

LIGHT	MEANING	IMMEDIATE ACTION	POSSIBLE OPERATIONAL IMPLICATION
DC BUS BATTERY 11 C&W LIGHTS	CDR BUS FAILURE	(DPS TO 100% AND GDA LOCKED) GUID CONT - AGS, SUIT FAN-2, CDR AUDIO CONT-BU, S-BD-XMTR/RCVR & PWR AMPL - PRIM, INV 2, ACT SEC GLYCOL. TO START DPS: ENG ARM - DES; DES ENG CMD OVRD-ON (2ND BURN ONLY); (M45) TO STOP DPS: DES ENG CMD OVRD-OFF, ENG ARM-OFF.	RECONFIG IF TIME PERMITS: CB16(11) ASC ECA CONT-CL; CDR(LMP) BAT (S)-OFF/RSET; CB11(16) BAT FEED TIE (2)-OPN; BAT 6(5) BACKUP FEED-ON. IF FEED FAULT LT OFF-BUS SHORT; CB16(11)
DC BUS BATTERY 6 C&W LIGHTS	LMP BUS FAILURE	(DPS TO 100% AND GDA LOCKED) GUID CONT - PGNS, SUIT FAN - 1, LMP AUDIO CONT - BU, S-BD-XMTR/RCVR & PWR AMPL - SEC, INV 1; TO START DPS: ENG ARM - DES; ENG START - PUSH; TO STOP DPS: ENG STOP - PUSH; ENG ARM - OFF. (M45)	ASC ECA CONT-OPN; IF ON-DES BATS-DEADFACE; IF FEED FAULT LT OFF-ALL DES BATS-OFF; CB11(16)-BAT FEED TIE (2)-CL; BAT 6(5) BACKUP FEED-OFF; BAT 6(5) NORMAL FEED-ON; IF FEED FAULT LT ON-DES BATS-CONNECT; RESTORE BUS.
BATTERY	BAT OVERTEMP REV CURRENT >10A OVERCURRENT	CHECK ALL BATS VOLTS, AMPS & TB's. IF VOLTS, AMPS OK: FAULTY BAT-OFF THEN ON; IF VOLTS, AMPS NOT OK; FAULTY BAT - OFF. (M48)	LOSS OF ASC BAT 5(6) (REVERSE CURRENT ONLY) CB(11) DE ECA-OPEN. IF STAGING REQD OR IF PAST HI GATE, CB(16) BUS CROSSTIE-CLOSE. IF ABT STG REQD, CB(16) DES ECA -OPEN. IF TIME PERMITS, BAT 6(5) BU FEED-ON, DES BATS OFF AT 5 SEC INTERVALS.
INVERTER	AC VOLTS <112 398>FREQ>402	CHECK AC VOLTS & FREQ. SWITCH TO INV-2. BUS A&B BUS TIE INV 1 (2)-OPEN (INV 1 FEED SHORT). BUS B: BUS TIE INV 2 - OPEN (BUS B SHORT). BUS A&B: BUS TIE INV 1 (2) - CLOSE; SELECT INV 1. BUS A: BUS TIE INV 2 - OPEN (INV 2 FEEDER SHORT). BUS A: BUS TIE INV 1 - OPEN (BUS A SHORT, LT STAYS ON; CLOSE BUS B: BUS TIE INV 2 BEFORE SELECTING INV 2). (M50)	CYCLE DECA GMBL CB. FOR LOSS OF INV 1/AC BUS A: MASTER ARM-ON ENGINE START-PUSH MASTER ARM-OFF.
