

# HYDRAULIC SCHEMATICS

The following table applies to Figure 5-1 through Figure 5-7.

Callout	Description	Callout	Description
BR1-BR4	Wheel Brakes (located in gear hubs)	ORF4	Orifice -- Traction Manifold .052
BR5	Platform Slide Brake	ORF5	Orifice -- Traction Manifold .090
CBV1-CBV20	Counterbalance Valves	ORF6	Orifice -- Traction Manifold .040
CR1-CR2	Cross-Port Relief Valve	P1	Pump -- Drive
CV1	Check Valve -- Backflow Preventer P1	P2	Pump -- Primary Functions
CV2	Check Valve -- Load Sense, Lift/Lower	P3	Pump -- Secondary Functions
CV3	Check Valve -- Load Sense, Ext./Retr.	P4	Pump -- Auxiliary Power
CV4	Check Valve -- Front Outrigger	P5	Pump -- Auxiliary Power
CV5	Check Valve -- Front Outrigger	PD1	Pilot-Operated Valve
CV6	Check Valve -- Rear Outrigger	PD2	Pilot-Operated Valve
CV7	Check Valve -- Rear Outrigger	PD3	Pilot-Operated Valve
CV8	Check Valve -- Steering	PD4	Pilot-Operated Valve
CV9	Check Valve -- Steering	PD5	Pilot-Operated Valve
CV10	Check Valve -- Backflow Preventer APU	PR1	Pressure Reducing Valve
CV11	Check Valve -- Secondary Functions Manif.	PT1	Lift Cylinder Pressure Transducer
CV12	Check Valve -- Aux Power	PT2	Platform Level Cyl. Pressure Transducer
CV13	Check Valve -- Platform Level	PV1	Pilot Valve
CV14	Check Valve -- Platform Rotate	RV1	Relief Valve -- Extend
CV15	Check Valve -- Platform Slide	RV2	Relief Valve -- Auxiliary Power
CYL1	Boom Lift Cylinder	RV3	Relief Valve -- Low Flow
CYL2-CYL4	Boom Extend Cylinders	RV4	Relief Valve -- Traction Manifold
CYL5, CYL6	Front Outrigger Cylinders	SF1	Solenoid Valve -- Boom Retract
CYL7, CYL8	Rear Outrigger Cylinders	SP1	Proportional Valve -- Boom Lift
CYL9, CYL10	Steering Cylinders	SP2	Proportional Valve -- Boom Extend
CYL11, CYL12	Rear Axle Cylinders	SP3	Proportional Valve -- Front Outrigger
CYL13, CYL14	Front Axle Cylinders	SP4	Proportional Valve -- Front Outrigger
CYL15	Platform Level Cylinder	SP5	Proportional Valve -- Rear Outrigger
DC1	Steering Dual Check Valve	SP6	Proportional Valve -- Rear Outrigger
EM1	Electric Motor -- Auxiliary Power	SP7	Proportional Valve -- Platform Level
EP1	Flow Compensator -- Boom	SP8	Proportional Valve -- Platform Rotate
EP2	Flow Compensator -- Extend	SP9	Proportional Valve -- Platform Slide
EP3	Flow Compensator -- Auxiliary Manifold	SV1	Solenoid Valve -- Load Sense Dump
EPFR1	Flow Regulator	SV2	Solenoid Valve -- Boom Ext. Regen.
FD1	Flow Divider -- Traction Manifold	SV3	Solenoid Valve -- Low Flow Dump
FD2	Flow Divider -- Traction Manifold	SV4	Solenoid Valve -- Rear Axle
FD3	Flow Divider -- Traction Manifold	SV5	Solenoid Valve -- Front Axle
FL1	Filter -- Hydraulic Tank	SV6	Solenoid Valve -- Brake
FL2	Filter -- Charge	SV7	Solenoid Valve -- 2-Speed
HS1	Oil Shuttle Valve	SV8	Solenoid Valve -- Boom Up/Down Pilot
LS1	Load Sense Shuttle Valve	SVD1	Directional Valve
LS2	Load Sense Shuttle Valve	SVD2	Directional Valve
M1-M4	Wheel Motors		
M5	Platform Rotate Motor		
M6	Platform Slide Motor		
MA1	Primary Functions Manifold	Gauge Ports	
MA2	Secondary Functions Manifold	GCP	Gauge Port -- Charge Pressure
MA3	Drive Manifold	GD	Gauge Port -- Drive Pressure
MA4	Auxiliary Manifold	GLS	Gauge Port -- Load Sense
ORF1	Orifice -- Steer .090	GLS2	Gauge Port -- Load Sense, Platform
ORF2	Orifice -- Brake Apply .040	GP1	Gauge Port -- High Flow
ORF3	Orifice -- Traction Manifold .052	GP2	Gauge Port -- Low Flow



