WSM

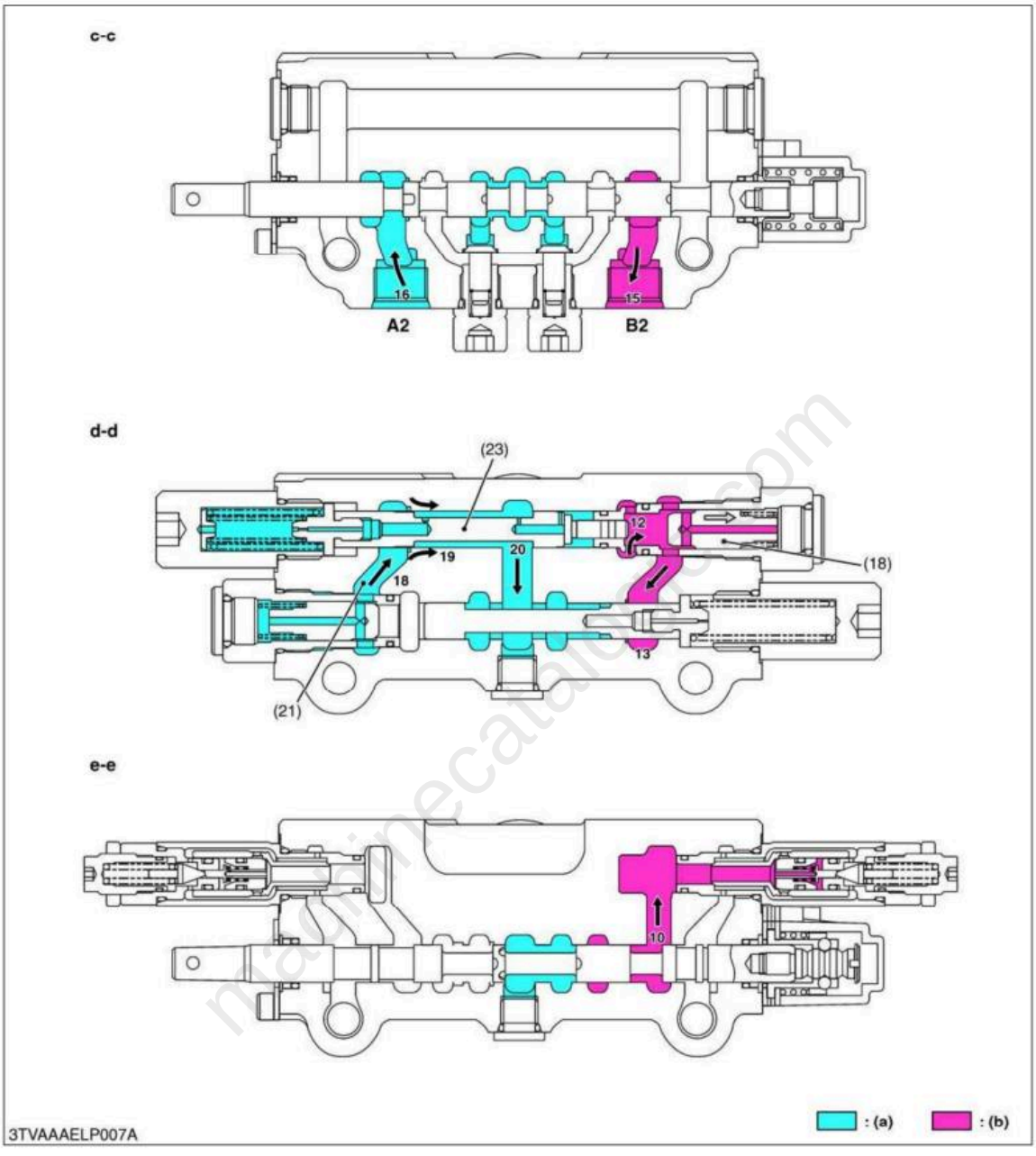
WORKSHOP MANUAL
FRONT LOADER

LA1403AU

Kubota

KiSC issued 07, 2010 A

Self-leveling on Boom Up (Figure 3)