STAGE RELAY AND ONE/BTH) STG SEQ RELAY LIGHTS ON	ED RELAYS K1 TO K6 CLOSE WITH MASTER ARM OFF	BEFORE PDI: DO NOT SET MASTER ARM-ON, STAGE RELAY-RESET; IF LT STILL ON, ASC He SEL-TANK 1, ASC He PRESS-FIRE. IF APS PRESS, ABORT; IF NOT (NEXT STEP MAY STAGE VEHICLE) MASTER ARM-ON; IF NO STAGE, GO NORMAL PROCEDURES. AFTER PDI: DO NOT SET MASTER ARM - ON; STAGE RELAY-RESET; IF STAGE SEQ RELAY LT STILL ON: ASC He PRESS - FIRE, IF APS PRESSURIZES, ABORT. (M73)	AFTER LANDING- BAD SYSTEM/LOGIC PWR CB-OPEN.
STAGE SEQ RELAY LT OFF AT PDI	POSSIBLE RELAY FAIL	AT PDI: MASTER ARM - OFF, OPEN LOGIC PWR CB ON SYSTEM WHICH HAD SEQ LT - ON, MASTER ARM - ON. AT IGNITION MONITOR DPS SHE AND FUEL/OXID PRESS. SHE TANK INOPERATIVE: STOP PB - PUSH, ENG ARM - OFF. SHE TANK OK: MASTER ARM - OFF, LOGIC PWR CB - CLOSE, ASC He PRESS - FIRE, IF APS PRESSURIZES, ABORT. (M)	
DES REG	220>He PRESS>260	DES He REG 1 - CLOSE, DES He REG 2 - OPEN, MONITOR TEMP/PRESS, MAINTAIN FUEL/OXID>160. (M)	
ENG GMBL	GMBL CMD/RESP FAIL	ENG GMBL - OFF. IF LIGHT STILL ON: CWEA FAIL. IF LT OFF: WAIT FOR MSFN TEST. (M)	
DES DC	ATCA DC OUT OF TOLERANCE	GUID CONT - PGNS, GYRO TEST - POS RT. IF LT STAYS ON; CWEA FAIL; IF LT OFF - CYCLE CWEA CB; IF LT STAYS OFF - CYCLE DECA GMBL AC CB TO UNLOCK THROTTLE. IF LT REAPPEARS; POSSIBLE GDA LOCKUP, DPS TO 100%; NO AGS CONT, NO APS AUTO ON/OFF. CDR BUS CRITICAL. (M)	
NO AUTO START	RELAY DRIVER FAILURE	ENG START - PUSH. AFTER THROTTLE UP: MODE CONT (AGS)-ATT HOLD. GUID CONT-AGS. MSFN WILL DETERMINE APS REDUNDANCY. FOR LOSS OF AUTO CDR BUS CRITICAL FOR APS BURNS	