Figure 5-1: Hydraulic Schematic, 1 of 2

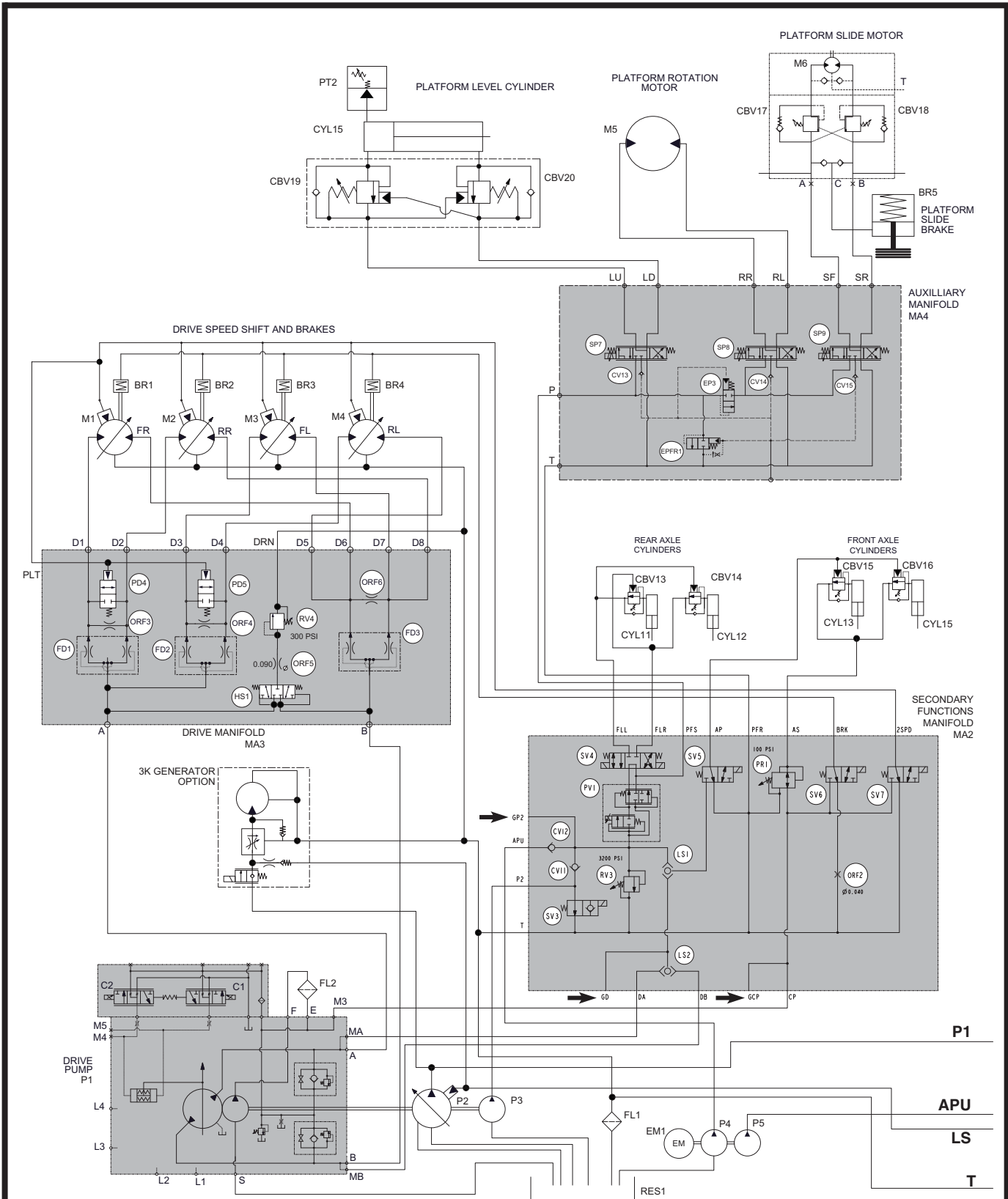


ILLUSTRATION No.  
ART\_4368

# Titan Boom 60-S

## HYDRAULIC SCHEMATIC, 1 of 2

➔ Gauge Port

To Page 2 ➔➔

\*Lift cylinder and platform level cylinder pressure transducers



Figure 5-2: Hydraulic Schematic, 2 of 2

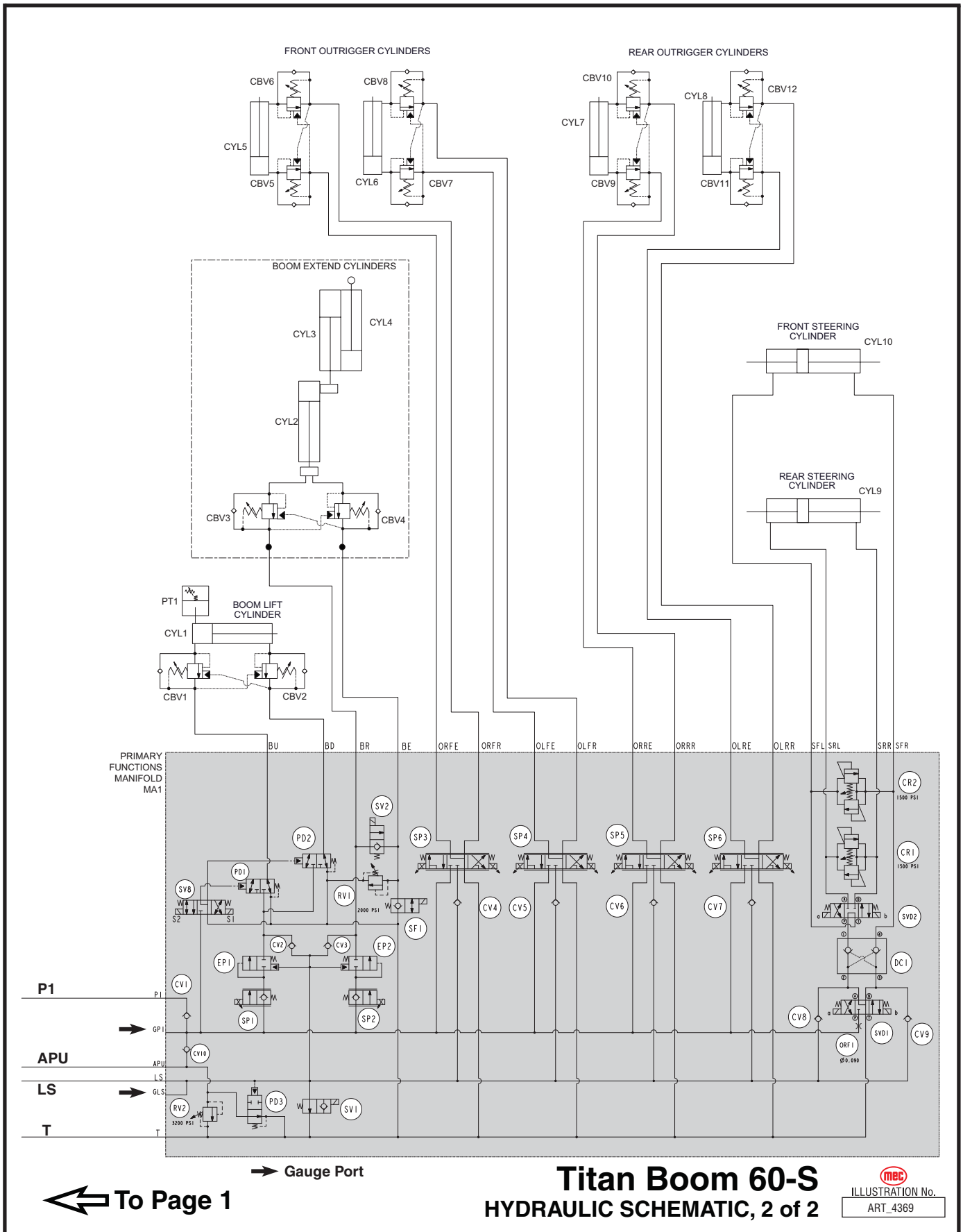
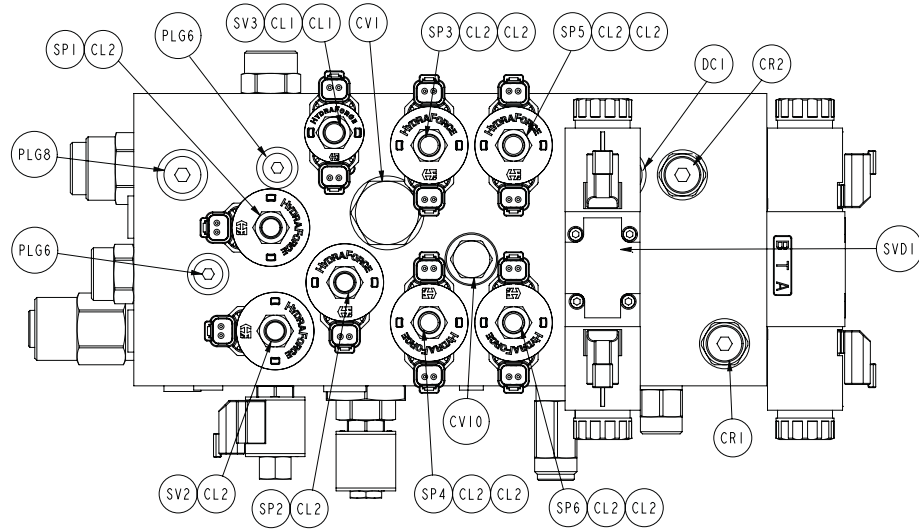
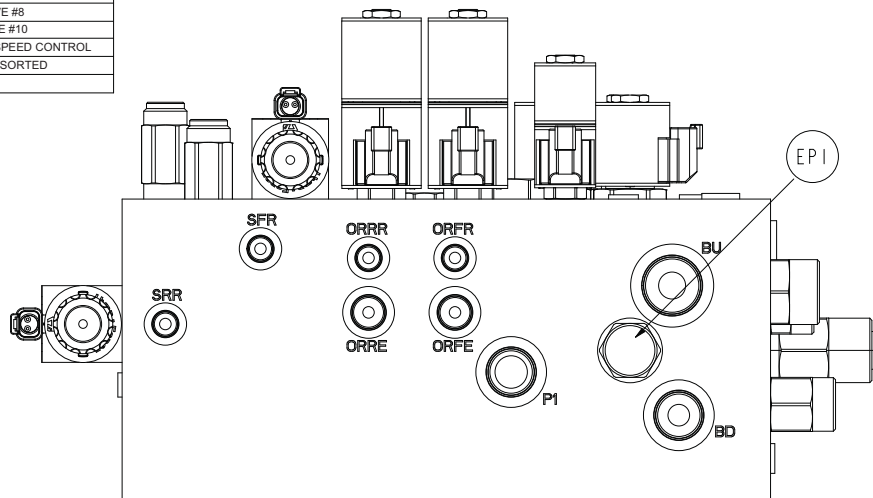
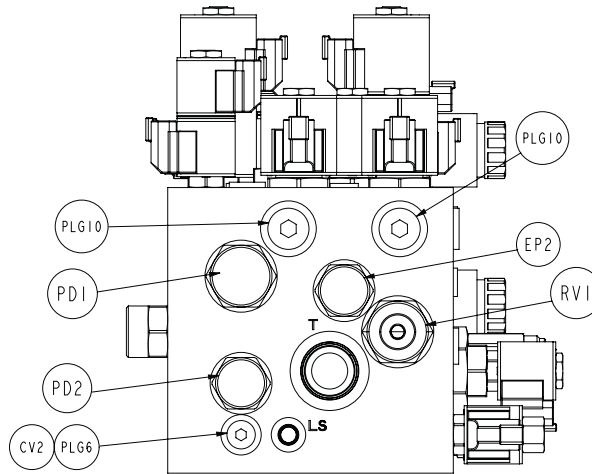


