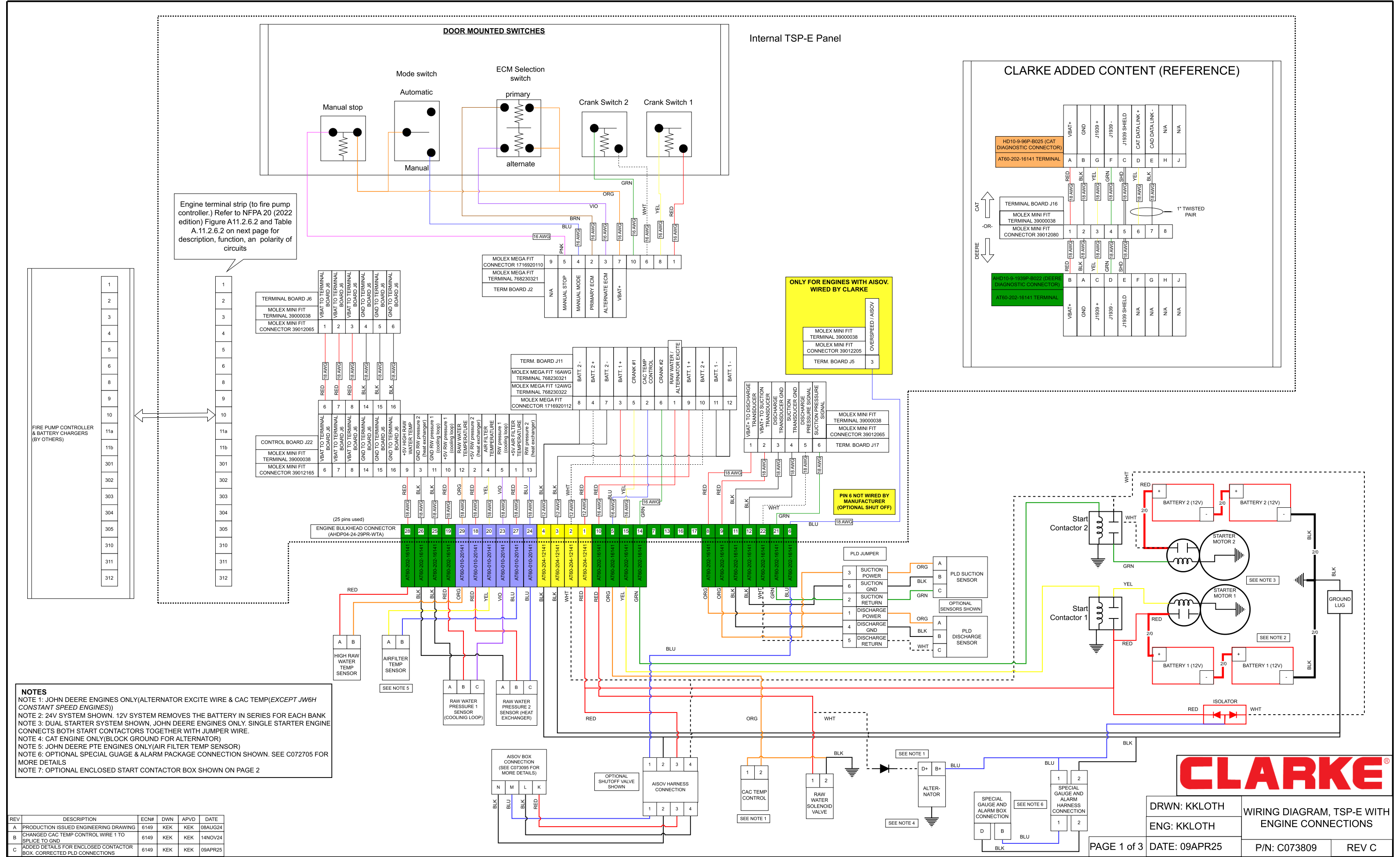
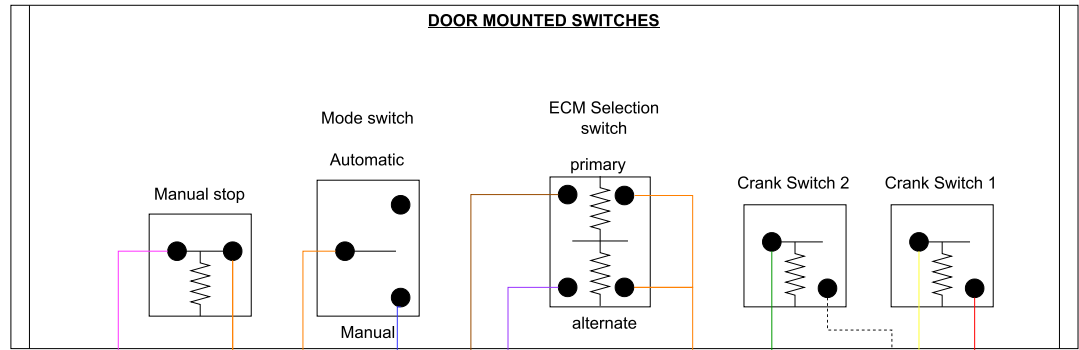
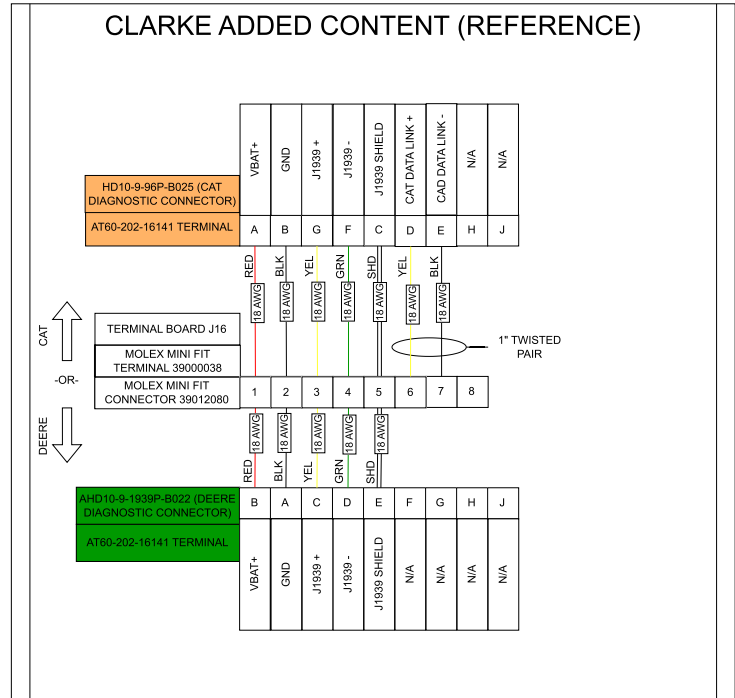


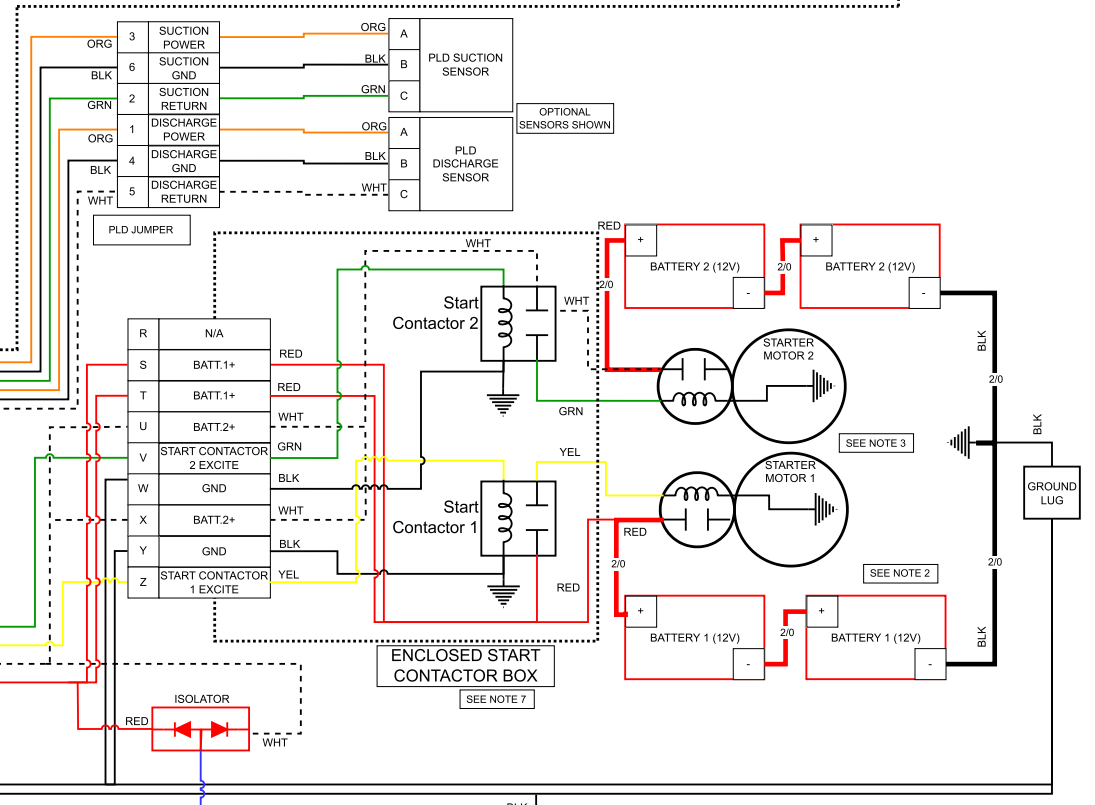
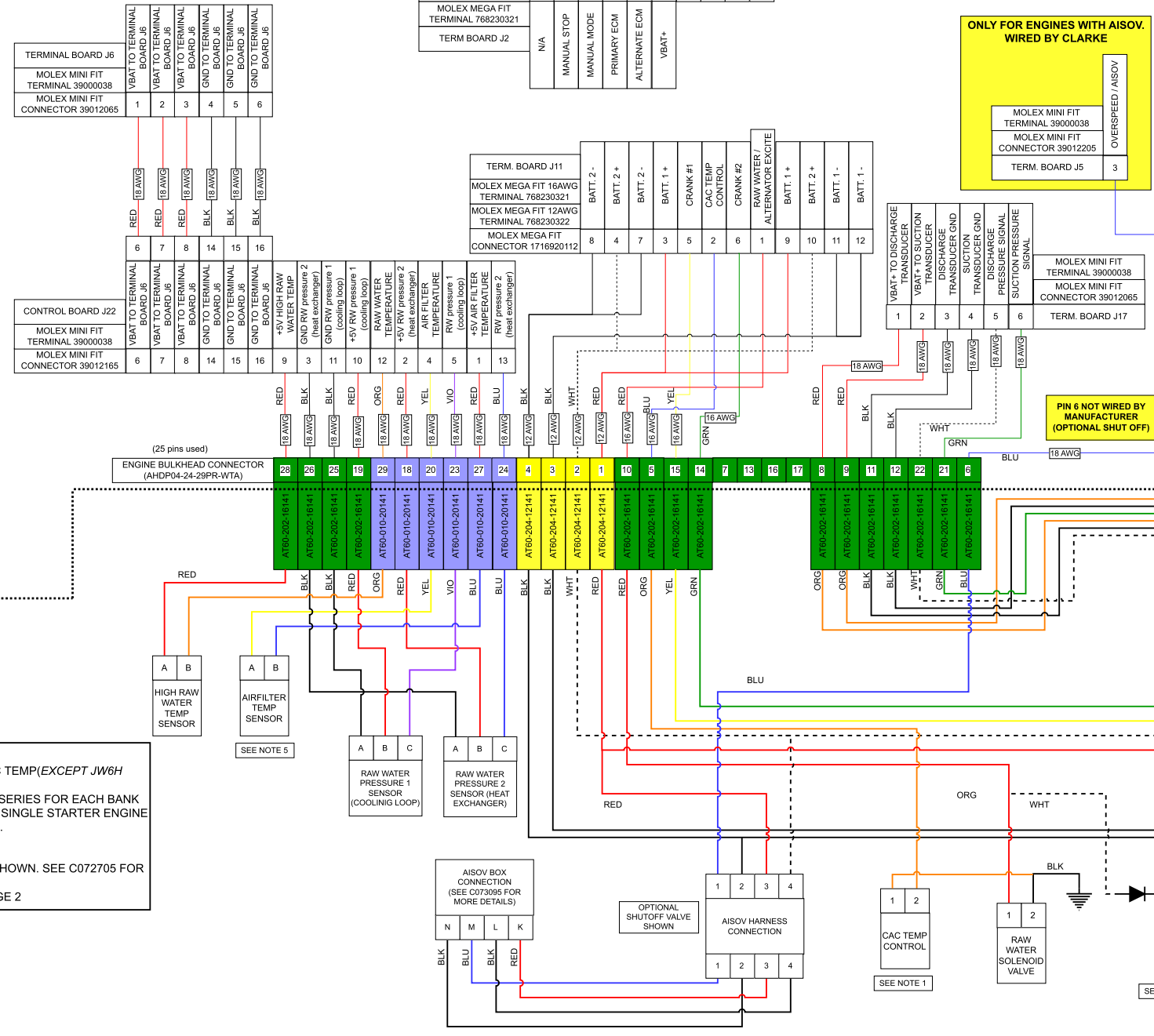
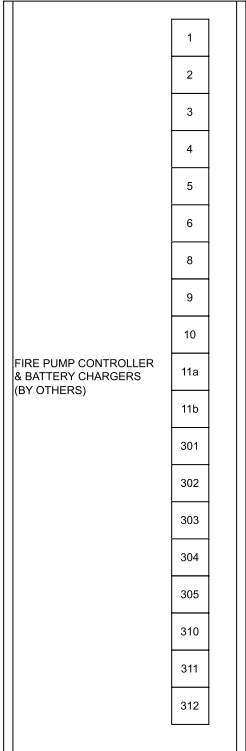




Internal TSP-E Panel



Engine terminal strip (to fire pump controller.) Refer to NFPA 20 (2022 edition) Figure A11.2.6.2 and Table A.11.2.6.2 on next page for description, function, an polarity of circuits



NOTES
NOTE 1: JOHN DEERE ENGINES ONLY(ALTERNATOR EXCITE WIRE & CAC TEMP(EXCEPT JW6H CONSTANT SPEED ENGINES))
NOTE 2: 24V SYSTEM SHOWN. 12V SYSTEM REMOVES THE BATTERY IN SERIES FOR EACH BANK
NOTE 3: DUAL STARTER SYSTEM SHOWN, JOHN DEERE ENGINES ONLY. SINGLE STARTER ENGINE CONNECTS BOTH START CONTACTORS TOGETHER WITH JUMPER WIRE.
