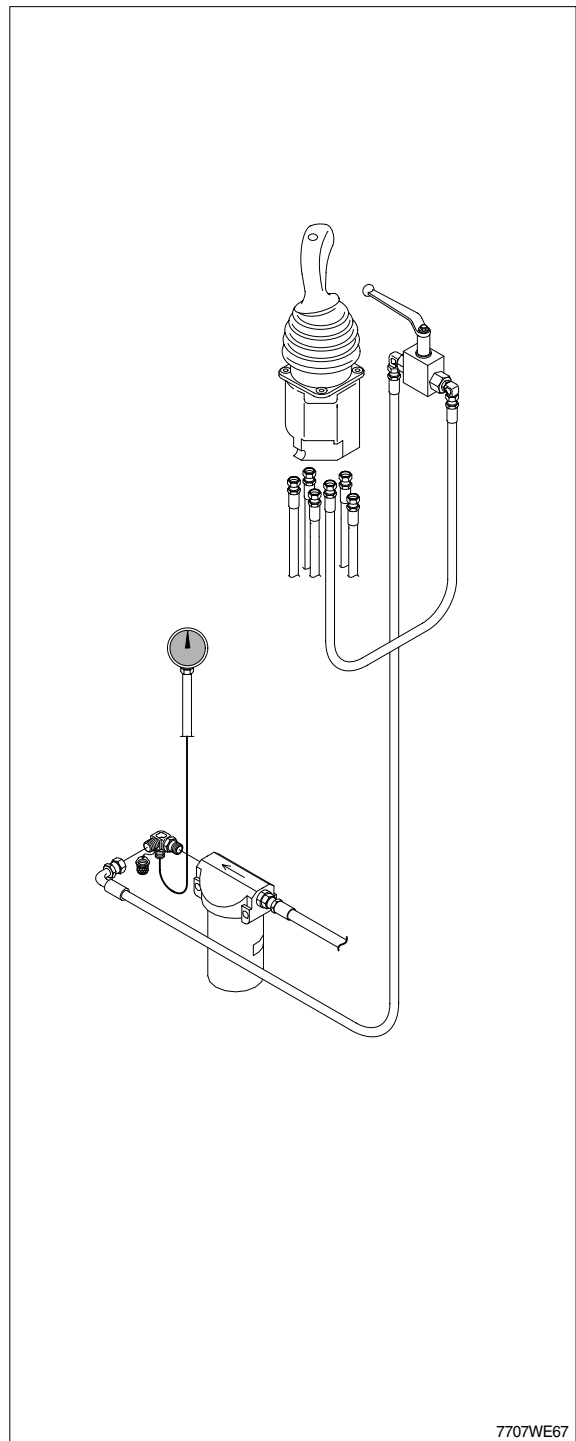
Gauge 0~7MPa (0~70bar, 0~1000psi)

As the control lever is moved from neutral, the pilot pressure will suddenly jump up to approximately 5.8bar at $1/4$ in. travel. The pressure should then increase smoothly to the specification at the FEEL position (Or $3/4$ lever travel), and then jump up about 430psi as the lever is moved into detent.