Figure 5-3: Primary Functions Manifold, MA1, 1 of 2



SVD1		SPOOL VALVE - STEERING DIRECTION
SVD2		SPOOL VALVE - CRAB/4-WHEEL STEER
SV1		SOLENOID VALVE - LOAD SENSE DUMP
SV2		SOLENOID VALVE - BOOM EXTEND
SV3		SOLENOID VALVE - BOOM UP, DOWN
SP1		PROPORTIONAL VALVE - BOOM UP/DOWN
SP2		PROPORTIONAL VALVE - BOOM EXT/RETRACT
SP3		PROPORTIONAL VALVE - OUTRIGGER R/F
SP4		PROPORTIONAL VALVE - OUTRIGGER L/F
SP5		PROPORTIONAL VALVE - OUTRIGGER R/R
SP6		PROPORTIONAL VALVE - OUTRIGGER L/R
SF1		SOLENOID VALVE - BOOM RETRACT
RV1		RELIEF VALVE - BOOM EXTEND
RV2		RELIEF VALVE - EMERGENCY HYD
PD1		PILOT OPERATED DIR VALVE - BOOM UP
PD2		PILOT OPERATED VALVE - BOOM DOWN
PD3		PILOT OPERATED VALVE - EMERG DUMP
EP1		FLOW SHARING VALVE - BOOM UP/DOWN
EP2		FLOW SHARING VALVE - BOOM EXT/RET
DC1		DUAL PILOT CHECK VALVE - STEER
CV1		CHECK VALVE - PUMP INPUT
CV2		CHECK VALVE - LOAD SENSE
CV3		CHECK VALVE - LOAD SENSE
CV4		CHECK VALVE - LOAD SENSE
CV5		CHECK VALVE - LOAD SENSE
CV6		CHECK VALVE - LOAD SENSE
CV7		CHECK VALVE - LOAD SENSE
CV8		CHECK VALVE - LOAD SENSE
CV9		CHECK VALVE - LOAD SENSE
CV10		CHECK VALVE - EMERGENCY PUMP
CR1, CR2	2	CROSS PORT RELIEF VALVE - STEER
CL1	4	COIL, VALVE #8
CL2	11	COIL, VALVE #10
ORF1		ORIFICE - STEERING SPEED CONTROL
PLG#		PORT PLUG ASSORTED

