

CHAPTER

30

ICE AND RAIN PROTECTION



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

CHAPTER 30
ICE AND RAIN PROTECTION

Subject/Page	Date	COC	Subject/Page	Date	COC	Subject/Page	Date	COC
30-EFFECTIVE PAGES			30-00-00 (cont)			30-11-11 (cont)		
1 thru 4	JUN 15/2016		R 924	Jun 15/2016		504	Oct 15/2015	
30-CONTENTS			O 925	Jun 15/2016		30-11-12		
O 1	Jun 15/2016		O 926	Jun 15/2016		R 401	Jun 15/2016	
O 2	Jun 15/2016		O 927	Jun 15/2016		O 402	Jun 15/2016	
3	Feb 15/2015		R 928	Jun 15/2016		403	Oct 15/2015	
R 4	Jun 15/2016		R 929	Jun 15/2016		404	Oct 15/2015	
	5 Feb 15/2016		O 930	Jun 15/2016		R 405	Jun 15/2016	
	6 Feb 15/2016		A 931	Jun 15/2016		R 406	Jun 15/2016	
	7 Feb 15/2016		A 932	Jun 15/2016		A 407	Jun 15/2016	
	8 Feb 15/2016		30-11-00			A 408	BLANK	
	9 Feb 15/2016		R 201	Jun 15/2016		30-11-12		
	10 Feb 15/2016		O 202	Jun 15/2016		501	Jun 15/2015	
30-00-00			203	Oct 15/2015		502	Oct 15/2014	
901	Oct 15/2014		R 204	Jun 15/2016		503	Jun 15/2015	
902	Oct 15/2014		30-11-00			504	Oct 15/2015	
903	Oct 15/2014		501	Jun 15/2015		505	Oct 15/2015	
904	Oct 15/2014		502	Feb 15/2015		506	Oct 15/2015	
905	Oct 15/2014		503	Feb 15/2015		30-11-21		
906	Oct 15/2014		504	Feb 15/2015		401	Oct 15/2014	
907	Oct 15/2015		505	Jun 15/2015		402	Oct 15/2014	
908	Oct 15/2014		506	Oct 15/2015		403	Oct 15/2015	
909	Oct 15/2014		507	Feb 15/2016		404	Jun 15/2015	
910	Oct 15/2014		508	Feb 15/2016		405	Jun 15/2015	
911	Oct 15/2014		509	Jun 15/2015		406	BLANK	
R 912	Jun 15/2016		510	BLANK		30-11-31		
R 913	Jun 15/2016		30-11-11			401	Oct 15/2014	
O 914	Jun 15/2016		401	Jun 15/2015		402	Oct 15/2014	
O 915	Jun 15/2016		402	Jun 15/2015		403	Oct 15/2015	
O 916	Jun 15/2016		403	Oct 15/2015		404	Oct 15/2015	
O 917	Jun 15/2016		404	Feb 15/2016		405	Feb 15/2016	
R 918	Jun 15/2016		405	Feb 15/2015		406	Feb 15/2015	
R 919	Jun 15/2016		406	Jun 15/2015		407	Feb 15/2015	
O 920	Jun 15/2016		30-11-11			408	Feb 15/2015	
O 921	Jun 15/2016		501	Jun 15/2015		409	Feb 15/2015	
O 922	Jun 15/2016		502	Oct 15/2014		410	Feb 15/2015	
R 923	Jun 15/2016		503	Jun 15/2015		411	Feb 15/2015	

A = Added, R = Revised, D = Deleted, O = Overflow, C = Customer Originated Change