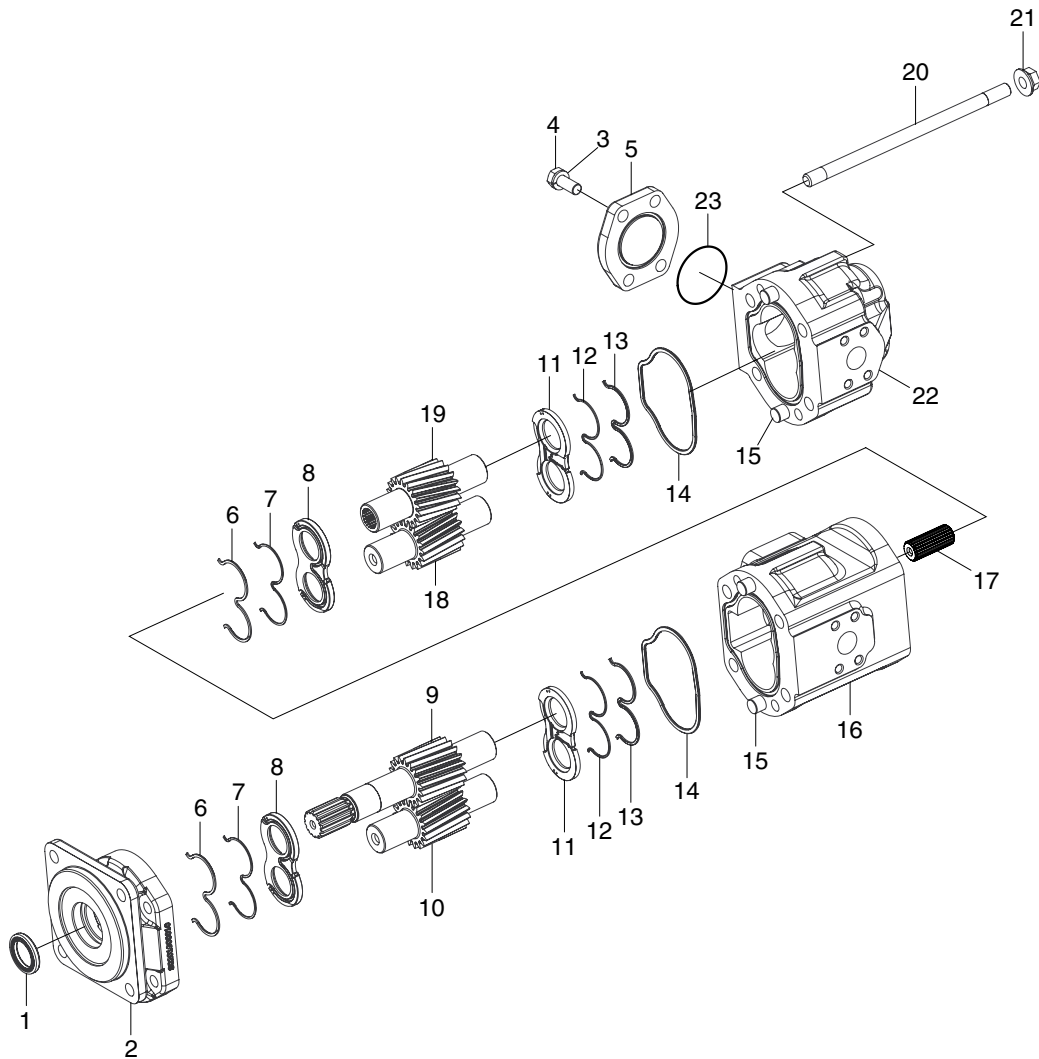
This test will determine if adequate pilot pressure is available to move the loader control valve spools.

※ **The FEEL position is when lever is moved to feel the ramp of the detent before lever passes into detent position.**

- 1) Lower boom to ground.
- 2) Connect gauge to the pilot pressure port of function to be checked.
- 3) Install temperature reader (See temperature reader installation procedure in this group).
- 4) Heat hydraulic oil to specification (See hydraulic oil warm up procedure in this group).



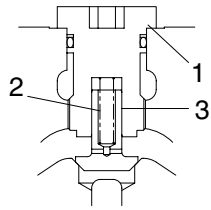
6) ASSEMBLY



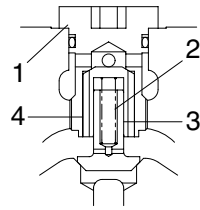
7607WE33

- ※ It is critical that the wearplates are assembled into the pump with regard to the following:
 - The seal side of the wearplate must be adjacent to the adaptor or body.
 - The high pressure side of the wearplate must be adjacent to the outlet port.
 - ※ This must take place in a clean dry area, ensuring that all parts are clean and free from contamination or loose particles. Lightly oil all surfaces.
- (1) Place body vertically with gear pockets upper most.
 - (2) Slide wearplate(11) complete with O-ring seal(12) and back up seal(13) down through the housing to the bottom of the gear pockets.
 - ※ Be sure to refit the wearplate the same as that marked from this position during disassembly.
 - (3) Fit the gears(18,19) within the housing taking care to replace as marked, with the teeth reassembled to their original related position.
 - (4) Fit the wearplate(8) complete with O-ring seal(7) and back up seal(6).
 - ※ Be sure to refit the wearplate the same as that marked from this position during disassembly.