NOTE 4: CAT ENGINE ONLY(BLOCK GROUND FOR ALTERNATOR)
NOTE 5: JOHN DEERE PTE ENGINES ONLY(AIR FILTER TEMP SENSOR)
NOTE 6: OPTIONAL SPECIAL GAUGE & ALARM PACKAGE CONNECTION SHOWN. SEE C072705 FOR MORE DETAILS
NOTE 7: OPTIONAL ENCLOSED START CONTACTOR BOX SHOWN ON PAGE 2



Terminal	Diagram circuit function (as seen by terminal strip)	Circuit shall be designed to accommodate these amperes continuously	Terminal shall accommodate these wire sizes (for inter-connection wires to controller)
1	Receives battery positive from the fire pump controller (FPC) when the FPC acts to cause the engine to run. The FPC shall remove this battery positive upon receiving an overspeed signal on terminal #3. Optional RWS shall also be permitted to be connected to this terminal. (This circuit functions as a run circuit.) NOTE: ETR engines cannot run (except Manual Operation at engine) without this battery positive and will stop running when this battery positive from the FPC is removed.	10	10
2	Receives battery positive from the engine when engine speed reaches crank terminate speed. (Accomplished on increasing speed).	1	14
3	Receives battery positive from the engine when engine speed reaches an overspeed condition. This battery positive shall be maintained until a manual reset has been performed at the engine. (Accomplished on increasing speed).	1	14
4	Receives battery negative from the engine when engine lubricating pressure falls below a minimum pressure. (Accomplished on decreasing lubricating pressure while engine is running).	1	14
5	Receives battery negative from the engine when engine reaches excessively high coolant temperature. The engine shall open this circuit when the engine is not running. (Accomplished on increasing coolant temperature).	1	14
6	Receives B1 battery positive from the engine. The size of the wire shall be selected for both ampacity and resistance.	10	8
7	Reserved for future use. (Not shown in figure)		
8	Receives B2 battery positive from the engine. The size of the wire shall be selected for both ampacity and resistance.	10	8
9 ^b	Receives battery positive from the FPC when the FPC acts to cause the engine to crank utilizing B1. Connected to and provides battery positive to Battery Relay #1 which is used in the description for MBC1.	10	10
10 ^b	Receives battery positive from the FPC when the FPC acts to cause the engine to crank utilizing B2. Connected to and provides battery positive to Battery Relay #2 which is used in the description for MBC2.	10	10
11 ^a _{odef}	Receives common ground and common battery negative for both B1 and B2 from the engine.	10	8
11 ^b _{odef}		10	8

Terminal	Diagram circuit function (as seen by terminal strip)	Circuit shall be designed to accommodate these amperes continuously	Terminal shall accommodate these wire sizes (for inter-connection wires to controller)
12	Receives battery positive from the FPC when the FPC acts to cause the engine to stop running. This shall be connected to the SS on engines designed for ETS.	10	10
301	Receives battery negative from the engine when the ECM selector switch is in the alternate ECM position. Accomplished when the ECM's is transferred to the alternate ECM position for engines with ECM.	1	14
302	Receives battery negative from the engine when a FIM is identified by either ECM for engines fitted with ECM. (Accomplished on fuel injection malfunction).	1	14
303	Receives battery negative from engine when a single ECM fails for engines fitted with ECM.	1	14
304	Receives battery negative from the engine when both ECM's have failed for engines fitted with ECM.	1	14
305	Receives battery negative from engine when a low suction pressure is identified. (Accomplished on decreasing suction pressure). NOTE: Required for optional variable speed suction limiting control on engine.	1	14
306-309	Reserved for future use. (Not shown in figure)		
310	Receives battery negative from engine when the raw water temperature is too high. (Accomplished on increasing raw water temperature while engine is running).	1	14
311	Receives battery negative from engine when the raw water strainer in the cooling loop becomes clogged or low flow is detected. NOTE: This feature is provided for some installations.	1	14
312	Receives battery negative from the engine when engine minimum temperature is not maintained. (Accomplished on decreasing engine temperature when the engine is not running).	1	14

