737-800

SYSTEM SCHEMATIC MANUAL

AVIA CAPITAL SERVICES

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DOCUMENT D280A451

Original Issue Date: Aug 15/2013
Published by Boeing Commercial Airplanes Group, Seattle, Washington, USA
A Division of The Boeing Company
PAGE DATE: Jun 21/2016

This manual is applicable to the aircraft on this list:

Model-Series	Operator		Manufacturer			Registration Number
	Identification Code	Effectivity Code	Block Number	Serial Number	Line Number	
737-8LJ	ARO	001	YT101	41195	4590	VP-BRF
737-8LJ	ARO	002	YT102	41196	4665	VP-BRH
737-8LJ	ARO	003	YT103	41197	4710	VP-BRR
737-8LJ	ARO	004	YT104	41198	4753	VP-BZA
737-8LJ	ARO	005	YT105	41199	4897	VP-BZB
737-8LJ	ARO	006	YT106	41200	5063	VP-BON
737-8LJ	ARO	009	YT107	41203	5253	VQ-BVO
737-8LJ	ARO	010	YT108	41204	5291	VQ-BVP
737-8LJ	ARO	013	YT109	41207	5377	VQ-BWA
737-8LJ	ARO	015	YT110	41209	5468	VQ-BWB
737-8LJ	ARO	016	YT111	41210	5480	VQ-BWC
737-8LJ	ARO	017	YT112	41211	5516	VQ-BWD
737-8LJ	ARO	018	YT113	41213	5652	VQ-BWE
737-8LJ	ARO	020	YT114	41214	5690	VQ-BWF
737-8LJ	ARO	021	YT115	41215	5723	VP-BCD
737-8LJ	ARO	022	YT116	41216	5767	VP-BCF
737-8LJ	ARO	023	YT117	41217	5840	VP-BCG
737-8LJ	ARO	024	YT118	41222	5990	VP-BGG
737-8LJ	ARO	025	YT119	41223	6022	VP-BGI
737-8LJ	STG	007	YT126	41201	5153	VQ-BVV
737-8LJ	STG	008	YT127	41202	5206	VQ-BVU

EFFECTIVE AIRCRAFT

Model-Series	Operator		Manufacturer			Registration Number
	Identification Code	Effectivity Code	Block Number	Serial Number	Line Number	
737-8LJ	LCV	011	YT128	41205	5302	VQ-BWG
737-8LJ	LCV	012	YT129	41206	5318	VQ-BWH
737-8LJ	LCV	014	YT130	41208	5437	VQ-BWI
I 737-8LJ	STG	019	YT131	41212	5576	VQ-BWJ

AVIA CAPITAL SERVICES
Revision No. 14

Jun 21/2016

To: All holders of this Boeing Document D280A451

Attached is the current revision to the 737 System Schematic Manual (SSM).

The manual is available either as a printed manual, digital products, or any combination of the two. This revision replaces all digital products. All digital products are reissued with all obsolete data deleted and all updated pages added.

For printed manuals, changes are indicated on the Effective Pages. The pages which are revised will be identified on the Effective Pages by an R (Revised), A (Added), O (Overflow, i.e. changes to the document structure and/or page layout), or D (Deleted). Each page in the Effective Pages is identified by Chapter-Section-Subject number, page number and page date. Pages replaced or deleted by this revision should be removed and destroyed.

All pages are included in this revision. Revision bars on the pages identify current revision changes.

NOTE: IF YOU RECEIVE PRINTED REVISIONS, PLEASE VERIFY THAT YOU HAVE RECEIVED AND FILED THE PREVIOUS REVISION. BOEING MUST BE NOTIFIED WITHIN 30 DAYS IF YOU HAVE NOT RECEIVED THE PREVIOUS REVISION. REQUESTS FOR REVISIONS OTHER THAN THE PREVIOUS REVISION WILL REQUIRE A COMPLETE MANUAL REPRINT SUBJECT TO REPRINT CHARGES SHOWN IN THE DATA AND SERVICES CATALOG.

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SERVICE BULLETIN LIST	SB 22-1295 Added
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22-11-75	
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A = Added, R = Revised, D = Deleted, O = Overflow

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Revision	Type	Date	Effectivity Range
0	Basic	Aug 15/2013	YT101-YT102
1	Follow-On	Nov 18/2013	YT103-YT104
2		Feb 14/2014	
3	Follow-On	Apr 17/2014	YT105
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5	Follow-On	Oct 14/2014	YT126-YT127
6	Follow-On	Jan 12/2015	YT107-YT108
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9	Follow-On	Jun 29/2015	YT112
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12	Follow-On	Dec 10/2015	YT115-YT116
13	Follow-On	Mar 14/2016	YT117
14	Follow-On	Jun 21/2016	YT118-YT119

BOEING REVISION RECORD

All revisions to this manual will be accompanied by transmittal sheet bearing the revision number. Enter the revision number in numerical order, together with the revision date, the date filed and the initials of the person filing.

Revision		Filed	
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Revision		Filed	
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REVISION RECORD

Revision		Filed	
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Revision		Filed	
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REVISION RECORD

All temporary revisions to this manual will be accompanied by a cover sheet bearing the temporary revision number. Enter the temporary revision number in numerical order, together with the temporary revision date, the date the temporary revision is inserted and the initials of the person filing.

When the temporary revision is incorporated or cancelled, and the pages are removed, enter the date the pages are removed and the initials of the person who removed the temporary revision.

Temporary Revision		Inserted		Removed	
Number	Dated	Date	Initials	Date	Initials

Temporary Revision		Inserted		Removed	
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RECORD OF TEMPORARY REVISION

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Temporary Revision		Inserted		Removed	
Number	Dated	Date	Initials	Date	Initials

RECORD OF TEMPORARY REVISION

	Number	Incorporated	Started/ Completed	Effectivity	ATA	Subject
D	-No effect	-	-	-	-	
A	22-1295	Jun 21/2016	S	YT101-YT104	22-11-75	ALTITUDE ALERT LOGIC THRESHOLD - 200/900 FEET - REVISION

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SERVICE BULLETIN LIST

Number	Incorporated	Started/ Completed	Effectivity	ATA	Subject
-No effect	-	-	-	-	

A = Added, R = Revised, D = Deleted

CUSTOMER CHANGE LIST

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INTRODUCTION

1. APPLICABILITY

This System Schematic Manual is applicable only to those Boeing airplanes listed on the Effective Aircraft page. The instructions and information contained herein apply solely to those airplanes and are not suitable for use with any other Boeing airplane(s).

2. GENERAL DESCRIPTION

This System Schematic Manual (SSM) is a collection of diagrams which define the airplane systems. These data are prepared essentially in accordance with ATA Specification No. 2200, Revision 2001.1.

This manual may also contain data and information provided by the customer. The Boeing Company assumes no responsibility for the accuracy and validity of data and information provided by a customer.

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Every effort has been made to ensure that the information presented on these schematics is complete and correct. However, in the event of conflict between this manual and Boeing Wiring Diagrams or other engineering drawings, the wiring diagrams or drawings shall be the controlling definition.

A. Purpose of Introduction Section

This Introduction Section is intended to provide the user with an overview of the SSM, an explanation of symbols used, and assumptions made while developing these schematics. Without an understanding of these symbols and assumptions, the user may not get the full value from the enclosed schematics.

B. Purpose of System Schematic Manual

The System Schematic Manual (SSM) was prepared to serve as a source of information to assist in understanding system function and to facilitate fault isolation to the Line Replaceable Unit (LRU) level. It is not intended for use as a substitute for other maintenance documentation (i.e., Fault Isolation Manual, Maintenance Manual, Wiring Diagram Manual). The SSM does not include information for testing. The procedures in the Fault Isolation Manual should be used for any fault isolation requiring testing. The procedures in the Maintenance Manual should be used to support removal and installation of components. The Wiring Diagram Manual (WDM) should be used as a reference to isolate faults in wiring and in-line disconnects.

The data contained in this manual are customized for each airline. Except for those features added by service bulletin or specifically requested by the airline, these data include coverage for only those features that are part of the airplane as delivered by Boeing.

3. BOEING CHANGE DEFINITIONS

Changes used by Boeing to implement airplane changes that may affect this manual are listed below.

INTRODUCTION

A. Customer Originated Changes (COC)

Customer Originated Changes are requests to incorporate airplane data, information, changes and modifications authorized by a customer into the manual.

NOTE: Boeing will not undertake to test or evaluate, in any form, the validity or the technical accuracy of Customer Originated Changes. This will remain the sole responsibility of the customer submitting the Customer Originated Change request.

B. Service Bulletin (SB)

Service Bulletins provide information for accomplishing an engineering change on in-service airplanes.

Service Bulletins are incorporated into this manual only upon customer request.

Incorporation status change of Service Bulletins can be requested using MyBoeingFleet (MBF). On MBF select "Maintenance Documents", "Document Change Requests", and then "Service Bulletin Incorporation" and fill out the SBI form. This form will be electronically submitted to Boeing for document changes.

C. Boeing Change Reason (BCR)

Boeing Change Reason provides tracking of a change made to the content of the manual that apply to all users of the manual.

4. DESCRIPTION OF SERVICE BULLETIN LIST AND CUSTOMER CHANGE LIST

A. Number Field

The service bulletin or customer change number with it's revision level

B. Incorporated

The date of the manual revision which incorporated the change.

C. Started/Completed

The status of the change. An 'S' is used in the Started/Completed column to indicate Start (Dual) configuration, a 'C' is used to indicate Complete (Final) configuration and a 'X' indicates canceled changes that have been removed from the manual.

D. Effectivity

The aircraft affected by the referenced change.

E. ATA

The list of drawings affected by the referenced change.

F. Subject

The title of the service bulletin or customer change.

5. BOEING COMMERCIAL PUBLICATION CHANGE REQUEST (PCR)

Communications concerning this manual should be directed to:

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To facilitate uniform handling and to provide direct routing of questions to the proper Boeing organization, use of the Publication Change Request is encouraged. Boeing makes this form available through the customer's publications organizations.

INTRODUCTION

The following is a list of abbreviations and acronyms used in this manual. Where marked with an asterisk (*), see the GENERAL INFORMATION section, in the Wiring Diagram manual, for additional definition information.

A/C	Air Conditioning
A/C	Aircraft
A/R	Altitude Rate
ACARS	Aircraft Communications Addressing and Reporting System
ACE	Actuator Control Electronics
ACESS	Advanced Cabin Entertainment and Service System
ACM	Air Cycle Machine
ACMP	Alternating Current Motor Pump (See also EMP)
ACMS	Airplane Conditioning Monitoring System
ACP	Audio Control Panel
ADF	Automatic Direction Finder
ADI	Attitude Director Indicator
ADIRS	Air Data Inertial Reference System
ADIRU	Air Data Inertial Reference Unit
ADL	Airborne Data Loader
ADM	Air Data Module
ADP	Air Driven Pump
ADRS	Address
ADS	Air Data Systems
ADU	Air Drive Unit
AEM	Audio Entertainment Multiplexer
AFDC	Air Flight Data Control
AFDS	Autopilot Flight Director System
AFL	Air Flow
AIDS	Airborne Integrated Data System
AIMS	Airplane Information Management System
AMU	Audio Management Unit
ANCMT	Announcement
ANCPT	Anticipate
ANCPTR	Anticipator
ANS	Ambient Noise Sensor
ANTI-COLL	Anti-Collision
AOA	Angle of Attack
AOC	Air/Oil Cooler
APB	Auxiliary Power Breaker
APID	Airplane Identification
APU	Auxiliary Power Unit
ARINC	Aeronautical Radio Incorporated
ASA	Autoflight Status Annunciator
ASCPC	Air Supply Cabin Pressure Controller
ASCTS	Air Supply Control and Test System
ASCTU	Air Supply Control and Test Unit
ASP	Audio Select Panel
AVM	Airborne Vibration Monitor
BDY BLK	Burndy Block
BFE	Buyer Furnished Equipment
BPCU	Bus Power Control Unit
BSCU	Brake System Control Unit
BST	Boost
BTB	Bus Tie Breaker
BTLCS	Brake Torque Limiting Control System

BTMU	Brake Temperature Monitor Unit
C	Cold
CACTS	Cabin Air Conditioning & Temperature Control System
CADS	Central Air Data System
CALIB	Calibrator
CAP	Capture
CAP	Contact Authorized Proposal
CAPC	Cabin Area Control Panel
CAPT	Captain
CCA	Central Control Actuator
CCL	Cargo Control Logic
CCM	Cargo Control Module
CCU	Cargo Control Unit
CDU	Control Display Unit
CFDS	Centralized Fault Detection System
CFE	Customer Furnished Equipment
CHKPT	Checkpoint
CHSP	Course Heading Select Panel
CIC	Cabin Interphone Controller
CIWS	Central Instrument Warning System
CMC	Central Maintenance Computer
CMD	Command
CMM	Component Maintenance Manual
CMS	Cabin Management System
COC*	Customer Originated Change
COF MKR	Coffee Maker
COLL	Collision
COM/NAV	Communication/Navigation
COR	Corrector
CP	Control Panel
CPCS	Cabin Pressure Control System
CRKG	Cranking
CSB	Compressor Stability Bleed
CSMU	Cabin System Management Unit
CT	Control Transformer
CTC	Cabin Temperature Controller
CTS	Cabin Temperature Selector
CTS	Conversational Terminal System
CVR	Cockpit Voice Recorder
CWS	Control Wheel Steering
DAA	Digital/Analog Adapter
DADC	Digital Air Data Computer
DAR	Digital Aids Recorder
DED	Dead Ended Shield
DEL	Diagram Equipment List
DFCS	Digital Flight Control System
DFDAU	Digital Flight Data Acquisition Unit
DFDR	Digital Flight Data Recorder
DH	Decision Height
DIU	Digital Interface Unit
DMU	Data Management Unit
DP	Differential Protection
DPA	Digital Pre-Assembly
DPCT	Differential Protective Current Transformer

DPLY	Deploy
DSP	Display Select Panel
E/E	Electrical/Electronics
EADI	Electronic Attitude Director Indicator
ECS	Environmental Control System
EDIU	Engine Data Interface Unit
EDP	Engine Driven Pump
EEC	Electronic Engine Control (Unit)
EFIS	Electronic Flight Instrument System
EHSI	Electronic Horizontal Situation Indicator
EICAS	Engine Indicating and Crew Alerting System
EIU	EFIS/EICAS Interface Unit
ELCCR*	Electrical Liaison Change Commitment Record
ELCU	Electrical Load Control Unit
ELMS	Electrical Load Management System
EMC	Electromagnetic Compatibility
EMP	Electric Motor Pump (See also ACMP)
ENTMT	Entertainment
ENWY	Entryway
EPR	Engine Pressure Ratio
EPRL	Engine Pressure Ratio Limit
ESCC	Electrical Supply and Control Center
ESNTL	Essential
ESS	Essential
ETC	Electronic Temperature Control
ETOPS	Extended Twin (Engine) Operations
EXCHR	Exchanger
EXTD	Extend
F/D	Flight Director
F/E	Flight Engineer
F/F	Fuel Flow
F/O	First Officer
FADEC	Full Authority Digital Engine Control
FAFC	Full Authority Fuel Control
FAR	Federal Aviation Regulations
FBW	Fly-by-Wire
FCC	Flight Control Computer
FCU	Flap Control Unit
FDAU	Flight Data Acquisition Unit
FLMTR	Flowmeter
FMC	Flight Management Computer
FMCS	Flight Management Computer System
FMU	Fuel Metering Unit
FMV	Fuel Metering Valve
FOC	Fuel/Oil Cooler
FQIS	Fuel Quantity Indication System
FQPU	Fuel Quantity Processor Unit
FSEU	Flap/Slat Electronics Unit
GCB	Generator Circuit Breaker
GCR	Generator Control Relay
GCU	Generator Control Unit
GPWS	Ground Proximity Warning System
GS	Glide Slope
GSB	Ground Service Bus

GSPR	Gasper
H	Hot
HLCU	High Lift Control Unit
HMU	Hydromechanical Unit
HND	Hand
HPC	High Pressure Compressor (N2 Rotor)
HPSOV	High Pressure Shutoff Valve
HPT	High Pressure Turbine
HYDIM	Hydraulic Interface Module
HYQUIM	Hydraulic Quantity Interface Module
HZ	Hertz (Cycles Per Second)
IBIT	Initiated Built In Test
IBVSU	Instrument Bus Voltage Sense Unit
IDG	Integrated Drive Generator
IDS	Integrated Display System
ILES	Inboard Leading Edge Station
INS	Inertial Navigation System
INTC	Interconnect
IOEU	Inboard Overhead Electronics Unit
IPC	Illustrated Parts Catalog
IPL	Illustrated Parts List
IRS	Inertial Reference System
JPR	Jumper
KHZ	Kilohertz
KVA	Kilovolt Ampere
LGHTNG	Lightning
LMP	Lamp
LO	Lock Out
LP	Lightning Protector
LPT	Low Pressure Turbine
LRRA	Low Range Radio Altimeter
LRU	Line Replaceable Unit
LSDA	Low Speed Digital To Analog
M	Mach
M MUX	Main Multiplexer
MAI	Multiplexer Action Item
MAWEA	Modularized Avionics and Warning Electronics Assembly
MC*	Master Change
MCDP	Maintenance Control and Display Panel
MCDU	Multipurpose Control and Display Unit
MCP	Mode Control Panel
MD&T	Master Dim and Test
MGSCU	Main Gear Steering Control Unit
MHRS	Magnetic Heading Reference System
MHZ	Megahertz
MIDU	Multipurpose Interactive Display Unit
MKR BCN	Marker Beacon
MLS	Microwave Landing System
MNFST	Manifest
MOSFET	Metallic Oxide Semiconductor Field Effect Transistor
MR*	Modification Revision
MTCHG	Matching
MTG	Muting
NBR	Number

ND	Navigation Display
NGT	Night
OAP	Output Audio Processor
OFCR	Officer
OFL	Outflow
OMS	Onboard Maintenance System
OOEU	Outboard Overhead Electronics Unit
OPAS	Overhead Panel ARINC 629 System
OPBC	Overhead Panel Bus Controller
OVDR	Overdoor
OVFL	Overfill
OVHT	Overheat
OVWG	Overwing
PA	Passenger Address
PA/CI	Passenger Address/Cabin Interphone
PCH	Patch
PCT	Percent
PDU	Power Drive Unit
PES	Passenger Entertainment System
PFC	Primary Flight Computer
PFD	Primary Flight Display
PFIDS	Passenger Flight Information Display System
PIS	Passenger Information Sign
PKG	Parking
PMA	Permanent Magnet Alternator
PMG	Permanent Magnet Generator
PMS	Performance Management System
POR	Point of Regulation
PRCLR	Precooler
PROT	Protection
PRR*	Production Revision Record
PRSOV	Pressure Regulating Shut-Off Valve
PSA	Power Supply Assembly
PSEU	Proximity Switch Electronics Unit
PSU	Passenger Service Unit
PTT	Press To Talk/Push To Talk
PVD	Paravisual Display
PYL	Pylon
QAM	Quadrature Amplitude Modulation Unit
QAR	Quick Access Recorder
QDT	Quadrantal
RAT	Ram Air Turbine
RDMI	Radio Distance Magnetic Indicator
RDP	Roller Drive Power
RDU	Remote Display Unit
REP	Repellent
RFLNG	Refueling
RGLTN	Regulation
RMCP	Radio Management Control Panel
RR*	Rapid Revision
RST	Reset
RSV	Reserve
RTC	Rudder Trim Control
RVSG	Reversing

RVT	Rotational Variable Transformer
SAARU	Standby Attitude/Air Data Reference Unit
SAT	Static Air Temperature
SATCOM	Satellite Communications
SB*	Service Bulletin
SCF	System Cardfile
SCM	Spoiler Control Module
SCU	Seat Control Unit
SDI	Source Destination Identifier
SEB	Seat Electronics Box
SEB/ST	Seat Electronics Box With Self Test
SEI	Standby Engine Instruments
SEU	Seat Electronics Unit
SHVR	Shaver
SL*	Service Letter
SN	Sign
SO	Shut-off
SO	Standard Option
SPL	Splice List
SRM	Stabilizer Trim/Rudder Ratio Module
SUP-NUM	Supernumerary
SVU	Seat Video Unit
SWDL	Software Data Loader
SWL	Sidewall
SWPM	Standard Wiring Practices Manual
T/M	Torque Motor
T/R	Thrust Reverser
TAI	Thermal Anti-Ice
TAT	Total Air Temperature
TBV	Turbine Bypass Valve
TCA	Turbine Cooling Air
TCAS	Traffic Alert and Collision Avoidance System
TCC	Turbine Case Cooling
TDL	Time Delay Logic
TDO	Time Delay on Operate
TDX	Torque Differential Transmitter
TERM BLK	Terminal Block
TGT	Turbine Gas Temperature
THSHD, THRSH	Threshold
TL	Tilt
TLA	Thrust Lever Angle
TMC	Thrust Management Computer
TMS	Thrust Management System
TO	Turn-off
TPIS	Tire Pressure Indication System
TPMU	Tire Pressure Monitor Unit
TR	Torque Receiver
TR	Transformer Rectifier
TRA	Thrust Resolver Angle
TRC	Thermatic Rotor Control
TRU	Transformer Rectifier Unit
TS	Terminal Strip
TTG	Time To Go
TURB	Turbulence

TX	Torque Transmitter
UNLK	Unlock
VBV	Variable Bypass Valve
VCC	Video Control Center
VES	Video Entertainment System
VGH	Velocity, Gravity, Height
VIGV	Variable Inlet Guide Vane
VLV	Valve
VSI	Vertical Speed Indicator
VSV	Variable Stator Vane
VTY	Vanity
W/A	Wrap Around
WAI	Wing Anti-Ice
WBA	Wire Bundle Assembly
WEU	Warning Electronic Unit
WF	Fuel Flow (Weight of Fuel)
WF or wf	Weight of Fuel
WHCU	Window Heat Control Unit
WIU	Wire Integration Unit
WXR	Weather Radar
XFD	Crossfeed
XNT	Transient
XPC	External Power Contactor
XPNDR	Transponder
ZMU	Zone Management Unit

Where marked with an asterisk (*), see the GENERAL INFORMATION section, in the Wiring Diagram manual, for additional definition information.

INTRODUCTION

1. LEVELS OF SCHEMATICS

Three levels of schematics may be drawn to represent the system functions:

Level 1	BLOCK DIAGRAM: Provides a broad overview of the system, or part of a system, showing major functions and components, functional groupings and pertinent interfaces.
Level 2	SIMPLIFIED SCHEMATIC: Provides a simplified view of the functions, components and interfaces. Broader in scope, showing more detail than level 1 schematics. Functions are shown without regard to their location in the aircraft or to pin-to-pin circuits.
Level 3	SCHEMATIC: Shows the system in sufficient depth for fault isolation to the LRU level. Provides a detailed view of the functions, components, pin-to-pin connectivity and interfaces. Provides a link between the function and the physical implementation. Provides the location reference for the components in the airplane.

2. CONTENT OF SCHEMATICS

The schematics show each system in a functionally integrated presentation that:

- Identifies and locates all LRU's and shows their functional internal circuitry in a simplified manner.
- Identifies connections between LRU's with cross reference to all interfacing system schematics.
- Provides signal flow for primary functions which require airplane wiring or observable indications.

The preferred schematic layout is power on the left and load on the right; signal source on the left, and signal destination/indication on the right. After satisfying proper left to right flow, the equipment is shown in relation to its position in the airplane, when possible. Left is forward, right is aft, top is right, bottom is left.

Unless otherwise noted, all schematics are shown with the airplane on the ground, after a normal flight, and with the post-flight checklist completed (power off). Instruments, indicators and monitors may reflect other conditions where clarity of presentation is improved.

Schematics may contain information relating to the nominal actuating pressure, temperature, or quantity values of certain devices, as well as dimensional relationships and operational notes. Such information is provided for reference only as an aid in systems understanding and is not intended for use to do rigging, calibration, adjustment, or functional testing. Refer to the Maintenance Manuals for this data.

A. Schematic Organization/Numbering System

ATA Specification 2200 assigns chapters to each major system (e.g., Hydraulics) of functional group of systems (e.g., Navigation). Each chapter is assigned a two-digit number (e.g., Hydraulics is Chapter 29 and Navigation is Chapter 34).

Additionally, ATA Specification 2200 divides each chapter into sections. The section number is the third and fourth digits in the ATA number. Boeing assigns each subsystem the fourth digit in the ATA number. These same four-digit ATA numbers are used throughout the System Schematic Manual, Wiring Diagram Manual, Fault Isolation Manual, Maintenance Manuals, and Maintenance Training documents. The schematic numbers in the SSM are assigned following this four-digit ATA number assignment and with a two-digit suffix to make each schematic of that subsystem unique using a six-digit number. The schematics are further defined in the following manner: Schematic number (six-digit ATA number), Page number, and as required SCHEM number and/or Sheet number.

Complex subsystems may require more than one schematic sheet. In general, the subsystem shows the related functions on one schematic. Multiple schematics may also be used to show the function of the subsystem. "SCHEM" numbers may also be assigned to schematics depicting subfunctions of primary function.

Additionally, each schematic may require multiple sheets. Odd-numbered sheets are printed on the left side of the binding and even-numbered sheets on the right. This allows the schematic to be read across the binding edge.

The Page numbers (Page 101, 102, etc.) are used to represent different delivered configurations of a given schematic which may be applicable to different airplanes within the customer's fleet. When a schematic page number has a suffix (e.g., 101A, 102A for Customer Originated Changes or 101.1, 102.1, etc. for Service Bulletins) it reflects a post-delivery configuration for the same airplane(s). Both the configuration delivered by Boeing and the configuration after modification remain in the manual until the airline notifies Boeing that the post-delivery change has been incorporated in the customer's entire fleet of that model, and requests Boeing to delete the obsolete configurations.

The airplane effectivity code, Customer or Boeing assigned, of each schematic is noted in a box in the lower left corner of the schematic. All sheets of a multiple-sheet schematic must have the same effectivity.

B. Equipment Numbers

Equipment numbers (reference designators) are assigned to each airplane component with wiring attached, all Line Replaceable Units (LRU), panels and racks. Not all components with equipment numbers are LRU's and not all LRU's are assigned an equipment number. The equipment number uniquely identifies a component. However, if a component is part of an assembly, the equipment number will be the same for each use of the assembly in the airplane.

C. Equipment Description

The Equipment Description used in the SSM and WDM consists of the component name, followed by a location modifier (e.g., VHF Radio-Left).

D. Depiction of Equipment on Schematics

The schematic identifies which equipment is a Line Replaceable Unit (LRU) by the width of the box representing the equipment. Equipment that is not an LRU is identified with a solid thin line. The LRU is identified with the solid wide line if it is shown in the home ATA system. It is identified by a wide cross-hatched line if the circuit functions are duplicated in another interfacing ATA system. Provisional equipment not installed on an airplane at the time of delivery is identified by dash equipment boxes; however, the wiring has been installed to allow installation of the equipment at a later date.

The schematic which shows the primary function of the LRU is the home for that LRU. If the LRU is not shown in its entirety on its home schematic, a continuation break (Z-break) is used to indicate that the LRU is shown incomplete. In this case, a reference to the "home schematic" is placed in the top center of the LRU box. LRU's with multiple primary functions shown in multiple systems are identified with Z-breaks. References are not included on the home schematic.

In the SSM, the following definition of a LRU has been used:

> A Line Replaceable Unit is a unit which can be readily changed on an aircraft during Line Maintenance operations. Line Maintenance includes a routine check, inspection and malfunction correction performed en route and at base stations during transit, turnaround, or night stop.

Most LRU's do not contain line replaceable components. These "closed" LRU's generally do not show internal equipment item numbers, connectors and pin numbers. "Open" LRU's contain line replaceable components and components that are easily accessible. These line replaceable subcomponents are also depicted as LRU equipment items.

In selected instances, multiple equipment may share the same graphic box. Each equipment number, description and location are listed under the box. All connections go to identical interfaces on each box, except that the connector numbers will be unique for each box.

E. Circuits and References

The lines between the equipment boxes on schematics show all pin-to-pin connections between the LRU's and do not show individual wire segments or indicate the complete wiring hookup. When possible, the complete circuit is shown on the home schematic. When the circuit can not be shown complete on the home schematic, a reference is made to indicate where the user will find the other portion(s). For all incomplete circuits, a branched wire off a common point is shown with an ATA reference to the schematic showing the other portions of the circuit. The referenced schematic will repeat at least one pin of the circuit and have a reference back to the home schematic to complete the circuit. Schematic references in wires/lines indicate the circuit may not be shown complete, but is shown on another system schematic and is duplicated on this schematic.

To improve clarity, some wires are grouped into a single wire with a brace at each end. The pins on each end correlate one for one at each end of the wire.

Circuits that cross the binding edge to an adjacent schematic sheet are drawn to line up at the edge of the schematic and are lettered. Mechanical lines that cross the binding edge are numbered.

To improve clarity, connections between points on a schematic which are remote from each other, may be shown with circles around them (bubbles). Bubbles may also be used to connect points from one schematic to another. Combining bubbles connects the circuit. The letters in the bubbles are unique for that schematic and all referenced schematics. Tubing and mechanical lines that are referenced using bubbles are numbered.

F. Connectors

The connector equipment number is shown for connectors mating to each LRU. This equipment number is placed just above the pin numbers and usually begins with the letter "D". If multiple connectors mate with the equipment, a letter suffix is added to correlate the connector to the LRU receptacle (e.g., A = J1, B = J2). If this correlation is not followed, the receptacle number is added in parentheses next to the connector number. ARINC 600 connector equipment item numbers are shown on schematics without a suffix letter. In the WDM Equipment List an ARINC 600 connector equipment item number is shown without a suffix letter followed by the same equipment item number with suffix letters. The first suffix letter indicates the section of the connector, e.g. A, B, C. The second letter indicates the kind of contact(s) in that section. See the WDM Equipment List for a description of contacts.

Where the connector numbers differ on each half of a disconnect, both numbers are shown separated by a / (slash).

Pin and socket lower case letter identifiers are indicated by an upper case letter followed by a minus sign (-), (e.g. F- = f). If there is no terminal number marked on the part, the pin number is assigned by Boeing and is prefaced with an = (equal), (e.g., =P for power, =G for ground). Coaxial contacts are identified with the contact number followed by a T (for Tip) or TR (for Tip Ring).

Where the access to the connector pin is very limited and the LRU is easily replaceable (i.e., a Line Replaceable circuit card in a card cabinet), the connector number and the pin numbers for the card interface are not shown.

In-line disconnects and pin numbers are shown on system schematics only if required for fault isolation (i.e., component pigtails are removed at the disconnect).

G. Locations

The location of each Equipment Item is shown through the use of illustrations and/or in parentheses following the Equipment Description. This location may be a panel or rack number, a general word location based on airplane zone or door location, or three-point coordinates based on one of the airplane reference planes. Word locations or three-point coordinates may not be shown when an illustration is used to show location.

H. Data Buses

A parallel line data bus symbol, with an arrow to indicate the direction of the data flow, represents the data bus connection between the LRU's. To depict connectivity, the pin numbers on each bus termination are listed in the same order (i.e., the top pin shown on an LRU physically connects to the top pin shown on every other connected LRU). The pin(s) are arranged in a logical order (i.e., the signal "high" is on top, the ARINC 429 "A" connections are on top, or the most significant to the least significant bit). Note that this logical order may sometimes result in pin numbers being out of numerical sequence. To improve clarity, data buses that are internal to the equipment are shown as single lines with an arrow.

I. Airplane Illustrations

General airplane dimensions and locations are included in the 00 section of the SSM. These are intended to provide a general overview of the airplane along with location information for common equipment. Examples of the items found in this section are:

- Flight deck panel locations, including illustrations of the front of the panels.
- Equipment rack locations, including the location of the equipment on the rack.

- Circuit breaker panel locations, including the location of the circuit breakers.

J. Purpose of Illustrations on Schematics

Illustrations are included on many schematics to assist the user in locating and recognizing the component in the airplane. These illustrations are to be used in conjunction with the introductory illustrations. They are not intended to provide sufficient detail to allow component removal or installation information; these details are included in the Boeing Airplane Maintenance Manuals.

K. Wire Diagram Reference Box

To assist the user in cross referencing to the appropriate wire diagram(s), a wire diagram reference box is placed in the upper-right corner on each schematic that depicts wiring connectivity. This box contains a listing of all of the wire diagrams that depict the circuits shown on that schematic. Circuits duplicated on this schematic are not listed in the reference box; they are listed on the home schematic for the circuit.

3. SYMBOLS

Symbols are used wherever possible to convey system function. The most commonly used symbols are shown on the Symbol pages in the General Chapter, 00-00-00.