11) LOAD CHECK VALVE



- Bucket for 2-spools valve
- Aux for 3-spools valve
- Boom for 2 & 3-spools valve



- Bucket for 3-spools valve

7607WE57

Example for explanation : Bucket section of 3-spools valve(double check)

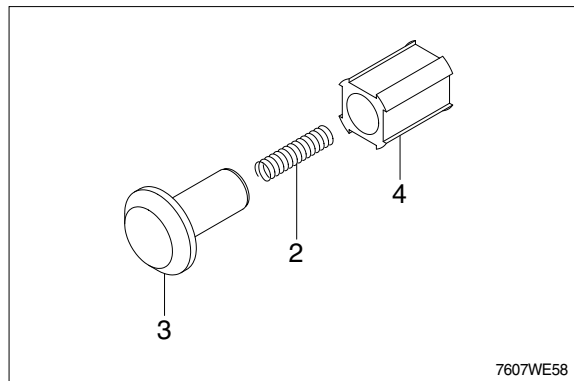
(1) Remove cap(1) pull out spring(2), check (3) and (4)

· Cap(2)

Width across flat : 36mm

Tightening torque : 25.5kgf · m(184lbf · ft)

- ※ When reassembly ;
Be careful for the back-up ring not to protrude.
- ※ Only Bucket section has double check.



7607WE58



CHARGING CIRCUIT

FUSE BOX

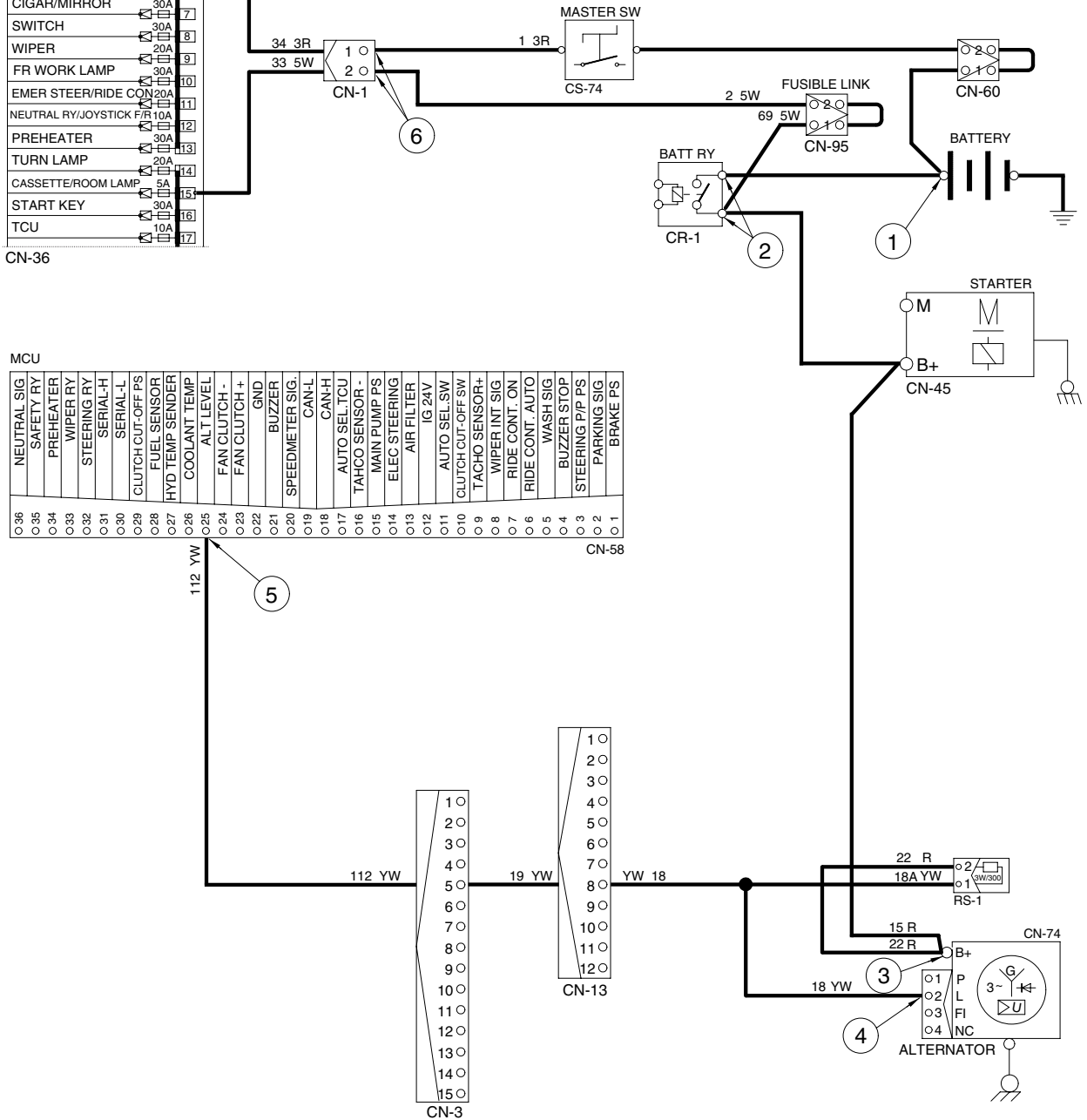
BEACON/RR WORK LAMP	20A	1
ILL. LAMP	20A	2
HEAD LAMP	20A	3
BACK/STOP LAMP	10A	4
HORN/CONVERTER	30A	5
AIR-CON/HEATER	30A	6
CIGAR/MIRROR	30A	7
SWITCH	30A	8
WIPER	20A	9
FR WORK LAMP	30A	10
EMER STEER/RIDE CON	20A	11
NEUTRAL RY/JOYSTICK F	10A	12
PREHEATER	30A	13
TURN LAMP	20A	14
CASSETTE/ROOM LAMP	15A	15
START KEY	30A	16
TCU	15A	17