LIGHT	MEANING	IMMEDIATE ACTION (POSSIBLE OPERATIONAL IMPLICATIONS)	
C BUS ATTERY 11 C&W IGHTS	CDR BUS FAILURE	GUID CONT - AGS; SUIT FAN - 2; CDR AUDIO CONT - BU; S-BD XMTR/RCVR & PWR AMPL - PRIM; INV - 2; ACTIVATE SEC GLYCOL LOOP. (M47)	RECONFIGURE IF TIME PERMITS: CB 16 (11) ASC LCA CONT - CLOSE, CB 11 (16) BAT FEED TIE (2) - OPEN; IF FEEDER FAULT LT ON BAT 6(5) BU FEED - ON. RESTORE BUS. IF FEEDER FAULT LT OFF - BAT 6 (5) NORM FEED - OFF/ON. IF TB GRAY - BUS SHORT. IF TB BP - BAT 5 & 6 BU FEED-ON; BAT 5 & 6 NORM FEED - OFF; CB11(16) BAT FEED TIE (2) - CLOSE. IF NO SWITCH ACTION - RESTORE BUS.
C BUS ATTERY 6 C&W IGHTS		TO START APS: ENG ARM - ASC; ABT STG-PUSH; AGS AUTO ON TO STOP APS: AGS AUTO OFF; ABT STG-RSET; ENG ARM-OFF	
ATTERY	BAT OVERTEMP REV CURRENT >10A	CHECK BAT 5,6 VOLTS, AMPS & TB'S IF VOLTS, AMPS NOT OK: CB (11 & 16) CROSS TIE BUS - CLOSE. FAULTY BAT: NORMAL FEED - OFF, GOOD BAT: BACKUP FEED - ON. (M48)	
NVERTER	AC VOLTS <112 393>FREQ>402	CHECK AC VOLTS & FREQ. VERIFY CB (11) INV 1 - CLOSE, SWITCH TO INV 1. BUS A&B BUS TIE INV 2 (2) - OPEN (INV 2 FEED SHORT). BUS B: BUS TIE INV 1 - OPEN (BUS B SHORT) BUS A&B: BUS TIE INV 2 (2) - CLOSE. SELECT INV 2. BUS A: BUS TIE INV 1 - OPEN (INV 1 FEEDER SHORT). BUS A: BUS TIE INV 2 - OPEN (BUS A SHORT, LT STAYS ON; CLOSE BUS B: BUS TIE INV 1 BEFORE SELECTING INV 1). (M50)	
ONE STAGE EQ RELAY T. OFF AT ASCENT	MASTER ARM SW FAILURE OR ED RELAY FAILURE	MASTER ARM - OFF, THEN ON. CB (11 & 16) ABORT STAGE - OPEN. ABORT STAGE - PUSH. IF BOTH LIGHTS ON: ABORT STAGE - RESET, CB (11 & 16) ABORT STAGE - CLOSE, CONTINUE NORMAL L/O. IF ONE LIGHT STILL OFF: STAGE - FIRE, (Verify, safe abort) ABORT STAGE - RESET, CB (11 & 16) ABORT STAGE - CLOSE, GROUND CONFIRM STAGING. (M73)	
ASC PRESS	EITHER He PRESS <2775psi (Before Staging)	IF APS NOT PRESSURIZED - CONSULT MSFN, GO TO MAL PROC APS - 1 (M37) IF APS PRESSURIZED - CLOSE ASC He REG 1 & 2: MONITOR ASC He PRESS; IF BOTH <2775psi AND DECREASING - IMMEDIATE LIFTOFF. MONITOR FUEL/OXID PRESS; IF EITHER DECREASING - IMMEDIATE LIFTOFF.	IF He LEAK, LMP BUS CRITICAL (SOV'S)
ASC HI REG	MANF PRESS>220psi	ASC He REG 1 & 2 CLOSE, WHEN <220psi, OPEN EACH REG SEPARATELY TO VERIFY GOOD REG. (M38)	
ES DC	ATCA DC OUT OF TOLERANCE	GUID CONT-PGNS, GYRO TEST-POS RT. IF LT STAYS ON; CWEA FAIL, IF LT OFF-CYCLE CWEA CB; IF LIGHT REAPPEARS: POSSIBLE NO AGS ATTITUDE CONTROL, NO APS AUTO ON/OFF. CDR BUS CRITICAL. (M27)	
NO AUTO OR MAN START	RELAY DRIVER FAILURE	NO AUTO START: CDR BUS CRITICAL. NO MANUAL START (NO LIGHT): LMP BUS CRITICAL.	

