

CODE

DRIVING DIRECTION	SPEED	• PRESSURE REGULATOR UNDER VOLTAGE						ENGAGED CLUTCHES	
		Y1	Y2	Y3	Y4	Y5	Y6		
FORWARD	1			•		•		K1	KV
	2					•	•	KV	K2
	3				•	•		K3	KV
REVERSE	4	•				•		K4	K3
	1		•	•				KR	K1
	2						•	KR	K2
	3		•		•			KR	K3
NEUTRAL									
ENGAGED CLUTCH			K4	KR	K1	K3	KV	K2	
POSITIONS ON THE VALVE BLOCK			F	E	D	C	B	A	
CURRENT NO. OF THE MEASURING POINTS			60	55	56	58	53	57	

AMS1060S

Figure 2

Oil Circuit Diagram 4WG-230 Forward 1st Speed

The marked positions (e.g. 53) correspond with the positions on "Schedule of Measuring Points and Connection 4 WG-230" on page -13.

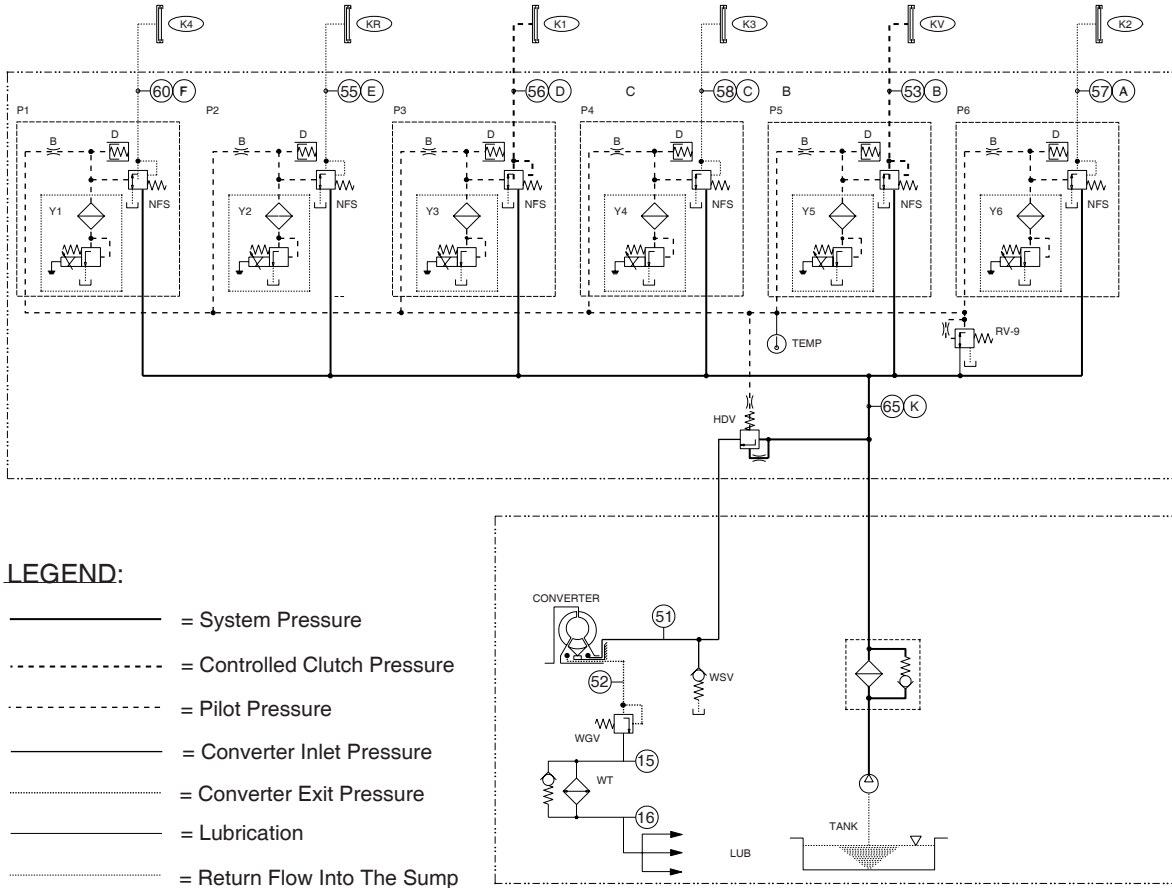
Reference Number	Positions
WT	Heat Changer
WGV	Converter Back Pressure Valve 3.50 bar (50 psi)
WSV	Converter Relief Valve 9 bar (130 psi)
HDV	System Pressure Valve 16 +2 bar (230 +30 psi)
RV-9	Pressure Reducing Valve 9 bar (130 psi)
NFS	Follow-on Slide
D	Oscillation Damper
B	Orifice
P1	Proportional Valve - Clutch K4
P2	Proportional Valve - Clutch KR
P3	Proportional Valve - Clutch K1
P4	Proportional Valve - Clutch K3
P5	Proportional Valve - Clutch KV
P6	Proportional Valve - Clutch K2
Y1 - Y6	Pressure Regulator
TEMP	Temperature Sensor