CN-36

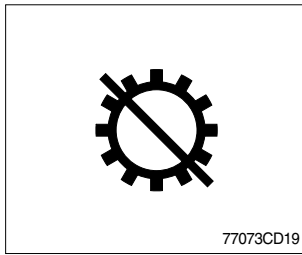
MCU

NEUTRAL SIG	01
SAFETY RY	02
PREHEATER	03
WIPER RY	04
STEERING RY	05
SERIAL-H	06
SERIAL-L	07
CLUTCH CUT-OFF PS	08
FUEL SENSOR	09
HYD TEMP SENDER	10
COOLANT TEMP	11
ALT LEVEL	12
FAN CLUTCH -	13
FAN CLUTCH +	14
GND	15
BUZZER	16
SPEEDMETER SIG.	17
CAN-L	18
CAN-H	19
AUTO SEL.TCU	20
TAHCO SENSOR -	21
MAIN PUMP PS	22
ELEC STEERING	23
AIR FILTER	24
IG 24V	25
AUTO SEL.SW	26
CLUTCH CUT-OFF SW	27
TACHO SENSOR+	28
WIPER INT SIG	29
RIDE CONT. ON	30
RIDE CONT. AUTO	31
WASH SIG	32
BUZZER STOP	33
STEERING P/P PS	34
PARKING SIG	35
BRAKE PS	36

CN-58

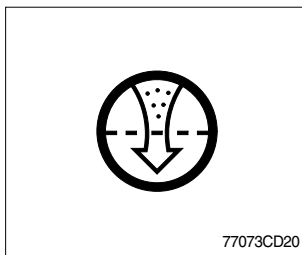


17) TRANSMISSION ERROR WARNING LAMP



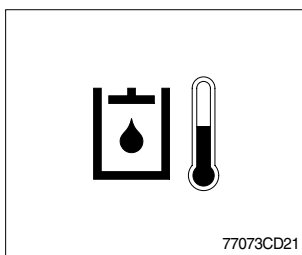
- (1) This lamp lights ON and the LCD display show the error codes when an error occurs in the transmission.
 - (2) Immediately pull the machine to a convenient stop. Stop the engine. Investigate the cause.
- ※ **Consult a HYUNDAI dealer to investigate the cause.**
 - ※ **Do not operate until the cause has been corrected.**

18) AIR CLEANER WARNING LAMP



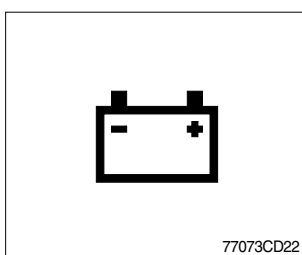
- (1) This lamp operates by the vacuum caused inside when the filter of air cleaner is clogged.
- (2) Check the filter and clean or replace it when the lamp is ON.

