612-6679 E

POWER COMMAND CONTROL

EO NO.	LTR	DESCRIPTION	CHK	DR	APP	DATE	
59,197	A	PRODUCTION RELEASE	-	TJH	MD	CPH	8-24-94
71,146	B	ADDED SHEET 2	-	TJH	MD	CPH	9-15-95

A38 GOVERNOR OUTPUT STAGE 300-4307

A37 REGULATOR OUTPUT STAGE 300-4306

A31 ENGINE INTERFACE 300-4083

A32 DIGITAL 300-4079

P12-12 SW B+ J6-12
T26 SW B+ J6-4
F2 10A
K1.2
J6-1
J6-9
J6-16
B+(BAT)
K1.1
CR7
R8 160
J6-20 PUN-2
J6-21 RUN-3
J6-22 RUN-1
CR10
R7 11K
DS2 Green
GND
J7-6 BLACK 5 16 GRAY/RED
J7-5
J7-1 BLUE
J7-2 PURPLE
K1.3
BACKUP START DISCONNECT
DS1 Green
DS3 Green
K1.2
BROWN YELLOW ORANGE
J10-2 A(P2)
J10-4 B(P3)
J10-5 C(P4)
GENERATOR PMG
B+(BAT)
K4.2
K4.1 START SOL
K1 FUEL SOL
SW BAT
B1
HOT
G1
BT1
BT2
GND-ENG

B+(BAT) CNTRL B+ J4-6 F1 5A
AUX B+ J4-3 F3 5A
S13 EMER STOP
RUN IN J3-3 J3-2 K2.3
GND J3-10
ESTOP SET J3-5
RUN OUT J3-7 J3-8
RUN J4-1 K3.2 RUN
R13 1.0K
DS12 Green RUN
AUX_GND
START J4-2 K1.2 START
R12 1.0K
DS11 Green START
AUX_GND
+18V J3-1
TP2
CR17
TP1
K3.1 RUN
R8 750
CR23
CR15
K1.1 START
R16 750
S12 RUN/OFF AUTO
SW RUN RELAY B+ J3-4
AUTO J3-13
RUN J3-12
CNTRL RTN IN J4-16
GND
AUX RTN IN J4-4
AUX_GND
GND J3-11
GND
MAG PICKUP
MAG + J4-22
MAG - J4-21
SHIELD J4-9
CGROUND
ESTOP SET K2.1 CR16
R17 750
RUN PLT DR J1-21
SW CNTRL B+ CR21
CR12
J1-34
+18V J1-16
RUN J1-8
START J1-9
AUTO J1-10
RUN J1-31
ESTOP J1-7
OPTO ISO
DS4 Green RUN
DS5 Green REMOTE
K2.4 ESTOP
DS6 Red
J1-28
J1-26
J1-24
GND
MAG + J1-10
MAG - J1-11

J1-25 J4-25 R17 2.0 K1.3
J1-27 J4-27
J1-29 J4-29 R16 330
RUN PILOT K1.1 CR4
SLEEP/WAKE-UP S5 ON
GND
J1-32 J4-32 REM ESTOP J2-16
J4-21 CR5
J4-34 SW CNTRL B+
PS1 B+ +18V
J4-16 +18V
J4-8 RUN TO MICRO-CONTROLLER
J4-3 START TO MICRO-CONTROLLER
J4-18 AUTO TO MICRO-CONTROLLER
J4-21 RUN TO MICRO-CONTROLLER
J4-7 ESTOP TO MICRO-CONTROLLER
J4-28
J4-26
J4-24
GND
J4-10 MAG + TO MICRO-CONTROLLER
J4-11 MAG - TO MICRO-CONTROLLER

KEY
- N/O CONTACT CLOSED
- MAG PICK-UP SIGNAL
- DIGITAL SIGNAL
- COMMON POWER CONNECTION

CLASSIFICATION OF CHARACTERISTICS
CRITICAL
MAJOR
MINOR (NONE)
LINE BELOW SYMBOL — APPLIES TO UPPER LIMIT
LINE ABOVE SYMBOL — APPLIES TO LOWER LIMIT
NO LINES WITH SYMBOL APPLIES TO BOTH LIMITS
APPROVED N/A
DATE 8-24-94

NOTES:

THE FOLLOWING IS THE SEQUENCE OF EVENTS FOR LOCAL START AND RUN.

1. S12 IS SET TO THE RUN POSITION.
2. RUN PILOT RELAY K1 ON DIGITAL BOARD (A32) IS ENERGIZED.
3. B+ IS NOW APPLIED TO THE POWER SUPPLY SECTION OF ENGINE INTERFACE BOARD (A31) AND THE DIGITAL BOARD (A32).
4. RUN LED DS4 ON ENGINE INTERFACE BOARD (A31) IS ON.
5. THE DIGITAL BOARD INITIATES A START DRIVE.
6. START RELAY K1 ON ENGINE INTERFACE BOARD (A31) IS ENERGIZED.
7. B+ IS NOW APPLIED TO THE STARTER SOLENOID.
8. ENGINE WOULD CRANK.
9. THE DIGITAL BOARD (A32) MONITORS THE MAG PICKUP AND INITIATES A RUN DRIVE.
10. RUN RELAY K3 ON ENGINE INTERFACE BOARD (A31) IS ENERGIZED.
11. B+ IS NOW APPLIED TO THE FUEL SOLENOID,ALTERNATOR G1,REGULATOR OUTPUT STAGE (A37).
12. LEDS DS1 ON REGULATOR OUTPUT STAGE (A37) AND DS2 ON GOVERNOR OUTPUT STAGE (A38) ARE ON.
13. RELAY K1 ON THE GOVERNOR OUTPUT STAGE (A38) IS ENERGIZED.
14. SW B+ IS NOW APPLIED TO TERMINAL 26 AND CUSTOMER CONNECTIONS.
15. ENGINE WOULD RUN.
16. THE DIGITAL BOARD (A32) MONITORS THE MAG PICKUP AND WHEN THE ENGINE REACHES 475 RPM THE START DRIVE IS REMOVED.
17. START RELAY K1 ON ENGINE INTERFACE BOARD (A31) IS DE-ENERGIZED,REMOVING B+ TO THE STARTER SOLENOID. RELAY CONTACT K1.2 IS OPEN,START LED DS11 IS OFF.
18. WHEN PMG OUTPUT REACHES 105VAC(850 RPM), BACK-UP START DISCONNECT RELAY K1 ON REGULATOR OUTPUT STAGE (A37) IS ENEPGIZED, RELAY CONTACT K1.3 IS OPEN,BACK-UP START DISCONNECT LED DS3 IS ON.

HP SYS DWG | DO NOT SCALE PRINT | MAG TOL ± | CHAMFER TO SCALE 90

ITEM	PART NO.	QTY	DESCRIPTION OF MATERIAL	REV LTR

TOLERANCES UNLESS OTHERWISE SPECIFIED: FRACT ±1/32, DEC .XX ±.03, .XXX ±.005; ANGLE ±1°; SURFACE FINISH 125; SIM TO; THIRD ANGLE PROJECTION

	NAME	DATE
DR	T.J. WIELAND	8-24-94
CHECK	MARK DALSKE	8-24-94
APPROVED	CRAIG HEALY	8-24-94
NEXT ASSY USED ON	POWER COMMAND CONTROL	

Onan
MINNEAPOLIS, MINNESOTA 55432

TITLE: POWER COMMAND SYSTEM (START CIRCUIT)

DWG NO. 612-6679 | SHEET 1 OF 2 | REV E