NOT FOR PUBLIC RELEASE

VEHICLE REAR

VEHICLE FRONT

D3
D4
D1
D2
DRIVING MOTOR

V1
V2
V3
VIBRATION MOTOR

AXIAL PUMP

B1
BREAK

LEFT
TOP
P1
P2
Bottom
RIGHT
P3
P4

G1 ¼"Gas
TOP
G2 ¼"Gas
Bottom
GEAR Pump

STEERING

M20x1.5
S4
S3
S2
S1

OIL COOLER

O1
O2

HYDRAULIC TANK

T7
T8
G ¼"
T1
T2
T5
T3
T4
T6

C1
C2
CYLINDER

MANIFOLD BLOCK

M1
M2
SAE 6
M3
M4
M5
G ¼

V4
V5
V6
⅛"BSP
VIBRATION MOTOR

DRIVING MOTOR
D7
D8
D5
D6

Hydraulics Details & Steering

07/12/2011

Problem-1: Structural problems

Solution: In this present prototype machine we cannot do much on this problem. This happened because of slight misalignment while welding the structure; we have made further changes to avoid this problem in future.

Problem -2: Steering Problems

"The steering wheel jams when we are in abutment to the right, then, when we want to turn the steering wheel to the left there is a blocking"

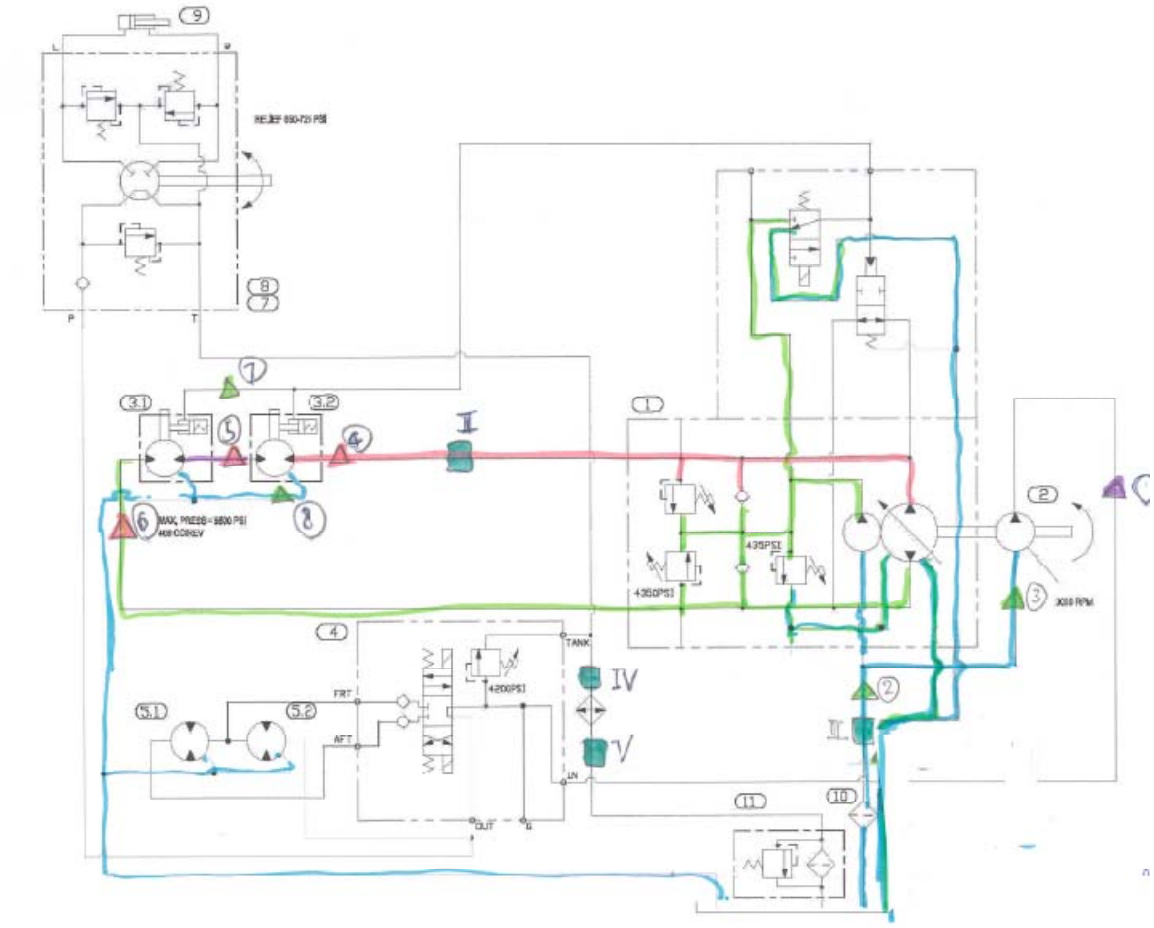
Solution:

1. We are not very clear about this problem. While we testing in field we haven't faced this problem.
2. If you can send us a video or details about the blocking problem, we can try to find a solution for this. This will help us to improve the system. Please help us on this.
3. We would like to know, While turning the steering what exact problem the operator facing? He has to give more effort? They feel number of turns is more?

Hydraulic Details.

Our hydraulic circuit mainly consists of mainly two loop. One is main driving loop and other one is auxiliary or vibration loop.

Main loop consists of two MK04 motors and one PMV0 axial pump system which contain a 6 cc gear pump. The axial pump is directly coupled to Kubota engine.

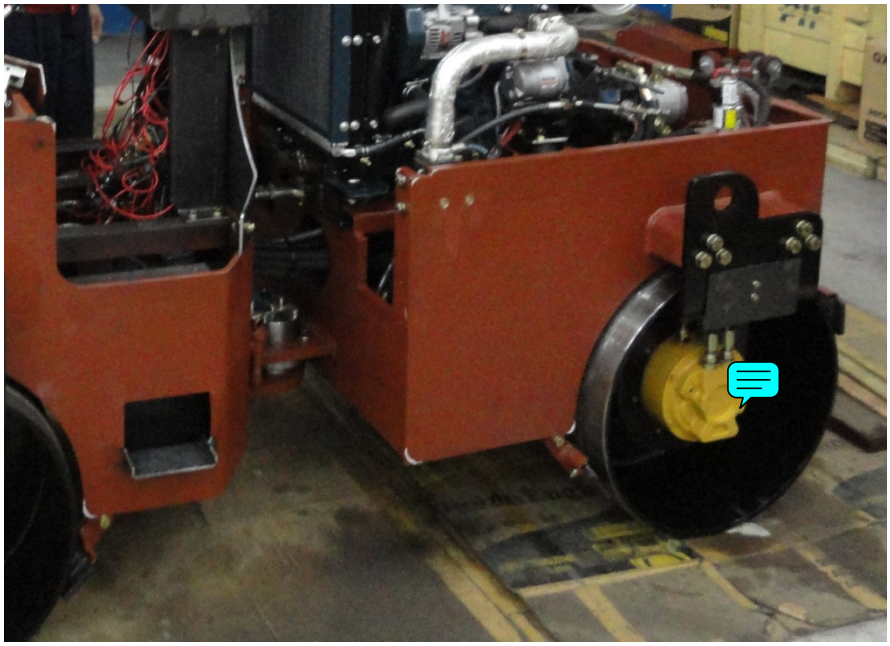


The lines marked in Green and red is called **main loop**. This drives the entire machine. (Please find the attached PDF file for reference).

In this circuit we are not expecting any problems. Because we already checked and tested the system. And as of now cannot modify anything here. Probability of hydraulic leakage is also very rare.

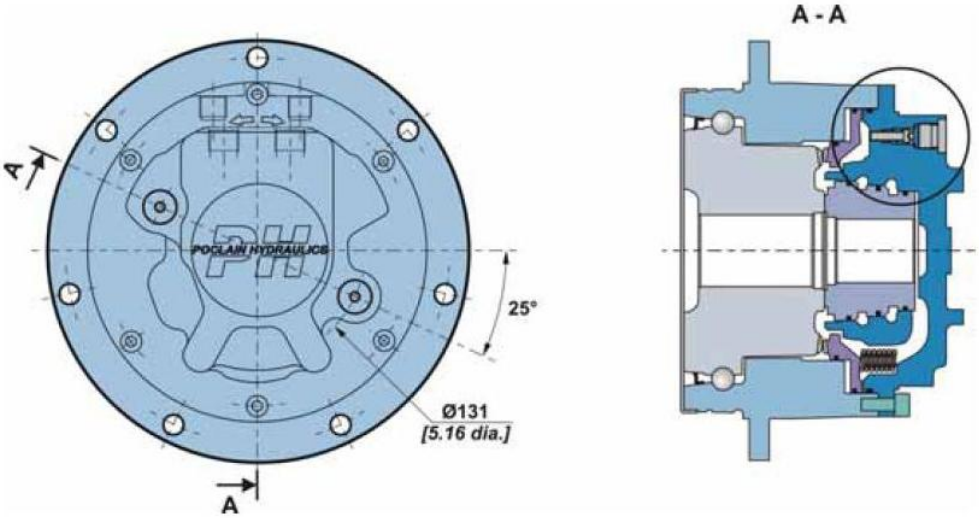
The Axial pump pressure in already set. By the manufacturer.