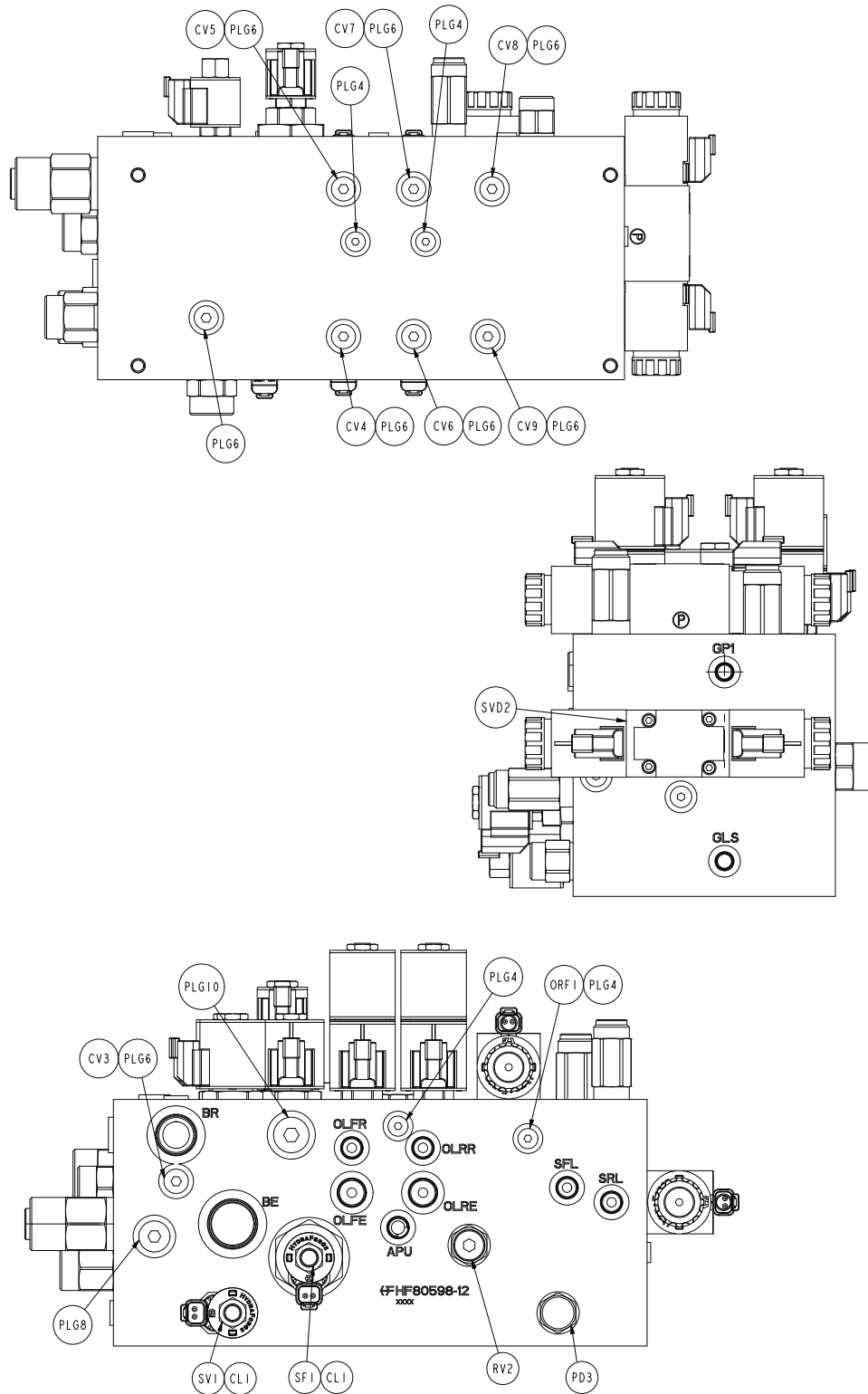


## Titan Boom 60-S

### MA1 -- Primary Functions Manifold Valves, 1 of 2

**MBC**  
ILLUSTRATION No.  
ART\_4370

Figure 5-4: Primary Functions Manifold, MA1, 2 of 2

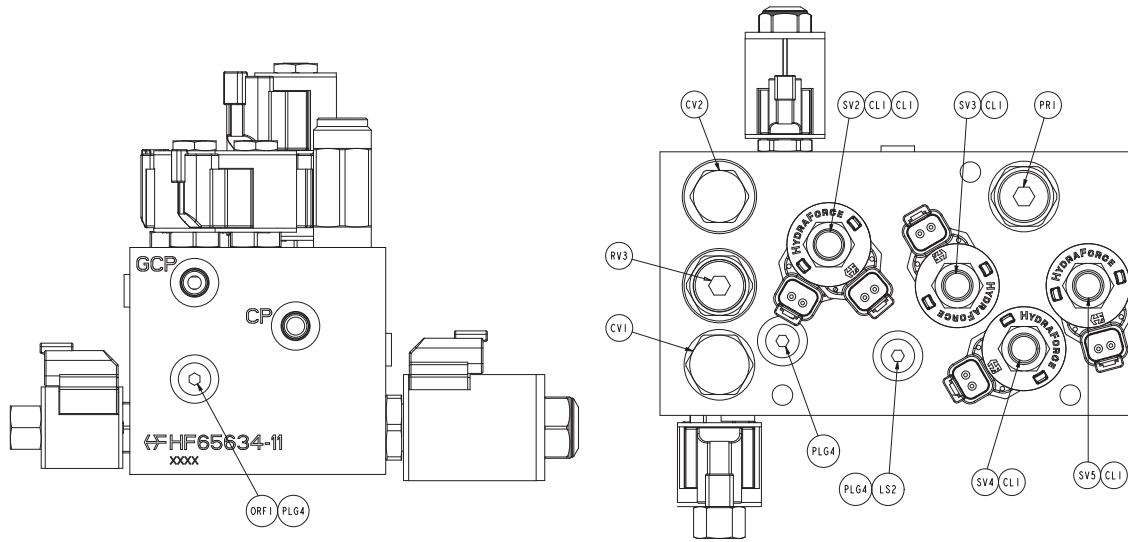


**Titan Boom 60-S**  
**MA1 -- Primary Functions Manifold Valves, 2 of 2**

**MBC**  
 ILLUSTRATION No.  
 ART\_4371

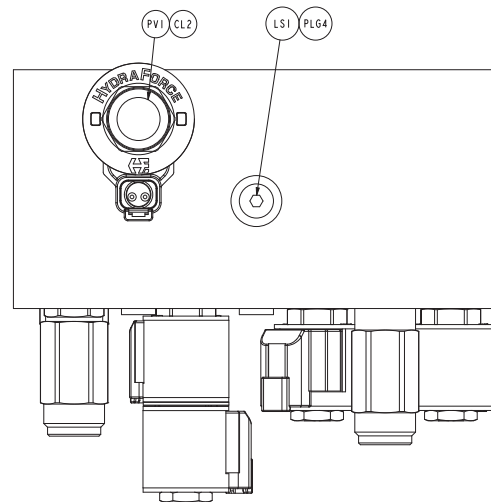
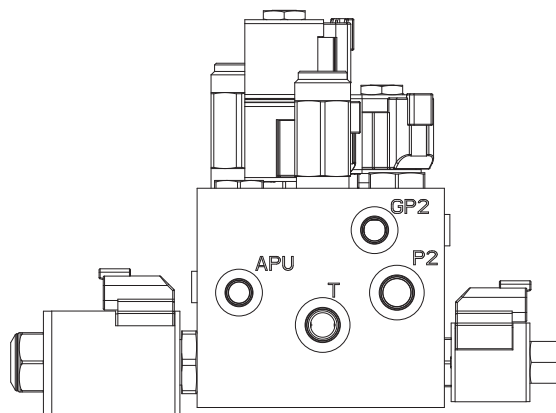
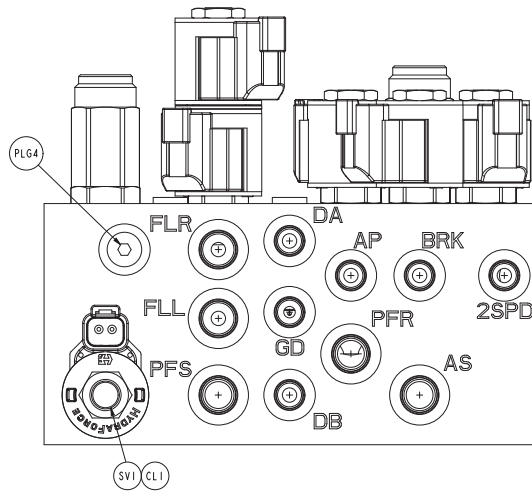


Figure 5-5: Secondary Functions Manifold, MA2



VALVES IDENTIFICATION  
SECONDARY MANIFOLD

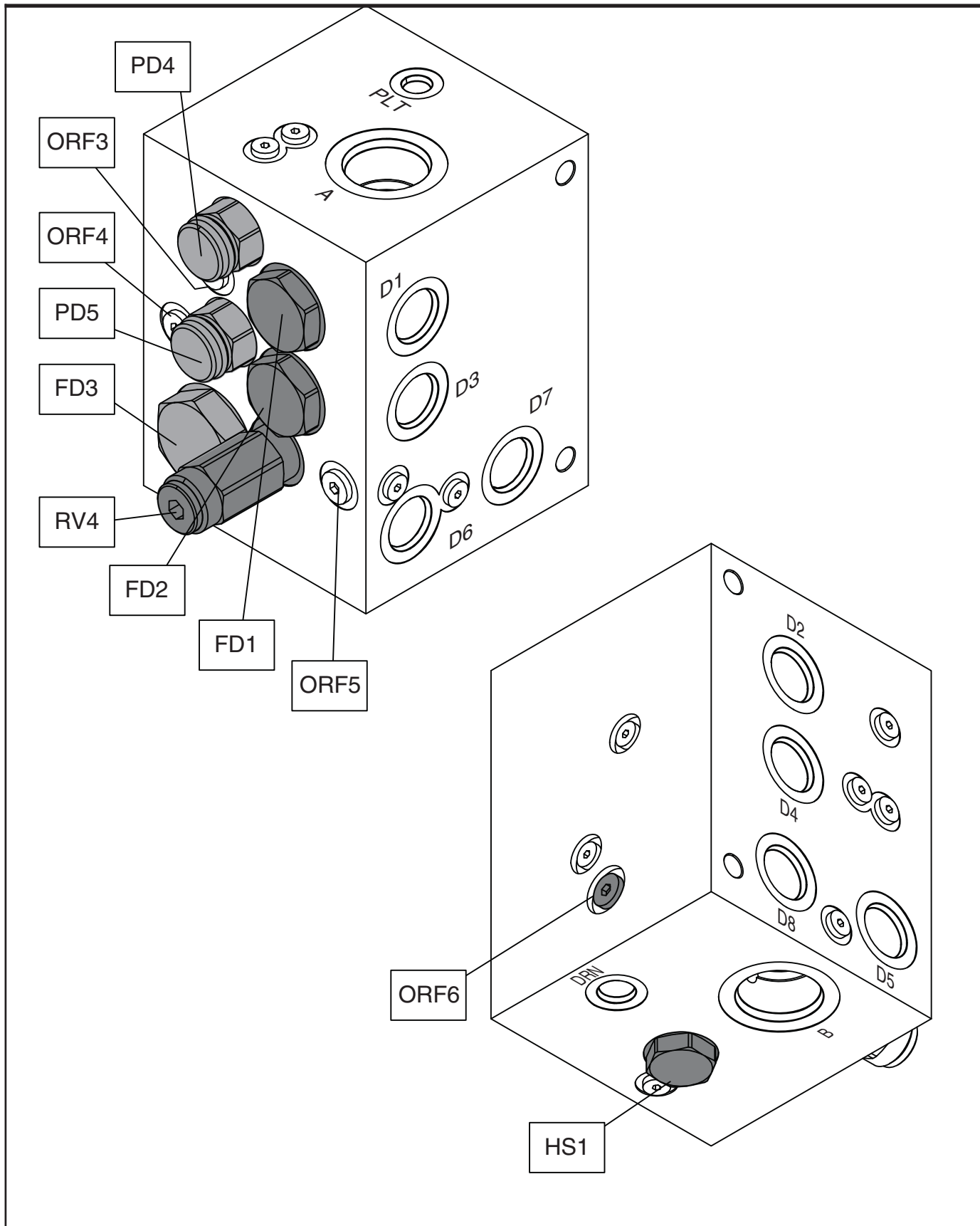
ITEM	QTY	FUNCTION
CV1	1	CHECK VALVE – BACK FLOW PREVENTION
CV2	1	CHECK VALVE – BACK FLOW PREVENTION
PV1	1	PROPORTIONAL PRIORITY - PLATFORM
LS1	2	LOAD SHUTTLE – AUX PUMP FLOW
LS2	1	LOAD SHUTTLE – DRIVE PUMP A, B, FLOW
PR1	1	PRES REG. – ANTI CAV TO AXLE CYLINDERS
RV1	1	RELIEF VALVE – SEC. MANIFOLD PRESSURE
SV1	1	SOLENOID VALVE – MANIFOLD DUMP
SV2	1	SOLENOID VALVE – FRAME LEVEL
SV3	1	SOLENOID VALVE – AXLE OSCILLATE
SV4	1	SOLENOID VALVE – BRAKE RELEASE
SV5	1	SOLENOID VALVE – 2-SPEED SHIFT
CL1	6	COIL, 12 VOLT W/DEUTSCH – VALVE
ORF1	1	ORIFICE – FLOW REDUCTION, BRAKE APPLY
PLG4	5	PORT PLUG – NO FUNCTION



**Titan Boom 60-S**  
**MA2 -- Secondary Functions Manifold Valves**

  
ILLUSTRATION No.  
ART\_4372

Figure 5-6: Traction Manifold, MA3

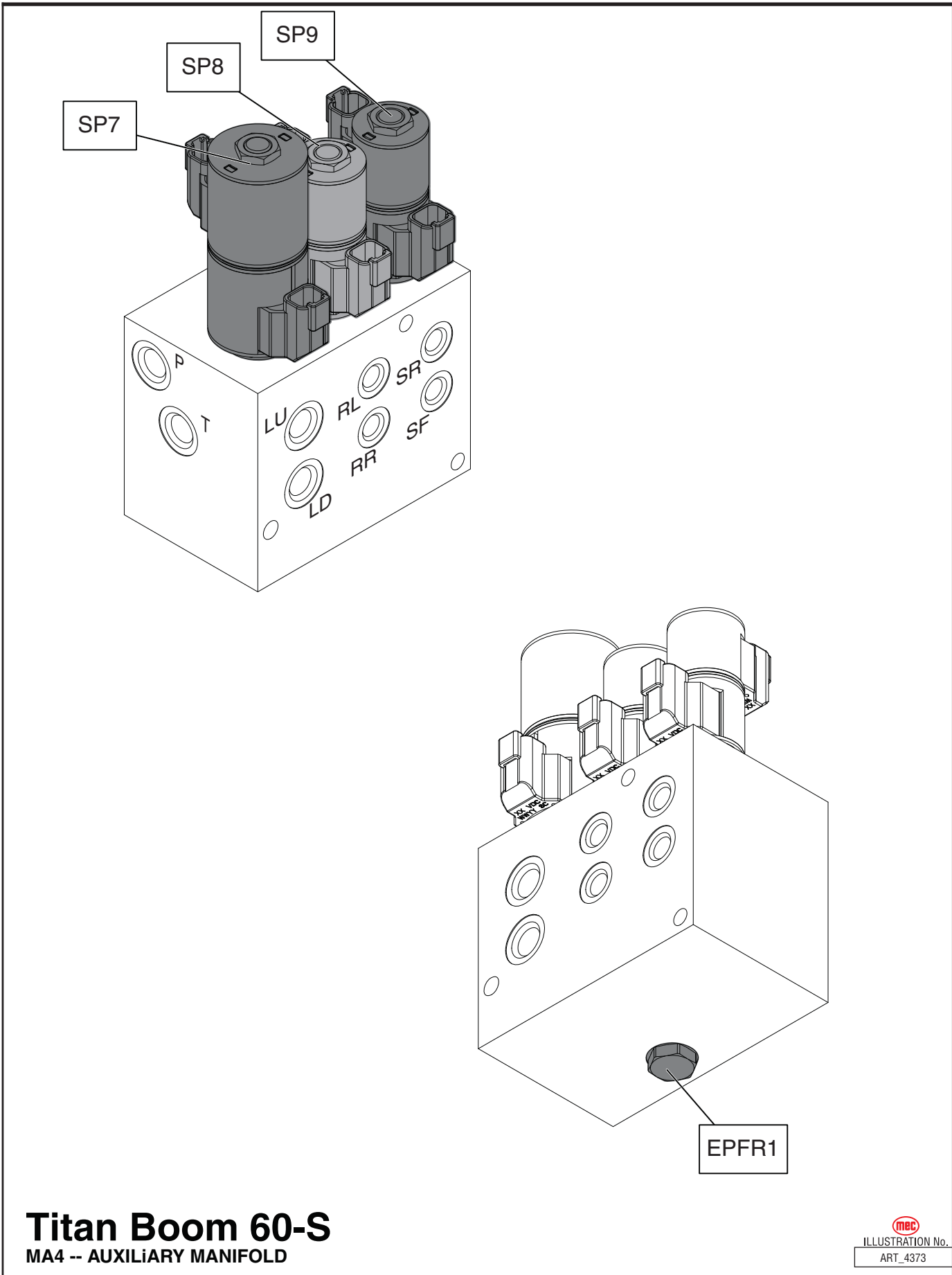


# Titan Bom 60-S

MA3 -- TRACTION MANIFOLD

  
ILLUSTRATION No.  
ART\_4374





**Titan Boom 60-S**  
MA4 -- AUXILIARY MANIFOLD

  
ILLUSTRATION No.  
ART\_4373

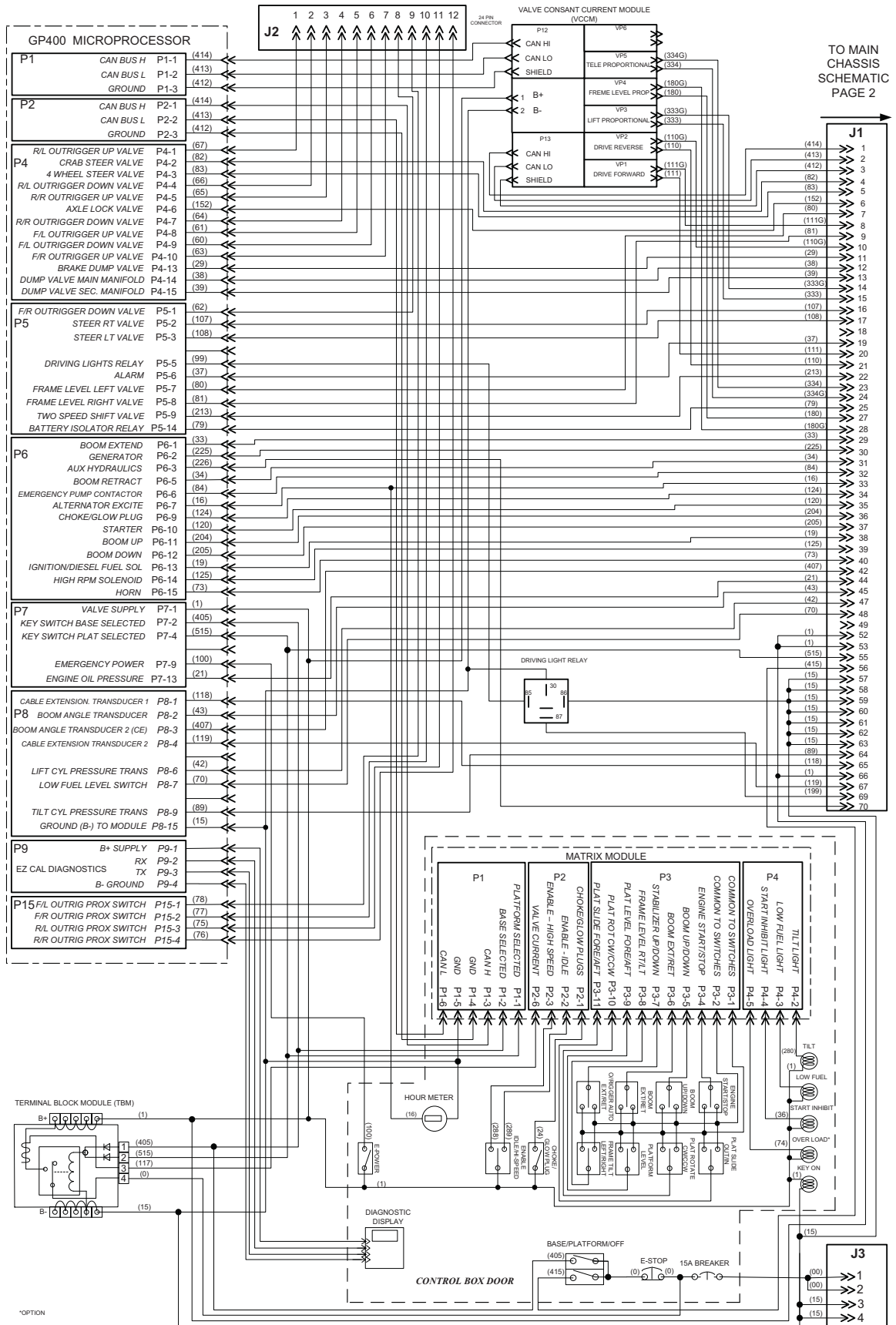


# ELECTRICAL SCHEMATIC

Figure 5-8: Electric Schematic, Lower Control Box

SCHEMATIC -- Lower Controls Publication Art # ART\_4375  
Titan Boom 60-S | Serial #1250001 - UP Reference Art #: 24429

STANDARD MACHINES



**STANDARD MACHINES**  
 Publication Art #. ART\_4376  
 Titan Boom 60-S | Serial #12500001-UP | Reference Art #: 24430

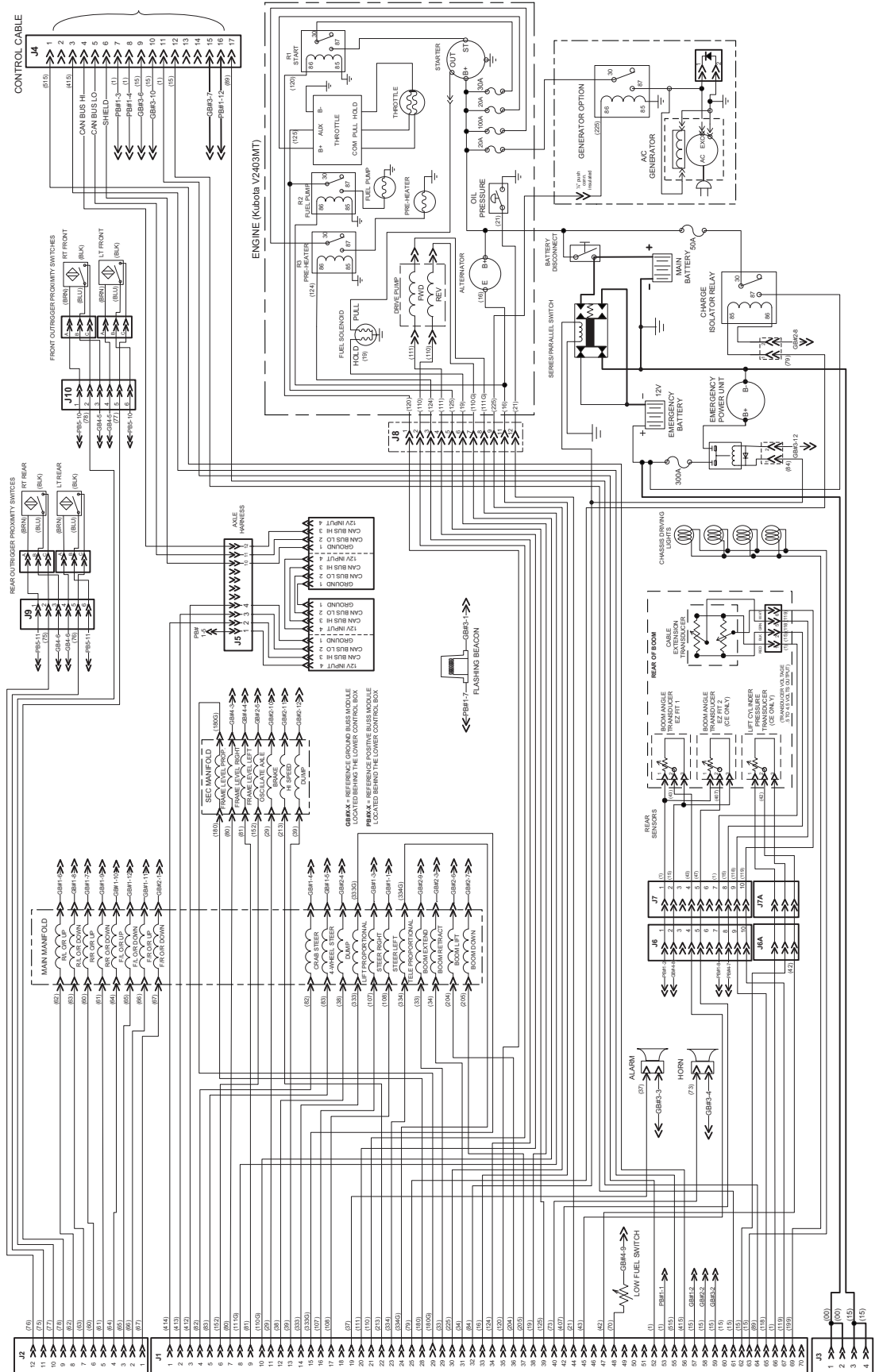
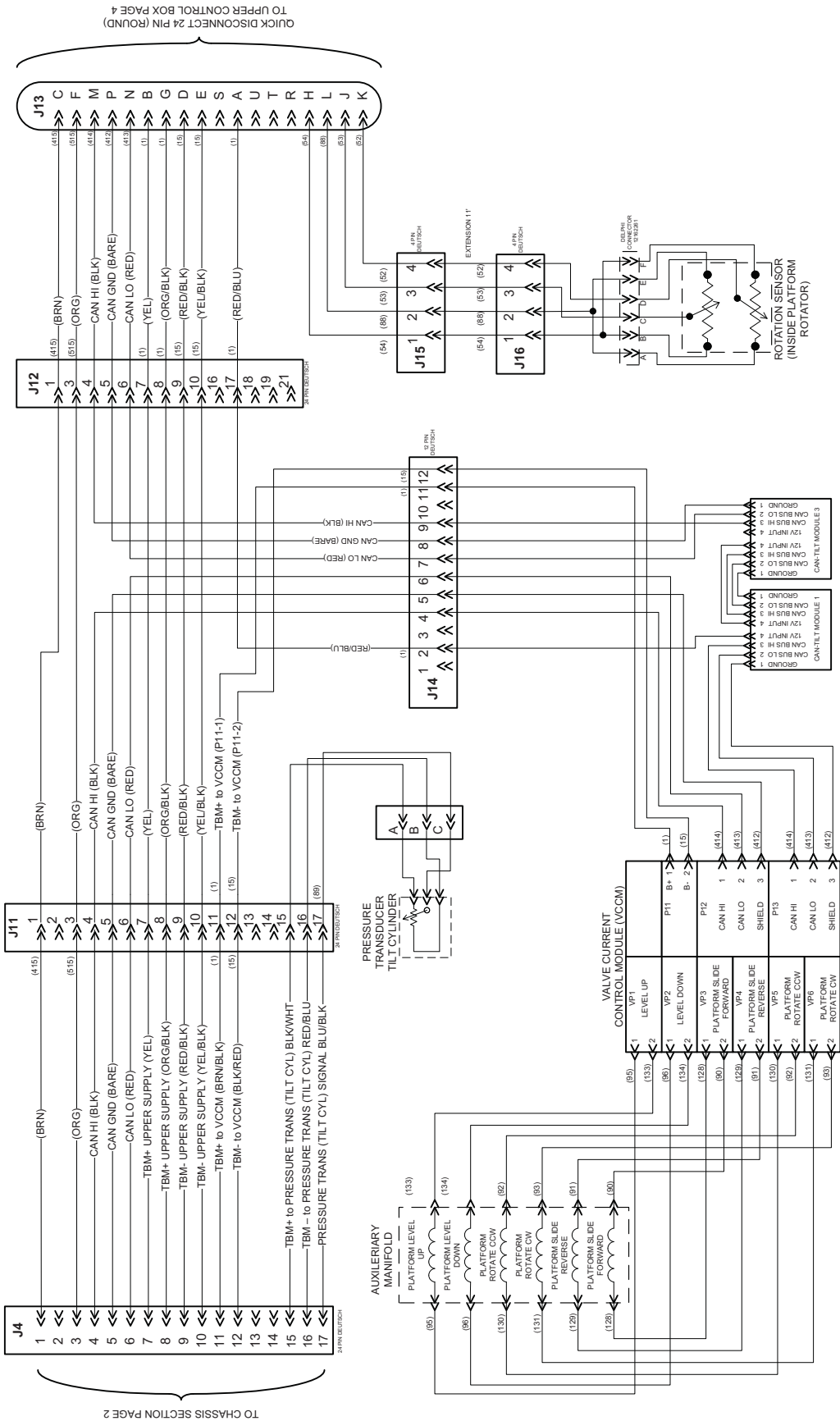


Figure 5-10: Electric Schematic, Control Cable

**STANDARD MACHINES**

**MEC** SCHEMATIC -- Control Cable Publication Art #: ART\_4377  
Titan Boom 60-S | Serial #12500001 - UP Reference Art #: 24491



TO CHASSIS SECTION PAGE 2

QUICK DISCONNECT 24 PIN (ROUND) TO UPPER CONTROL BOX PAGE 4



Figure 5-11: Electric Schematic, Upper Control Box

**STANDARD MACHINES**  
 SCHEMATIC -- Upper Controls Publication Art #: ART\_4378  
 Titan Boom 60-S | Serial #12500001-UP Reference Art #: 24432

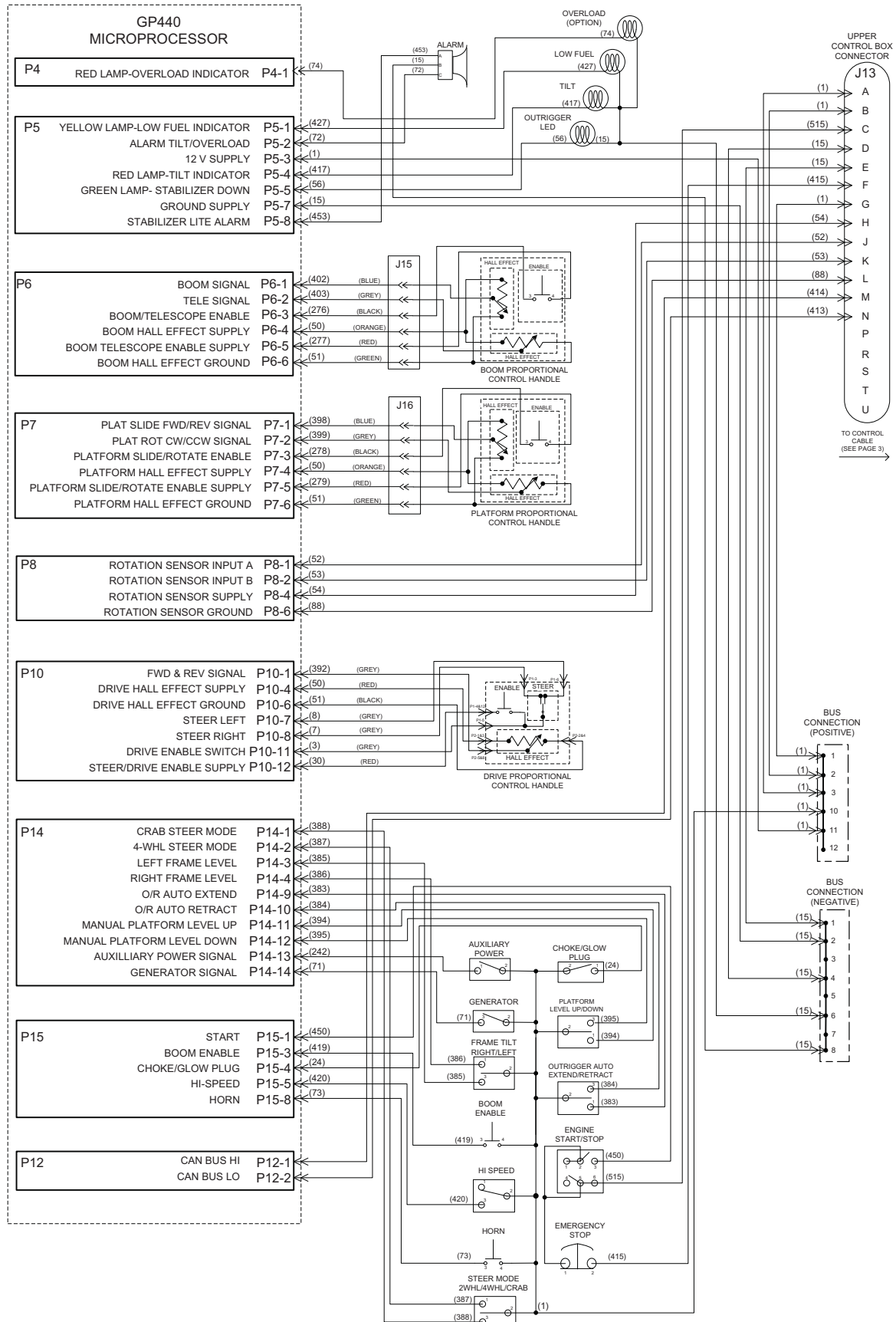


Figure 5-12: Sensor Locations

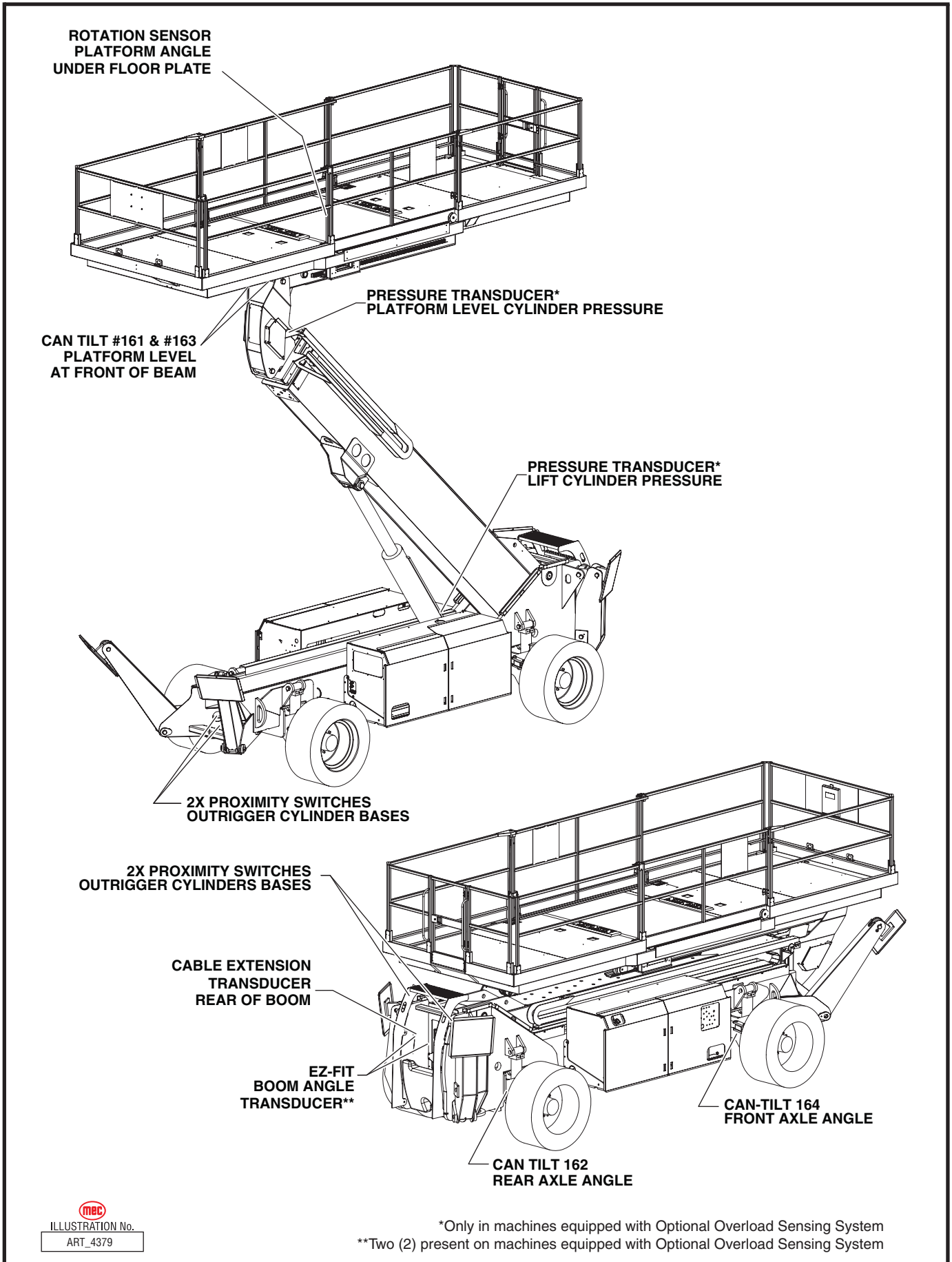


  
ILLUSTRATION No.  
ART\_4379

\*Only in machines equipped with Optional Overload Sensing System  
\*\*Two (2) present on machines equipped with Optional Overload Sensing System