19) HYD OIL TEMPERATURE WARNING LAMP



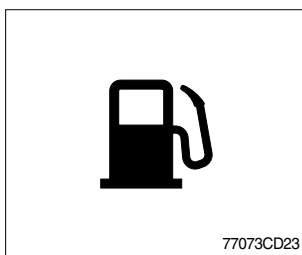
- (1) This warning lamp operates and the buzzer sounds when the temperature of hydraulic oil is over 105°C(221°F).
- (2) Check the hydraulic oil level when the lamp is turned ON.
- (3) Check for debris between oil cooler and radiator.

20) BATTERY CHARGING WARNING LAMP



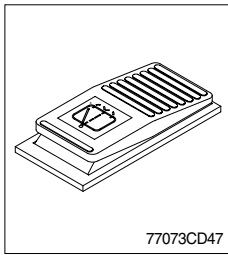
- (1) This lamp is ON when key ON, it is turned OFF after starting the engine.
- (2) Check the battery charging circuit when this lamp comes ON, during engine operation.

21) FUEL LOW LEVEL WARNING LAMP



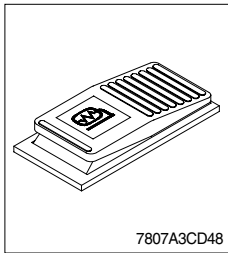
- (1) Fill the fuel immediately when the lamp is turned ON.

7) REAR WIPER AND WASHER SWITCH



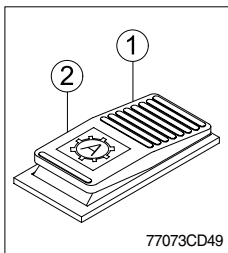
- (1) The switch use to operates the rear wiper and washer by two step.
- **First step** : The rear wiper operates.
 - **Second step** : The washer liquid is sprayed and the rear wiper is operated only while pressing. If release the switch, return to the first step position.

8) MIRROR DEFROST SWITCH(Option)



- (1) If the mirror defrost switch is pressed in condition of key ON, it operates for 15 minutes. After 15 minutes, the defrost function stops automatically.
- (2) One more pressing the switch in operation also stops defrost function.

9) AUTO SELECT SWITCH



(1) Manual mode(①)

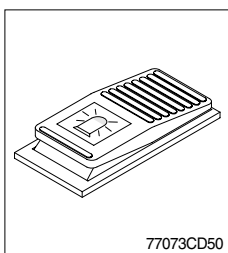
Press the top of the switch for the manual mode of the autoshift function. The operator selects the desired speed and the desired direction in the manual mode with the gear selector lever.

(2) Automatic mode(②)

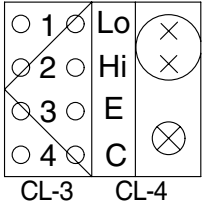
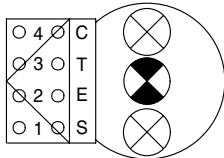
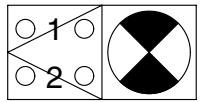
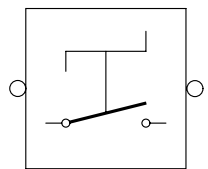
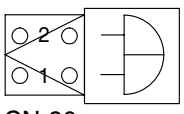
Press the bottom of the switch for the autoshift function in the automatic mode. Press the bottom of the switch prior to shifting the transmission into forward or reverse in order to activate the autoshift function.