(18) Check Valve
(21) Passage **H**
(23) Raising Sequence Spool

A2 : A2 Port (Connected Bucket Cylinder Rod Side)
B2 : B2 Port (Connected Bucket Cylinder Bottom Side)

c-c : Bucket Section
d-d : Sequence Section
e-e : Self-leveling Section

(a) Low Pressure
(b) Middle Pressure
1 to 22 : Oil Flow

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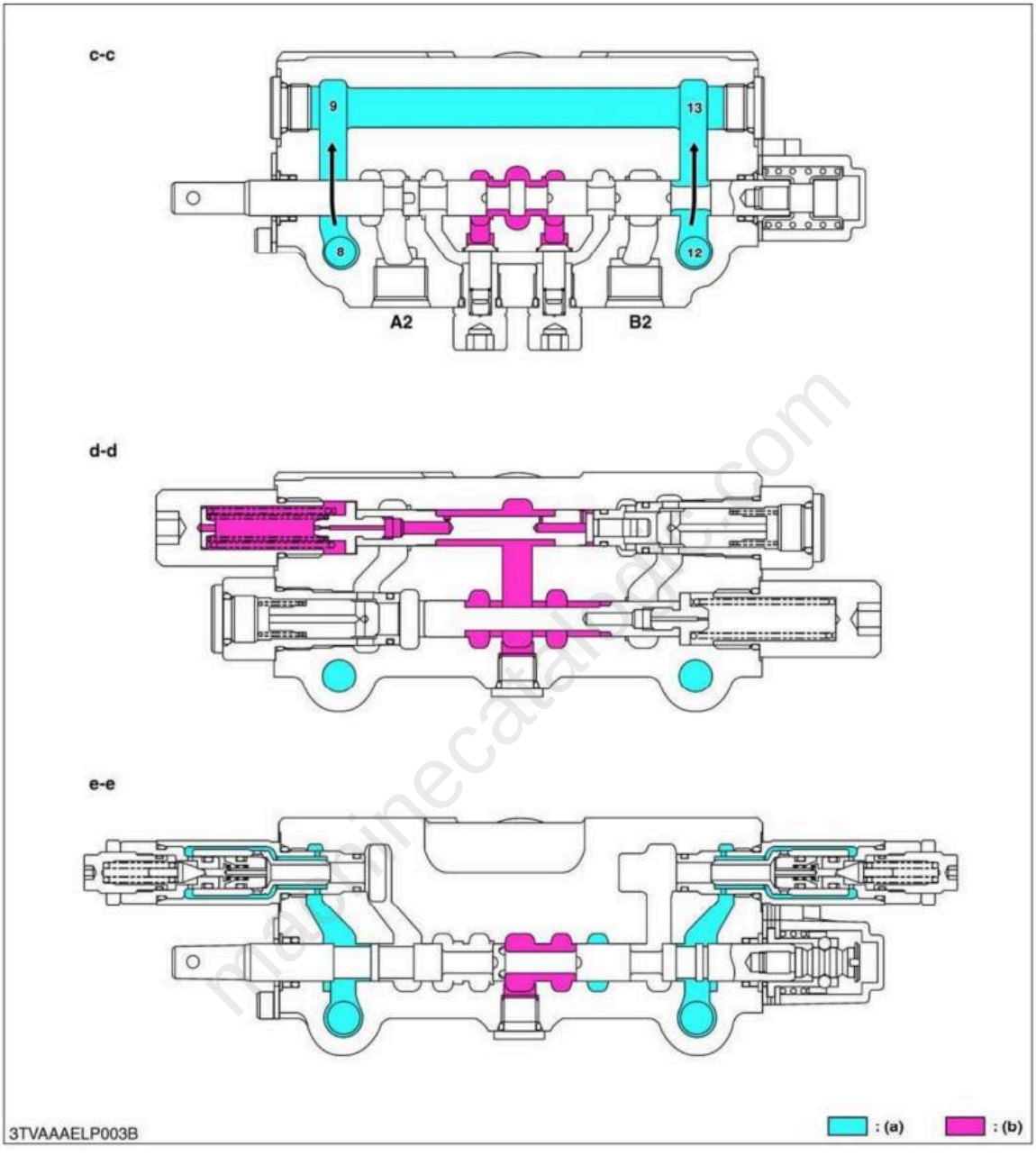
Boom Floating (Figure 3)



A2 : A2 Port (Connected Bucket Cylinder Rod Side)
B2 : B2 Port (Connected Bucket Cylinder Bottom Side)
c-c : Bucket Section
d-d : Sequence Section
e-e : Self-leveling Section
(a) Low Pressure
(b) Middle Pressure
1 to 14 : Oil Flow

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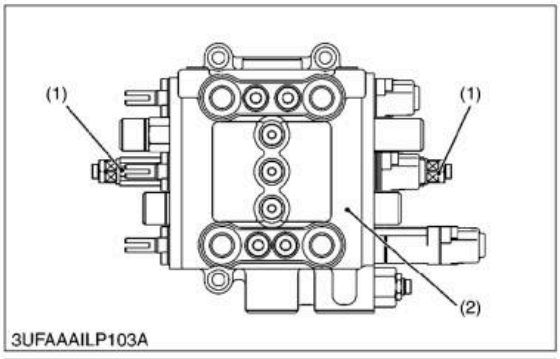
(2) Overload Relief Valve