OR
CORE BUS VIA CROSSTIE

LMP

RAPID IMU IGN

CB(11) - UTIL LT; ANUN/DK/CMPT;

GLY PUMP 1&2; S-BND

XMTR/RCVR & PWR AMP;

LR; RR; LGC; IMU OPR; INV 1.

VHF B XMTR - OPEN

CB(16) CROSSTIE BUS - CLOSE

CLOSE ABOVE CB'S AND SYNCHRONIZE CLOCKS.

CB(16) - FLOOD; ANUN/

DOCK/CMPT; AEA; ATCA;

VHF A XMTR; S-BAND

XMTR/RCVR & PWR AMP;

INV 2 - OPEN

CB(16) CROSSTIE BUS-CLOSE

1) AGS INERTIAL FDAI TO 0°, 0°/XXX°, 0°

2) V41 N20E, E, E/XXE, E

3) V40 N20 at 0°, 0°/XXX°, 0° ON AGS FDAI, WAIT 11 SE

4) V25N07E, 77E, 10000E, 1E

5) P51E, PRO, POOE

6) PERFORM P52, OPTION 3 (AUTO OPTICS ARE GOOD)

NOTE: FOR TEMPORARY LOSS OF CDR'S BUS, UPDATE

LGC CLOCK WITH V55 TO COMPLETE RECOVERY

LIGHT	MEANING	IMMEDIATE ACTION (POSSIBLE OPERATIONAL IMPLICATIONS)	
RCS TCA WITH QUAD FLAG	ONE OR MORE THRUSTERS FAIL OFF, COLLINEAR THRUSTERS FIRING SIMULTANEOUSLY	ULLAGE: Disable 1st Flag. If 2nd Flag appears, OPEN CB; Disable Flag. Enable 1st Flag. POWERED FLIGHT: If Unstable; CB QUAD TCA-OPEN DETERMINE CRITICAL QUAD (DO NOT DISABLE CRITICAL QUAD UNLESS V-JET AVAILABLE*). BUS WITH GOOD SYSTEM CRITICAL. (M42)	H-JET ON: ENABLE FOR CRITICAL V-JET FAIL AND DISABLE CRITICAL JET* V-JET ON: ENABLE FOR CRITICAL V-JET FAIL OFF V-JET OFF: SELECT DIRECT (P, R) FOR CRITICAL V-JET FAIL OFF
ABNORMAL THRUSTERS W/O RCS TCA, QD FL	POSSIBLE SWITCH FAILURE IN SECONDARY COILS, ACA, OR TTCA	ACA 4-JET (2) - DISABLE (FOR PDI: ISOLATE BY TIG + 15 SEC OR THROTTLE UP MANUALLY). ACA PROP (2) - DISABLE TTCA/TRANS (2) - DISABLE	(M42)
RCS A REG RCS B REG	165psi>REG PRESS >218psi	Monitor MANF PRESS, When <100psi: Bad System MAIN SOV - CLOSE CRSFD - OPEN	(M42)
RCS	A OR B He Press <1700psi	Monitor He PRESS & RCS QUANTITY. ↑ Affected Sys: LGC THR CMDS (4) - DISABLE MAIN SOV - CLOSE, CB(11 or 16) QUAD TCA (4) - OPEN. Monitor MANF PRESS Go to Mal. Proc RCS 1	(M42)
LGC	LGC Power, Scaler, or Counter Fail	MODE CONT (AGS) - ATT HOLD; GUID CONT - AGS. Poss NO LGC Auto Eng Shutdown. IF RESTART LT ON; LGC Fail. CB(11) AEA - CLOSE. LMP BUS CRITICAL.	(M17)
ISS	IMU, ICDU or PIPA (Thrusting) FAIL	MODE CONT (AGS) - ATT HOLD; GUID CONT - AGS. Poss NO LGC Auto Eng Shutdown. IF PROG LT NOT ON CWEA Fail. CB(11) AEA - CLOSE. LMP BUS CRITICAL.	(M9)
CES AC	ATCA AC Out of Tolerance	GUID CONT - PGNS, GYRO TEST - POS RT. IF Light Stays ON - CWEA Fail. IF Light OFF; Check rate needles - NO RESPONSE: Loss of AGS Control and FDAI Error Needles, RR Usable in LGC Mode Only. If Rate Needles VALID- CYCLE CWEA CB: IF LIGHT REAPPEARS; Possible Loss of AGS Control, DO NOT REMOVE ATCA CB PWR. CDR BUS CRITICAL FOR AGS CONTROL LOSS.	(M27)
AGS	AGS Power Supply Out of Tolerance, AGS Heater Failed ON, AGS Self Test Failed	MODE CONT (AGS) - ATT HOLD; GUID CONT - PGNS. Cycle 02/H20 Qty Mon Sw: If Light OFF - Perform 412R. If Light ON - CWEA CB OPEN: If Light Stays ON - CWEA Failure. If Light OFF: CLOSE CWEA CB; If Light Stays OFF - Transient. If Light ON: Evaluate AGS Control & Steering. CES Rate Cmd OK. IF AGS FAILED, CDR BUS CRITICAL.	(M17)