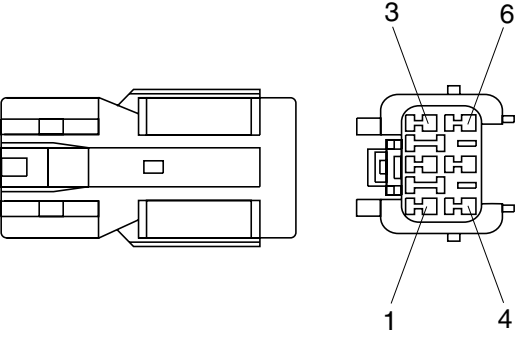
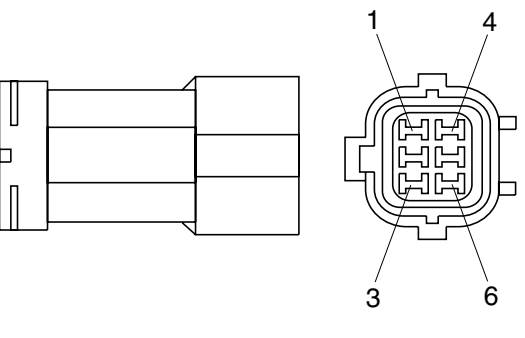
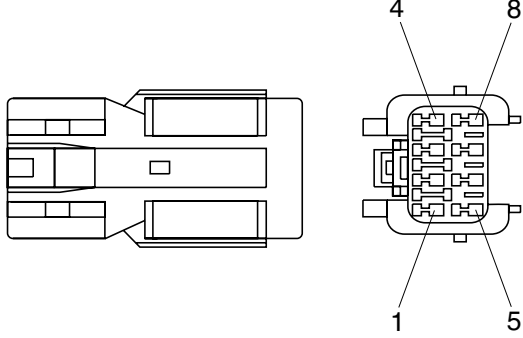
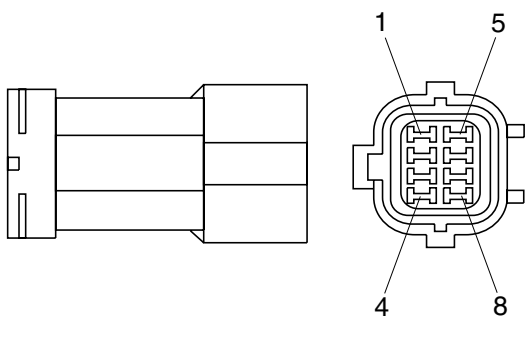
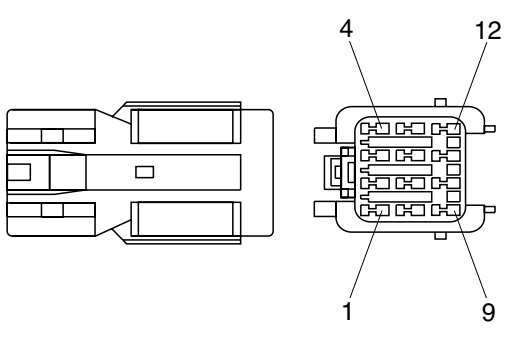
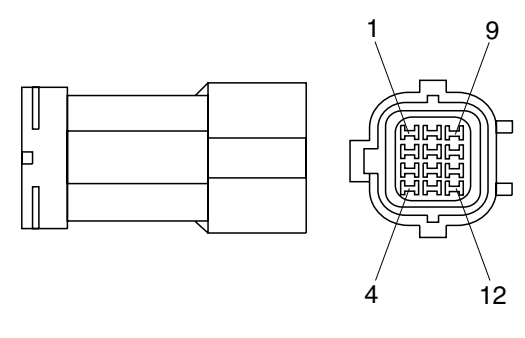
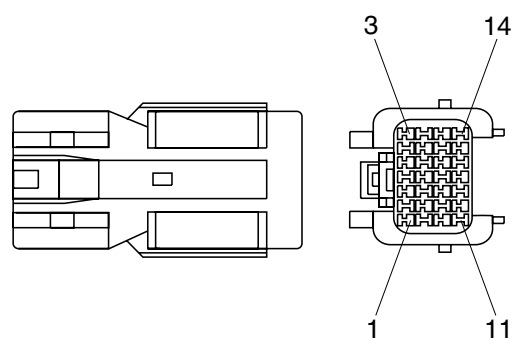
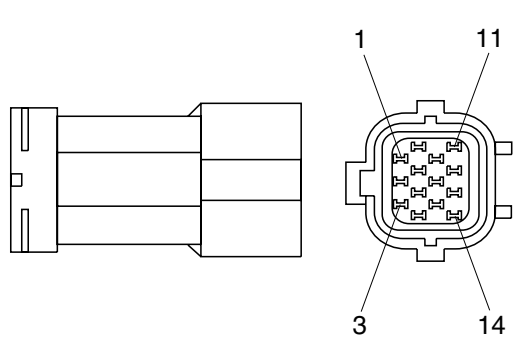
- ※ **The operator can select two kinds of automatic modes.**
(1st ↔ 4th, 2nd ↔ 4th)
- ※ **When the switch failure occurs, it will be able to operate a auto select function from LCD.**
- ※ **Refer to page 7-28.**

