

Lesson 5

PCC 3100 Sequence of Operation

Operation Components



Start engine

Monitor PMG, MPU, Alternator

Provide Switched B+

Monitor S12 Position

Monitor Engine parameters

Monitor Alternator parameters

Run at Idle when S12 is in RUN

Monitor Remote Start Input

PCC 3100 Cues



S12 (Mode Switch) Position

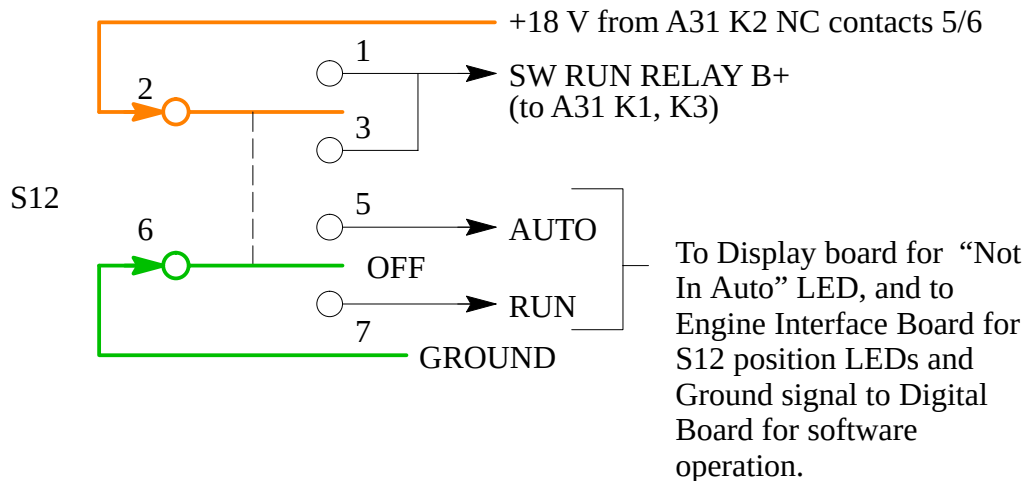
S13 (E-Stop Switch) Position

MPU input signal

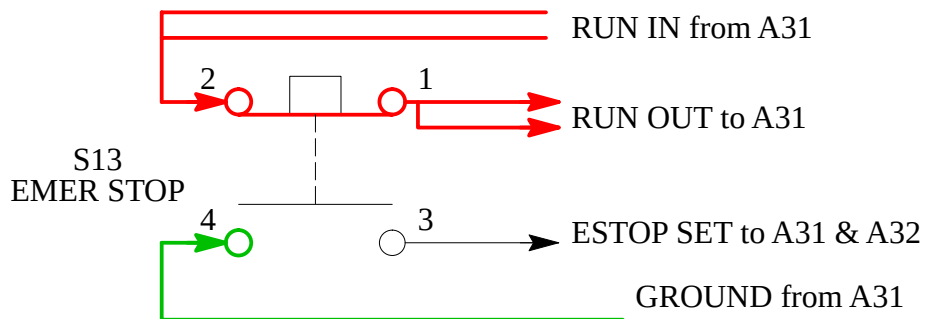
PMG Input Signal

A32 S5 (Sleep Switch) Position

S12 (Mode Sw) Position



S13 Position



Flywheel is turning, “Run signal”
Primary Starter Disconnect signal

Other Uses:

Speed Regulation signal
Ramping signal
Fail to Crank Fault
Magnetic Pickup Fault

PMG Output Signal



Exciter Drive source
Secondary Starter Disconnect

A32 S5 Position



Sleep Mode Switch

PCC 3100 has 11 Wake-Up signals

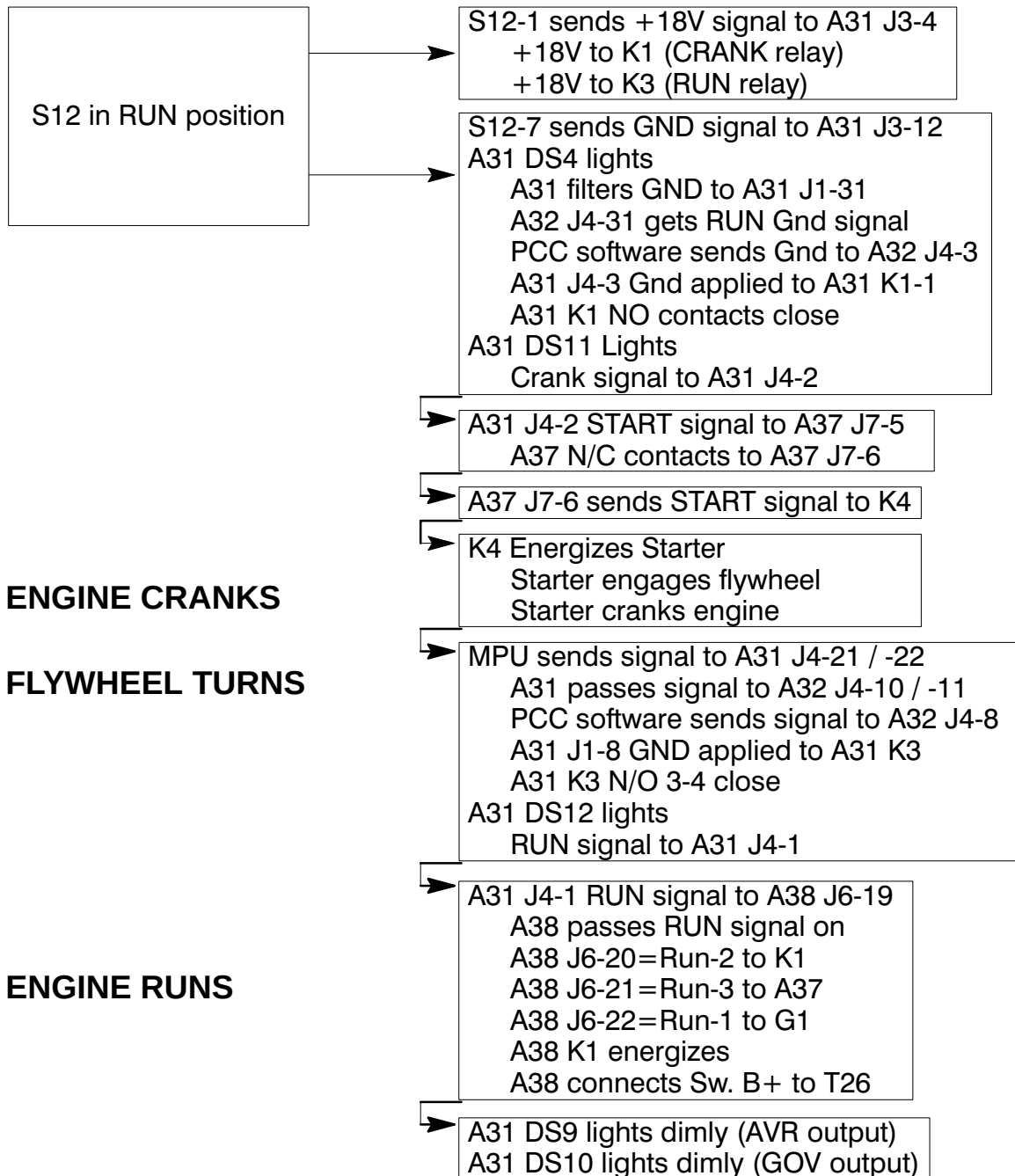
6 Engine Wakeups

5 Control Wakeups

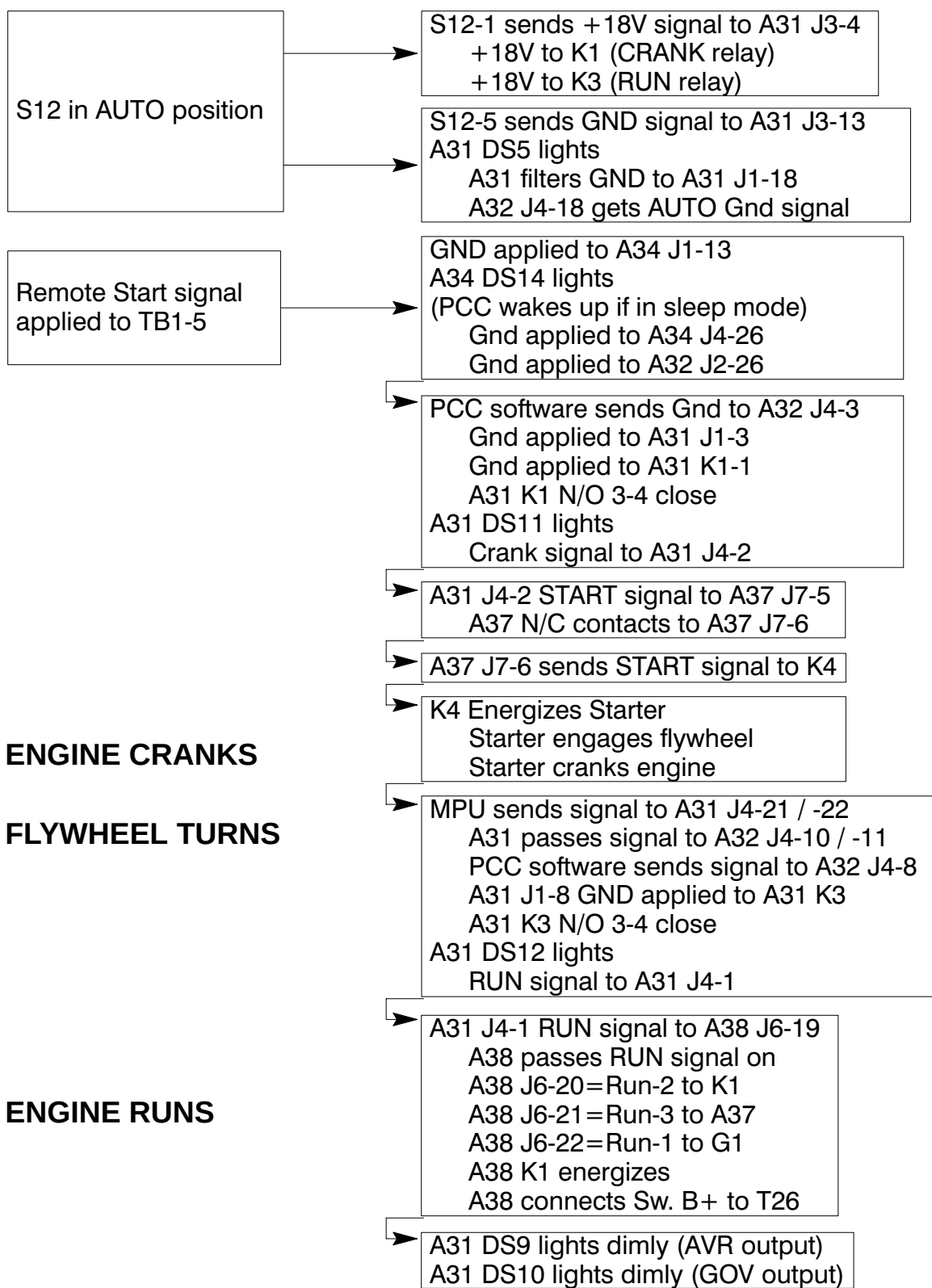
Only Panel Lamp supply “on”

0.05 Amperes draw when asleep

MANUAL RUN CIRCUIT



REMOTE RUN CIRCUIT



START DISCONNECT CIRCUIT

ENGINE CRANKS

MPU sends signal to A31 J4-21 / -22
A31 passes signal to A32 J4-10 / -11
PCC software sends signal to A32 J4-8
A31 J1-8 GND applied to A31 K3
A31 K3 N/O 3-4 close
A31 DS12 lights

➔ A31 K3 N/O 3-4=RUN signal to A31 J4-1

➔ A31 J4-1 RUN signal to A38 J6-19
A38 passes RUN signal on
A38 J6-20=Run-2 to K1
A38 J6-21=Run-3 to A37
A38 J6-22=Run-1 to G1
A38 K1 energizes
A38 passes Sw. B+ to T26.

ENGINE RUNS

MPU (PRIMARY) START DISCONNECT

➔ MPU signal to A31 J4-21 / -22 and
A31 passes signal to A32 J4-10 / -11
Frequency increases to 475 RPM
PCC software removes GND from A32 J4-3

➔ GND removed from A32 J4-3
Removes GND from A31 J1-3
GND removed from A31 K1
A31 K1 N/O 3-4 open
A31 DS11 goes out
START signal removed from K4

AC (BACKUP) START DISCONNECT

PMG signal to A37 J10 -1 / -4 / -5 increases
to 105 VAC RMS (850 rpm)
A37 start disconnect relay energizes
A37 J7-5-J7-6 N/C contacts open
START signal removed from K4