SECTION 5 MECHATRONICS SYSTEM

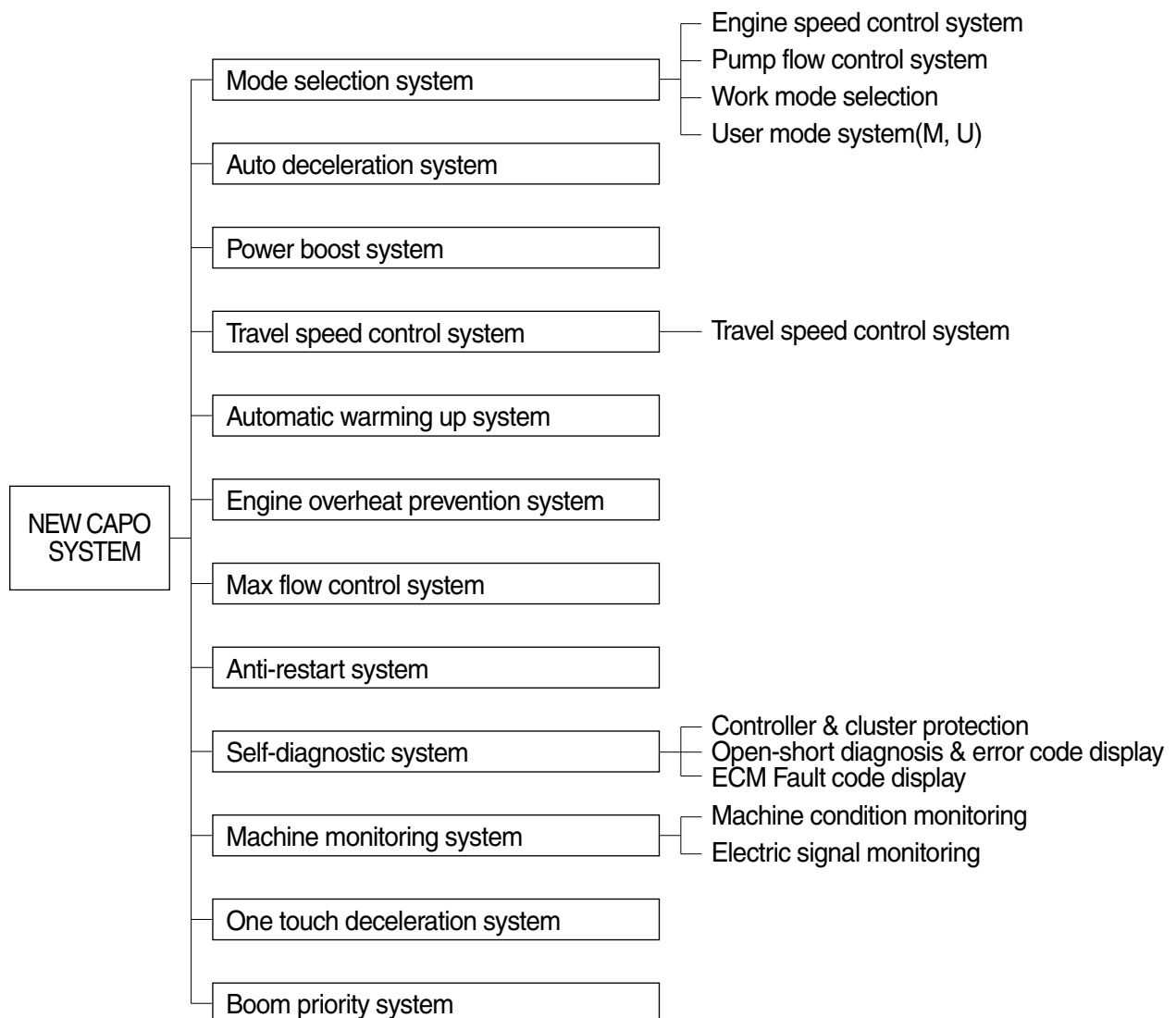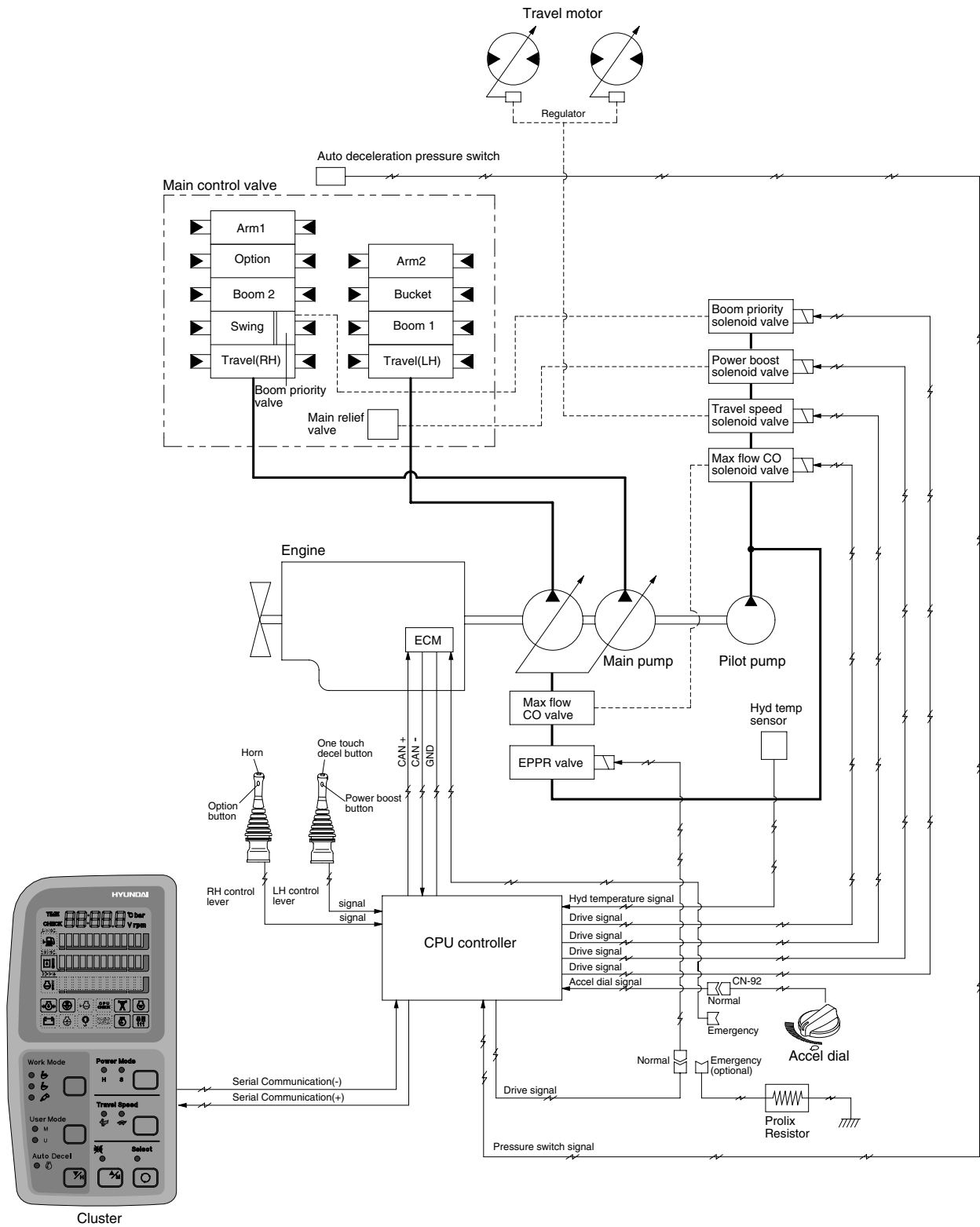# SECTION 5 MECHATRONICS SYSTEM

