THREE PHASE WIRING FOR ASCO 7000 SERIES AUTOMATIC CLOSED TRANSITION TRANSFER & BYPASS-ISOLATION SWITCHES TYPE 7ACTB RATED 1000 - 3000 AMPERES

FEATURES, SETTINGS, OPERATION & NOTES

THE FOLLOWING FEATURES AND RELATED SETTINGS ARE PART OF THE GROUP 5 CONTROL PANEL'S USER CONFIGURABLE PARAMETERS. FOR DETAILED INFORMATION REGARDING THE CONFIGURATION OF THESE PARAMETERS AND OTHER FEATURES OF THE GROUP 5 CONTROL PANEL, REFER TO THE GROUP 5 CONTROL PANEL FOR ASCO 7000 SERIES AUTOMATIC TRANSFER SWITCHES USER'S GUIDE (PART NO. 381333-126) PROVIDED WITH EVERY 7000 SERIES AUTOMATIC TRANSFER SWITCH.

THE NOMINAL OPERATING VOLTAGE & FREQUENCY IS PRE-PROGRAMMED AT THE FACTORY BASED ON THE NAMEPLATE DATA PRINTED ON THE TRANSFER SWITCH & CONTROL PANEL NAMEPLATES.

VOLTAGE & FREQUENCY SENSING

THE FOLLOWING SETTINGS ARE EXPRESSED AS A PERCENTAGE OF THE CONTROL PANEL'S NOMINAL VOLTAGE SETTING UNLESS STATED OTHERWISE. ALL SETTINGS ARE ADJUSTABLE IN INCREMENTS OF 1%.

A. RMS VOLTAGE SENSING ON ALL PHASES OF THE NORMAL & EMERGENCY SOURCES.

PARAMETER	RANGE OF SETTINGS	DEFAULT SETTING
NORMAL VOLTAGE DROPOUT	70-98%	85%
NORMAL VOLTAGE PICKUP	85-100%	90%
NORMAL OVER VOLTAGE TRIP	102-115%	OFF
NORMAL VOLTAGE UNBALANCE	YES/NO	NO
NORMAL VOLTAGE UNBALANCE DROPOUT	5-20% OF AVG. NORMAL VOLTAGE	20% (if ON)
NORMAL VOLTAGE UNBALANCE PICKUP	3-18% OF AVG. NORMAL VOLTAGE	10% (if ON)
EMERGENCY VOLTAGE DROPOUT	70-98%	75%
EMERGENCY VOLTAGE PICKUP	85-100%	90%
EMERGENCY OVER VOLTAGE TRIP	102-115%	OFF
EMERGENCY VOLTAGE UNBALANCE	YES/NO	NO
EMERGENCY VOLTAGE UNBALANCE DROPOUT	5-20% OF AVG. EMERGENCY VOLTAGE	20% (if ON)
EMERGENCY VOLTAGE UNBALANCE PICKUP	3-18% OF AVG. EMERGENCY VOLTAGE	10% (if ON)

B. FREQUENCY SENSING OF THE NORMAL & EMERGENCY SOURCES.

PARAMETER	RANGE OF SETTINGS	DEFAULT SETTING
NORMAL FREQUENCY DROPOUT	85-98%	90%
NORMAL FREQUENCY PICKUP	90-100%	95%
NORMAL OVER FREQUENCY TRIP	102-110%	OFF
EMERGENCY FREQUENCY DROPOUT	85-98%	90%
EMERGENCY FREQUENCY PICKUP	90-100%	95%
EMERGENCY OVER FREQUENCY TRIP	102-110%	OFF

TIME DELAYS

THE FOLLOWING TIME DELAY SETTINGS ALL HAVE AN ADJUSTABLE RANGE OF 0-60 min 59 sec UNLESS STATED OTHERWISE. ADJUSTABLE IN INCREMENTS OF 1 sec.
NOTE: SOME TIME DELAYS MAY BE EFFECTED BY CUSTOMER REQUESTED ACCESSORIES PROVIDED WITH THE UNIT. REFER TO THE DESCRIPTIONS PROVIDED UNDER THE "ACCESSORIES" NOTES ON THIS PAGE.

FEATURE	NAME	DEFAULT SETTING
1C	NORMAL SOURCE FAILURE TO ENGINE START	1 sec
2B	TRANSFER TO EMERGENCY ON AVAILABILITY OF EMERGENCY SOURCE	0 sec
1F	EMERGENCY SOURCE FAILURE RETRANSFER (NORMAL SOURCE AVAILABLE)	0 sec
2E	ENGINE COOLDOWN FOLLOWING RETRANSFER TO NORMAL	5 min
3A	RETRANSFER TO NORMAL (NORMAL FAILURE MODE)	30 min
3A	RETRANSFER TO NORMAL (TEST MODE)	30 sec
-	DELAYED TRANSFER (LOAD "OFF" TIME), [0-5 min 59 sec]	3 sec

DESCRIPTIONS OF TIME DELAYS:

FEAT. 1C - DELAY ON NORMAL SOURCE OUTAGE. STARTS ON FAILURE OF NORMAL SOURCE. RESETS IF NORMAL SOURCE IS ACCEPTED BEFORE EXPIRATION. INHIBITS ENGINE STARTING AND AUTOMATIC TRANSFER UNTIL EXPIRATION.

FEAT. 2B - DELAY PRIOR TO TRANSFER TO THE EMERGENCY SOURCE. DELAY STARTS ON EXPIRATION OF FEAT. 1C AND WHEN THE EMERGENCY SOURCE HAS BEEN ACCEPTED. DELAY RESETS IF THE EMERGENCY SOURCE FAILS PRIOR TO EXPIRATION. ON EXPIRATION, TRANSFER TO EMERGENCY IS INITIATED UNLESS THE NORMAL SOURCE HAS RECOVERED AND THE "COMMIT TO TRANSFER" FEATURE IS SET TO "NO" COMMIT. PROVIDES A PERIOD FOR EMERGENCY SOURCE STABILIZATION OR STAGING OF MULTIPLE TRANSFER SWITCH CONTROLLED LOADS TO THE EMERGENCY SOURCE.

FEAT. 1F - DELAY ON RETRANSFER TO NORMAL IN THE EVENT OF EMERGENCY SOURCE FAILURE. DELAY BEGINS ON FAILURE OF THE EMERGENCY SOURCE IF THE NORMAL SOURCE IS ACCEPTABLE. ON EXPIRATION, RETRANSFER TO NORMAL WILL BE INITIATED.

FEAT. 2E - DELAY ON ENGINE SHUTDOWN (ENGINE COOL DOWN PERIOD). DELAY STARTS FOLLOWING RETRANSFER TO THE NORMAL SOURCE. PROVIDES A PERIOD FOR THE ENGINE-GENERATOR SET TO RUN UNLOADED PRIOR TO SHUTDOWN.

FEAT. 3A - RETRANSFER TO NORMAL DELAY (NORMAL FAILURE MODE)
DELAY STARTS WHEN NORMAL SOURCE IS ACCEPTED (FOLLOWING IT'S FAILURE) AND WHILE THE LOAD IS CONNECTED TO EMERGENCY. RESETS IF NORMAL FAILS PRIOR TO EXPIRATION OR IF THE EMERGENCY SOURCE FAILS BEFORE EXPIRATION AND FEAT. 1F EXPIRES (AUTOMATIC BYPASS ON EMERGENCY SOURCE FAILURE). PROVIDES A PERIOD FOR THE NORMAL SOURCE TO STABILIZE PRIOR TO RETRANSFER.

FEAT. 3A - RETRANSFER TO NORMAL DELAY (TEST MODE)
DELAY STARTS WHEN THE "TRANSFER TEST" SWITCH IS RESET TO "AUTO" (FOLLOWING A USER INITIATED TRANSFER TEST) AND WHILE THE LOAD IS CONNECTED TO EMERGENCY. RESETS IF NORMAL FAILS PRIOR TO EXPIRATION OR IF THE EMERGENCY SOURCE FAILS BEFORE EXPIRATION AND FEAT. 1F EXPIRES (AUTOMATIC BYPASS ON EMERGENCY SOURCE FAILURE).

IN SYNC - IN SYNC TIME DELAY BEGINS BEFORE A CLOSED TRANSITION TRANSFER FOLLOWING ACCEPTANCE OF THE SOURCE TO WHICH TRANSFER IS BEING MADE. ON EXPIRATION OF THE DELAY, THE LOGIC AWAITS AN IN SYNC CONDITION FOR SUBSEQUENT CLOSED TRANSITION TRANSFER.

EXTENDED PARALLEL - EXTENDED PARALLEL TIMER BEGINS WHEN THE SOURCES ARE PARALLELED (CN & CE CLOSED). IF THE TWO SOURCES REMAIN IN PARALLEL WHEN THE DELAY EXPIRES, THE CONTROL LOGIC TAKES THE FOLLOWING ACTIONS:

- THE LOGIC WILL ATTEMPT TO OPERATE THE TRANSFER SWITCH TO A "SAFE" STATE WHERE THE SOURCES WILL NO LONGER BE PARALLELED AND THE LOAD WILL BE SERVICED BY AN AVAILABLE SOURCE.
- THE CONTROL PANEL IS LOCKED OUT FROM ANY FURTHER AUTOMATIC OPERATION.
- THE "TS LOCKED OUT" INDICATOR (RED LED) IS LIT.
- THE EXTENDED PARALLEL ALARM TIMER LOCATED ON THE DUAL OPERATOR CONTROL (DOC) IS ENABLED.
- THE UNIT WILL REMAIN LOCKED OUT UNTIL THE "TS LOCKED OUT" PUSH-BUTTON IS DEPRESSED FOR RESET.

FAIL TO SYNC - FAILURE TO SYNC TIMER BEGINS WHEN THE LOGIC BEGINS TO CHECK FOR AN IN SYNC CONDITION FOR WHICH TO ALLOW CLOSED TRANSITION TRANSFER. IF THE DELAY EXPIRES PRIOR TO AN IN SYNC CONDITION OCCURRING, THE "FAILURE TO SYNCHRONIZE" SIGNAL IS ACTIVATED (RED LED) AND CLOSURE OF THE TFR RELAY CONTACT AVAILABLE AT THE FIELD CONNECTIONS TERMINAL BLOCK (TB).

FEAT. 62F - EXTENDED PARALLEL ALARM TIMER BEGINS TIMING WHEN ENABLED FOLLOWING EXPIRATION OF THE EXTENDED PARALLEL TIMER OF THE CONTROL PANEL. THE ENABLING OF THE EXTENDED PARALLEL ALARM TIMER INDICATES THAT THE UNIT HAS ATTEMPTED TO RECOVER TO A "SAFE STATE" AND THAT IT HAS BEEN LOCKED OUT. ON EXPIRATION OF THE DELAY, OUTPUT RELAY (RL3) (2) FORM C CONTACTS, CONNECTED TO THE FIELD CONNECTIONS TERMINAL BLOCK (TB0, TRANSFER. THE DELAY IS ADJUSTABLE VIA A POTENTIOMETER (P2) LOCATED ON THE DUAL OPERATOR CONTROL (DOC) WHICH IS ADJUSTABLE FROM 0-1 SECOND. FACTORY SET AT 1 SEC.

ENGINE EXERCISER

THE ENGINE EXERCISER FEATURE PROVIDES A MEANS TO PERFORM AUTOMATIC EXERCISING OF THE ENGINE-GENERATOR SET EITHER WITH OR WITHOUT LOAD TRANSFER.
THE USER CAN PROGRAM UP TO SEVEN DIFFERENT EXERCISE ROUTINES. EACH ROUTINE INCLUDES;

1. ENABLE OR DISABLE THE ROUTINE
2. ENABLE OR DISABLE TRANSFER OF THE LOAD DURING THE ROUTINE
3. SET START TIME OF ROUTINE -
   - TIME OF DAY
   - DAY OF WEEK
   - WEEK OF MONTH (1st, 2nd, 3rd, 4th, ALTERNATE OR ALL)
4. SET THE DURATION OF THE ROUTINE

PARAMETER	RANGE OF SETTING	DEFAULT SETTING
MONTH (CLOCK SET)	JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC	CURRENT DATE
DAY	1-31	
YEAR	00-99	
HOUR	0-23	Eastern Standard Time
MINUTE	0-59	
ENABLE ROUTINE (ROUTINE 1-7)	YES/NO	NO
TRANSFER LOAD	YES/NO	NO
START HOUR	0-23	0
START MINUTE	0-59	0
RUN WEEK	ALL, ALTERNATE, 1st, 2nd, 3rd, 4th, 5th	ALL
RUN DAY	SUN MON TUE WED THU FRI SAT	SUN
DURATION HOURS	0-23	0
DURATION MINUTES	0-59	0

OPERATION

IF THE NORMAL SOURCE FAILS, THE TRANSFER SWITCH INITIATES STARTING OF THE ENGINE-GENERATOR SET. WHEN PROPER VOLTAGE AND FREQUENCY HAVE BEEN ATTAINED, THE LOAD WILL BE TRANSFERRED IN AN OPEN TRANSITION (BREAK BEFORE MAKE) OPERATION TO THE EMERGENCY SOURCE.

WHEN THE NORMAL SOURCE IS RESTORED FOR THE DURATION OF THE FEATURE 3A, RETRANSFER TO NORMAL TIME DELAY SETTING, THE CONTROLS WILL BEGIN MONITORING PHASE, FREQUENCY, AND VOLTAGE DIFFERENTIAL BETWEEN NORMAL AND EMERGENCY SOURCES.

WHEN THE TWO SOURCES ARE APPROACHING SYNCHRONISM, A CLOSED TRANSITION (MAKE BEFORE BREAK) TRANSFER TO THE NORMAL SOURCE WILL BE INITIATED. THE NORMAL AND EMERGENCY CONTACTORS (CN & CE) WILL BE IN AN OVERLAP CONDITION FOR LESS THAN 0.1 SECONDS.

CLOSED TRANSITION TRANSFER WILL ALSO BE INITIATED DURING A TRANSFER TEST OPERATION CAUSED BY OPERATION OF THE FEATURE 5 TRANSFER TEST SELECTOR SWITCH. RETRANSFER WILL ALSO OCCUR IN A CLOSED TRANSITION MANNER AT THE END OF THE TEST.