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FORWARD	1			•		•		K1	KV
	2					•	•	KV	K2
	3				•	•		K3	KV
	4	•			•			K4	K3
REVERSE	1		•	•				KR	K1
	2		•				•	KR	K2
	3		•		•			KR	K3
NEUTRAL									
ENGAGED CLUTCH		K4	KR	K1	K3	KV	K2		
POSITIONS ON THE VALVE BLOCK		F	E	D	C	B	A		
CURRENT NO. OF THE MEASURING POINTS		60	55	56	58	53	57		

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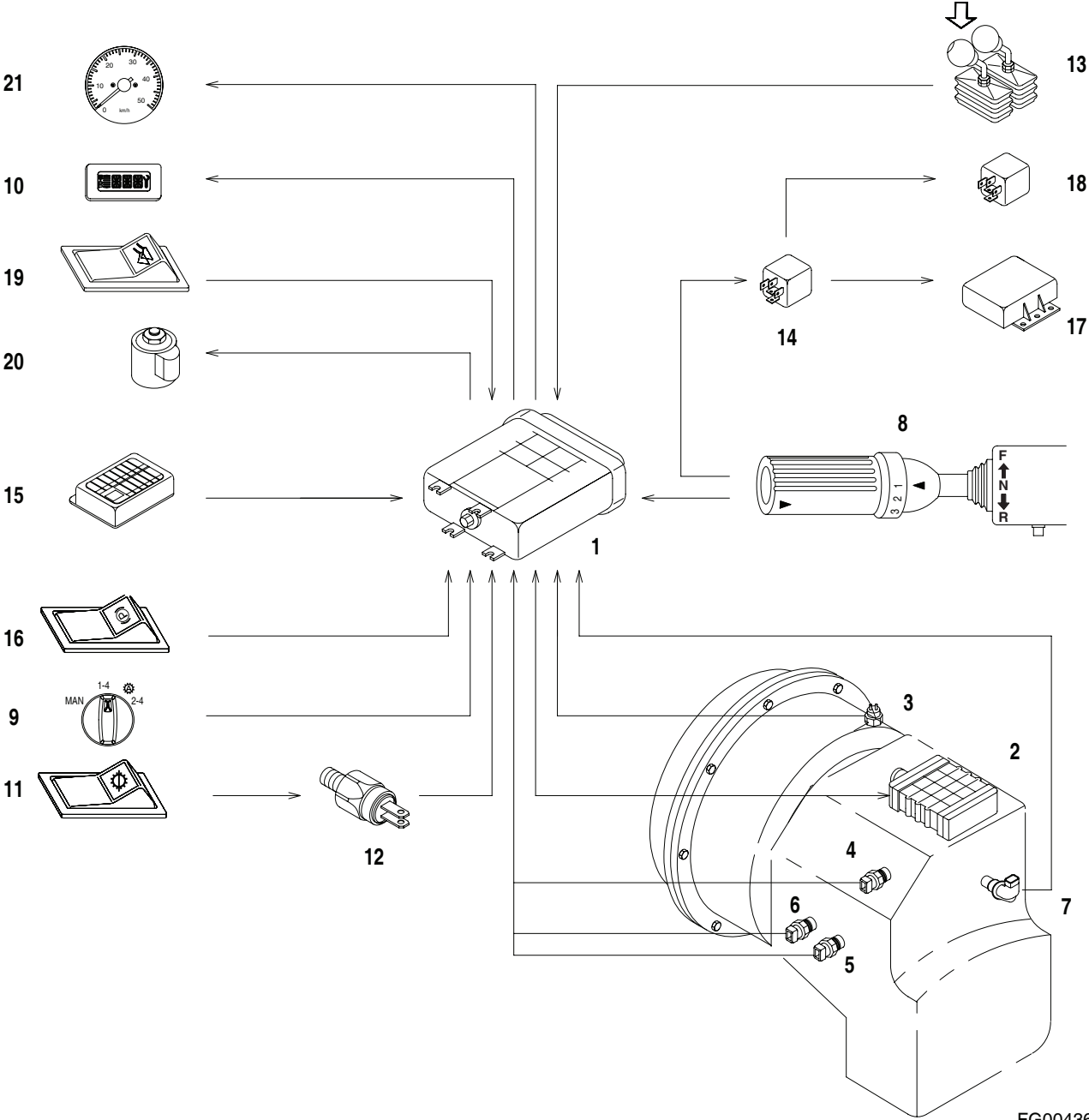
Figure 3