The Drive motor, which drives the machine, is from PH.



From the manufacturer and our own study shows almost all companies uses this motor for this class of machine. Which indirectly implies that we may not be facing much problem from this motor.

If anything happens to this motor, the machine cannot be towed. For that you may have to release the break mechanically. The procedure for doing this is described below.



Release the spring by unscrewing the bolt. Which shown in round.

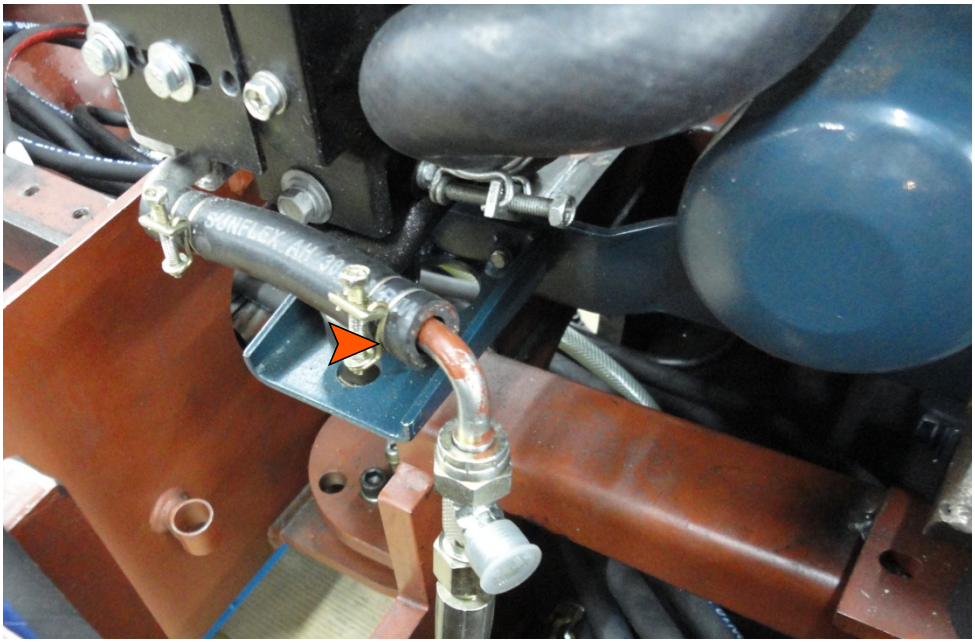
Auxiliary Loop

This loop helps to perform the vibration. Two gear motors from casappa and manifold valve from EATON drive the system.

To modify the pressure setting of manifold valve please refer document named “VIBRATION ADJUSTMENT”.

Regarding the motor, the settings are from factory.

Sometimes there may be a problem of leaking from the inlet connector to oil cooler. This may be because of loose connection to oil cooler. But the possibility for this is very rare.