CLOSED TRANSITION BYPASS OPERATION: THE "CT BYPASS OPTIONS" DISPLAY OF THE CONTROL PANEL ALLOWS SETTING THE TRANSFER SWITCH'S CLOSED TRANSITION BYPASS BEHAVIOR. CLOSED TRANSITION BYPASS CAUSES THE TRANSFER SWITCH TO INTERRUPT POWER TO THE LOAD DURING TRANSFER. THE AVAILABLE OPTIONS ARE:

- FAIL TO SYNC AUTO BYPASS ENABLE - CAUSES A "FAILURE TO SYNCHRONIZE" CONDITION TO RESULT IN AN AUTOMATIC CLOSED TRANSITION BYPASS. DEFAULT SETTING IS NO AUTOMATIC BYPASS.
- CT BYPASS - ALLOWS SELECTIONS AS TO WHETHER THE CLOSED TRANSITION BYPASS WILL OCCUR WITH OR WITHOUT A DELAYED TRANSITION (LOAD "OFF" TIME). DEFAULT SETTING IS OPEN TRANSITION (NO DELAY).
- DT BYPASS - SETS THE LENGTH OF THE DELAYED TRANSFER (LOAD "OFF" TIME) IF THE PREVIOUS PARAMETER HAS BEEN SELECTED TO OPERATE WITH DELAYED TRANSITION. THE DELAY ("OFF" PERIOD) BEGINS FOLLOWING THE OPENING OF THE SOURCE CONTACTOR, (CN OR CE), CONNECTED TO THE SOURCE FROM WHICH TRANSFER IS BEING MADE. UPON EXPIRATION, CLOSURE OF THE OPPOSITE SOURCE CONTACTOR IN INITIATED.

SIGNALS & AUXILIARIES

A. FEATURES 7 - ENGINE START SIGNAL
SIGNAL INITIATED BY DROPOUT OF CONTROL PANEL RELAY (NR) FOLLOWING EXPIRATION OF THE FEATURE 1C TIME DELAY (DELAY TO OVERRIDE MOMENTARY NORMAL SOURCE OUTAGES). FEATURE 7 CLOSES TO SIGNAL ENGINE START. ENGINE STARTING SIGNAL RESETS FOLLOWING RETRANSFER TO THE NORMAL SOURCE AND EXPIRATION OF THE FEATURE 2E (ENGINE COOL DOWN) TIME DELAY.
FEATURE 7 CONSISTS OF A FORM A CONTACT CONNECTED TO THE FIELD CONNECTIONS TERMINAL BLOCK (TB). CONTACTS RATED 5 AMPS AT 32VDC/120VAC RESISTIVE.

(CONTINUED) ...

B. FEATURES 14AF & 14BF - TRANSFER SWITCH AUXILIARY POSITION INDICATING CONTACTS.
SEVEN (7) FORM C CONTACTS TO INDICATE CONNECTION OF THE TRANSFER SWITCH TO NORMAL (14A) AND SEVEN (7) FOR EMERGENCY (14B). CONTACTS CONNECTED TO THE FIELD CONNECTIONS TERMINAL BLOCK (TB). CONTACTS RATED 10 AMPS, 32 VDC, 250 VAC.

C. FEATURE 17 - REMOTE TRANSFER TO EMERGENCY.
REQUIRES A CUSTOMER SUPPLIED NORMALLY OPEN CONTACT. CLOSING OF THE CONTACT CAUSES ENGINE START AND TRANSFER TO THE EMERGENCY SOURCE. OPENING OF THE CONTACT ACTIVATES THE FEATURE 3A (RETRANSFER TO NORMAL) DELAY PRIOR TO RETRANSFER. IN THE EVENT THE EMERGENCY SOURCE FAILS WHILE THE TRANSFER SWITCH IS CONNECTED TO EMERGENCY AND THE REMOTE CONTACT IS CLOSED, THE TRANSFER SWITCH WILL RETRANSFER TO THE NORMAL SOURCE. CONNECTED TO THE FIELD CONNECTIONS TERMINAL BLOCK (TB).

USER CONTROLS AND INDICATIONS

A. FEATURES 5 & 6B - TRANSFER TEST/RETRANSFER TIME DELAY BYPASS CONTROLS.
TRANSFER TEST:
OPERATION CAUSES A NORMAL SOURCE FAILURE SEQUENCE. ACTIVATE AND HOLD FOR AT LEAST 15 SECONDS TO ALLOW TIME FOR THE ENGINE-GENERATOR TO START.
RETRANSFER TIME DELAY BYPASS:
OPERATION WILL BYPASS THE FEATURE 3A (RETRANSFER TO NORMAL DELAY).

B. FEATURES 9A & 9B - TRANSFER SWITCH POSITION INDICATORS.
FEATURE 9A: TRANSFER SWITCH CLOSED ON NORMAL (GREEN LED)
FEATURE 9B: TRANSFER SWITCH CLOSED ON EMERGENCY (RED LED)

C. FEATURES 9C & 9D - SOURCE ACCEPTANCE INDICATORS.
FEATURE 9C: NORMAL SOURCE ACCEPTED (GREEN LED)
FEATURE 9D: EMERGENCY SOURCE ACCEPTED (RED LED)

D. EXTENDED PARALLEL TIME - INDICATES THAT THE MAIN CONTACTORS (CN & CE) HAVE BEEN SIMULTANEOUSLY CLOSED FOR A PERIOD EXCEEDING THE TIME ALLOTTED. (RED LED)

E. FAILURE TO SYNCHRONIZE - INDICATES THE THE TWO SOURCES DID NOT MEET THE PARAMETERS REQUIRED FOR A CLOSED TRANSITION TRANSFER. (RED LED)

F. TS LOCKED OUT - INDICATES THAT A FAILURE OF THE TRANSFER SWITCH OPERATOR HAS OCCURRED AND THAT THE TRANSFER SWITCH HAS TAKEN CORRECTIVE ACTION AS REQUIRED. ONCE THIS FAILURE RECOVERY OPERATION TAKES PLACE, THE TRANSFER SWITCH IS PREVENTED FROM FURTHER OPERATION UNTIL THE CONDITION IS CORRECTED. ONCE THE CONDITION IS CORRECTED, THE TS LOCKED OUT SWITCH MAY BE DEPRESSED TO RESET THE CONTROL PANEL (RED LED).

G. ALARM RESET SWITCH - RESETS FAILURE TO SYNCHRONIZE AND EXTENDED PARALLEL ALARMS.

H. CLOSED TRANSITION BYPASS SWITCH - BYPASSES CLOSED TRANSITION TRANSFER WHEN OPERATED DURING THE PERIOD WHILE THE TRANSFER SWITCH CONTROL PANEL IS MONITORING FOR AN INPHASE CONDITION. CAUSES OPEN TRANSITION TRANSFER TO THE OPPOSITE SOURCE IF CONDITIONS PERMIT.

BYPASS SWITCH USER CONTROLS & INDICATIONS

A. SOURCE AVAILABILITY INDICATORS:
NORMAL SOURCE AVAILABLE: (GREEN LED)
EMERGENCY SOURCE AVAILABLE: (RED LED)

B. UNIT NOT IN AUTOMATIC INDICATOR: (RED LED, FLASHING)
FLASHES WHEN THE TRANSFER SWITCH IS DISABLED FROM ANY TRANSFER FUNCTIONS DUE TO THE BYPASS SWITCH BEING CLOSED IN EITHER POSITION OR BECAUSE THE TRANSFER SWITCH IS NOT IN THE CONNECTED POSITION.

C. MANUAL ENGINE START SWITCH:
FOR MANUAL STARTING OF ENGINE-GENERATOR SET WHEN ATS IS IN TEST OR ISOLATED MODE. TWO POSITION SELECTOR SWITCH.
ENGINE START - SIGNALS ENGINE-GENERATOR SET TO START.
AUTO - SIGNALS ENGINE-GENERATOR SET TO START FROM AUTOMATIC TRANSFER SWITCH SIGNAL.

D. SOLENOID INTERLOCKS -
SL1: INTERLOCKS THE TRANSFER SWITCH ISOLATION CRANK WITH THE TRANSFER SWITCH AND BYPASS SWITCH TO INSURE THAT THE TRANSFER SWITCH CAN NEVER BE DISCONNECTED WITHOUT BEING BYPASSED AND THAT IT CAN NEVER BE RECONNECTED UNLESS IT IS IN THE SAME POSITION AS THE BYPASS SWITCH.
SL2: INTERLOCKS THE BYPASS SWITCH OPERATOR, WHILE IN THE CONNECTED POSITION, SO THAT THE BYPASS SWITCH CAN NEVER BE OPERATED TO THE SOURCE OPPOSITE OF WHICH THE TRANSFER IS CONNECTED.

E. OPTIONAL ACCESSORY INDICATOR MATRIX -
AN OPTIONAL ACCESSORY INDICATION MATRIX IS AVAILABLE TO SHOW, IN A ONE-LINE FORMAT, THE OPERATIONAL STATUS OF THE AUTOMATIC TRANSFER & BYPASS/ISOLATION SWITCH AT A SINGLE LOCATION ON THE UNIT.

GENERAL NOTES

1. SWITCH SHOWN DE-ENERGIZED AND CONNECTED TO THE NORMAL SOURCE. THE BYPASS SWITCH OPERATOR IS IN THE "AUTOMATIC" POSITION (NORMAL & EMERGENCY BYPASS CONTACTS OPEN). THE ISOLATION HANDLE IS IN THE "CLOSED" POSITION (ATS CONNECTED).
2. DEVICE SYMBOLS AND DESIGNATIONS ARE IN ACCORDANCE WITH NEMA PUBLICATION ICS 1-1983, PART 1-101A.
3. ALL WIRING IS #16 AWG, TINNED, STRANDED COPPER UNLESS OTHERWISE INDICATED.
4. O ON TERMINAL BLOCKS INDICATES AVAILABLE FIELD CONNECTION POINT.
5. ● ON TERMINAL BLOCKS INDICATES FACTORY CONNECTION POINT.
6. CONTROL AND ACCESSORY WIRING IS ROUTED IN ACCORDANCE WITH ASCO ASSEMBLY PROCEDURE CS451261.
7. AN OPERATOR'S MANUAL IS FURNISHED WITH EACH AUTOMATIC TRANSFER SWITCH. REFER TO THIS PUBLICATION PRIOR TO INSTALLATION AND OPERATION OF THE UNIT.

BASE CATALOG NUMBER				CATALOG NUMBER SUFFIXES			
CATALOG TYPE	NEUTRAL TYPE	PHASE POLES	AMPS	VOLT CODE	CONTROLLER	OPTIONAL ACCESSORY	ENCLOSURE CODE
7ACTB	A B BLANK FOR NONE	3	1000 1200 1600 2000 2600 3000	A B C D E F G H J K L M N P Q R	5	X BLANK FOR NONE	C E F G H J K L BLANK FOR OPEN TYPE

EXPLANATION OF CATALOG NUMBER CODES

NEUTRAL TYPE		VOLTAGE CODES 3 PHASE (3 OR 4 WIRE) 50 OR 60 Hz		ENCLOSURE CODES		
CODE	DESCRIPTION	CODE	NOMINAL VOLTAGE	CODE	TYPE	DESCRIPTION
BLANK	NONE	A	115	BLANK		OPEN TYPE (NO ENCLOSURE)
A	SOLID	B	120	C	1	GENERAL PURPOSE, INDOOR
B	SWITCHING	C	208	E	2	INDOOR, WATER & DUST RESISTANT
		D	220	F	3R	OUTDOOR, RAINPROOF, SLEET & ICE RESISTANT
		E	230	G	4	INDOOR/OUTDOOR, WATERTIGHT & DUSTTIGHT
		F	240	H	4X	TYPE 4 PLUS CORROSION RESISTANCE (STAINLESS STEEL)
		G	277	J	4X	TYPE 4 PLUS CORROSION RESISTANCE (FIBERGLASS)
		H	380	K	7	EXPLOSION PROOF
		J	400	L	12	INDOOR, INDUSTRIAL ENVIRONMENTS, OILTIGHT & DUSTTIGHT
		K	415			
		L	440			
		M	460			
		N	480			
		P	550			
		Q	575			
		R	600			

CATALOG NUMBER _____
CERTIFIED TO ASCO® S.O. _____
BY _____
DATE _____

FORM REV H

PROJECT NAME:
WIRING DIAGRAM
7000 SERIES (7ACTB)
GROUP 5 CONTROLS

THIRD ANGLE PROJECTION

	BY	DATE
DRAWN BY	JPB	2/98
CHECKED		
DRAFTING APPROVAL		
FINAL APPROVAL	SDH	2/98

MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-055

ASSEM. REF. NO.

ASCO® ASCO POWER TECHNOLOGIES, L.P.
FLORHAM PARK, NEW JERSEY 07932 U.S.A.

CHANGE LETTER	ECN NO.	BY	APP.	DATE
H	157978	WK	BK	6/16/01
	SEE ECN			
G	157178	BWM	BK	5/24/01
	SEE ECN			

SUBSIDIARY DISTRIBUTION
AE AN AM AJ AL
CH AV AA PS AR
AG AP AC AS

COMPUTER GENERATED DRAWING
SCALE: ACAD FILE
SIZE: DWG. NO. DS617425
CHANGE LETTER H ECN NO. 157978 SHEET 1 OF 10

TECHNICAL DATA

BYPASS SWITCH AUXILIARY CONTACTS

BP AUXILIARY CONTACT	STATUS (*)	BP SWITCH POSITION (AUX3)		
		EMERG	OFF	NORMAL
81–82				
83–84				
85–86	●			
87–88	●			
89–90	●			
91–92				NONE
93–94				
95–96				
97–98				
99–100				
101–102				
103–104				
105–106				
107–108				
109–110	●			
111–112	●			
113–114				
115–116		NONE		
117–118				
119–120				
121–122				
123–124				
125–126				
127–128				

BYPASS SWITCH OPERATOR AUXILIARY CONTACTS

BP AUXILIARY CONTACT	STATUS (*)	BP SWITCH POSITION (AUX4)		
		EMERG (PULL)	<>	NORMAL (PUSH)
137–138	●			
137–139				
140–141	●			
140–142				

BYPASS SWITCH OPERATOR AUXILIARY CONTACTS

BP AUXILIARY CONTACT	STATUS (*)	BP SWITCH HANDLE POSITION (AUX5)		
		OFF (90°)	<> (75°)	BYPASS (–90°)
143–144	●			
143–145				
146–147				
146–148	●			

ISOLATION (TRANSFER SWITCH CARRIAGE POSITION) AUXILIARY CONTACTS

IS AUXILIARY CONTACT	STATUS (*)	TRANSFER SWITCH CARRIAGE POSITION (AUX-3)				
		CONNECT	> <	TEST	> <	ISOLATE
1–2	●					
4–5	●					
7–8	●					
10–12	●					
13–14	●					
13–15						
16–17	●					
16–18	●					
19–21	●					
22–23	●					
22–24	●					
25–26	●					
28–29	●					
61–62						

(*) CONTACT AVAILABILITY STATUS:

"●" CONTACT PROVIDED & USED IN CIRCUITRY

"BLANK" CONTACT NOT USED. IF PHYSICALLY AVAILABLE, CONTACT IS FOR FACTORY USE ONLY!

CHANGE LETTER	ECN NO.	BY	APP.	DATE
H	157978	WK	BK	6/16/01
	SEE ECN			
G	157178	BWM	BK	5/24/01
	SEE ECN			

PROJECT NAME:

WIRING DIAGRAM
7000 SERIES (7ACTB)
GROUP 5 CONTROLS

THIRD ANGLE PROJECTION

SUBSIDIARY DISTRIBUTION

AE	AN	AM	AJ	AL			
CH	AV	AA	PS	AR			
AG	AP	AC	AS				

COMPUTER GENERATED DRAWING

	BY	DATE
DRAWN BY	JPB	2/98
CHECKED		
DRAFTING APPROVAL		
FINAL APPROVAL	SDH	2/98

MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-055

ASSEM. REF. NO.

ASCO® ASCO POWER TECHNOLOGIES, L.P. FLORHAM PARK, NEW JERSEY 07932 U.S.A.

SCALE: ACAD FILE

SIZE DWG. NO. DS617425

CHANGE LETTER H ECN NO. 157978 SHEET 2 OF 10

FIELD CONNECTIONS

LOCATED AT BEHIND RIGHT DOOR

TB (FIELD CONNECTIONS), WIRE RANGE: 22–12 AWG

ES1 — 1 — COMMON
ES2 — 2 — FEATURE 7 CLOSES TO START
ENGINE STARTING SIGNAL (5 AMPS, 32VDC)
3 — NOT USED

TS (AUX1) AUX. CONTACTS

4	27 CE 28 / 27 14B 28 CN / 27 14A 28 AUX. CONTACTS	COMMON
5		FEATURE 14B CLOSED ON EMERGENCY
6		FEATURE 14A CLOSED ON NORMAL
7	30 CE 31 / 30 14B 31 CN / 30 14A 31 AUX. CONTACTS	COMMON
8		FEATURE 14BA CLOSED ON EMERGENCY
9		FEATURE 14AA CLOSED ON NORMAL
10	33 CE 34 / 33 14B 34 CN / 33 14A 34 AUX. CONTACTS	COMMON
11		FEATURE 14BB CLOSED ON EMERGENCY
12		FEATURE 14AB CLOSED ON NORMAL
13	36 CE 35 / 36 14B 35 CN / 36 14A 38 AUX. CONTACTS	COMMON
14		FEATURE 14BC CLOSED ON EMERGENCY
15		FEATURE 14AC CLOSED ON NORMAL
16	39 CE 41 / 39 14B 41 CN / 39 14A 41 AUX. CONTACTS	COMMON
17		FEATURE 14BD CLOSED ON EMERGENCY
18		FEATURE 14AD CLOSED ON NORMAL
19	42 CE 44 / 42 14B 44 CN / 42 14A 44 AUX. CONTACTS	COMMON
20		FEATURE 14BE CLOSED ON EMERGENCY
21		FEATURE 14AE CLOSED ON NORMAL
22	45 CE 47 / 45 14B 47 CN / 45 14A 47 AUX. CONTACTS	COMMON
23		FEATURE 14BF CLOSED ON EMERGENCY
24		FEATURE 14AF CLOSED ON NORMAL
25		
26		
27		

TS AUXILIARY CONTACTS (10 AMPS, 32VDC) (10 AMPS, 250VAC) GENERAL PURPOSE

LOCATED AT BEHIND RIGHT DOOR

TB (FIELD CONNECTIONS), WIRE RANGE: 22–12 AWG

34A — 28
34 COM — 29
34B — 30
DO NOT REMOVE FACTORY JUMPERS

CP CONTROL PANEL CONTROL INPUTS
REMOTE TRANSFER (FEATURE 17) — 9 BLACK — 31 — FEATURE 17 REMOTE TRANSFER TO EMERGENCY
COMMON — 10 RED — 32 — COMMON
CUSTOMER SUPPLIED NORMALLY OPEN CONTACT SUITABLE FOR 5VDC LOW ENERGY CIRCUIT CLOSED CONTACT TO TRANSFER TO EMERGENCY

33 — N/C

TFR 9 6 — 34 — FAILURE TO SYNCHRONIZE ALARM RELAY (10 AMPS, 120 VAC) (250 VAC MAX.) STANDARD PILOT DUTY
35
36 — N/C

72A SERIAL COMMUNICATIONS OPTION (FEATURE 72A)

SERIAL COMMUNICATIONS OPTION
COMMUNICATING WITH GROUP 5 CONTROL PANEL (CP)

N/C	5		
RCV DATA (+)	1	W/O JB–PB–W/O	37 SHIELD
RCV DATA (–)	2	O/W JB–PB–O/W	38 RD+
XMT DATA (+)	3	W/B JB–PB–W/B	39 RD–
XMT DATA (–)	4	B/W JB–PB–B/W	40 TD+
			41 TD–

TO OTHER ASCO SERIAL COMMUNICATIONS DEVICES

42 — N/C

72A NOTES:

1. GROUND SHIELD AT HOST DEVICE ONLY.
2. FIELD WIRING: USE UL LISTED, STRANDED, TWISTED PAIRS, OVERALL FOIL SHIELD WITH STRANDED DRAIN WIRE SUITABLE FOR RS–422 EQUIVALENT TO:

(STANDARD 80°C) BELDEN 9842 OR 9829 OR ALPHA 6202C OR 6222C

(PLENUM RATED) BELDEN 89729 OR 82729 OR ALPHA 58902

FEAT. 62F EXTENDED PARALLEL ALARM RELAY

DOC

RL3 7 4	67	COMMON
	68	N/O
RL3 7 1	69	N/C
	70	COMMON
RL3 9 6	71	N/O
RL3 9 3	72	N/C

EXTENDED PARALLEL ALARM RELAY (FEAT. 62F) (10 AMPS, 120VAC) (250VAC MAX.) STANDARD PILOT DUTY

OPTIONAL ACCESSORY (ACC.) AUXILIARY CONTACTS

LOCATED BEHIND RIGHT DOOR

TB (FIELD CONNECTIONS), WIRE RANGE: 22–12 AWG

TS (AUX2) AUX. CONTACTS

43		COMMON
44	51 CE 52 / 51 14B 52 CN / 51 14A 52 AUX. CONTACTS	ACC. 14BG CLOSED ON EMERGENCY
45		ACC. 14AG CLOSED ON NORMAL
46	54 CE 55 / 54 14B 55 CN / 54 14A 55 AUX. CONTACTS	COMMON
47		ACC. 14BH CLOSED ON EMERGENCY
48		ACC. 14AH CLOSED ON NORMAL
49	57 CE 58 / 57 14B 58 CN / 57 14A 58 AUX. CONTACTS	COMMON
50		ACC. 14BJ CLOSED ON EMERGENCY
51		ACC. 14AJ CLOSED ON NORMAL
52	60 CE 61 / 60 14B 61 CN / 60 14A 61 AUX. CONTACTS	COMMON
53		ACC. 14BK CLOSED ON EMERGENCY
54		ACC. 14AK CLOSED ON NORMAL
55	63 CE 64 / 63 14B 64 CN / 63 14A 64 AUX. CONTACTS	COMMON
56		ACC. 14BL CLOSED ON EMERGENCY
57		ACC. 14AL CLOSED ON NORMAL
58	66 CE 68 / 66 14B 68 CN / 66 14A 68 AUX. CONTACTS	COMMON
59		ACC. 14BM CLOSED ON EMERGENCY
60		ACC. 14AM CLOSED ON NORMAL
61	69 CE 71 / 69 14B 71 CN / 69 14A 71 AUX. CONTACTS	COMMON
62		ACC. 14BN CLOSED ON EMERGENCY
63		ACC. 14AN CLOSED ON NORMAL

TS AUXILIARY CONTACTS (10 AMPS, 32VDC) (10 AMPS, 250VAC) GENERAL PURPOSE

CHANGE LETTER	ECN NO.	BY	APP.	DATE
H	157978	WK	BK	6/16/01
	SEE ECN			
G	157178	BWM	BK	5/24/01
	SEE ECN			

PROJECT NAME:

WIRING DIAGRAM
7000 SERIES (7ACTB)
GROUP 5 CONTROLS

THIRD ANGLE PROJECTION

	BY	DATE
DRAWN BY	JPB	2/98
CHECKED		
DRAFTING APPROVAL		
FINAL APPROVAL	SDH	2/98

MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-055

ASSEM. REF. NO.

ASCO® ASCO Power Technologies, L.P. FLORHAM PARK, NEW JERSEY 07932 U.S.A.

SUBSIDIARY DISTRIBUTION

AE	AN	AM	AJ	AL			
CH	AV	AA	PS	AR			
AG	AP	AC	AS				

COMPUTER GENERATED DRAWING

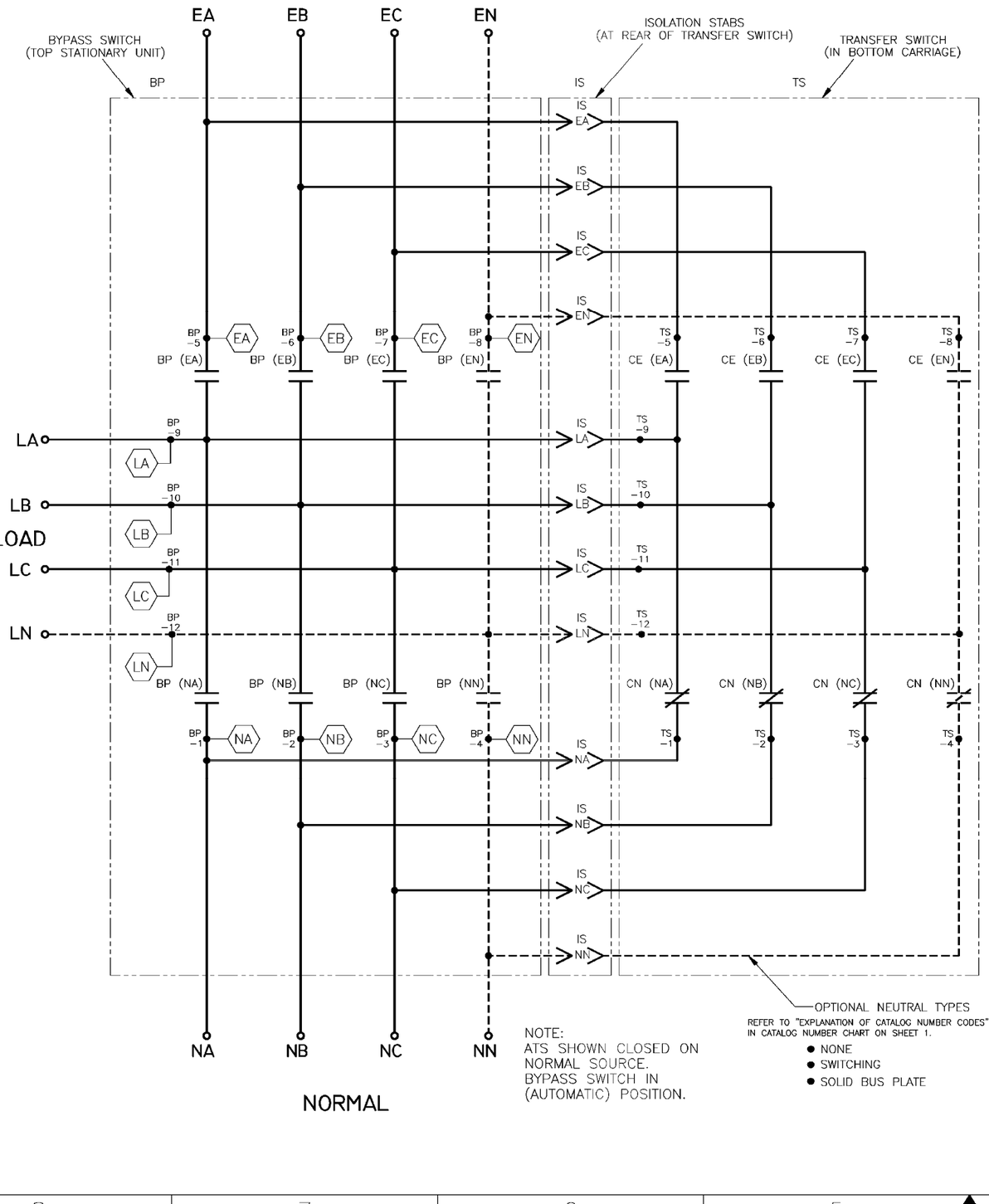
SCALE: ACAD FILE:

SIZE D | DWG. NO. DS617425

CHANGE LETTER H | ECN NO. 157978 | SHEET 3 OF 10

MAIN POWER POLES

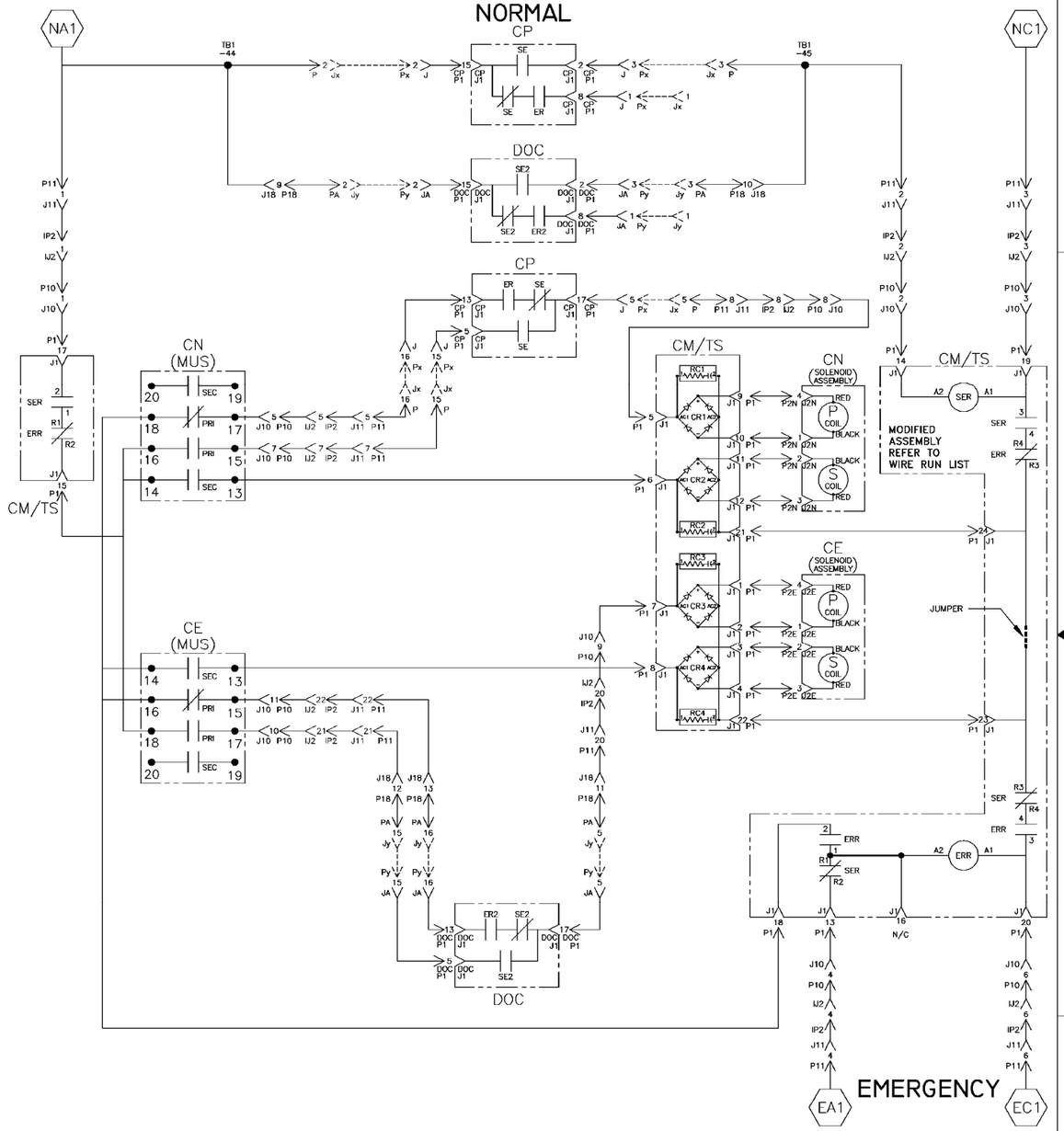
EMERGENCY



NOTE:
ATS SHOWN CLOSED ON NORMAL SOURCE.
BYPASS SWITCH IN (AUTOMATIC) POSITION.

NORMAL

TS OPERATOR CIRCUIT



CN (MUS) CONTACTS					
MUS	SOLENOID POSITION				
	CLOSED NORMAL	>	AFTER TDC *	<	OPEN
13–14					
15–16					
17–18					
19–20					

CE (MUS) CONTACTS				
MUS	SOLENOID POSITION			
	OPEN	>	AFTER TDC *	<	CLOSED EMERG.
13–14				
15–16				
17–18				
19–20				

* AFTER SOLENOID CORE PASSES THROUGH TOP DEAD CENTER POSITION.

CHANGE LETTER	ECN NO.	BY	APP.	DATE
H	157978	WK	BK	6/16/01
	SEE ECN			
G	157178	BWM	BK	5/24/01
	SEE ECN			

PROJECT NAME:

WIRING DIAGRAM
7000 SERIES (7ACTB)
GROUP 5 CONTROLS

THIRD ANGLE PROJECTION

	BY	DATE
DRAWN BY	JPB	2/98
CHECKED		
DRAFTING APPROVAL		
FINAL APPROVAL	SDH	2/98

MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-055

ASSEM. REF. NO.

ASCO® ASCO POWER TECHNOLOGIES, L.P. FLORHAM PARK, NEW JERSEY 07932 U.S.A.

SUBSIDIARY DISTRIBUTION

AE		AN		AM		AJ	
AL		CH		AV		AA	
PS		AR		AG		AP	
AC		AS					

COMPUTER GENERATED DRAWING

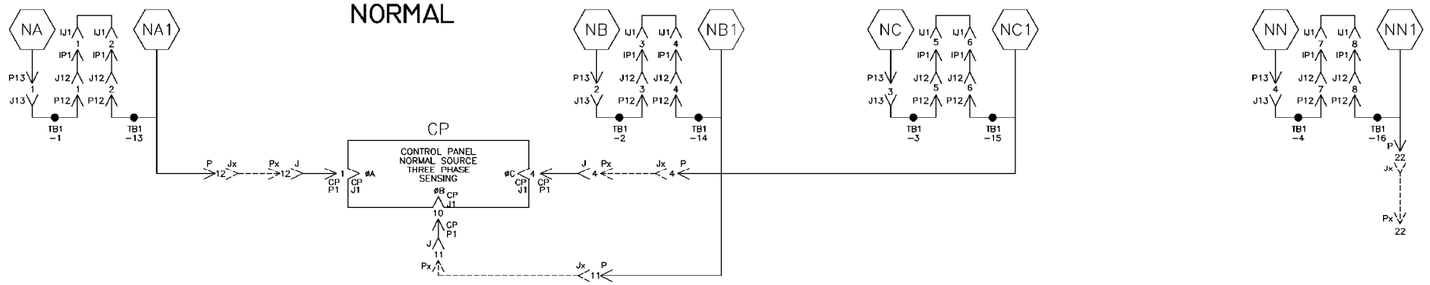
SCALE | ACAD | FILE

SIZE | DWG. NO. DS617425

CHANGE LETTER H | ECN NO. 157978 | SHEET 4 OF 10

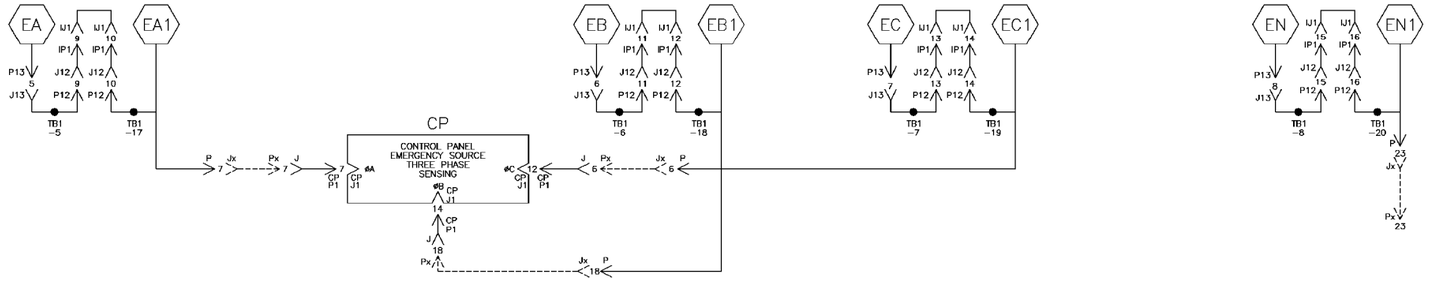
NORMAL SOURCE CIRCUITS

NORMAL



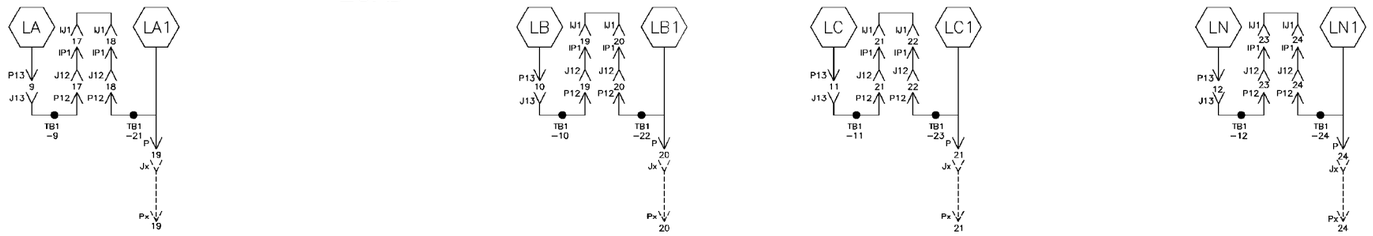
EMERGENCY SOURCE CIRCUITS

EMERGENCY



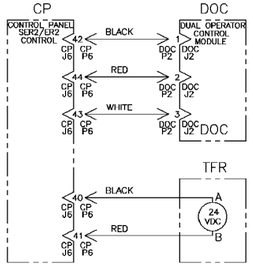
LOAD TERMINAL CIRCUITS

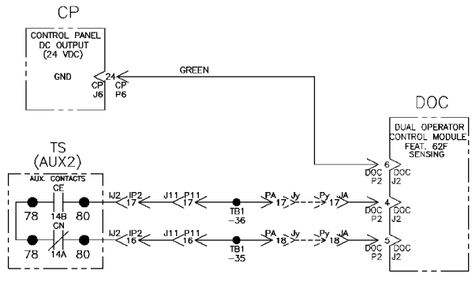
LOAD



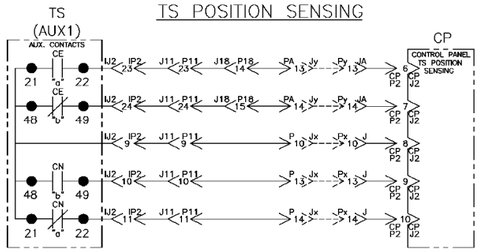
CONTROL SIGNALS & INDICATION

SER2/ER2 CONTROL

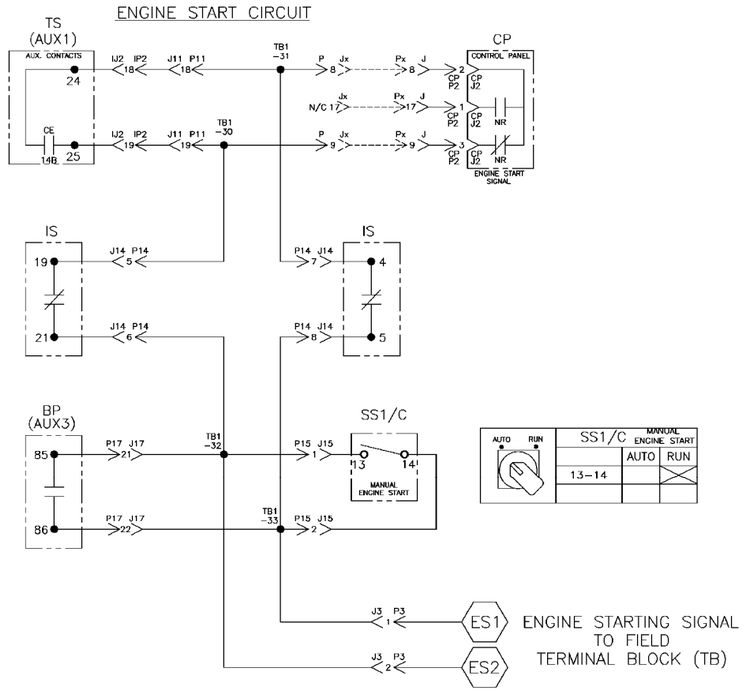




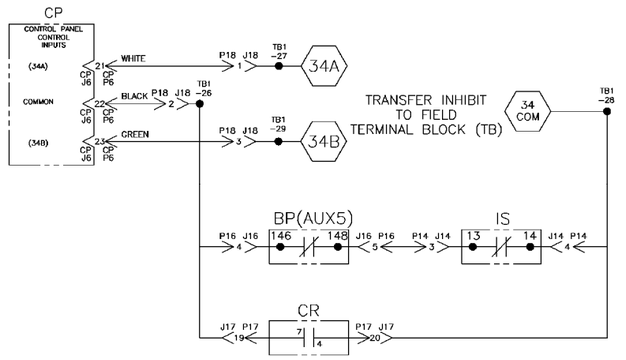
TS POSITION SENSING



ENGINE START CIRCUIT



CONTROL PANEL/BYPASS–ISOLATION INTERLOCKS



H	157978	WK	BK	6/16/01
	SEE ECN			
G	157178	BWM	BK	5/24/01
	SEE ECN			
CHANGE LETTER	ECN NO.	BY	APP.	DATE

PROJECT NAME:
WIRING DIAGRAM
7000 SERIES (7ACTB)
GROUP 5 CONTROLS

THIRD ANGLE PROJECTION

SUBSIDIARY DISTRIBUTION

	BY	DATE
DRAWN BY	JPB	2/98
CHECKED		
DRAFTING APPROVAL		
FINAL APPROVAL	SDH	2/98

MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-055

ASSEM. REF. NO.

ASCO® ASCO POWER TECHNOLOGIES, L.P. FLORHAM PARK, NEW JERSEY 07932 U.S.A.

COMPUTER GENERATED DRAWING

SCALE | ACAD | FILE

SIZE H | DWG. NO. DS617425

CHANGE LETTER H | ECN NO. 157978 | SHEET 5 OF 10

ADDITIONAL CIRCUITS

H	157978	WK	BK	6/16/01			
	SEE ECN						
G	157178	BWM	BK	5/24/01			
	SEE ECN						
CHANGE LETTER	ECN NO.	BY	APP.	DATE			

PROJECT NAME:

WIRING DIAGRAM
7000 SERIES (7ACTB)
GROUP 5 CONTROLS

THIRD ANGLE PROJECTION

SUBSIDIARY DISTRIBUTION

AE	AN	AM	AJ	AL			
CH	AV	AA	PS	AR			
AG	AP	AC	AS				

COMPUTER GENERATED DRAWING

	BY	DATE
DRAWN BY	JPB	2/98
CHECKED		
DRAFTING APPROVAL		
FINAL APPROVAL	SDH	2/98

MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-055

ASSEM. REF. NO.

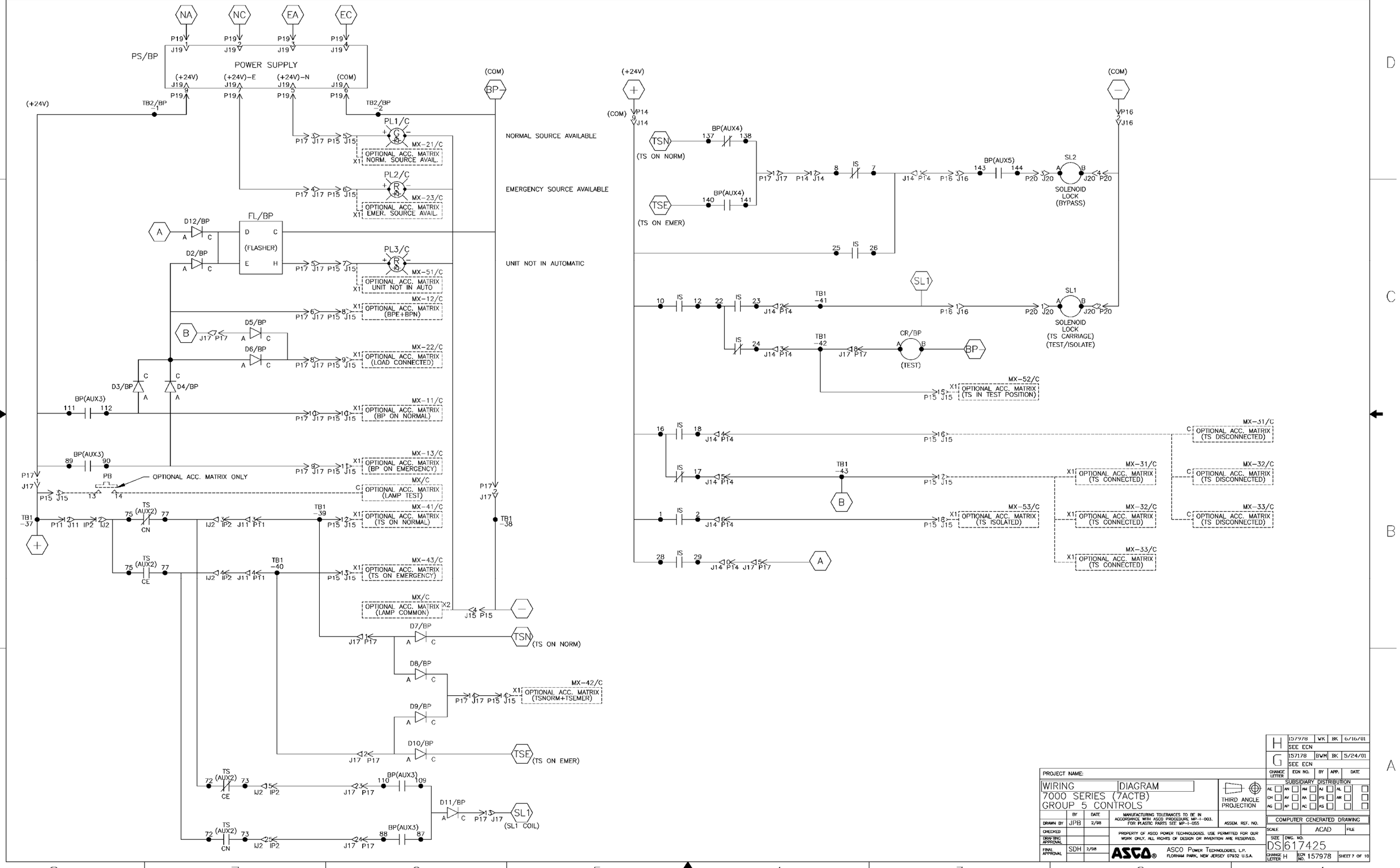
ASCO® ASCO POWER TECHNOLOGIES, L.P.
FLORHAM PARK, NEW JERSEY 07932 U.S.A.

SCALE: ACAD FILE:

SIZE DWG. NO.
DS 617425

CHANGE LETTER H ECN NO. 157978 SHEET 6 OF 10

BYPASS / ISOLATION INTERLOCKING & INDICATION



CHANGE LETTER	ECN NO.	BY	APP.	DATE
H	157978	WK	BK	6/16/01
	SEE ECN			
G	157178	BWM	BK	5/24/01
	SEE ECN			

PROJECT NAME:
WIRING DIAGRAM
7000 SERIES (7ACTB)
GROUP 5 CONTROLS

THIRD ANGLE PROJECTION

SUBSIDIARY DISTRIBUTION

COMPUTER GENERATED DRAWING

	BY	DATE
DRAWN BY	JPB	2/98
CHECKED		
DRAFTING APPROVAL		
FINAL APPROVAL	SDH	2/98

MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-055

ASSEM. REF. NO.

ASCO® ASCO Power Technologies, L.P. FLORHAM PARK, NEW JERSEY 07932 U.S.A.

SCALE: ACAD FILE

SIZE H DWG. NO. DS617425

CHANGE LETTER H ECN NO. 157978 SHEET 7 OF 10

PHYSICAL DIAGRAM

LEFT DOOR, INSIDE (PANEL "L")

OPTIONAL
POWERMANAGER
OR ADDITIONAL
OPERATOR CONTROLS
ESCUTCHEON MOUNTING

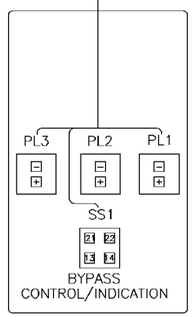
AP

OPTIONAL
ACCESSORY ADD-ON PANEL
MOUNTING

AP1

OPTIONAL
ACCESSORY ADD-ON PANEL
MOUNTING

CENTER POST, INSIDE (PANEL "C")

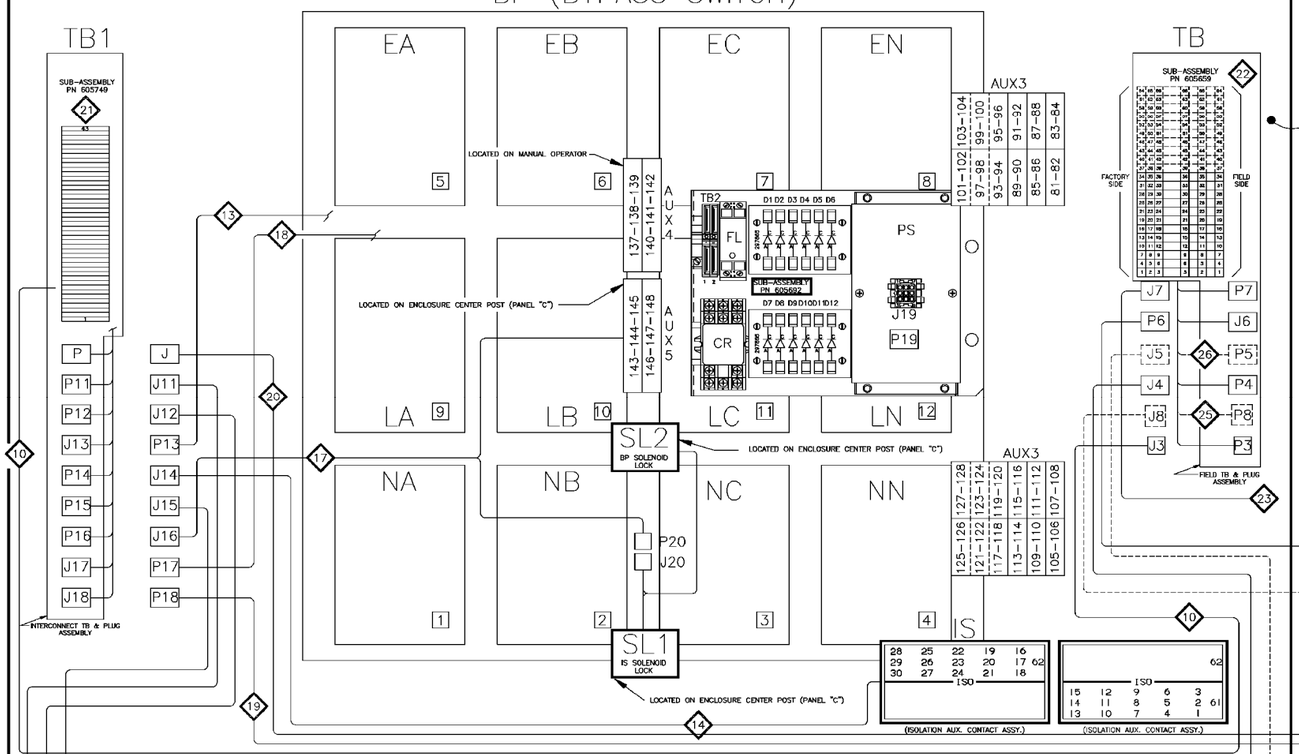


OPERATOR CONTROLS

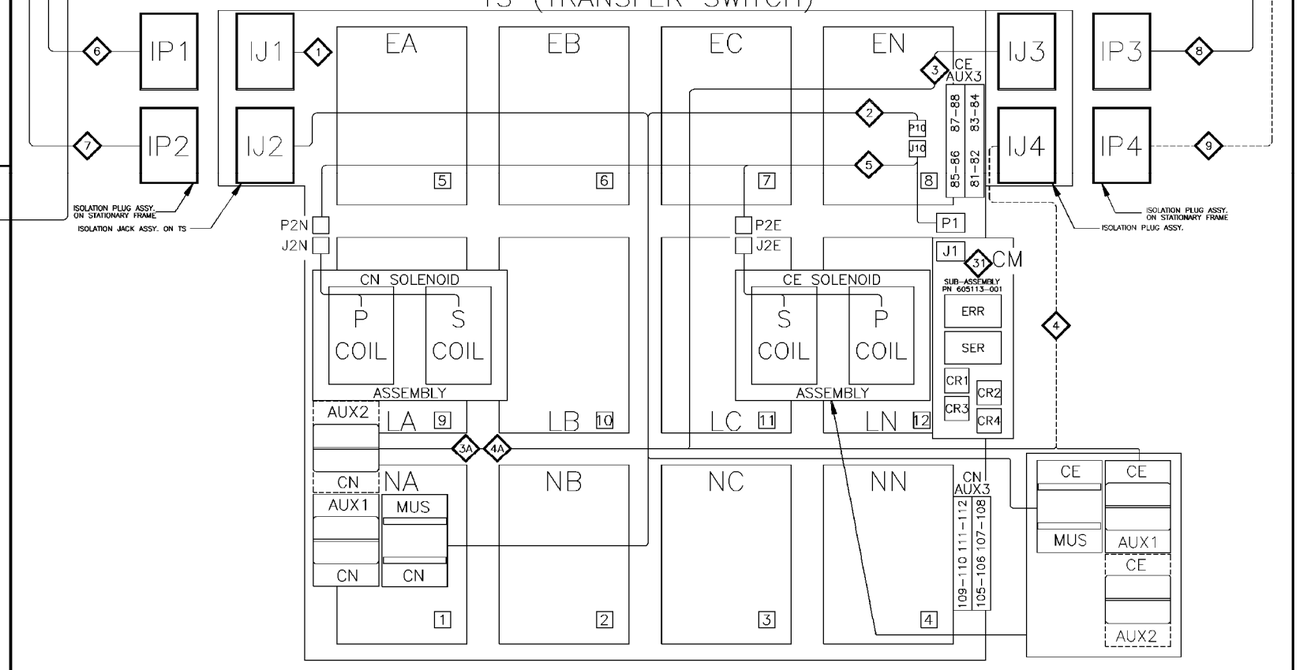
ID	DESCRIPTION
PL1	NORMAL SOURCE AVAILABLE
PL2	EMERGENCY SOURCE AVAILABLE
PL3	CONTROLS NOT IN AUTO
SS1	ENGINE START

MAIN ENCLOSURE

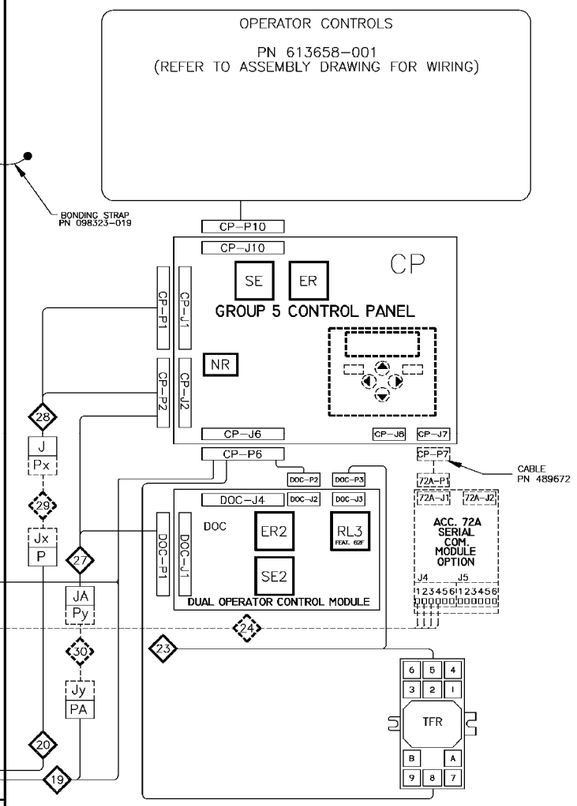
BP (BYPASS SWITCH)



TS (TRANSFER SWITCH)



RIGHT DOOR, INSIDE (PANEL "R")



NOTE:
ADDITIONAL ACCESSORY ADD-ON PANELS MAY BE MOUNTED IN UPPER COMPARTMENT OF ENCLOSED TYPE UNITS. THESE ARE SHOWN ON THE NEXT SHEET IF APPLICABLE.

CHANGE LETTER	ECN NO.	BY	APP.	DATE
H	157978	WK	BK	6/16/01
	SEE ECN			
G	157178	BWM	BK	5/24/01
	SEE ECN			

PROJECT NAME:
WIRING DIAGRAM
7000 SERIES (7ACTB)
GROUP 5 CONTROLS

THIRD ANGLE PROJECTION

SUBSIDIARY DISTRIBUTION

	BY	DATE
DRAWN BY	JPB	2/98
CHECKED		
DRAFTING APPROVAL		
FINAL APPROVAL	SDH	2/98

MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-055

ASSEM. REF. NO.

ASCO® ASCO POWER TECHNOLOGIES, L.P.
FLORHAM PARK, NEW JERSEY 07932 U.S.A.

COMPUTER GENERATED DRAWING

SCALE: ACAD FILE:

SIZE: DWG. NO.: DS617425

CHANGE LETTER: H ECN NO.: 157978 SHEET 8 OF 10

WIRE RUN LISTING

① HARNESS LOCATOR — BOX CHECKED IF HARNESS IS MODIFIED ☐

WIRE No.	HARNESS 605674-001 (UJ1) TS	CLR	AWG
1	UJ1-1,UJ1-2		16
2	UJ1-3,UJ1-4		
3	UJ1-5,UJ1-6		
4	UJ1-7,UJ1-8		
5	UJ1-9,UJ1-10		
6	UJ1-11,UJ1-12		
7	UJ1-13,UJ1-14		
8	UJ1-15,UJ1-16		
9	UJ1-17,UJ1-18		
10	UJ1-19,UJ1-20		
11	UJ1-21,UJ1-22		
12	UJ1-23,UJ1-24		

② HARNESS LOCATOR — BOX CHECKED IF HARNESS IS MODIFIED ☐

WIRE No.	HARNESS 619510-022 (UJ2,P10) TS	CLR	AWG
1	UJ2-1,P10-1		16
21	UJ2-2,P10-2		
4	UJ2-3,P10-3		
23	UJ2-4,P10-4		
24	UJ2-5,P10-5		
25	UJ2-6,P10-6		
26	UJ2-7,P10-7		
27	UJ2-8,P10-8		
28	UJ2-9,CE(AUX1)-21		
28	CE(AUX1)-21,CN(AUX1)-21		
28	CN(AUX1)-21,CN(AUX1)-48		
30	UJ2-10,CN(AUX1)-49		
29	UJ2-11,CN(AUX1)-22		
31	UJ2-12,CE(AUX2)-75		
31	CE(AUX2)-75,CN(AUX2)-75		
32	UJ2-13,CN(AUX2)-77		
32	CN(AUX2)-77,CE(AUX2)-72		
33	UJ2-14,CE(AUX2)-77		
33	CE(AUX2)-77,CN(AUX2)-72		
34	CN(AUX2)-78,CE(AUX2)-78		
506	UJ2-15,CE(AUX2)-73		
35	UJ2-16,CN(AUX2)-80		
36	UJ2-17,CE(AUX2)-80		
37	UJ2-18,CE(AUX1)-24		
38	UJ2-19,CE(AUX1)-25		
39	UJ2-20,P10-9		
40	UJ2-21,P10-10		
41	UJ2-22,P10-11		
42	UJ2-23,CE(AUX1)-22		
43	UJ2-24,CE(AUX1)-49		
507	UJ2-25,CN(AUX2)-73		
	REMOVE WIRES		
	ADD WIRES		
520	P10-12		
521	P10-13		
522	P10-14		
523	P10-15		
524	P10-16		
525	P10-17		
526	P10-18		
527	P10-19		
528	P10-20		
529	P10-21		
530	P10-22		
531	P10-23		
532	P10-24		

③ HARNESS LOCATOR — BOX CHECKED IF HARNESS IS MODIFIED ☒

WIRE No.	HARNESS 605674-003-A (UJ3) TS STD. AUX. CONTACTS	CLR	AWG
50	UJ3-1,CE(AUX1)-27		16
51	UJ3-2,CE(AUX1)-28		
52	UJ3-3,CN(AUX1)-28		
53	UJ3-4,CE(AUX1)-30		
54	UJ3-5,CE(AUX1)-31		
55	UJ3-6,CN(AUX1)-31		
56	UJ3-7,CE(AUX1)-33		
57	UJ3-8,CE(AUX1)-34		
58	UJ3-9,CN(AUX1)-34		
59	UJ3-10,CE(AUX1)-36		
60	UJ3-11,CN(AUX1)-38		
61	UJ3-12,CE(AUX1)-38		
62	UJ3-13,CE(AUX1)-39		
63	UJ3-14,CN(AUX1)-41		
64	UJ3-15,CE(AUX1)-41		
65	UJ3-16,CE(AUX1)-42		
66	UJ3-17,CN(AUX1)-44		
67	UJ3-18,CE(AUX1)-44		
68	UJ3-19,CE(AUX1)-45		
69	UJ3-20,CN(AUX1)-47		
70	UJ3-21,CE(AUX1)-47		
71	UJ3-22,CE(AUX1)-48		
72	UJ3-23,CN(AUX1)-50		
73	UJ3-24,CE(AUX1)-50		
	REMOVE WIRES		
71	UJ3-22,CE(AUX1)-48		
72	UJ3-23,CN(AUX1)-50		
73	UJ3-24,CE(AUX1)-50		

③A HARNESS LOCATOR — BOX CHECKED IF HARNESS IS MODIFIED ☐

WIRE No.	HARNESS 609051-001-A TS STD. AUX. CONTACTS	CLR	AWG
50	CE(AUX1)-27,CN(AUX1)-27		16
53	CE(AUX1)-30,CN(AUX1)-30		
56	CE(AUX1)-33,CN(AUX1)-33		
59	CE(AUX1)-36,CN(AUX1)-36		
62	CE(AUX1)-39,CN(AUX1)-39		
65	CE(AUX1)-42,CN(AUX1)-42		
68	CE(AUX1)-45,CN(AUX1)-45		
28	CE(AUX1)-48,CN(AUX1)-48		

④ HARNESS LOCATOR — BOX CHECKED IF HARNESS IS MODIFIED ☒

WIRE No.	HARNESS 605674-004-A (UJ4) TS OPT. AUX. CONTACTS	CLR	AWG
80	UJ4-1,CE(AUX2)-51		16
81	UJ4-2,CE(AUX2)-52		
82	UJ4-3,CN(AUX2)-52		
83	UJ4-4,CE(AUX2)-54		
84	UJ4-5,CE(AUX2)-55		
85	UJ4-6,CN(AUX2)-55		
86	UJ4-7,CE(AUX2)-57		
87	UJ4-8,CE(AUX2)-58		
88	UJ4-9,CN(AUX2)-58		
89	UJ4-10,CE(AUX2)-60		
90	UJ4-11,CE(AUX2)-61		
91	UJ4-12,CN(AUX2)-61		
92	UJ4-13,CE(AUX2)-63		
93	UJ4-14,CE(AUX2)-64		
94	UJ4-15,CN(AUX2)-64		
95	UJ4-16,CE(AUX2)-66		
96	UJ4-17,CN(AUX2)-68		
97	UJ4-18,CE(AUX2)-68		
98	UJ4-19,CE(AUX2)-69		
99	UJ4-20,CN(AUX2)-71		
100	UJ4-21,CE(AUX2)-71		
101	UJ4-22,CE(AUX2)-72		
102	UJ4-23,CN(AUX2)-74		
103	UJ4-24,CE(AUX2)-74		
	REMOVE WIRES		
101	UJ4-22,CE(AUX2)-72		
102	UJ4-23,CN(AUX2)-74		
103	UJ4-24,CE(AUX2)-74		

④A HARNESS LOCATOR — BOX CHECKED IF HARNESS IS MODIFIED ☐

WIRE No.	HARNESS 609051-002-A TS OPT. AUX. CONTACTS	CLR	AWG
80	CE(AUX2)-51,CN(AUX2)-51		16
83	CE(AUX2)-54,CN(AUX2)-54		
86	CE(AUX2)-57,CN(AUX2)-57		
89	CE(AUX2)-60,CN(AUX2)-60		
92	CE(AUX2)-63,CN(AUX2)-63		
95	CE(AUX2)-66,CN(AUX2)-66		
98	CE(AUX2)-69,CN(AUX2)-69		
101	CE(AUX2)-72,CN(AUX2)-72		
	REMOVE WIRES		
101	CE(AUX2)-72,CN(AUX2)-72		

⑤ HARNESS LOCATOR — BOX CHECKED IF HARNESS IS MODIFIED ☐

WIRE No.	HARNESS 619510-023 (P1,P2N,P2E,J10) TS CONTROL	CLR	AWG
310	P1-1,P2E-4		16
311	P1-2,P2E-1		
312	P1-3,P2E-2		
313	P1-4,P2E-3		
27	P1-5,J10-8		
117	P1-6,CN(MUS)-13		
39	P1-7,J10-9		
317	P1-8,CE(MUS)-13		
110	P1-9,P2N-4		
111	P1-10,P2N-1		
112	P1-11,P2N-2		
113	P1-12,P2N-3		
23	P1-13,J10-4		
21	P1-14,J10-2		
114	P1-15,CE(MUS)-18		
114	CE(MUS)-18,CN(MUS)-14		
114	CN(MUS)-14,CN(MUS)-16		
20	P1-17,J10-1		
115	P1-18,CE(MUS)-14		
115	CE(MUS)-14,CE(MUS)-16		
115	CE(MUS)-16,CN(MUS)-18		
22	P1-19,J10-3		
25	P1-20,J10-6		
314	P1-21,P1-24		
315	P1-22,P1-23		
26	J10-7,CN(MUS)-15		
24	J10-5,CN(MUS)-17		
41	J10-11,CE(MUS)-15		
40	J10-10,CE(MUS)-17		
	REMOVE WIRES		
	ADD WIRES		
520	J10-12		
521	J10-13		
522	J10-14		
523	J10-15		
524	J10-16		
525	J10-17		
526	J10-18		
527	J10-19		
528	J10-20		
529	J10-21		
530	J10-22		
531	J10-23		
532	J10-24		

⑥ HARNESS LOCATOR — BOX CHECKED IF HARNESS IS MODIFIED ☐

WIRE No.	HARNESS 605674-006 (IP1,J12) STATIONARY FRAME	CLR	AWG
1	IP1-1,J12-1		16
1	IP1-2,J12-2		
2	IP1-3,J12-3		
3	IP1-4,J12-4		
3	IP1-5,J12-5		
3	IP1-6,J12-6		
4	IP1-7,J12-7		
4	IP1-8,J12-8		
5	IP1-9,J12-9		
5	IP1-10,J12-10		
6	IP1-11,J12-11		
6	IP1-12,J12-12		
7	IP1-13,J12-13		
7	IP1-14,J12-14		
8	IP1-15,J12-15		
8	IP1-16,J12-16		
9	IP1-17,J12-17		
9	IP1-18,J12-18		
10	IP1-19,J12-19		
10	IP1-20,J12-20		
11	IP1-21,J12-21		
11	IP1-22,J12-22		
12	IP1-23,J12-23		
12	IP1-24,J12-24		

⑦ HARNESS LOCATOR — BOX CHECKED IF HARNESS IS MODIFIED ☒

WIRE No.	HARNESS 605674-006 (IP2,J11) STATIONARY FRAME	CLR	AWG
1	IP2-1,J11-1		16
21	IP2-2,J11-2		
4	IP2-3,J11-3		
23	IP2-4,J11-4		
24	IP2-5,J11-5		
25	IP2-6,J11-6		
26	IP2-7,J11-7		
27	IP2-8,J11-8		
28	IP2-9,J11-9		
30	IP2-10,J11-10		
29	IP2-11,J11-11		
31	IP2-12,J11-12		
32	IP2-13,J11-13		
33	IP2-14,J11-14		
42	IP2-15,J11-15		
35	IP2-16,J11-16		
36	IP2-17,J11-17		
37	IP2-18,J11-18		
38	IP2-19,J11-19		
39	IP2-20,J11-20		
40	IP2-21,J11-21		
41	IP2-22,J11-22		
42	IP2-23,J11-23		
43	IP2-24,J11-24		
	REMOVE WIRES		
42	IP2-15,J11-15		
	ADD WIRES		
506	IP2-15,J17-23		
507	IP2-25,J17-24		

⑧ HARNESS LOCATOR — BOX CHECKED IF HARNESS IS MODIFIED ☐

WIRE No.	HARNESS 605674-006 (IP3,J4) STATIONARY FRAME	CLR	AWG
50	IP3-1,J4-1		16
51	IP3-2,J4-2		
52	IP3-3,J4-3		
53	IP3-4,J4-4		
54	IP3-5,J4-5		
55	IP3-6,J4-6		
56	IP3-7,J4-7		
57	IP3-8,J4-8		
58	IP3-9,J4-9		
59	IP3-10,J4-10		
60	IP3-11,J4-11		
61	IP3-12,J4-12		
62	IP3-13,J4-13		
63	IP3-14,J4-14		
64	IP3-15,J4-15		
65	IP3-16,J4-16		
66	IP3-17,J4-17		
67	IP3-18,J4-18		
68	IP3-19,J4-19		
69	IP3-20,J4-20		
70	IP3-21,J4-21		
71	IP3-22,J4-22		
72	IP3-23,J4-23		
73	IP3-24,J4-24		

⑨ HARNESS LOCATOR — BOX CHECKED IF HARNESS IS MODIFIED ☐

WIRE No.	HARNESS 605674-006 (IP4,J5) STATIONARY FRAME(OPT.)	CLR	AWG
80	IP4-1,J5-1		16
81	IP4-2,J5-2		
82	IP4-3,J5-3		
83	IP4-4,J5-4		
84	IP4-5,J5-5		
85	IP4-6,J5-6		
86	IP4-7,J5-7		
87	IP4-8,J5-8		
88	IP4-9,J5-9		
89	IP4-10,J5-10		
90	IP4-11,J5-11		
91	IP4-12,J5-12		
92	IP4-13,J5-13		
93	IP4-14,J5-14		
94	IP4-15,J5-15		
95	IP4-16,J5-16		
96	IP4-17,J5-17		
97	IP4-18,J5-18		
98	IP4-19,J5-19		
99	IP4-20,J5-20		
100	IP4-21,J5-21		
101	IP4-22,J5-22		
102	IP4-23,J5-23		
103	IP4-24,J5-24		

⑩ HARNESS LOCATOR — BOX CHECKED IF HARNESS IS MODIFIED ☐

WIRE No.	HARNESS 605674-007 (J3,TB1) ENGINE START	CLR	AWG
120	J3-1,TB1-33		16
121	J3-2,TB1-32		
	ADD WIRES		
122	J3-3		
123	J3-4		

⑬ HARNESS LOCATOR — BOX CHECKED IF HARNESS IS MODIFIED ☒

WIRE No.	HARNESS 605674-010 (P13,BP) BP HIGH VOLTAGE	CLR	AWG
1	P13-1,BP-1		16
2	P13-2,BP-2		
3	P13-3,BP-3		
4	P13-4,BP-4		
5	P13-5,BP-5		
6	P13-6,BP-6		
7	P13-7,BP-7		
8	P13-8,BP-8		
9	P13-9,BP-9		
10	P13-10,BP-10		
11	P13-11,BP-11		
12	P13-12,BP-12		
26	P13-13,CR-9		
140	P13-14,BP(AUX3)-82		
27	P13-15,CR-6		
26	CR-9,BP(AUX3)-105		
141	BP(AUX3)-106,BP(AUX3)-81		
1	BP-1,P19-1		
3	BP-3,P19-2		
5	BP-5,P19-3		
7	BP-7,P19-4		
	REMOVE WIRES		
26	P13-13,CR-9		
140	P13-14,BP(AUX3)-82		
27	P13-15,CR-6		
26	CR-9,BP(AUX3)-105		
141	BP(AUX3)-106,BP(AUX3)-81		
	ADD WIRES		
26	P13-13		
140	P13-14		
27	P13-15		
210	P13-16		
211	P13-17		
212	P13-18		
213	P13-19		
214	P13-20		
215	P13-21		
216	P13-22		
217	P13-23		
218	P13-24		

⑭ HARNESS LOCATOR — BOX CHECKED IF HARNESS IS MODIFIED ☒

WIRE No.	HARNESS 605674-011 (J14,IS) ISOLATION AUX. CONTACTS	CLR	AWG
140	J14-1,IS-61		16
27	J14-2,IS-62		
150	J14-3,IS-13		
151	J14-4,IS-14		
38	J14-5,IS-19		
121	J14-6,IS-21		
37	J14-7,IS-4		
120	J14-8,IS-5		
31	J14-9,IS-10		
152	J14-10,IS-29		
153	J14-11,IS-26		
154	J14-12,IS-23		
155	J14-13,IS-24		
156	J14-14,IS-18		
157	J14-15,IS-17		
158	J14-16,IS-2		
190	J14-17,IS-8		
31	IS-10,IS-1		
31	IS-1,IS-16		
31	IS-16,IS-25		
31	IS-25,IS-28		
159	IS-12,IS-22		
153	IS-7,IS-26		
	REMOVE WIRES		
140	J14-1,IS-61		
27	J14-2,IS-62		
	ADD WIRES		
140	J14-1		
27	J14-2		
161	J14-18		
162	J14-19		
163	J14-20		
164	J14-21		
165	J14-22		
166	J14-23		
167	J14-24		

⑮ HARNESS LOCATOR — BOX CHECKED IF HARNESS IS MODIFIED ☐

WIRE No.	HARNESS 619510-038 (J15,PL1-PL3,SS1) STD. BP CONTROL/INDICATION	CLR	AWG
121	J15-1,SS1-13		16
122	J15-2,SS1-14		
31	J15-3,(RESERVED)		
170	J15-4,PL2(-)		
171	J15-5,PL1(+)		
172	J15-6,PL2(+)		
173	J15-7,PL3(+)		
174	J15-8,(RESERVED)		
175	J15-9,(RESERVED)		
176	J15-10,(RESERVED)		
177	J15-11,(RESERVED)		
33	J15-12,(RESERVED)		
32	J15-13,(RESERVED)		
178	J15-14,(RESERVED)		
155	J15-15,(RESERVED)		
156	J15-16,(RESERVED)		
157	J15-17,(RESERVED)		
158	J15-18,(RESERVED)		
170	PL2(-),PL1(-)		
170	PL1(-),PL3(-)		
	ADD WIRES		
220	J15-19		
221	J15-20		
222	J15-21		
223	J15-22		
224	J15-23		
225	J15-24		

⑯ HARNESS LOCATOR — BOX CHECKED IF HARNESS IS MODIFIED ☐

WIRE No.	HARNESS 605674-013 (J15,MX,SS1,PB) OPT. BP CONTROL/INDICATION	CLR	AWG
121	J15-1,SS1-13		16
122	J15-2,SS1-14		
31	J15-3,PB-13		
170	J15-4,MX-X2		
171	J15-5,MX-21-X1		
172	J15-6,MX-23-X1		
173	J15-7,MX-51-X1		
174	J15-8,MX-12-X1		
175	J15-9,MX-22-X1		
176	J15-10,MX-11-X1		
177	J15-11,MX-13-X1		
33	J15-12,MX-41-X1		
32	J15-13,MX-43-X1		
178	J15-14,MX-42-X1		
155	J15-15,MX-52-X1		
156	J15-16,MX-31-C		
157	J15-17,MX-31-X1		
158	J15-18,MX-53-X1		
180	PB-14,MX-C		
156	MX-31-C,MX-32-C		
156	MX-32-C,MX-33-C		
157	MX-31-X1,MX-32-X1		
157	MX-32-X1,MX-33-X1		
	ADD WIRES		
220	J15-19		
221	J15-20		
222	J15-21		
223	J15-22		
224	J15-23		
225	J15-24		

⑰ HARNESS LOCATOR — BOX CHECKED IF HARNESS IS MODIFIED ☒

WIRE No.	HARNESS 605674-014 (J16,SL1,SL2,BP(AUX5)) BP/IS INTERLOCKS	CLR	AWG
154	J16-1,P20-1		16
170	J16-2,P20-2		
153	J16-3,BP(AUX5)-143		
191	J16-4,BP(AUX5)-146		
150	J16-5,BP(AUX5)-148		
170	P20-2,P20-4		
192	BP(AUX5)-144,P20-3		
	ADD WIRES		
154	J20-1,SL1-A		
170	J20-2,SL1-B		
192	J20-3,SL2-A		
170	J20-4,SL2-B		
481	J16-6		
482	J16-7		
483	J16-8		
484	J16-9		
485	J16-10		
486	J16-11		
487	J16-12		
488	J16-13		
489	J16-14		
490	J16-15		
491	J16-16		
492	J16-17		
493	J16-18		
494	J16-19		
495	J16-20		
496	J16-21		
497	J16-22		
498	J16-23		
499	J16-24		

⑱ HARNESS LOCATOR — BOX CHECKED IF HARNESS IS MODIFIED ☒

WIRE No.	HARNESS 605674-015 (P17,BP) BP LOW VOLTAGE	CLR	AWG
31	P17-1,TB2-1		16
170	P17-2,TB2-2		
171	P17-3,P19-5		
172	P17-4,P19-7		
173	P17-5,FL-H		
174	P17-6,D2-A		
157	P17-7,D5-A		
175	P17-8,D6-C		
177	P17-9,D4-A		
176	P17-10,D3-A		
33	P17-11,D7-A		
32	P17-12,D9-A		
154	P17-13,D11-C		
178	P17-14,D8-C		
152	P17-15,D12-A		
190	P17-17,BP(AUX4)-138		
155	P17-18,CR-A		
191	P17-19,CR-7		
151	P17-20,CR-4		
121	P17-21,BP(AUX3)-85		
120	P17-22,BP(AUX3)-86		
31	TB2-1,P19-9		
31	TB2-1,BP(AUX3)-111		
31	BP(AUX3)-111,BP(AUX3)-89		
170	TB2-2,P19-6		
170	TB2-2,CR-B		
170	CR-B,FL-C		
174	D2-A,D6-A		
174	D6-A,D3-C		
174	D3-C,D4-C		
175	D6-C,D5-C		
177	D4-A,BP(AUX3)-90		
176	D3-A,BP(AUX3)-112		
33	D7-A,D8-A		
33	D8-A,BP(AUX3)-110		
32	D9-A,D10-A		
32	D10-A,BP(AUX3)-88		
178	D8-C,D9-C		
153	D10-C,BP(AUX4)-140		
190	BP(AUX4)-138,BP(AUX4)-141		
200	D2-C,D12-C		
200	D12-C,FL-D		
200	D2-C,FL-E		
201	D11-A,BP(AUX3)-109		
201	D11-A,BP(AUX3)-87		
202	D7-C,BP(AUX4)-137		
	REMOVE WIRES		
33	D8-A,BP(AUX3)-110		
32	D10-A,BP(AUX3)-88		
	ADD WIRES		
470	P17-16		
507	P17-24,BP(AUX3)-88		
506	P17-23,BP(AUX3)-110		

⑲ HARNESS LOCATOR — BOX CHECKED IF HARNESS IS MODIFIED ☒

WIRE No.	HARNESS 605674-016 (P6,P18) INTERNAL CONTROL & FIELD INPUTS	CLR	AWG
210	P18-1,CP-28		16
191	P18-2,CP-29		
211	P18-3,CP-30		
210	P18-4,P6-1		
151	P18-5,P6-2		
211	P18-6,P6-3		
243	P6-4,CP-25		
244	P6-5,CP-26		
	REMOVE WIRES		
210	P18-1,CP-28		
191	P18-2,CP-29		
211	P18-3,CP-30		
243	P6-4,CP-25		
244	P6-5,CP-26		
	ADD WIRES		
210	P18-1,CP-P6-21	WHT	22
191	P18-2,CP-P6-22	BLK	(4 COND)
211	P18-3,CP-P6-23	GRN	
215	P18-7		
216	P18-8		
217	P18-9,PA-2		16
218	P18-10,PA-3		
39	P18-11,PA-5		
40	P18-12,PA-15		
41	P18-13,PA-16		
42	P18-14,PA-13		
43	P18-15,PA-14		
224	P18-16		
225	P18-17		
226	P18-18		
227	P18-19		
228	P18-20		
229	P18-21		
230	P18-22		
231	P18-23		
232	P18-24		
243	P6-4,CP-P6-9	BLK	22
244	P6-5,CP-P6-10	RED	(2 COND)
245	P6-6		16
246	P6-7		
247	P6-8		
248	P6-9		
249	P6-10		
250	P6-11		
251	P6-12		
252	P6-13		
253	P6-14		
254	P6-15		
255	P6-16		
256	P6-17		
257	P6-18		
258	P6-19		
259	P6-20		
260	P6-21		
261	P6-22		
262	P6-23		
263	P6-24		
342	PA-1		
600	PA-4		
601	PA-6		
602	PA-7		
603	PA-8		
604	PA-9		
605	PA-10		
606	PA-11		
607	PA-12		
36	PA-17,TB1-36		
35	PA-18,TB1-35		
608	PA-19		
609	PA-20		
610	PA-21		
611	PA-22		
612	PA-23		
613	PA-24		
333	CP-P6-40,TFR-A	BLK	22
334	CP-P6-41,TFR-B	RED	(2 COND)
337	CP-P6-42,DOC-P2-1	BLK	22
338	CP-P6-44,DOC-P2-2	RED	(4 COND)
339	CP-P6-43,DOC-P2-3	WHT	
451	CP-P6-24,DOC-P2-6	GRN	

CHANGE LETTER	ECN NO.	BY	APP.	DATE
H	157978	WK	BK	6/16/01
	SEE ECN			
G	157178	BWH	BK	5/24/01
	SEE ECN			

SUBSIDIARY DISTRIBUTION

AL ☐	AN ☐	AM ☐	AJ ☐	AL ☐	☐
CH ☐	AV ☐	AA ☐	PS ☐	AR ☐	☐
AG ☐	AP ☐	AC ☐	AS ☐	☐	☐

COMPUTER GENERATED DRAWING

PROJECT NAME:

WIRING DIAGRAM
7000 SERIES (7ACTB)
GROUP 5 CONTROLS

THIRD ANGLE PROJECTION

	BY	DATE
DRAWN BY	JPB	2/98
CHECKED		
DRAFTING APPROVAL		
FINAL APPROVAL	SDH	2/98

MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-055

ASSEM. REF. NO.

ASCO® ASCO Power Technologies, L.P.
FLORHAM PARK, NEW JERSEY 07932 U.S.A.

SCALE: ACAD FILE

SIZE DWG. NO.
DS617425

CHANGE LETTER H ECN NO. 157978 SHEET 9 OF 10

WIRE RUN LISTING

20 — HARNESS LOCATOR (BOX CHECKED IF HARNESS IS MODIFIED ☐)

WIRE No.	HARNESS 605674-017 (P,J) CONTROL PANEL EXTENSION	CLR	AWG
310	P-1,J-1		16
1	P-2,J-2		
21	P-3,J-3		
3	P-4,J-4		
23	P-5,J-5		
7	P-6,J-6		
5	P-7,J-7		
37	P-8,J-8		
38	P-9,J-9		
28	P-10,J-10		
2	P-11,J-11		
1	P-12,J-12		
30	P-13,J-13		
29	P-14,J-14		
311	P-15,J-15		
24	P-16,J-16		
312	P-17,J-17		
6	P-18,J-18		
9	P-19,J-19		
10	P-20,J-20		
11	P-21,J-21		
4	P-22,J-22		
8	P-23,J-23		
12	P-24,J-24		

21 — HARNESS LOCATOR (BOX CHECKED IF HARNESS IS MODIFIED ☒)

WIRE No.	SUB-ASSEMBLY 605749 (1B1,P,P11,P12,J13,P14,P15,P16,J17,J18) MAIN INTERCONNECT ASSEMBLY	CLR	AWG
1	P-2,TB1-13		16
21	P-3,P11-2		
3	P-4,TB1-15		
23	P-5,TB1-17		
7	P-6,TB1-19		
5	P-7,TB1-17		
37	P-8,TB1-31		
38	P-9,TB1-30		
28	P-10,P11-9		
2	P-11,TB1-14		
1	P-12,TB1-13		
30	P-13,P11-10		
29	P-14,P11-11		
24	P-16,P11-5		
6	P-18,TB1-18		
9	P-19,TB1-21		
10	P-20,TB1-22		
11	P-21,TB1-23		
4	P-22,TB1-16		
8	P-23,TB1-20		
12	P-24,TB1-24		
1	P11-1,TB1-13		
3	P11-3,TB1-15		
5	P11-4,TB1-17		
7	P11-6,TB1-19		
26	P11-7,J13-13		
27	P11-8,TB1-25		
31	P11-12,TB1-37		
32	P11-13,TB1-39		
33	P11-14,TB1-40		
42	P11-15,TB1-34		
35	P11-16,TB1-35		
36	P11-17,TB1-36		
37	P11-18,TB1-31		
38	P11-19,TB1-30		
1	P12-1,TB1-1		
1	P12-2,TB1-13		
2	P12-3,TB1-2		
2	P12-4,TB1-14		
3	P12-5,TB1-3		
3	P12-6,TB1-15		
4	P12-7,TB1-4		
4	P12-8,TB1-16		
5	P12-9,TB1-5		
5	P12-10,TB1-17		
6	P12-11,TB1-6		
6	P12-12,TB1-18		
7	P12-13,TB1-7		
7	P12-14,TB1-19		
8	P12-15,TB1-8		
8	P12-16,TB1-20		
9	P12-17,TB1-9		
9	P12-18,TB1-21		
10	P12-19,TB1-10		
10	P12-20,TB1-22		
11	P12-21,TB1-11		
11	P12-22,TB1-23		
12	P12-23,TB1-12		
12	P12-24,TB1-24		
1	J13-1,TB1-1		
2	J13-2,TB1-2		
3	J13-3,TB1-3		
4	J13-4,TB1-4		
5	J13-5,TB1-5		
6	J13-6,TB1-6		
7	J13-7,TB1-7		
8	J13-8,TB1-8		
9	J13-9,TB1-9		
10	J13-10,TB1-10		
11	J13-11,TB1-11		
12	J13-12,TB1-12		
140	J13-14,P14-1		
27	J13-15,TB1-25		
27	P14-2,TB1-25		
150	P14-3,P16-5		
151	P14-4,TB1-28		
38	P14-5,TB1-30		
121	P14-6,TB1-32		
37	P14-7,TB1-31		
120	P14-8,TB1-33		
31	P14-9,TB1-37		
152	P14-10,J17-15		
153	P14-11,P16-3		
154	P14-12,TB1-41		
155	P14-13,TB1-42		
156	P14-14,P15-16		
157	P14-15,TB1-43		
158	P14-16,P15-18		
190	P14-17,J17-17		

21 — HARNESS LOCATOR (BOX CHECKED IF HARNESS IS MODIFIED ☒)

WIRE No.	SUB-ASSEMBLY 605749 (1B1,P,P11,P12,J13,P14,P15,P16,J17,J18) MAIN INTERCONNECT ASSEMBLY (CONTINUED)	CLR	AWG
121	P15-1,TB1-32		16
120	P15-2,TB1-33		
31	P15-3,TB1-37		
170	P15-4,TB1-38		
171	P15-5,J17-3		
172	P15-6,J17-4		
173	P15-7,J17-5		
174	P15-8,J17-6		
175	P15-9,J17-8		
176	P15-10,J17-10		
177	P15-11,J17-9		
33	P15-12,TB1-39		
32	P15-13,TB1-40		
178	P15-14,J17-14		
155	P15-15,TB1-42		
157	P15-17,TB1-43		
154	P16-1,TB1-41		
170	P16-2,TB1-38		
191	P16-4,TB1-26		
31	J17-1,TB1-37		
170	J17-2,TB1-38		
157	J17-7,TB1-43		
33	J17-11,TB1-39		
32	J17-12,TB1-40		
154	J17-13,TB1-41		
155	J17-18,TB1-42		
191	J17-19,TB1-26		
151	J17-20,TB1-28		
121	J17-21,TB1-32		
120	J17-22,TB1-33		
210	J18-1,TB1-27		
191	J18-2,TB1-26		
211	J18-3,TB1-29		
210	J18-4,TB1-27		
151	J18-5,TB1-28		
211	J18-6,TB1-29		
	REMOVE WIRES		
1	P-2,TB1-13		
21	P-3,P11-2		
23	P-5,TB1-17		
26	P11-7,J13-13		
27	P11-8,TB1-25		
140	J13-14,P14-1		
27	J13-15,TB1-25		
27	P14-2,TB1-25		
	ADD WIRES		
310	P-1		
1	P-2,TB1-44		
21	P-3,TB1-45		
27	P-5,P11-8		
26	P-15,P11-7		
312	P-17		
21	P11-2,TB1-45		
39	P11-20,J18-11		
40	P11-21,J18-12		
41	P11-22,J18-13		
42	P11-23,J18-14		
43	P11-24,J18-15		
26	J13-13		
140	J13-14		
27	J13-15		
340	J13-16		
341	J13-17		
343	J13-18		
344	J13-19		
345	J13-20		
346	J13-21		
347	J13-22		
348	J13-23		
349	J13-24		
140	P14-1		
27	P14-2		
161	P14-18		
162	P14-19		
163	P14-20		
164	P14-21		
165	P14-22		
166	P14-23		
167	P14-24		
500	P15-16		
501	P15-18		
502	P15-19		
503	P15-20		
504	P15-21		
505	P15-22		
506	P15-23		
507	P15-24		
482	P16-7		
483	P16-8		
484	P16-9		
485	P16-10		
486	P16-11		
487	P16-12		
488	P16-13		
489	P16-14		
490	P16-15		
491	P16-16		
492	P16-17		
493	P16-18		
494	P16-19		
495	P16-20		
496	P16-21		
497	P16-22		
498	P16-23		
499	P16-24		

21 — HARNESS LOCATOR (BOX CHECKED IF HARNESS IS MODIFIED ☒)

WIRE No.	SUB-ASSEMBLY 605749 (1B1,P,P11,P12,J13,P14,P15,P16,J17,J18) MAIN INTERCONNECT ASSEMBLY (CONTINUED)	CLR	AWG
470	J17-16		16
215	J18-7		
216	J18-8		
217	J18-9,TB1-44		
218	J18-10,TB1-45		
224	J18-16		
225	J18-17		
226	J18-18		
227	J18-19		
228	J18-20		
229	J18-21		
230	J18-22		
231	J18-23		
232	J18-24		
1	TB1-13,TB1-44		

22 — HARNESS LOCATOR (BOX CHECKED IF HARNESS IS MODIFIED ☒)

WIRE No.	SUB-ASSEMBLY 605659 (P3,P4,J6,P7,TB) STD. FIELD TB	CLR	AWG
120	TB-1,P3-1		16
121	TB-2,P3-2		
122	TB-3,P3-3		
50	TB-4,P4-1		
51	TB-5,P4-2		
52	TB-6,P4-3		
53	TB-7,P4-4		
54	TB-8,P4-5		
55	TB-9,P4-6		
56	TB-10,P4-7		
57	TB-11,P4-8		
58	TB-12,P4-9		
59	TB-13,P4-10		
61	TB-14,P4-12		
60	TB-15,P4-11		
62	TB-16,P4-13		
64	TB-17,P4-15		
63	TB-18,P4-14		
65	TB-19,P4-16		
67	TB-20,P4-18		
66	TB-21,P4-17		
68	TB-22,P4-19		
70	TB-23,P4-21		
69	TB-24,P4-20		
71	TB-25,P4-22		
73	TB-26,P4-24		
72	TB-27,P4-23		
210	TB-28,J6-1		
151	TB-29,J6-2		
211	TB-30,J6-3		
243	TB-31,J6-4		
244	TB-32,J6-5		
270	TB-34,P7-1		
271	TB-35,P7-2		
272	TB-36,P7-3		
	JUMPERS		
	TB-28,TB-29		
	TB-29,TB-30		
	ADD WIRES		
123	P3-4		
245	J6-6		
246	J6-7		
247	J6-8		
248	J6-9		
249	J6-10		
250	J6-11		
251	J6-12		
252	J6-13		
253	J6-14		
254	J6-15		
255	J6-16		
256	J6-17		
257	J6-18		
258	J6-19		
259	J6-20		
260	J6-21		
261	J6-22		
262	J6-23		
263	J6-24		
273	P7-4,TB-67		
274	P7-5,TB-68		
275	P7-6,TB-69		
276	P7-7,TB-70		
277	P7-8,TB-71		
278	P7-9,TB-72		
279	P7-10		
280	P7-11		
281	P7-12		
282	P7-13		
283	P7-14		
284	P7-15		
285	P7-16		
286	P7-17		
287	P7-18		
288	P7-19		
289	P7-20		
290	P7-21		
291	P7-22		
292	P7-23		
293	P7-24		

23 — HARNESS LOCATOR (BOX CHECKED IF HARNESS IS MODIFIED ☒)

WIRE No.	HARNESS (J7) FIELD OUTPUTS	CLR	AWG
270	J7-1,TFR-9		16
271	J7-2,TFR-6		
272	J7-3		
273	J7-4,DOC-P3-3		
274	J7-5,DOC-P3-1		
275	J7-6,DOC-P3-2		
276	J7-7,DOC-P3-4		
277	J7-8,DOC-P3-5		
278	J7-9,DOC-P3-6		
279	J7-10		
280	J7-11		
281	J7-12		
282	J7-13		
283	J7-14		
284	J7-15		
285	J7-16		
286	J7-17		
287	J7-18		
288	J7-19		
289	J7-20		
290	J7-21		
291	J7-22		
292	J7-23		
293	J7-24		

24 — HARNESS LOCATOR (BOX CHECKED IF HARNESS IS MODIFIED ☐)

WIRE No.	HARNESS 605454-005 (J8) OPTIONAL SERIAL I/O	CLR	AWG
300	J8-1,SHLD	SHLD	22 (4 COND)
301	J8-2,72A-1	WHT/ORG	
302	J8-3,72A-2	ORG/WHT	
303	J8-4,72A-3	WHT/BLU	
304	J8-5,72A-4	BLU/WHT	
305	J8-6		
306	J8-7		
307	J8-8		
308	J8-9		

25 — HARNESS LOCATOR (BOX CHECKED IF HARNESS IS MODIFIED ☐)

WIRE No.	HARNESS 605454-007 (P8,TB) OPTIONAL SERIAL I/O	CLR	AWG
300	P8-1,TB-37	SHLD	22 (4 COND)
301	P8-2,TB-38	WHT/ORG	
302	P8-3,TB-39	ORG/WHT	
303	P8-4,TB-40	WHT/BLU	
304	P8-5,TB-41	BLU/WHT	
305	P8-6		
306	P8-7		
307	P8-8		
308	P8-9		

26 — HARNESS LOCATOR (BOX CHECKED IF HARNESS IS MODIFIED ☐)

WIRE No.	HARNESS 605454-008 (P5,TB) OPT. AUX. CONTACTS	CLR	AWG
80	TB-43,P5-1		16
81	TB-44,P5-2		
82	TB-45,P5-3		
83	TB-46,P5-4		
84	TB-47,P5-5		
85	TB-48,P5-6		
86	TB-49,P5-7		
87	TB-50,P5-8		
88	TB-51,P5-9		
89	TB-52,P5-10		
90	TB-53,P5-11		
91	TB-54,P5-12		
92	TB-55,P5-13		
93	TB-56,P5-14		
94	TB-57,P5-15		
95	TB-58,P5-16		
97	TB-59,P5-18		
96	TB-60,P5-17		
98	TB-61,P5-19		
100	TB-62,P5-21		
99	TB-63,P5-20		
101	TB-64,P5-22		
103	TB-65,P5-24		
102	TB-66,P5-23		

27 — HARNESS LOCATOR (BOX CHECKED IF HARNESS IS MODIFIED ☒)

WIRE No.	HARNESS 619385 (JA,CP-P2,CP-P6) CONTROL MODULE	CLR	AWG
217	JA-2,DOC-P1-15		16
218	JA-3,DOC-P1-2		
342	JA-1,DOC-P1-8		
41	JA-16,DOC-P1-13		
40	JA-15,DOC-P1-5		
39	JA-5,DOC-P1-17		
42	JA-13,CP-P2-6	PIN	
43	JA-14,CP-P2-7	PIN	
	ADD WIRES		
452	JA-4		
453	JA-6		
454	JA-7		
455	JA-8		
456	JA-9		
457	JA-10		
458	JA-11		
459	JA-12		
36	JA-17,DOC-P2-4		
450	JA-18,DOC-P2-5		
460	JA-19		
461	JA-20		
462	JA-21		
463	JA-22		
464	JA-23		
465	JA-24		

28 — HARNESS LOCATOR (BOX CHECKED IF HARNESS IS MODIFIED ☐)

WIRE No.	HARNESS 483763 (J,CP-P1,CP-P2) CONTROL PANEL	CLR	AWG
310	J-1,CP-P1-8		16
1	J-2,CP-P1-15		
21	J-3,CP-P1-2		
3	J-4,CP-P1-4		
23	J-5,CP-P1-17		
7	J-6,CP-P1-12		
5	J-7,CP-P1-7		
37	J-8,CP-P2-2		
38	J-9,CP-P2-3		
28	J-10,CP-P2-8		
2	J-11,CP-P1-10		
1	J-12,CP-P1-1		
30	J-13,CP-P2-9		
29	J-14,CP-P2-10		
311	J-15,CP-P1-5		
24	J-16,CP-P1-13		
312	J-17,CP-P2-1		
6	J-18,CP-P1-14		
	ADD WIRES		
9	J-19		
10	J-20		
11	J-21		
4	J-22		
8	J-23		
12	J-24		

29 — HARNESS LOCATOR (BOX CHECKED IF HARNESS IS MODIFIED ☐)

WIRE No.	HARNESS 309320-005 OPTIONAL 8" EXTENSION HARNESS	CLR	AWG
310	Jx-1,Px-1		16
1	Jx-2,Px-2		
21	Jx-3,Px-3		
3	Jx-4,Px-4		
23	Jx-5,Px-5		
7	Jx-6,Px-6		
5	Jx-7,Px-7		
37	Jx-8,Px-8		
38	Jx-9,Px-9		
28	Jx-10,Px-10		
2	Jx-11,Px-11		
1	Jx-12,Px-12		
30	Jx-13,Px-13		
29	Jx-14,Px-14		
311	Jx-15,Px-15		
24	Jx-16,Px-16		
312	Jx-17,Px-17		
6	Jx-18,Px-18		
9	Jx-19,Px-19		
10	Jx-20,Px-20		
11	Jx-21,Px-21		
4	Jx-22,Px-22		
8	Jx-23,Px-23		
12	Jx-24,Px-24		

30 — HARNESS LOCATOR (BOX CHECKED IF HARNESS IS MODIFIED ☐)

WIRE No.	HARNESS 309320-005 OPTIONAL 8" EXTENSION HARNESS	CLR	AWG
342	Jy-1,Py-1		16
217	Jy-2,Py-2		
218	Jy-3,Py 3		
600	Jy-4,Py-4		
39	Jy-5,Py-5		
601	Jy-6,Py-6		
602	Jy-7,Py-7		
603	Jy-8,Py-8		
604	Jy-9,Py-9		
605	Jy-10,Py-10		
606	Jy-11,Py-11		
607	Jy-12,Py-12		
42	Jy-13,Py-13		
43	Jy-14,Py-14		
40	Jy-15,Py-15		
41	Jy-16,Py-16		
36	Jy-17,Py-17		
35	Jy-18,Py-18		
608	Jy-19,Py-19		
609	Jy-20,Py-20		
610	Jy-21,Py-21		
611	Jy-22,Py-22		
612	Jy-23,Py-23		
613	Jy-24,Py-24		

31 — HARNESS LOCATOR (BOX CHECKED IF HARNESS IS MODIFIED ☒)

WIRE No.	SUB-ASSEMBLY 605113-001 (J1,CM) DUAL SOLENOID UNIT CONTROL MODULE ASSEMBLY	CLR	AWG
	J1-1,CR3-(+)		16
	J1-2,CR3-(-)		
	J1-3,CR4-(+)		
	J1-4,CR4-(-)		
	J1-5,CR1-AC1		
	J1-6,CR2-AC1		
	J1-7,CR3-AC1		
	J1-8,CR4-AC1		
	J1-9,CR1-(+)		
	J1-10,CR1-(-)		
	J1-11,CR2-(+)		
	J1-12,CR2-(-)		
	J1-13,SER-R2		
	J1-14,SER-A2		
	J1-15,ERR-R2		
	J1-16,ERR-A2		
	J1-17,SER-2		
	J1-18,ERR-2		
	J1-19,SER-A1		
	SER-A1,SER-3		
	J1-20,ERR-A1		
	ERR-A1,ERR-3		
	J1-21,CR1-AC2		
	CR1-AC2,CR2-AC2		
	J1-22,CR3-AC2		
	CR3-AC2,CR4-AC2		
	J1-23,SER-R3		
	J1-24,ERR-R3		
	SER-R3,ERR-R3		
	SER-1,ERR-R1		
	SLR-R1,ERR-1		
	SER-4,ERR-R4		
	SER-R4,ERR-4		
	CR1-AC1,RC1-1		
	CR1-AC2,RC1-2		
	CR2-AC1,RC2-1		
	CR2-AC2,RC2-2		
	CR3-AC1,RC3-1		
	CR3-AC2,RC3-2		
	CR4-AC1,RC4-1		
	CR4-AC2,RC4-2		
	NOTE: SUB-ASSEMBLY NO WIRE NUMBERS NEEDED		
	REMOVE WIRES		
	J1-16,ERR-A2		
	ADD WIRES		
	J1-16,SER-A2		
	ERR-1,ERR-A2		

WIRE No.	ADDITIONAL WIRING	CLR	AWG

CHANGE LETTER	ECN NO.	BY	APP.	DATE
H	157978	WK	BK	6/16/01
	SEE ECN			
G	157178	BWM	BK	5/24/01
	SEE ECN			

PROJECT NAME:

WIRING DIAGRAM
7000 SERIES (7ACTB)
GROUP 5 CONTROLS

THIRD ANGLE PROJECTION

SUBSIDIARY DISTRIBUTION

AL ☐	AN ☐	AM ☐	AJ ☐	AL ☐	☐
CH ☐	AV ☐	AA ☐	PS ☐	AR ☐	☐
AG ☐	AP ☐	AC ☐	AS ☐	☐	☐

COMPUTER GENERATED DRAWING

	BY	DATE
DRAWN BY	JPB	2/98
CHECKED		
DRAFTING APPROVAL		
FINAL APPROVAL	SDH	2/98

MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-055

ASSEM. REF. NO.

ASCO® ASCO Power Technologies, L.P. FLORHAM PARK, NEW JERSEY 07932 U.S.A.

SCALE: ACAD FILE

SIZE DWG. NO. DS617425

CHANGE LETTER H ECN NO. 157978 SHEET 10 OF 10