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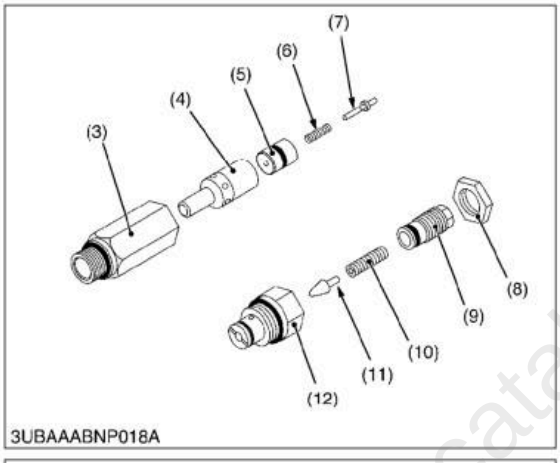

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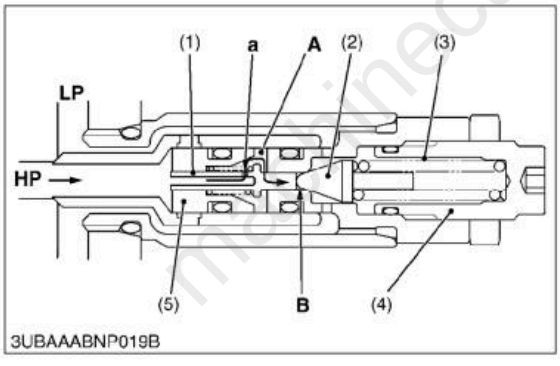

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Overload relief valve in this control valve is a combination valve combining a relief operation and anti-cavitation operation.

■ **Relief Operation**

When the control valve is in the neutral position, both cylinder ports of control valve are blocked by the spool. If an external load is imposed on the cylinder, pressure builds in the circuit.

When the pressure exceeds the set level of the overload relief valve, the relief valve opens and the oil returns to tank. In this way, the hydraulic circuit and actuator are protected from excessive pressure.

■ **Anti-cavitation Operation**

Overload relief valve also has anti-void function. If negative pressure takes place in the circuit, the oil is fed from the tank to eliminate the negative pressure.

(1) Overload Relief Valve
(2) Control Valve
(3) Housing
(4) Check Valve Poppet
(5) Relief Valve Poppet
(6) Piston Spring
(7) Piston Poppet
(8) Lock Nut
(9) Adjusting Screw
(10) Pilot Spring
(11) Pilot Poppet
(12) Pilot Section

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Relief Operation

[When the actuator port pressure is lower than the setting]

The cylinder port **HP** is applied to the seat **B** in the following route : first through the throttle **a** of the piston poppet (1) built in the relief valve poppet (5), second through the spring chamber **A**, and then through the circular clearance between the adjusting screw (4) and the piston poppet (1). This cylinder port **HP** works to open the pilot poppet (2). Because the piston spring (3) has not reached the set pressure, however, the valve stays shut. In this way, the seat remains intact and the relief valve poppet (5) stays shut.

(1) Piston Poppet
(2) Pilot Poppet
(3) Piston Spring
(4) Adjusting Screw
(5) Relief Valve Poppet

HP : High Pressure
LP : Low Pressure
A : Chamber
B : Seat
a : Throttle

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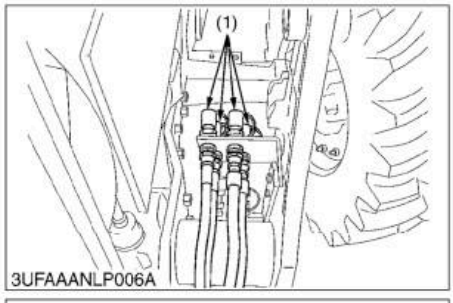
[2] HYDRAULIC HOSE

(1) Standard Type



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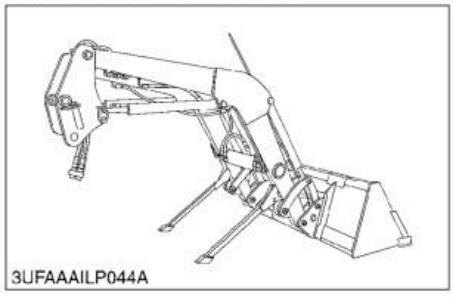
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Hydraulic Hoses

1. Slowly release all hydraulic pressure by moving the hydraulic control lever in all directions.
2. Disconnect the four hoses with quick couplers at the control valve and place them on the right side of the boom.
3. Place the protective caps and plugs on the quick coupler ends.
4. Start the engine and slowly back the tractor away from the loader.

(1) Protective Plug

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Full Version Available

Kubota LA1403AU Front Loader Workshop Manual

This is a short preview. The complete manual contains all chapters, wiring diagrams, torque specifications and full service procedures.