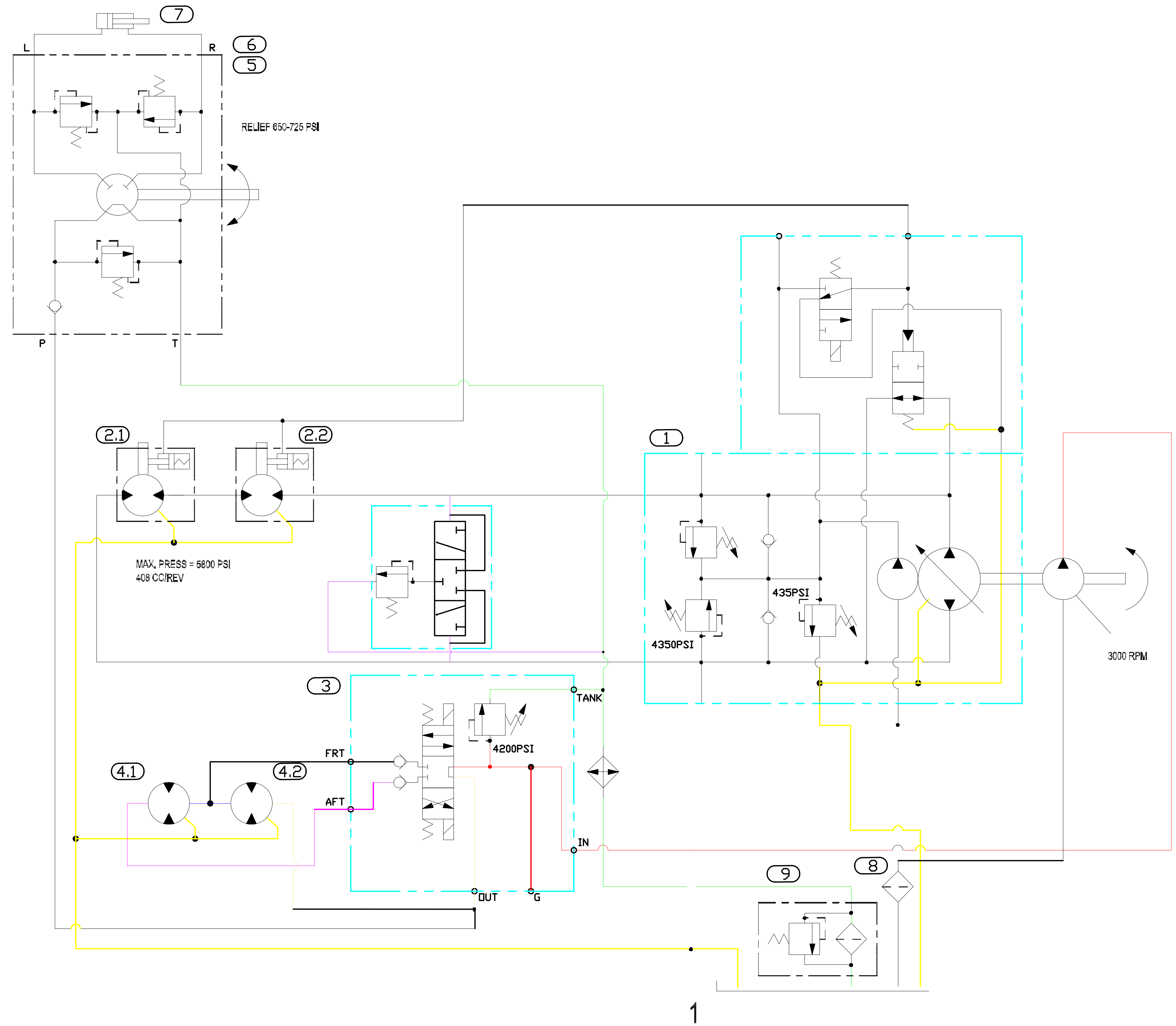
For the next series of machine we will be replacing this with hydraulic connectors.

All other hydraulic lines we thoroughly checked. So may not be facing any problem from hydraulic hoses and connectors.

Please see the hydraulic connection lay out. This will help to trace the hydraulic circuit.

Please send us the details such as where the machine working, environmental conditions, surface after and before work. Other problems, minor or major, Comments by the operator. So that we can try to understand ,rectify it and update in the next machine

NOT FOR PUBLIC RELEASE



9	MPF 030 1A G1A25 H B BV1	Return filter	1	/			EATON
8	STR 050-1 S G1 M90	Suction filter	1	/			EATON
7	207Y0100-10	Steering cylinder	1	/			EATON
6	730-1301	Steering column	1	/			EATON
5	502-1381/850-1122	Steering	1	/			EATON
4	PLM10.3,15L0-30S0-LBA/BA-N-D-L-GA-DH-GMT	Vibration motor	2	/			EATON
3.4	CV3-10-P-0-015	check valve	2	/			EATON
3.3	RV8-10-S-0-50	Relief valve	1	/			EATON
3.2	SV9-10A-0-0-012DN-J-00	solenoid valve	1	/			EATON
3.1	207A0101DWG/10	Valve block	1	/			EATON
3	207A0100DWG/10	Valve block assemble	1	/			EATON
2		traction motor	2				PH
1		Closed variable pump	1	/			PH
序号 No.	代号 Type	名称 Name	数量 Quality	材料 Material	单件 Single	总计 Total 重量 kg	备注 Remark

EATON FLUID POWER(Shanghai) Co.,Ltd.

Road master 900K

A3 | 207A0100YYL/10

SCALE 1:1 | SHEET 1 of 1 | DATE 2010-6-29

THIRD ANGEL PROJECTION

A3 0.12m²