30-EFFECTIVE PAGES



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

CHAPTER 30
ICE AND RAIN PROTECTION

Subject/Page	Date	COC	Subject/Page	Date	COC	Subject/Page	Date	COC
30-11-31 (cont)			30-21-00 (cont)			30-31-00 (cont)		
412	Oct 15/2015		504	Jun 15/2015		505	Feb 15/2015	
413	Oct 15/2015		505	Oct 15/2015		506	Jun 15/2015	
414	Oct 15/2015		506	Oct 15/2015		507	Oct 15/2015	
415	Oct 15/2015	30-21-11				508	BLANK	
416	Oct 15/2015	R 401	Jun 15/2016			30-41-00		
417	Feb 15/2016	R 402	Jun 15/2016			201	Feb 15/2016	
418	Feb 15/2015	403	Oct 15/2015			202	Feb 15/2016	
419	Feb 15/2015	404	Oct 15/2015			203	Feb 15/2016	
420	Feb 15/2015	405	Jun 15/2015			204	BLANK	
421	Feb 15/2015	R 406	Jun 15/2016			30-41-00		
422	BLANK	O 407	Jun 15/2016			R 501	Jun 15/2016	
30-11-31		R 408	Jun 15/2016			502	Feb 15/2015	
601	Oct 15/2014	O 409	Jun 15/2016			503	Feb 15/2015	
602	Oct 15/2014	O 410	Jun 15/2016			504	Feb 15/2016	
603	Oct 15/2015	30-21-11				505	Feb 15/2016	
604	Oct 15/2015	R 701	Jun 15/2016			506	Feb 15/2016	
30-11-41		R 702	Jun 15/2016			30-41-00		
R 401	Jun 15/2016	R 703	Jun 15/2016			601	Feb 15/2016	
O 402	Jun 15/2016	R 704	Jun 15/2016			602	Feb 15/2016	
403	Oct 15/2015	30-21-21				603	Feb 15/2016	
R 404	Jun 15/2016	R 401	Jun 15/2016			604	Oct 15/2015	
R 405	Jun 15/2016	O 402	Jun 15/2016			605	Oct 15/2015	
406	BLANK	403	Oct 15/2015			606	BLANK	
30-11-41		R 404	Jun 15/2016			30-41-00		
501	Jun 15/2015	R 405	Jun 15/2016			801	Jun 15/2015	
502	Oct 15/2014	R 406	Jun 15/2016			802	Jun 15/2015	
R 503	Jun 15/2016	30-31-00				803	Oct 15/2015	
R 504	Jun 15/2016	201	Feb 15/2015			804	BLANK	
O 505	Jun 15/2016	202	Feb 15/2016			30-41-11		
O 506	Jun 15/2016	203	Feb 15/2016			401	Feb 15/2016	
A 507	Jun 15/2016	204	Feb 15/2016			402	Feb 15/2016	
A 508	BLANK	30-31-00				403	Feb 15/2016	
30-21-00		501	Jun 15/2015			404	Feb 15/2016	
501	Jun 15/2015	502	Oct 15/2014			405	Feb 15/2016	
502	Jun 15/2015	503	Jun 15/2015			406	Feb 15/2016	
503	Jun 15/2015	504	Feb 15/2015			407	Feb 15/2016	

A = Added, R = Revised, D = Deleted, O = Overflow, C = Customer Originated Change

30-EFFECTIVE PAGES



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

CHAPTER 30
ICE AND RAIN PROTECTION

Subject/Page	Date	COC	Subject/Page	Date	COC	Subject/Page	Date	COC
30-41-11 (cont)			30-42-00			30-42-31 (cont)		
R 408	Jun 15/2016		201	Feb 15/2016		211	Feb 15/2016	
409	Feb 15/2016		202	Feb 15/2016		212	Feb 15/2016	
410	Feb 15/2016		203	Oct 15/2015		213	Feb 15/2016	
30-41-11			204	Feb 15/2016		214	Feb 15/2016	
501	Jun 15/2015		30-42-00			30-43-00		
502	Feb 15/2016		501	Feb 15/2016		201	Feb 15/2016	
503	Feb 15/2016		502	Feb 15/2016		202	Feb 15/2016	
504	Feb 15/2016		503	Feb 15/2016		30-71-00		
R 505	Jun 15/2016		504	Oct 15/2015		201	Feb 15/2015	
R 506	Jun 15/2016		30-42-11			R 202	Jun 15/2016	
30-41-21			401	Oct 15/2014		203	Feb 15/2015	
501	Feb 15/2016		402	Jun 15/2015		204	Feb 15/2015	
502	Feb 15/2016		403	Oct 15/2015		205	Oct 15/2015	
503	Feb 15/2016		404	Jun 15/2015		206	Oct 15/2015	
504	Feb 15/2016		405	Oct 15/2014		207	Oct 15/2015	
505	Feb 15/2016		406	BLANK		208	Feb 15/2015	
R 506	Jun 15/2016		30-42-21			30-71-00		
O 507	Jun 15/2016		401	Feb 15/2016		R 501	Jun 15/2016	
O 508	Jun 15/2016		402	Feb 15/2016		502	Feb 15/2015	
509	Feb 15/2016		403	Feb 15/2016		R 503	Jun 15/2016	
510	Feb 15/2016		404	Oct 15/2015		504	Feb 15/2015	
511	Feb 15/2016		405	Oct 15/2015		505	Feb 15/2015	
512	Feb 15/2016		406	Feb 15/2016		506	Oct 15/2015	
513	Feb 15/2016		407	Feb 15/2015		507	Oct 15/2015	
514	Feb 15/2016		408	Feb 15/2016		508	Oct 15/2015	
R 515	Jun 15/2016		30-42-31			30-71-01		
O 516	Jun 15/2016		201	Feb 15/2016		401	Oct 15/2014	
517	Feb 15/2016		202	Feb 15/2016		402	Oct 15/2014	
518	BLANK		203	Oct 15/2015		403	Oct 15/2015	
30-41-41			204	Oct 15/2015		404	Oct 15/2015	
401	Feb 15/2016		205	Feb 15/2016		405	Oct 15/2015	
402	Feb 15/2016		206	Feb 15/2016		406	Jun 15/2015	
403	Oct 15/2015		207	Feb 15/2016		30-71-02		
404	Feb 15/2016		208	Feb 15/2016		401	Oct 15/2014	
405	Feb 15/2016		209	Feb 15/2016		402	Oct 15/2014	
406	Feb 15/2016		210	Feb 15/2016		403	Oct 15/2015	

A = Added, R = Revised, D = Deleted, O = Overflow, C = Customer Originated Change

30-EFFECTIVE PAGES



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

CHAPTER 30
ICE AND RAIN PROTECTION

Subject/Page	Date	COC	Subject/Page	Date	COC	Subject/Page	Date	COC
30-71-02 (cont)			30-81-00					
404	Oct 15/2015		501	Jun 15/2015				
405	Jun 15/2015		R 502	Jun 15/2016				
406	Jun 15/2015		R 503	Jun 15/2016				
30-71-03			504	BLANK				
401	Oct 15/2014		30-81-01					
402	Oct 15/2014		401	Feb 15/2016				
403	Oct 15/2015		402	Feb 15/2016				
404	Jun 15/2015		403	Oct 15/2015				
405	Jun 15/2015		404	Oct 15/2015				
406	BLANK		30-81-02					
30-71-04			R 401	Jun 15/2016				
401	Oct 15/2014		402	Oct 15/2015				
402	Oct 15/2014		R 403	Jun 15/2016				
403	Oct 15/2015		R 404	Jun 15/2016				
R 404	Jun 15/2016							
405	Oct 15/2014							
406	BLANK							
30-71-05								
401	Oct 15/2014							
402	BLANK							
30-71-06								
401	Oct 15/2014							
402	Oct 15/2014							
403	Oct 15/2015							
404	Oct 15/2015							
R 405	Jun 15/2016							
406	Jun 15/2015							
407	Jun 15/2015							
408	BLANK							
30-81-00								
201	Feb 15/2015							
202	Oct 15/2015							
203	Feb 15/2015							
204	BLANK							

A = Added, R = Revised, D = Deleted, O = Overflow, C = Customer Originated Change

30-EFFECTIVE PAGES



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

CHAPTER 30
ICE AND RAIN PROTECTION

<u>SUBJECT</u>	<u>CHAPTER</u>	<u>SECTION</u>	<u>SUBJECT</u>	<u>CONF</u>	<u>PAGE</u>	<u>EFFECT</u>
ICE AND RAIN PROTECTION - DDG MAINTENANCE			30-00-00		901	AKS ALL
PROCEDURES						
MMEL 30-01 (DDPG) Preparation - Wing Anti-Ice Valves Inoperative					901	AKS ALL
TASK 30-00-00-040-801						
MMEL 30-01 (DDPG) Restoration - Wing Anti-Ice Valves Inoperative					908	AKS ALL
TASK 30-00-00-440-801						
MMEL 30-02 (DDPG) Preparation - Wing Anti-Ice Valve Position Lights Inoperative					910	AKS ALL
TASK 30-00-00-040-802						
MMEL 30-02 (DDPG) Restoration - Wing Anti-Ice Valve Position Lights Inoperative					911	AKS ALL
TASK 30-00-00-440-802						
MMEL 30-03 (DDPG) Preparation - Engine and Nose Cowl Anti-Ice Valves Inoperative					912	AKS ALL
TASK 30-00-00-040-803						
MMEL 30-03 (DDPG) Restoration - Engine and Nose Cowl Anti-Ice Valves Inoperative					918	AKS ALL
TASK 30-00-00-440-803						
MMEL 30-09 (DDPG) Preparation - Pitot, Pitot/Static and Temperature Probe Heater Lights Inoperative					920	AKS ALL
TASK 30-00-00-040-805						
MMEL 30-09 (DDPG) Restoration - Pitot, Pitot/Static and Temperature Probe Heater Lights Inoperative					920	AKS ALL
TASK 30-00-00-440-805						
MMEL 30-13 (DDPG) Preparation - Windshield Wiper System Inoperative					921	AKS ALL
TASK 30-00-00-040-806						
MMEL 30-13 (DDPG) Restoration - Windshield Wiper System Inoperative					922	AKS ALL
TASK 30-00-00-440-806						
MMEL 30-17 (DDPG) Preparation - Cowl Anti-Ice Lights Inoperative					923	AKS ALL
TASK 30-00-00-040-809						

30-CONTENTS



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

CHAPTER 30
ICE AND RAIN PROTECTION

SUBJECT	CHAPTER SECTION	SUBJECT	CONF	PAGE	EFFECT
MMEL 30-17 (DDPG) Restoration - Cowl Anti-Ice Lights Inoperative TASK 30-00-00-440-809			928		AKS ALL
MMEL 30-18 (DDPG) Preparation - Alpha Vane Heater Light Inoperative TASK 30-00-00-040-807			930		AKS ALL
MMEL 30-18 (DDPG) Restoration - Alpha Vane Heater Light Inoperative TASK 30-00-00-440-807			930		AKS ALL
MMEL 30-19 (DDPG) Preparation - Drain Mast Heaters Inoperative TASK 30-00-00-040-808			931		AKS ALL
MMEL 30-19 (DDPG) Restoration - Drain Mast Heater Inoperative TASK 30-00-00-440-808			931		AKS ALL
<u>WING THERMAL ANTI-ICING - MAINTENANCE PRACTICES</u>	30-11-00		201		AKS ALL
Wing Thermal Anti-Icing - Deactivation TASK 30-11-00-040-801			201		AKS ALL
Wing Thermal Anti-Icing - Activation TASK 30-11-00-440-801			204		AKS ALL
<u>WING THERMAL ANTI-ICING - ADJUSTMENT/TEST</u>	30-11-00		501		AKS ALL
Wing Anti-Ice - Operational Test TASK 30-11-00-710-801			501		AKS ALL
Wing Anti-Icing Duct - Leak Test TASK 30-11-00-790-801			508		AKS ALL
<u>WING THERMAL ANTI-ICING SHUTOFF VALVE - REMOVAL/INSTALLATION</u>	30-11-11		401		AKS ALL
Wing Thermal Anti-Icing Shutoff Valve Removal TASK 30-11-11-000-801			401		AKS ALL
Wing Thermal Anti-Icing Shutoff Valve Installation TASK 30-11-11-400-801			404		AKS ALL
<u>WING THERMAL ANTI-ICING SHUTOFF VALVE - ADJUSTMENT/TEST</u>	30-11-11		501		AKS ALL
Wing Thermal Anti Icing Shutoff Valve Test TASK 30-11-11-710-801			501		AKS ALL

30-CONTENTS



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

CHAPTER 30
ICE AND RAIN PROTECTION

<u>SUBJECT</u>	<u>CHAPTER</u>	<u>SECTION</u>	<u>SUBJECT</u>	<u>CONF</u>	<u>PAGE</u>	<u>EFFECT</u>
<u>GROUND WING THERMAL ANTI-ICING SOLENOID</u>	30-11-12				401	AKS ALL
<u>VALVE - REMOVAL/INSTALLATION</u>						
Ground Wing Thermal Anti-Icing Solenoid Valve Removal					401	AKS ALL
TASK 30-11-12-000-801						
Ground Wing Thermal Anti-Icing Solenoid Valve Installation					405	AKS ALL
TASK 30-11-12-400-801						
<u>GROUND WING THERMAL ANTI-ICING SOLENOID</u>	30-11-12				501	AKS ALL
<u>VALVE - ADJUSTMENT/TEST</u>						
Ground Wing Thermal Anti-Icing (TAI) Solenoid Valve Test					501	AKS ALL
TASK 30-11-12-710-801						
<u>WING ANTI-ICING GROUND OVERHEAT THERMAL SWITCH - REMOVAL/INSTALLATION</u>	30-11-21				401	AKS ALL
Wing Anti-Icing Ground Overheat Thermal Switch Removal					401	AKS ALL
TASK 30-11-21-000-801						
Wing Anti-Icing Ground Overheat Thermal Switch Installation					404	AKS ALL
TASK 30-11-21-400-801						
<u>WING ANTI-ICE TELESCOPING DUCT - REMOVAL/INSTALLATION</u>	30-11-31				401	AKS ALL
Wing Anti-Ice Telescoping Duct Seal Removal					401	AKS ALL
TASK 30-11-31-000-801						
Wing Anti-Ice Telescoping Duct Seal Installation					405	AKS ALL
TASK 30-11-31-400-801						
Wing Anti-Ice Telescoping Duct Removal					409	AKS ALL
TASK 30-11-31-000-802						
Wing Anti-Ice Telescoping Duct Installation					417	AKS ALL
TASK 30-11-31-400-802						
<u>WING ANTI-ICE TELESCOPING DUCT - INSPECTION/CHECK</u>	30-11-31				601	AKS ALL
Wing Anti-Ice Telescoping Duct Check					601	AKS ALL
TASK 30-11-31-200-801						

30-CONTENTS



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

CHAPTER 30
ICE AND RAIN PROTECTION

<u>SUBJECT</u>	<u>CHAPTER</u>	<u>SECTION</u>	<u>SUBJECT</u>	<u>CONF</u>	<u>PAGE</u>	<u>EFFECT</u>
<u>ENGINE AND WING ANTI-ICE PANEL - REMOVAL/INSTALLATION</u>	30-11-41		Engine and Wing Anti-Ice Panel Removal TASK 30-11-41-000-801		401	AKS ALL
			Engine and Wing Anti-Ice Panel Installation TASK 30-11-41-400-801		404	AKS ALL
<u>ENGINE AND WING ANTI-ICE PANEL - ADJUSTMENT/TEST</u>	30-11-41				501	AKS ALL
			Engine and Wing Thermal Anti-Ice Panel (P5-11) Test TASK 30-11-41-710-801		501	AKS ALL
<u>ENGINE COWL ANTI-ICING SYSTEM - ADJUSTMENT/TEST</u>	30-21-00		Engine Cowl Anti-Icing - Operational Test TASK 30-21-00-710-801		501	AKS ALL
<u>ENGINE COWL TAI VALVE - REMOVAL/INSTALLATION</u>	30-21-11		Engine Cowl TAI Valve Removal TASK 30-21-11-000-801		401	AKS ALL
			Engine Cowl TAI Valve Installation TASK 30-21-11-400-801		405	AKS ALL
<u>ENGINE COWL TAI VALVE - CLEANING/PAINTING</u>	30-21-11		Honest Orifice - Cleaning TASK 30-21-11-100-801		701	AKS ALL; AIRPLANES WITH ENGINE COWL TAI VALVE P/N 3215618-5
					701	AKS ALL; AIRPLANES WITH ENGINE COWL TAI VALVE P/N 3215618-5
<u>ENGINE ANTI-ICE PRESSURE SENSOR - REMOVAL/INSTALLATION</u>	30-21-21		Engine Anti-Ice Pressure Sensor Removal TASK 30-21-21-000-802		401	AKS ALL
			Engine Anti-Ice Pressure Sensor Installation TASK 30-21-21-400-801		404	AKS ALL

30-CONTENTS



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

CHAPTER 30
ICE AND RAIN PROTECTION

<u>SUBJECT</u>	<u>CHAPTER</u>	<u>SECTION</u>	<u>SUBJECT</u>	<u>CONF</u>	<u>PAGE</u>	<u>EFFECT</u>
<u>AIR DATA SENSOR ANTI-ICING - MAINTENANCE PRACTICES</u>	30-31-00				201	AKS ALL
Pitot Probe, AOA Sensor, and TAT Probe Heater Replacement					201	AKS ALL
TASK 30-31-00-900-801						
AOA Vane, Pitot, Elevator Pitot, Temperature Probes - Deactivation					202	AKS ALL
TASK 30-31-00-040-801						
AOA Vane, Pitot, Elevator Pitot, Temperature Probes - Activation					203	AKS ALL
TASK 30-31-00-440-801						
<u>AIR DATA SENSOR ANTI-ICING - ADJUSTMENT/TEST</u>	30-31-00				501	AKS ALL
AUTO Air Data Sensor heating - Operational Test					501	AKS ALL
TASK 30-31-00-750-801						
Pitot Probe, AOA Sensor, and TAT Probe Heater - System Test					503	AKS ALL
TASK 30-31-00-730-801						
<u>CONTROL CABIN WINDOW HEAT - MAINTENANCE PRACTICES</u>	30-41-00				201	AKS ALL
Control Cabin Window Heat - Deactivation					201	AKS ALL
TASK 30-41-00-040-801						
Control Cabin Window Heat - Activation					202	AKS ALL
TASK 30-41-00-440-801						
<u>CONTROL CABIN WINDOW ANTI-ICING SYSTEM - ADJUSTMENT/TEST</u>	30-41-00				501	AKS ALL
Window Heat System - Operational Test					501	AKS ALL
TASK 30-41-00-710-801						
<u>CONTROL CABIN WINDOW ANTI-ICE SYSTEM - COIL CORD - INSPECTION/CHECK</u>	30-41-00				601	AKS ALL
Coil Cord - Inspection					601	AKS ALL
TASK 30-41-00-200-801						

30-CONTENTS



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

CHAPTER 30
ICE AND RAIN PROTECTION

<u>SUBJECT</u>	<u>CHAPTER</u>	<u>SECTION</u>	<u>SUBJECT</u>	<u>CONF</u>	<u>PAGE</u>	<u>EFFECT</u>
<u>CONTROL CABIN WINDOW ANTI-ICING SYSTEM - REPAIRS</u>	30-41-00		Control Cabin Window Temperature Sensor - Repairs		801	AKS ALL
			TASK 30-41-00-420-801		801	AKS ALL
<u>WINDOW HEAT CONTROL UNIT - REMOVAL/INSTALLATION</u>	30-41-11		Window Heat Control Unit (WHCU) Removal		401	AKS ALL
			TASK 30-41-11-000-801		401	AKS 001-022
			Window Heat Control Unit (WHCU) Installation		404	AKS 001-022
			TASK 30-41-11-400-801		404	
			Window Heat Control Unit (WHCU) Removal		406	AKS 023-999
			TASK 30-41-11-000-803		406	
			Window Heat Control Unit (WHCU) Installation		409	AKS 023-999
			TASK 30-41-11-400-803		409	
<u>WINDOW HEAT CONTROL UNIT - ADJUSTMENT/TEST</u>	30-41-11				501	AKS ALL
			Window Heat Control Unit System Test		501	AKS ALL
			TASK 30-41-11-710-801		501	
<u>WINDOW HEAT CONDUCTIVE COATING AND SENSOR - ADJUSTMENT/TEST</u>	30-41-21				501	AKS ALL
			Check the Electrical Resistance of the Window Heat Film		501	AKS 001-022
			TASK 30-41-21-000-801		501	
			Measure the Resistance of the Window Temperature Sensors		506	AKS 001-022
			TASK 30-41-21-760-801		506	
			Check the Electrical Resistance of the Window Heat Film		511	AKS 023-999
			TASK 30-41-21-760-802		511	
			Measure the Resistance of the Window Temperature Sensors		515	AKS 023-999
			TASK 30-41-21-760-803		515	

30-CONTENTS



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

CHAPTER 30
ICE AND RAIN PROTECTION

SUBJECT	CHAPTER SECTION	SUBJECT	CONF	PAGE	EFFECT
<u>WINDOW/PITOT HEAT MODULE (P5-9) - REMOVAL/INSTALLATION</u>	30-41-41			401	AKS ALL
Window/Pitot Heat Module (P5-9) Removal TASK 30-41-41-000-801				401	AKS ALL
Window/Pitot Heat Module (P5-9) Installation TASK 30-41-41-400-801				404	AKS ALL
<u>WINDSHIELD WIPER SYSTEM - MAINTENANCE PRACTICES</u>	30-42-00			201	AKS ALL
Windshield Wiper System - Deactivation TASK 30-42-00-040-801				201	AKS ALL
Windshield Wiper System - Activation TASK 30-42-00-440-801				204	AKS ALL
<u>WINDSHIELD WIPER SYSTEM - ADJUSTMENT/TEST</u>	30-42-00			501	AKS ALL
Windshield Wiper System - Operational Test TASK 30-42-00-700-801				501	AKS ALL
<u>WINDSHIELD WIPER BLADE - REMOVAL/INSTALLATION</u>	30-42-11			401	AKS ALL
Windshield Wiper Blade Removal TASK 30-42-11-020-801				401	AKS ALL
Windshield Wiper Blade Installation TASK 30-42-11-400-801				404	AKS ALL
<u>WINDSHIELD WIPER MOTOR/CONVERTER - REMOVAL/INSTALLATION</u>	30-42-21			401	AKS ALL
Wiper Motor/Converter Removal TASK 30-42-21-000-801				401	AKS ALL
Wiper Motor/Converter Installation TASK 30-42-21-400-801				406	AKS ALL
<u>WINDSHIELD WIPER ARM - MAINTENANCE PRACTICES</u>	30-42-31			201	AKS ALL
Windshield Wiper Arm Removal TASK 30-42-31-000-801				201	AKS ALL
Windshield Wiper Arm Installation TASK 30-42-31-400-801				205	AKS ALL