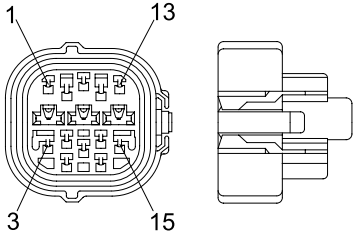
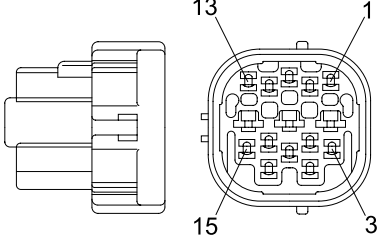
10) BEACON SWITCH (Option)



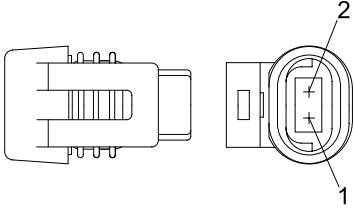
- (1) This switch turns ON the rotary light on the cab.

Part name	Symbol	Specifications	Check item
Head lamp	 <p>CL-3 CL-4</p>	24V 75W/70W (H4 TYPE) 24V 4W (T4W)	Resistance normal : a few Ω
Combi lamp (Rear)	 <p>CL-15 CL-16</p>	24V 5W (R5W) 2 × 24V 21W (P21W)	-
Turn lamp	 <p>CL-24 CL-25</p>	24V 21W (P21W)	-
Master switch	 <p>CS-74</p>	Continuous capacity : 180Amp Push in capacity : 1000Amp	-
Warning buzzer	 <p>CN-26</p>	24V 200mA 90 ± 5dB(1 m)	-

No. of pin	Receptacle connector(Female)	Plug connector(Male)
6	 <p data-bbox="686 627 837 660">S814-006000</p>	 <p data-bbox="1260 627 1412 660">S814-106000</p>
8	 <p data-bbox="686 1030 837 1064">S814-008000</p>	 <p data-bbox="1260 1030 1412 1064">S814-108000</p>
12	 <p data-bbox="686 1433 837 1467">S814-012000</p>	 <p data-bbox="1260 1433 1412 1467">S814-112000</p>
14	 <p data-bbox="686 1836 837 1870">S814-014000</p>	 <p data-bbox="1260 1836 1412 1870">S814-114000</p>

No. of pin	Receptacle connector(Female)	Plug connector(Male)
15	 <p data-bbox="730 631 837 663">368301-1</p>	 <p data-bbox="1279 631 1386 663">2-85262-1</p>

17) METRI-PACK TYPE CONNECTOR

No. of pin	Receptacle connector(Female)	Plug connector(Male)
2	 <p data-bbox="730 1232 837 1263">12040753</p>	

SECTION 1 GENERAL

Group 1 Safety Hints	1-1
Group 2 Specifications	1-10
Group 3 Operational Checkout Record Sheet	1-25

SECTION 2 ENGINE

Group 1 Structure and Function	2-1
Group 2 Fuel warmer system	2-7
Group 3 Engine speed and Stall rpm	2-8
Group 4 Fan drive circuit for cooling system	2-9

SECTION 3 POWER TRAIN SYSTEM

Group 1 Structure and Function	3-1
Group 2 Operational Checks and Troubleshooting	3-61
Group 3 Test and Adjustments	3-72
Group 4 Disassembly and Assembly	3-75

SECTION 4 BRAKE SYSTEM

Group 1 Structure and Function	4-1
Group 2 Operational Checks and Troubleshooting	4-31
Group 3 Tests and Adjustments	4-39
Group 4 Disassembly and assembly	4-41

SECTION 5 STEERING SYSTEM

Group 1 Structure and Function	5-1
Group 2 Operational Checks and Troubleshooting	5-15
Group 3 Tests and Adjustments	5-23
Group 4 Disassembly and Assembly	5-30

SECTION 6 WORK EQUIPMENT

Group 1 Structure and Function	6-1
Group 2 Operational Checks and Troubleshooting	6-36
Group 3 Tests and Adjustments	6-47
Group 4 Disassembly and Assembly	6-63

CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL

- Thank you very much for reading the preview of the manual.
- You can download the complete manual from: www.heydownloads.com by clicking the link below



- Please note: If there is no response to CLICKING the link, please download this PDF first and then click on it.

CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL