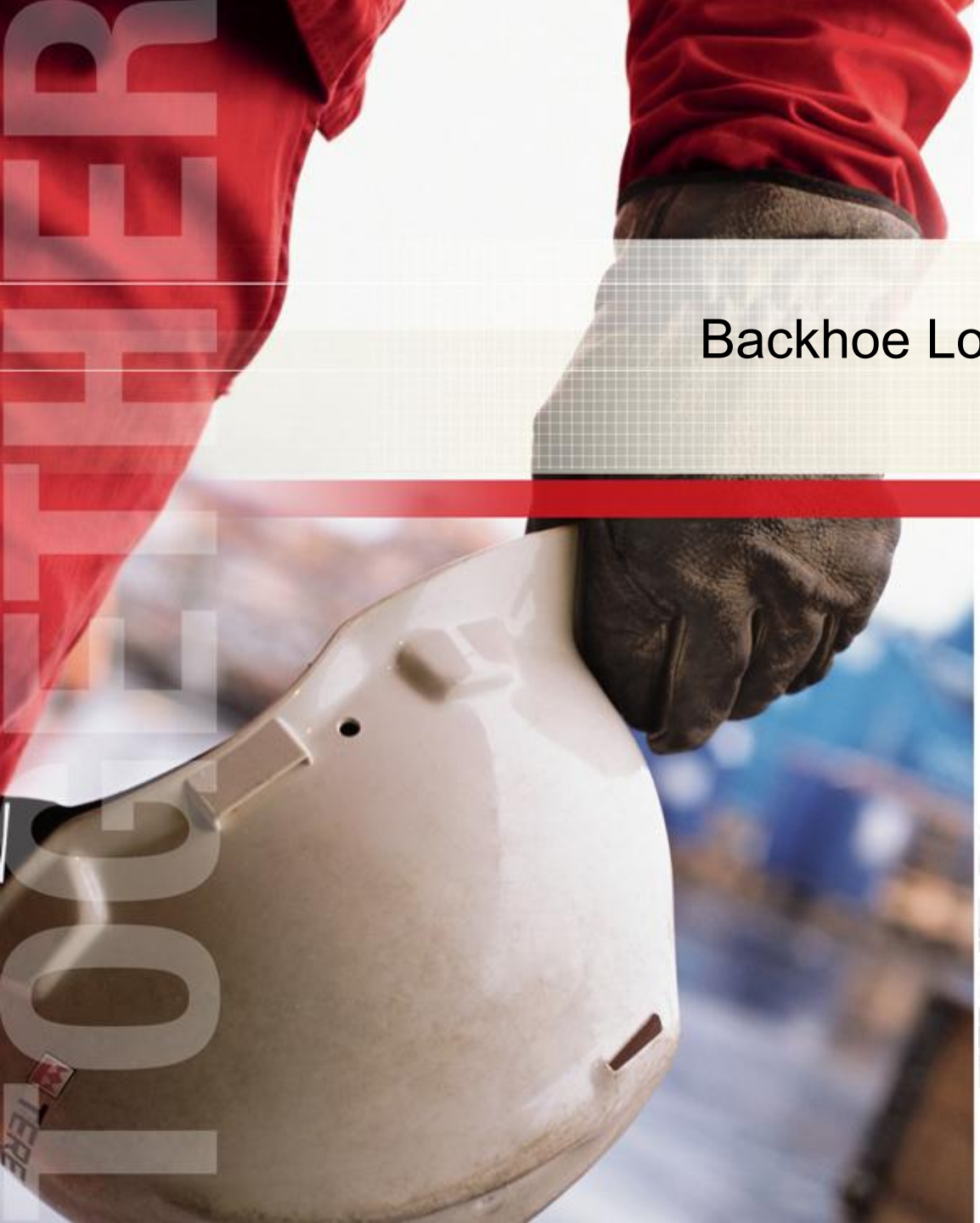


Backhoe Loader H200 Level 2 Pt 3

05-2008

TEREX®

Coventry

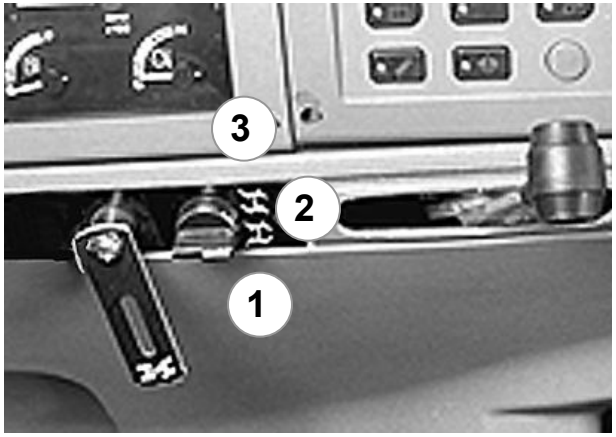
* 4 Wheel Steering *

CASAPPA
FLUID POWER DESIGN

Rexroth
Bosch Group

PROTECT THE ENVIRONMENT

4 Wheel Steering Mode Switch – 970/980 models

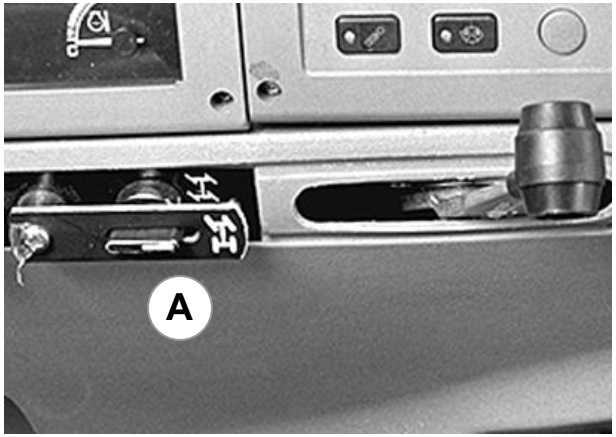


Located under the side control panel, this switch makes it possible to select 4 wheel steering, two wheel steering or crab steering. The switch has three positions:

Position 1: 4 wheel steering.

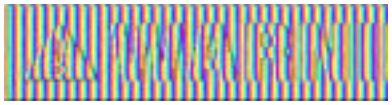
Position 2: 2 wheel steering.

Position 3: crab steering.

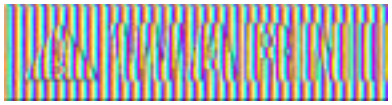


The tab (A) is used to lock the switch in 2 wheel steer position.

Before under taking any road travel, select two wheel steer position and place the tab over the switch to lock it in this position.

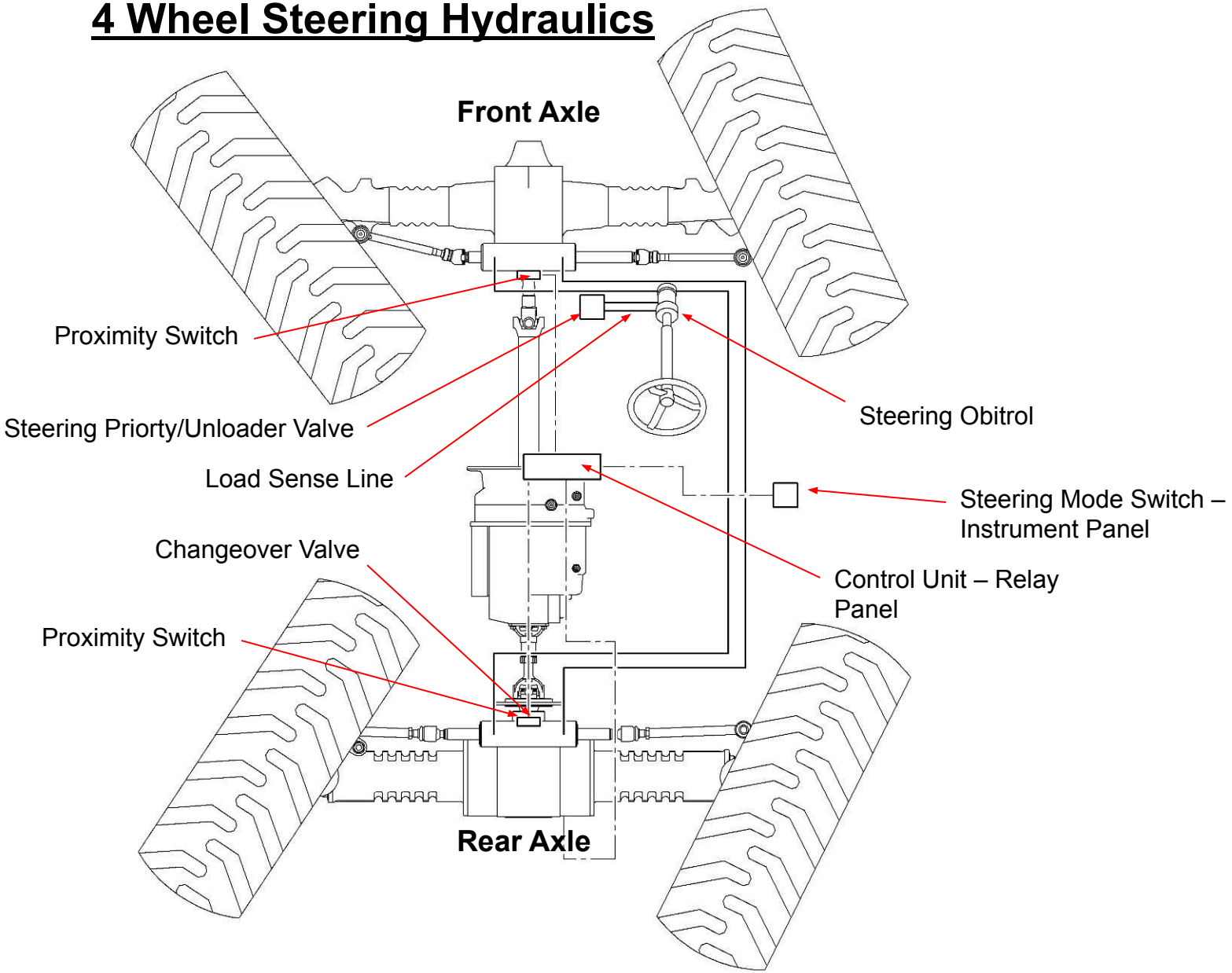


Any malfunction must be reported to your local dealer immediately.



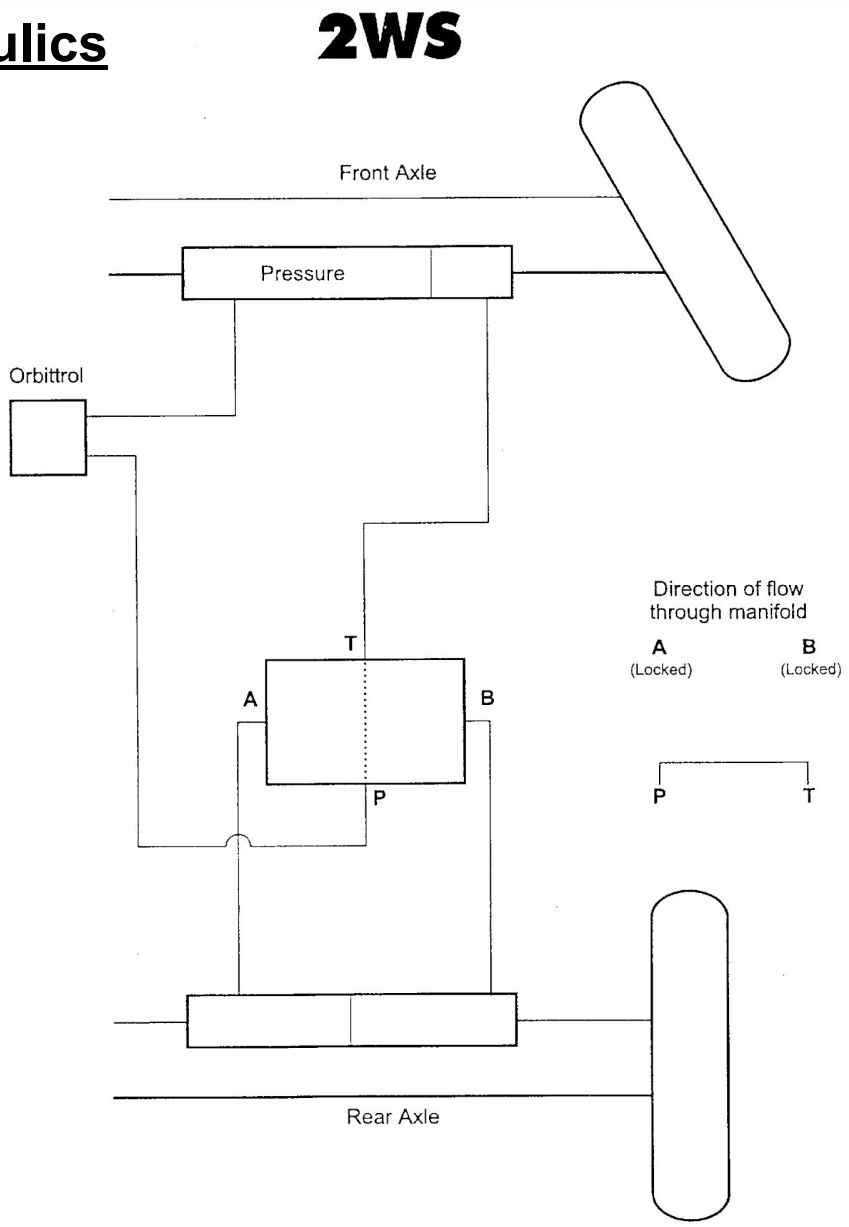
Travel at on-road speeds in 4WS mode can result in loss of control or unexpected swing-out of the rear end. Travel in crab mode will prevent the normal negotiation of bends, corners and intersections.

4 Wheel Steering Hydraulics

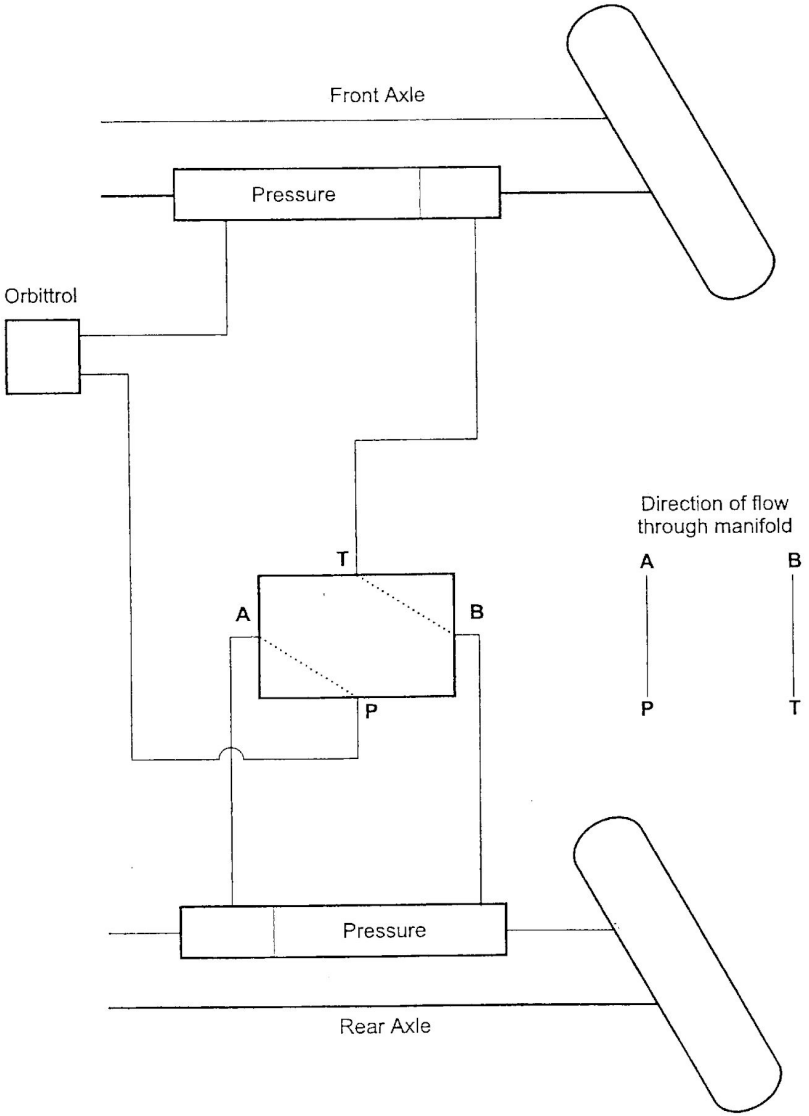


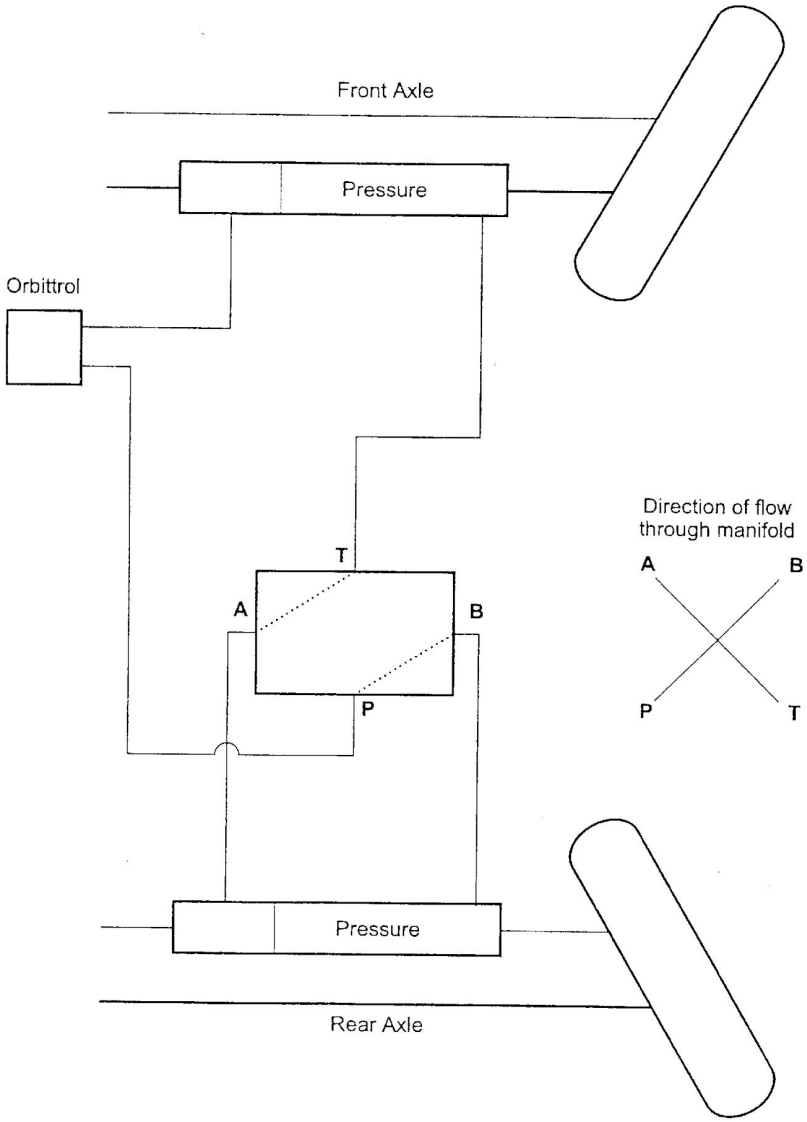
4 Wheel Steering Hydraulics

Changeover Valve Oil Flow – Wheel Orientation

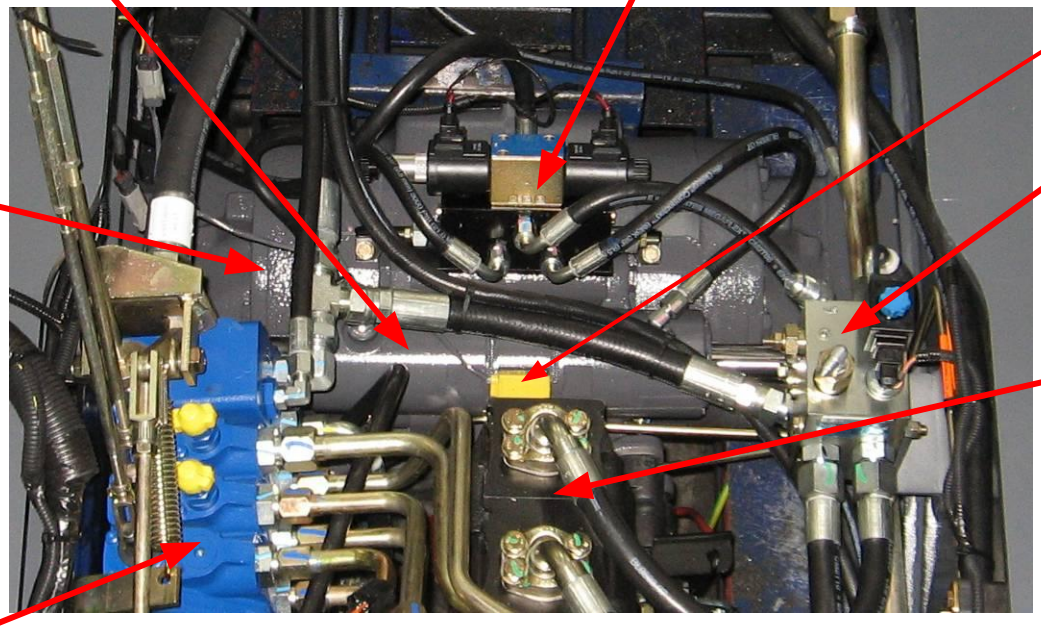


CRAB 4 Wheel Steering Hydraulics 4WS





4 Wheel Steering Hydraulic Locations
Rear Axle



Both the front and rear axle have a similar build, with a proximity switch in the centre position on the steering cylinder on both axles.

4 Wheel Steering Misalignment

Some customers have noticed that when the machine has been standing for a period of time that the rear wheels may drift to the left or right hand side by approximately 15mm measured from the tyre outer circumference.

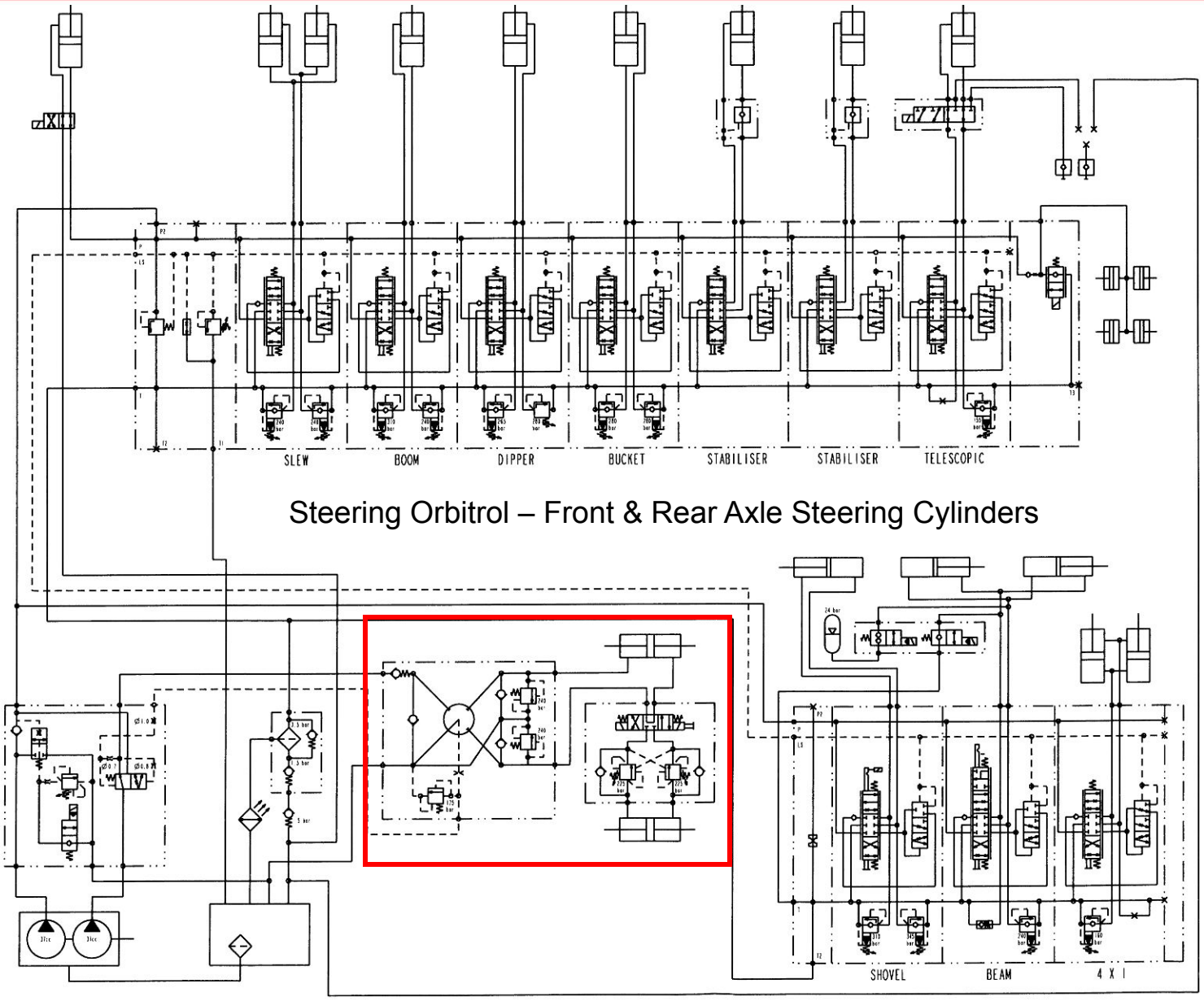
To rectify this problem you should reset the steering as described in the operator's manual under Operating Instructions ‘970/980 Steering Selection’:

- Select 2WS.
- Press and HOLD reset button.
- Turn wheels onto same lock as rear wheels (as in 4WS)
- Select 4WS – then release button.
- Press and HOLD reset button.
- Turn front wheels until they pass through the centre position, then release button.
- Re-select 2WS and turn the front wheels until 2WS is engaged.

This operation should be carried out at the start of each day & any other time you become aware of the drift.

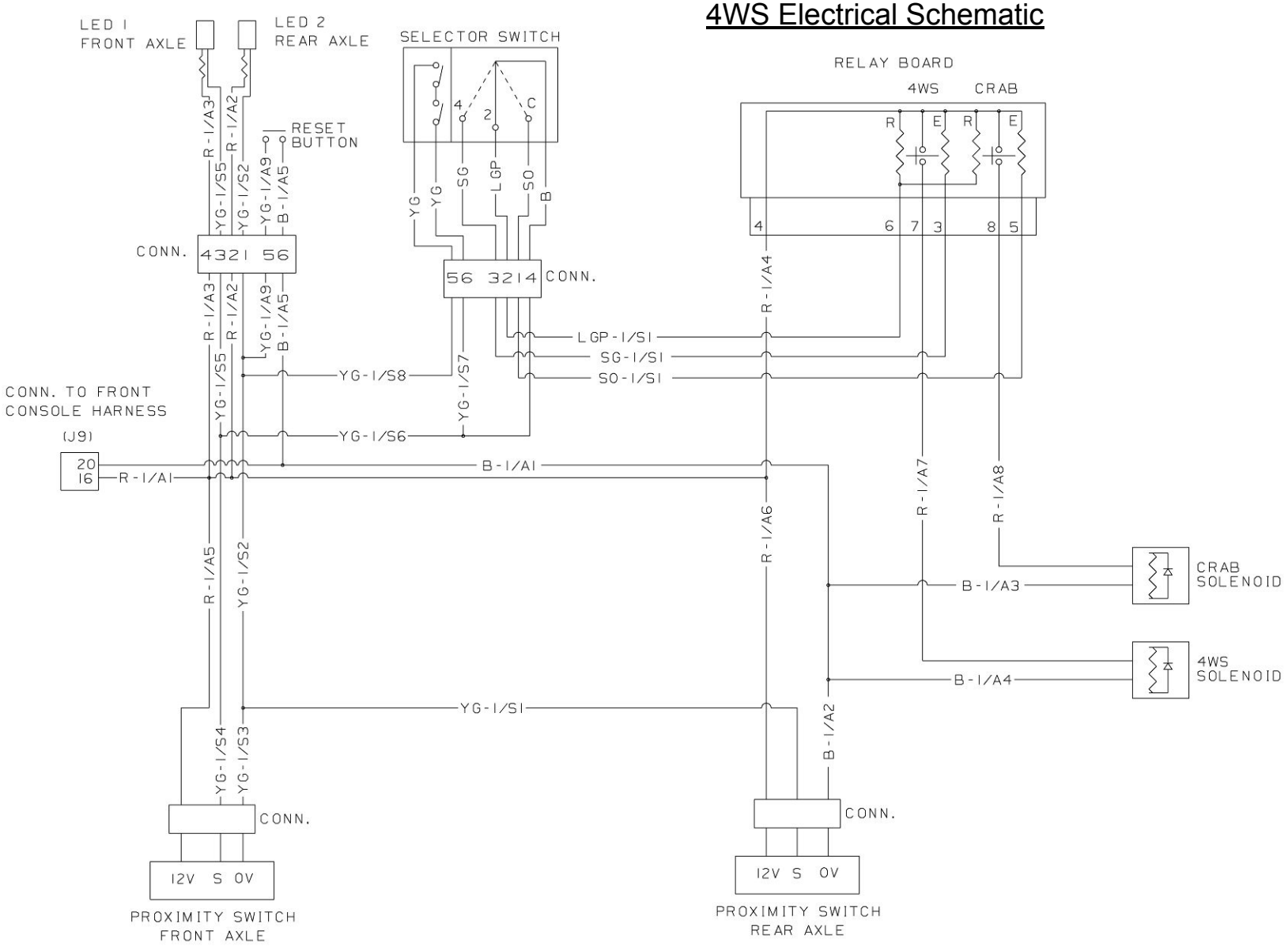
4 Wheel Steering Misalignment

Backhoe Loader Level 2



Steering Orbitrol – Front & Rear Axle Steering Cylinders

4WS Electrical Schematic



* Servo Controls *

CASAPPA
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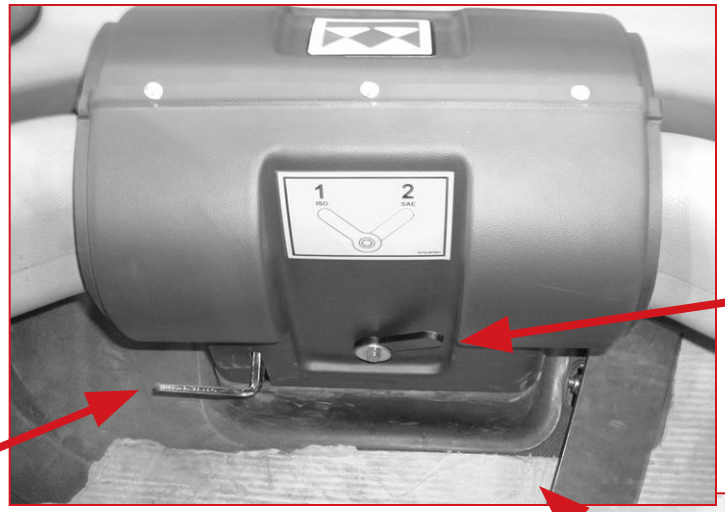
Bosch Group

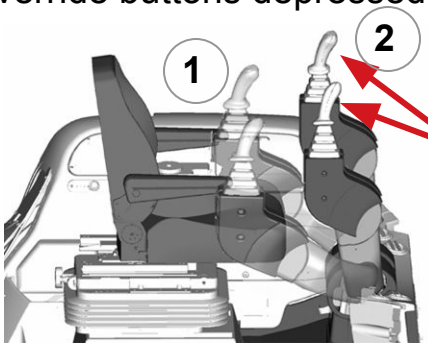
PROTECT THE ENVIRONMENT

Servo Assisted Backhoe Console

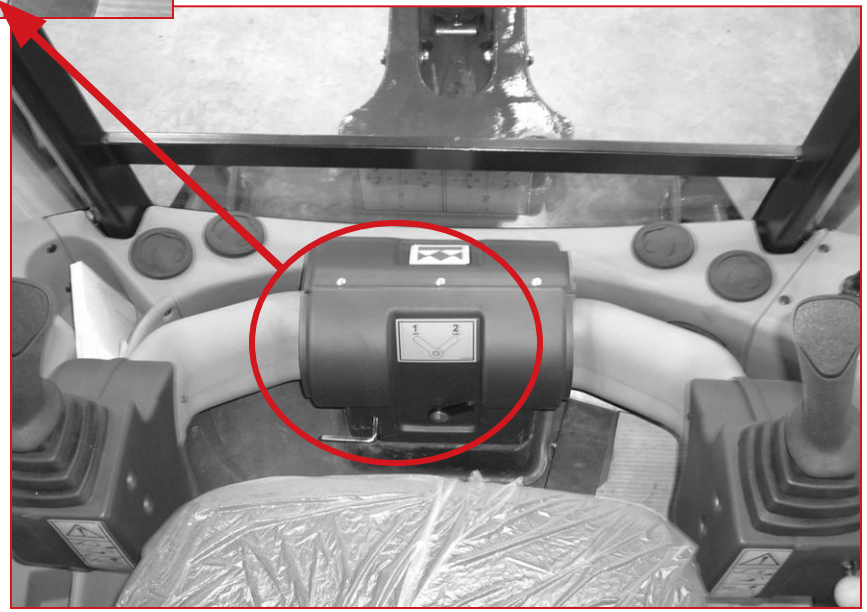


Configuration Changeover Valve – This enables the controls to be switched from (1) ISO (European community only) to (2) SAE (Non-European community).

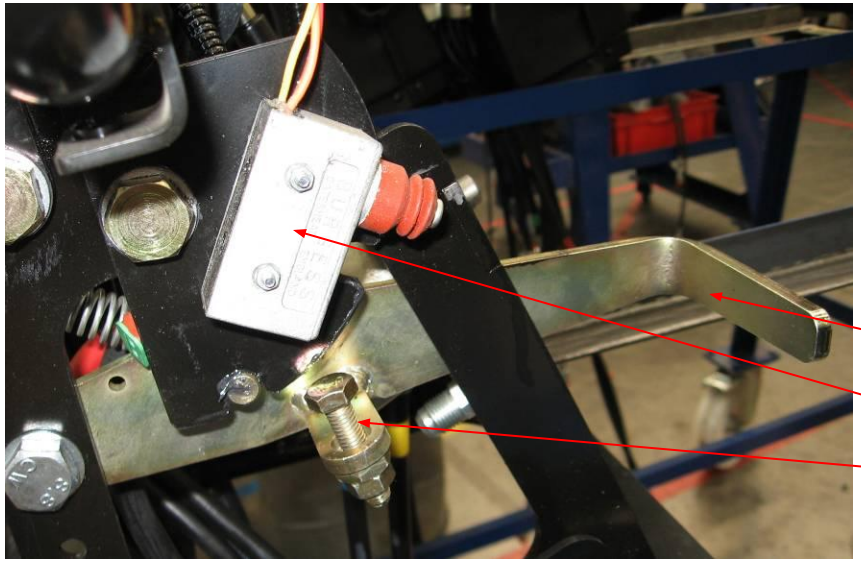
Servo Console Position Lock – The console has two operating positions (1) Working position depressed override button once to activate the controls (2) Transport position controls will ***ONLY*** operate in the transport position with either of the override buttons depressed.



Override Buttons - located on the front of the joystick controls.



Servo Assisted Backhoe Console



Located inside the bottom control arm covers is the servo pilot pressure control switch. When this is locked into position the controls are in normal operation and not transport mode.

Servo control arm lock release lever

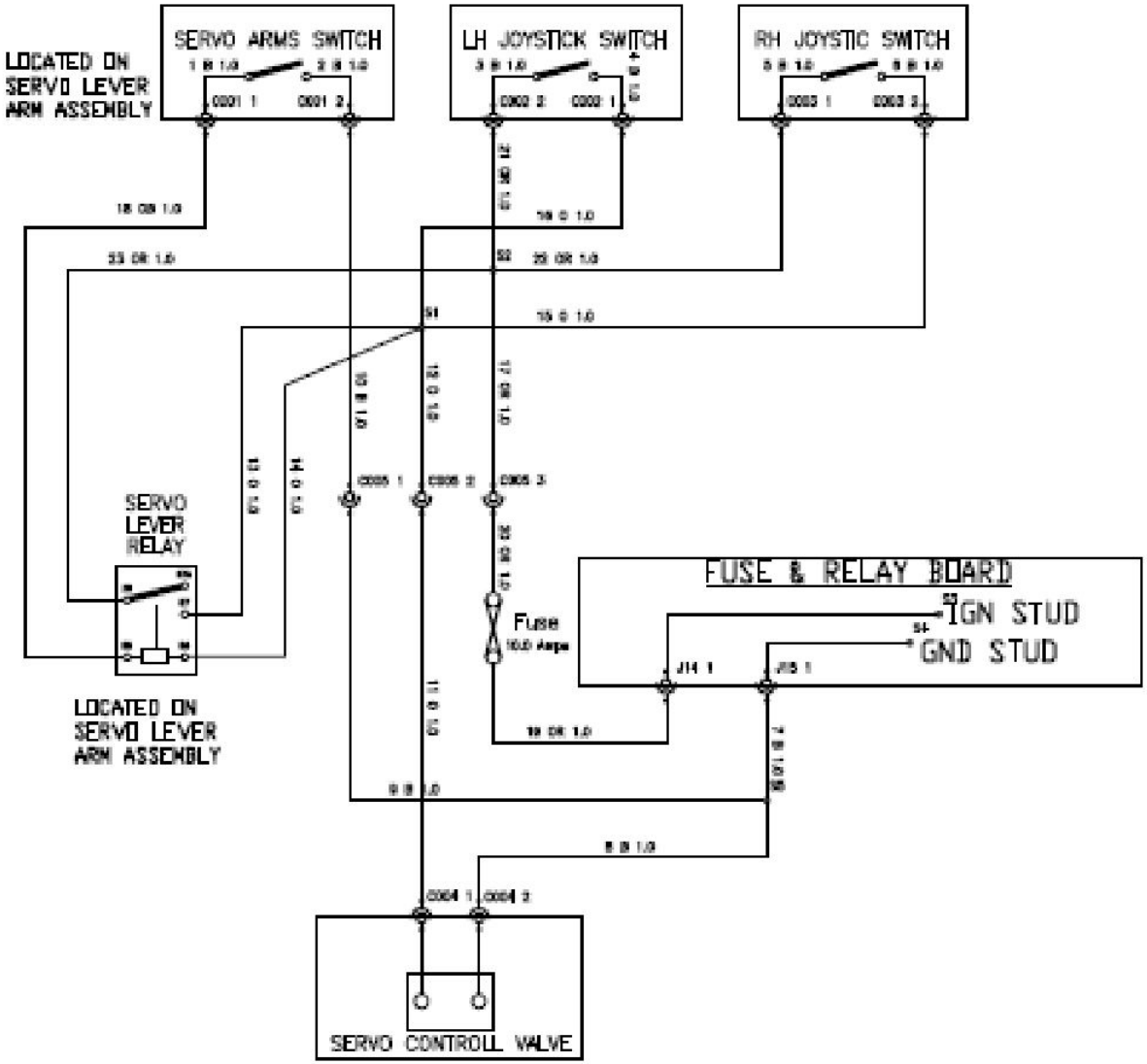
Cut out switch

Switch adjuster

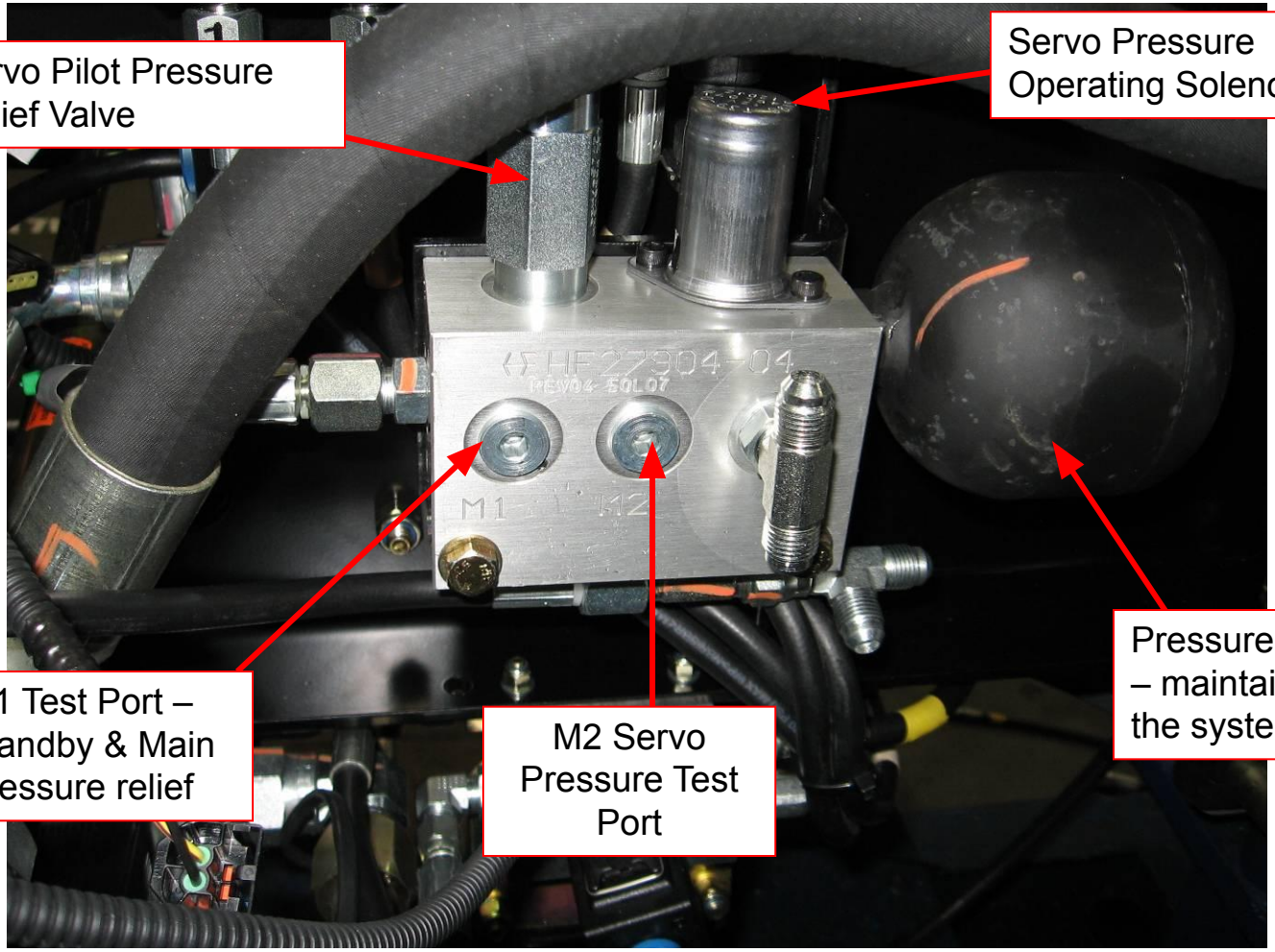
Note:

Servo Pilot Pressure (35Bar) When testing this pressure the machine when started needs to have a cylinder dead headed first to charge the accumulator pressure. Otherwise it will only read standby pressure (21Bar).

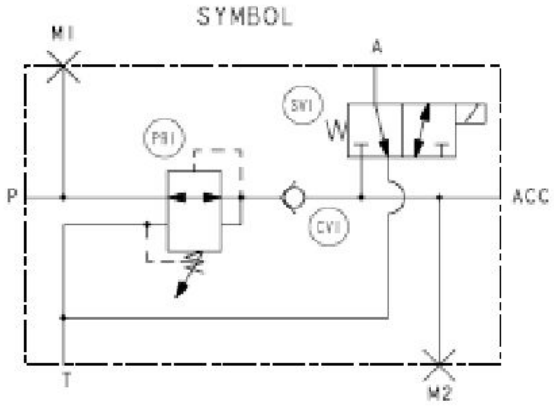
Hydraulic Servo Control Electrical Circuit

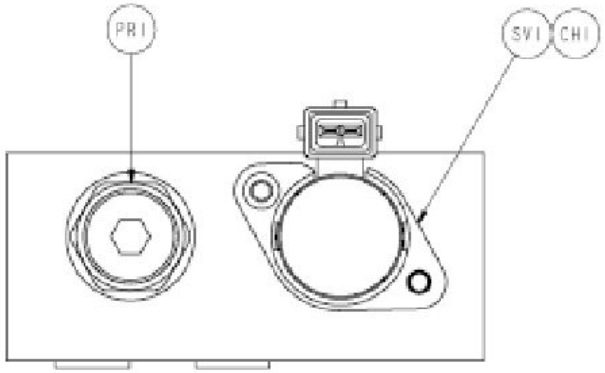


Servo Control Pilot / Combination Pressure Valve



Servo Control Pilot / Combination Pressure Valve

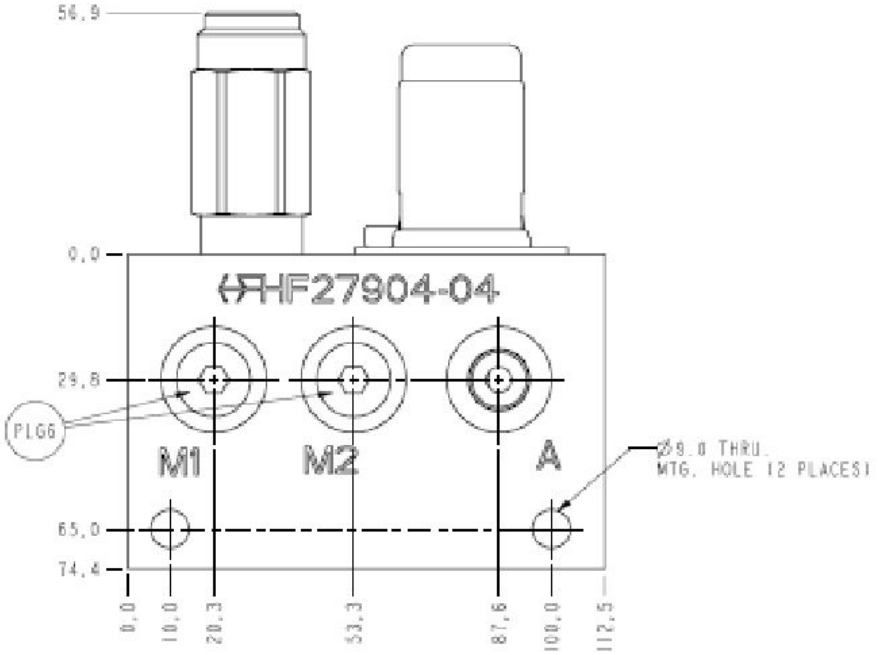


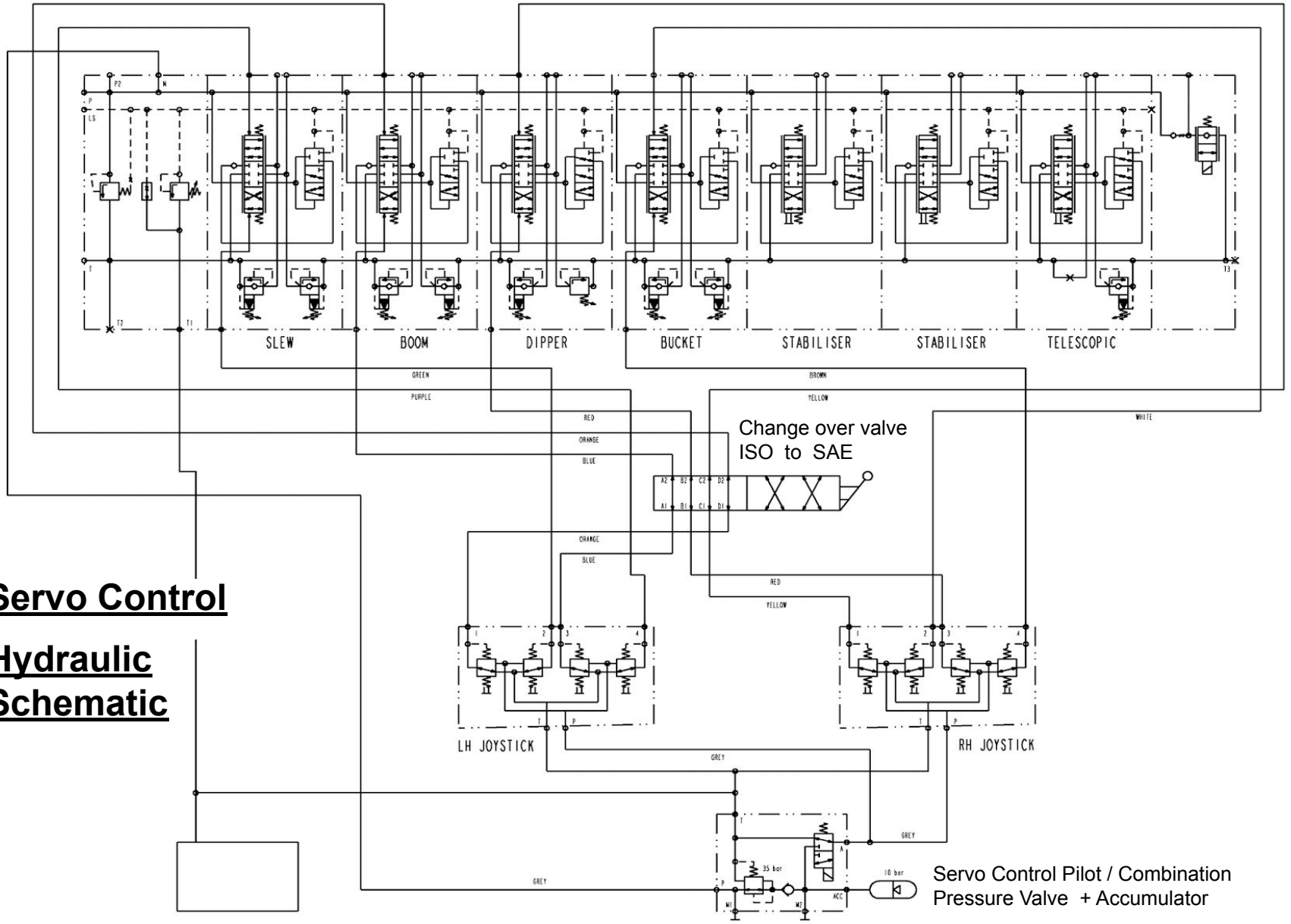


The servo control combination valve reduces the 207bar pressure from the backhoe valve to 35bar.

The reduced pressure is then used by the joystick controllers to operate the opening and closing of the spools in the backhoe valve.

In the event of a total machine failure, a gas accumulator is fitted to allow the controls to be operated to return the boom and bucket to a safe position with the aid of gravity.

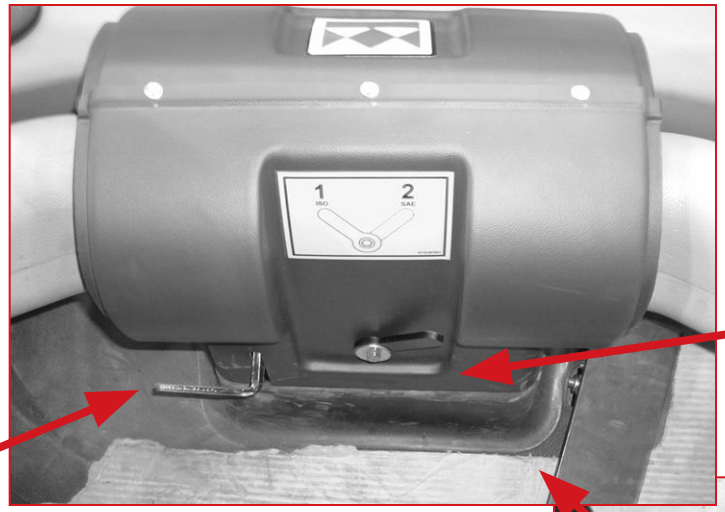




Servo Control

Hydraulic Schematic

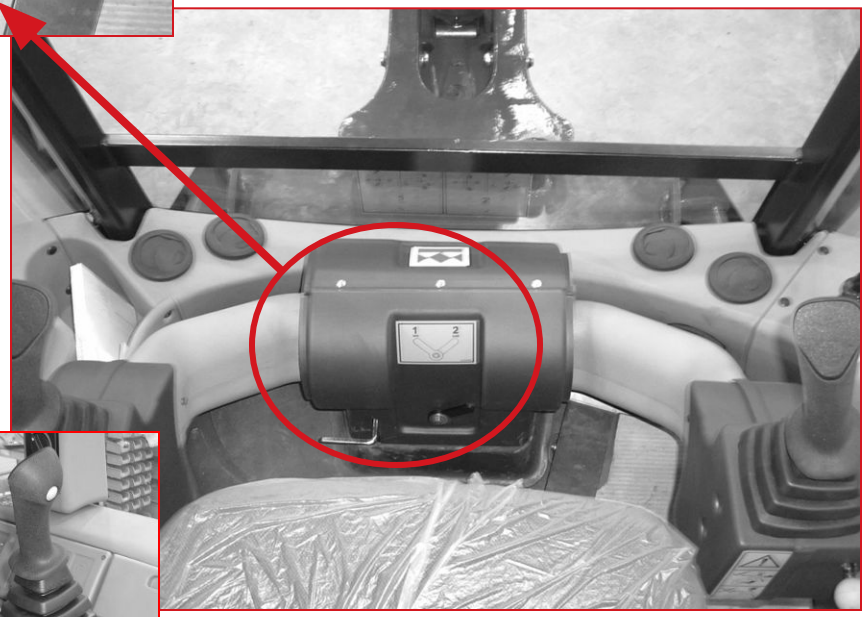
Servo Assisted Backhoe Console

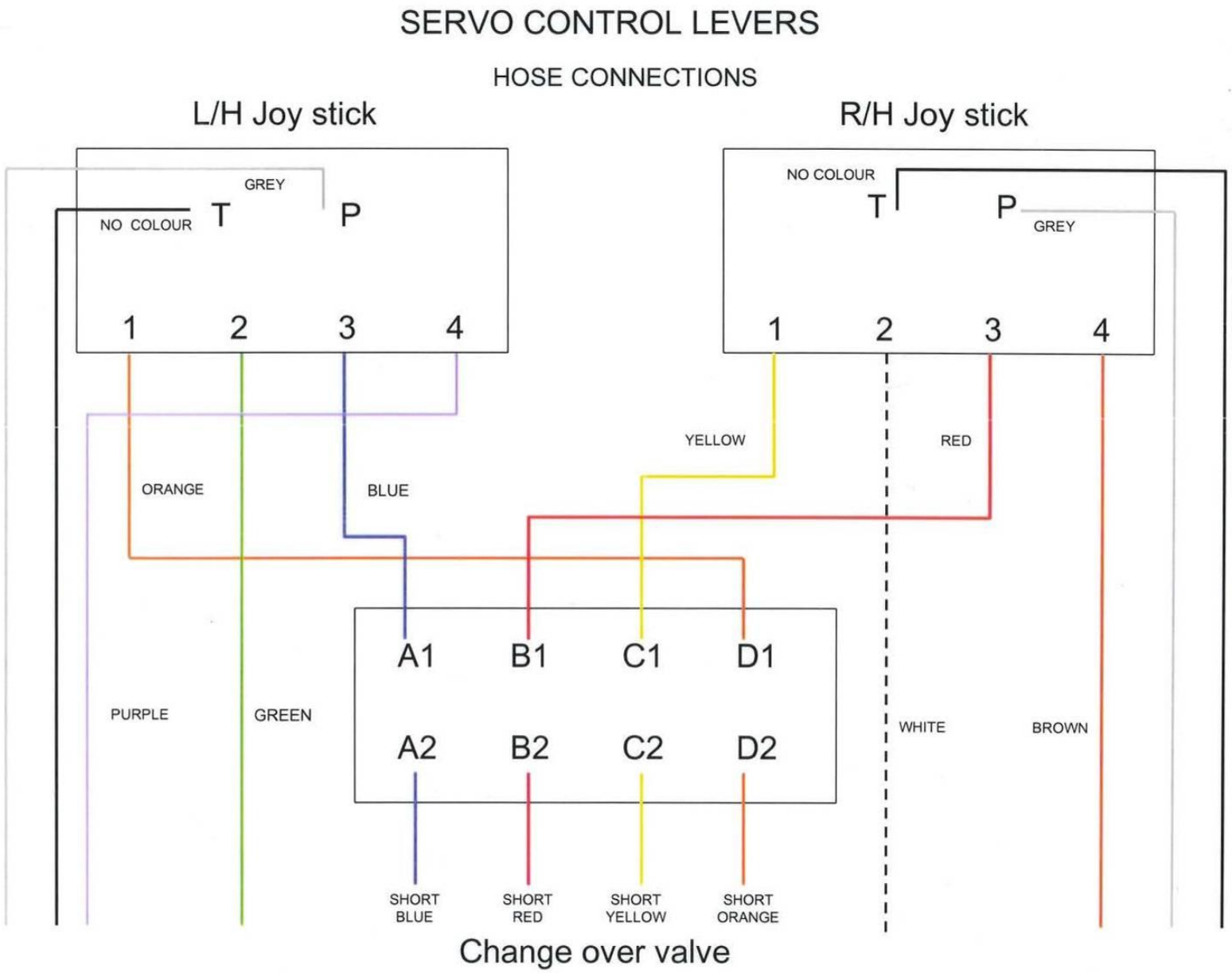


Configuration Changeover Valve – This enables the controls to be switched from (1) ISO (European community only) to (2) SAE (Non-European community).