GROUP 1 OUTLINE

The NEW CAPO(Computer Aided Power Optimization) system controls engine and pump mutual power at an optimum and less fuel consuming state for the selected work by mode selection, auto-deceleration, power boost function, etc. It monitors machine conditions, for instance, engine speed, coolant temperature, hydraulic oil temperature, and hydraulic oil pressure, etc.

It consists for a CPU controller, a cluster, an electronic control module (ECM), an EPPR valve, and other components. The CPU controller and the cluster protect themselves from over-current and high voltage input, and diagnose malfunctions caused by short or open circuit in electric system, and display error codes on the cluster.

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NEW CAPO
SYSTEM
├─ Mode selection system ──────── Engine speed control system
│                                  Pump flow control system
│                                  Work mode selection
│                                  User mode system(M, U)
├─ Auto deceleration system
├─ Power boost system
├─ Travel speed control system ── Travel speed control system
├─ Automatic warming up system
├─ Engine overheat prevention system
├─ Max flow control system
├─ Anti-restart system
├─ Self-diagnostic system ─────── Controller & cluster protection
│                                  Open-short diagnosis & error code display
│                                  ECM Fault code display
├─ Machine monitoring system ──── Machine condition monitoring
│                                  Electric signal monitoring
├─ One touch deceleration system
└─ Boom priority system
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SYSTEM DIAGRAM

Travel motor

Regulator

Auto deceleration pressure switch

Main control valve

Arm1

Option

Boom 2

Swing

Travel(RH)

Arm2

Bucket

Boom 1

Travel(LH)

Boom priority valve

Main relief valve

Boom priority solenoid valve

Power boost solenoid valve

Travel speed solenoid valve

Max flow CO solenoid valve

Engine

ECM

Main pump

Pilot pump

Max flow CO valve

Hyd temp sensor

EPPR valve

Horn

One touch decel button

Option button

Power boost button

RH control lever

LH control lever

signal
signal

CAN +
CAN -
GND

CPU controller

Hyd temperature signal

Drive signal

Drive signal

Drive signal

Drive signal

Accel dial signal

CN-92

Normal

Emergency

Normal

Emergency (optional)

Accel dial

Prolix Resistor

HYUNDAI

TIME
CHECK

℃ bar
V rpm

Work Mode

Power Mode

User Mode

Auto Decel

Travel Speed

Select

Serial Communication(-)

Serial Communication(+)

Drive signal

Pressure switch signal

Cluster

50075MS01