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Figure 4

TRANSMISSION ELECTRICAL COMPONENTS



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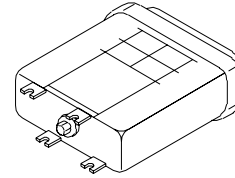
Figure 5

Reference Number	Description
1	T/M Controller
2	T/M Control Valve
3	T/M Oil Temperature Sensor
4	Engine Pickup Sensor
5	Central Gear Pickup Sensor
6	Turbine Pickup Sensor
7	Output Speed Sensor
8	Shift Lever Switch
9	Auto Selector Switch
10	Display
11	T/M Cutoff Switch

Reference Number	Description
12	T/M Cutoff Pressure Switch
13	Downshift Switch
14	Safety Starter Switch
15	Fuse Box
16	Parking Brake Switch
17	Control Unit
18	Starter Controller
19	LIS (Load Isolation System) Switch (Option)
20	LIS Solenoid Valve
21	Speedometer

TCU (Transmission Control Unit)

1. Sending a control signal transmitted from the shift lever to the control valve, generates a speed.
2. At the auto mode, transmits the appropriate signals to the control valves according to the load and engine rpm.
3. Detecting a fault, controls various clutches.

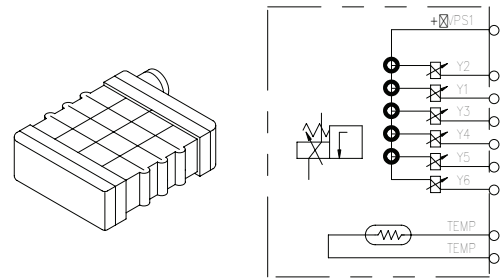


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Figure 6

Transmission Control Valve

1. The transmission control valve contains a temperature sensor and proportional solenoid valves (Y1 - Y6) that direct pressurized fluid to various clutches that generates a speed with control the shift gears.
2. Specification of the proportional solenoid valve
 - Resistance: 19 ± 1.9 ohm at 20°C
 - Pressure: $0.8 - 8.3$ kg/cm² (11.4 - 118 psi)
3. The contained temperature sensor detects the temperature of the control valve and transmits the electrical signal to the TCU, and serves TCU determines gears to change.
 - Neutral: At temperature less than -30°C
 - 1st or 2nd gear: At temperature less than -10°C
 - Normal Operation: At temperature greater than -10°C

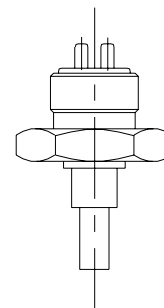


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Figure 7

Transmission Oil Temperature Sensor

1. Detecting a oil temperature of transmission and send a control signal to transmission oil temperature gauge.
2. Specification
 - Resistance
 - 216 \pm 30 Ohm (at 60°C)
 - 81.2 \pm 10 Ohm (at 90°C)
 - 36.5 \pm 3.5 Ohm (at 120°C)
 - 18.7 \pm 2.1 Ohm (at 150°C)



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Figure 8