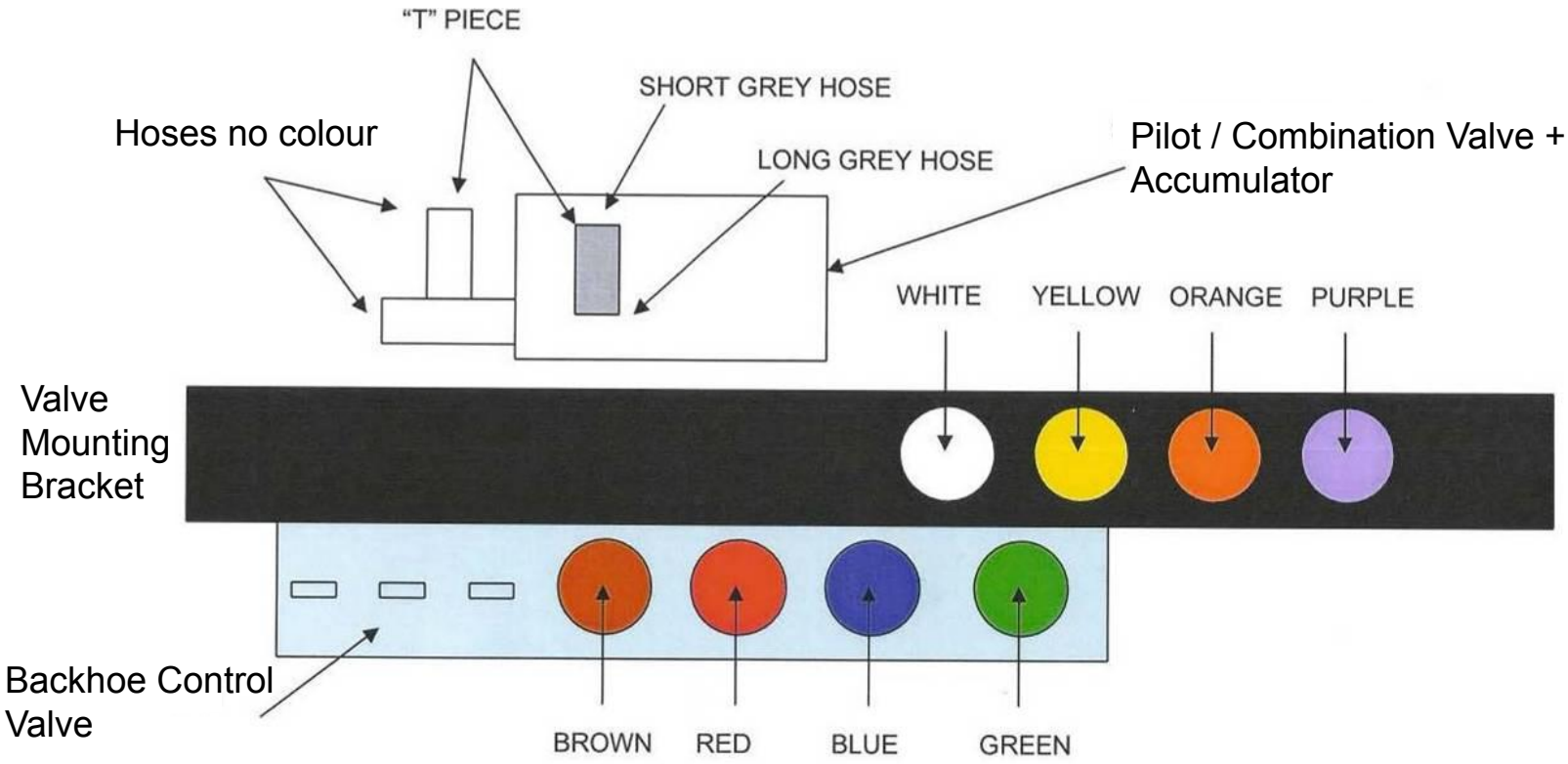
Servo Console Position Lock – The console has two operating positions (1) Working position depressed override button once to activate the controls (2) Transport position controls will ***ONLY*** operate in the transport position with either of the override buttons depressed.

Override Buttons - located on the front of the joystick controls.




SERVO CONTROL LEVERS
HOSE CONNECTIONS
L/H Joy stick
R/H Joy stick
GREY
NO COLOUR
T
P
1
2
3
4
NO COLOUR
T
P
GREY
1
2
3
4
ORANGE
BLUE
YELLOW
RED
A1
B1
C1
D1
A2
B2
C2
D2
PURPLE
GREEN
WHITE
BROWN
SHORT BLUE
SHORT RED
SHORT YELLOW
SHORT ORANGE
Change over valve

Servo Machines Cab Fit Hose Connections



Connect 4 colour coded hoses to the "T" pieces on the pilot valve as shown above before fitting the cab.

When the cab is fitted, connect and secure 4 colour coded hoses in order as shown above to the connectors on the valve bracket.

Next connect & secure the 4 remaining colour coded hoses in order as shown above to the connectors on the digger valve.

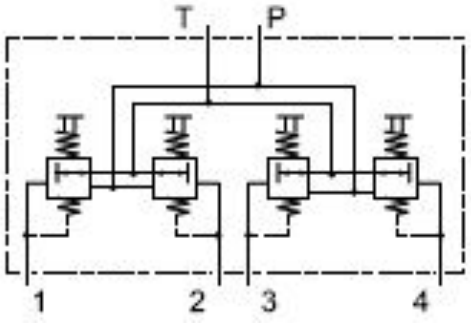
Joystick Controller

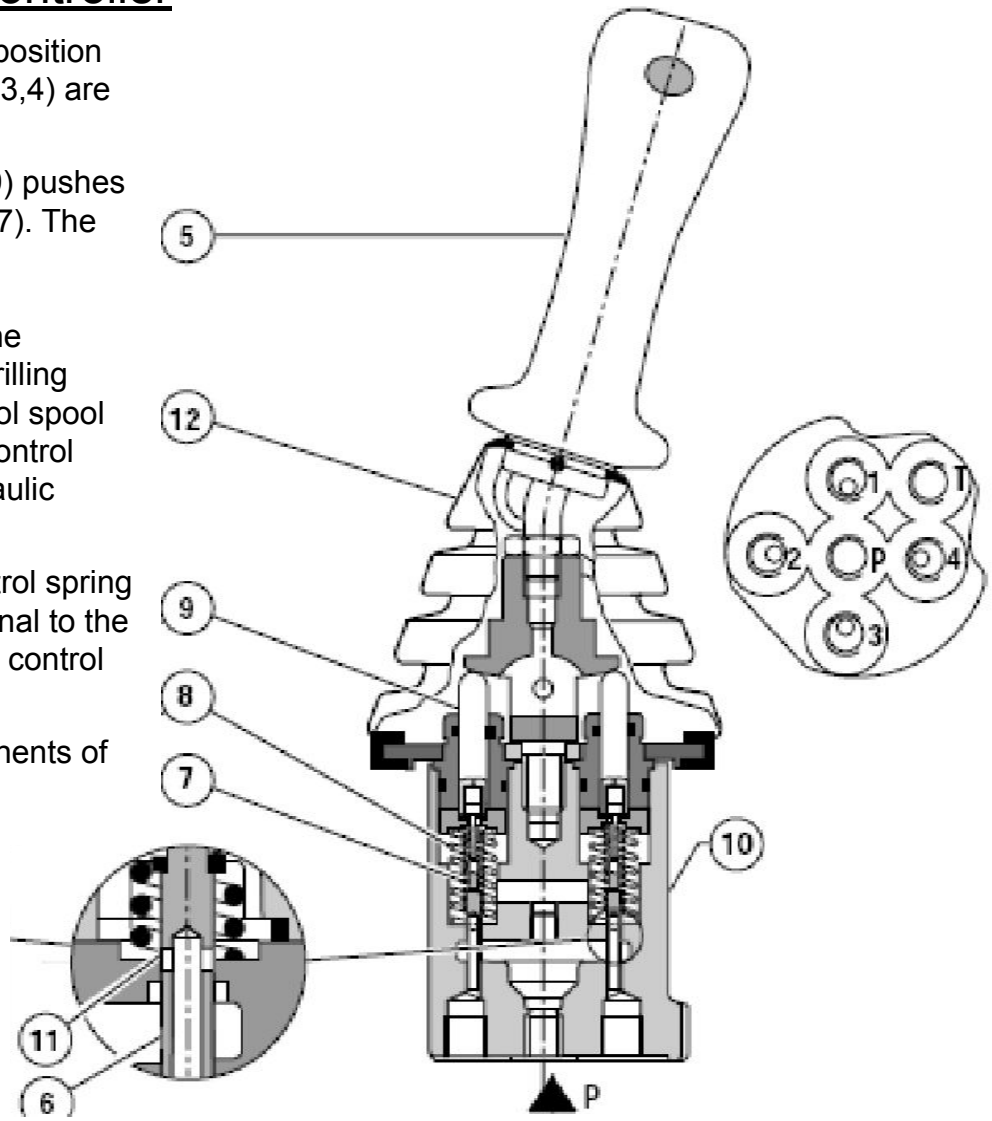
When not activated the control lever is held in zero position by the four return springs (8). The control ports (1,2,3,4) are connected to the tank port T via the drilling (11).

With deflection of the control lever (5) the plunger (9) pushes against the return spring (8) and the control spring (7). The control spring (7) firstly moves the control spool (6) downwards and closes the connection between the appropriate port and tank port T. At the same time the appropriate port is connected to the port P via the drilling (11). The control phase begins as soon as the control spool (6) has found its balance between the force of the control spring (7) and the force which results from the hydraulic pressure in the appropriate port(1,2,3,or 4).

Through the interaction of control spool (6) and control spring (7) the pressure in the appropriate ports is proportional to the stroke of the plunger (9) and thus the position of the control lever (5).

A rubber gaiter (12) protects the mechanical components of the housing from contamination.





THANK – YOU !!!

HOPEFULLY YOU HAVE LEARNT SOMETHING AND CAN GO AWAY WITH SOME USEFULL KNOWLEDGE AND INFORMATION.

MANY THANKS FOR YOUR TIME.