30-CONTENTS



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

CHAPTER 30
ICE AND RAIN PROTECTION

<u>SUBJECT</u>	<u>CHAPTER</u>	<u>SECTION</u>	<u>SUBJECT</u>	<u>CONF</u>	<u>PAGE</u>	<u>EFFECT</u>
Windshield Wiper Arm Force Check/Adjustment TASK 30-42-31-820-801					208	AKS ALL
Windshield Wiper Arm Position Check/Adjustment TASK 30-42-31-820-802					211	AKS ALL
<u>WINDSHIELD HYDROPHOBIC COATING -</u> <u>MAINTENANCE PRACTICES</u>	30-43-00				201	AKS ALL
Hydrophobic Coating Maintenance Practices TASK 30-43-00-800-801					201	AKS ALL
<u>WATER AND DRAIN ANTI-ICING SYSTEM -</u> <u>MAINTENANCE PRACTICES</u>	30-71-00				201	AKS ALL
Water and Drain Operation with 115 Volts on the Ground TASK 30-71-00-800-801					201	AKS ALL
Drain Heaters - Deactivation TASK 30-71-00-040-801					202	AKS ALL
Drain Heaters - Activation TASK 30-71-00-440-801					208	AKS ALL
<u>DRAIN AND WATER SUPPLY LINE HEATING -</u> <u>ADJUSTMENT/TEST</u>	30-71-00				501	AKS ALL
Drain Mast Heater Ground and Air Mode Test TASK 30-71-00-720-801					501	AKS ALL
Water and Drain Heater Tests TASK 30-71-00-720-802					503	AKS ALL
<u>POTABLE WATER FILL FITTING HEATER -</u> <u>REMOVAL/INSTALLATION</u>	30-71-01				401	AKS ALL
Potable Water Fill Fitting Heater Removal TASK 30-71-01-000-801					401	AKS ALL
Potable Water Fill Fitting Heater Installation TASK 30-71-01-400-801					405	AKS ALL
<u>GRAY WATER DRAIN LINE HEATER -</u> <u>REMOVAL/INSTALLATION</u>	30-71-02				401	AKS ALL
Gray Water Drain Line Heater Removal TASK 30-71-02-000-801					401	AKS ALL
Gray Water Drain Line Heater Installation TASK 30-71-02-400-801					405	AKS ALL

30-CONTENTS



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

CHAPTER 30
ICE AND RAIN PROTECTION

<u>SUBJECT</u>	<u>CHAPTER</u>	<u>SECTION</u>	<u>SUBJECT</u>	<u>CONF</u>	<u>PAGE</u>	<u>EFFECT</u>
<u>WASTE DRAIN LINE HEATER - REMOVAL/INSTALLATION</u>	30-71-03		401			AKS ALL
Waste Drain Line Heater Removal TASK 30-71-03-000-801			401			AKS ALL
Waste Drain Line Heater Installation TASK 30-71-03-400-801			404			AKS ALL
<u>WASTE TANK RINSE FITTING HEATER - REMOVAL/INSTALLATION</u>	30-71-04		401			AKS ALL
Waste Tank Rinse Fitting Heater Removal TASK 30-71-04-000-801			401			AKS ALL
Waste Tank Rinse Fitting Heater Installation TASK 30-71-04-400-801			404			AKS ALL
<u>DRAIN MAST HEATERS - REMOVAL/INSTALLATION</u>	30-71-05		401			AKS ALL
Drain Mast Heater Replacement TASK 30-71-05-900-801			401			AKS ALL
<u>HEATED POTABLE WATER HOSES - REMOVAL/INSTALLATION</u>	30-71-06		401			AKS ALL
Heated Potable Water Hose Removal TASK 30-71-06-000-801			401			AKS ALL
Heated Potable Water Hose Installation TASK 30-71-06-400-801			405			AKS ALL
<u>ICE DETECTION SYSTEM - MAINTENANCE PRACTICES</u>	30-81-00		201			AKS ALL
Ice Detection System - Deactivation TASK 30-81-00-040-801			201			AKS ALL
Ice Detection System - Activation TASK 30-81-00-440-801			203			AKS ALL
<u>ICE DETECTION SYSTEM - ADJUSTMENT/TEST</u>	30-81-00		501			AKS ALL
Ice Detection System - Operational Test TASK 30-81-00-710-801			501			AKS ALL
<u>ICE DETECTOR PROBE - REMOVAL/INSTALLATION</u>	30-81-01		401			AKS ALL
Ice Detector Probe Removal TASK 30-81-01-000-801			401			AKS ALL

30-CONTENTS



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

CHAPTER 30
ICE AND RAIN PROTECTION

<u>SUBJECT</u>	<u>CHAPTER</u>	<u>SECTION</u>	<u>SUBJECT</u>	<u>CONF</u>	<u>PAGE</u>	<u>EFFECT</u>
Ice Detector Probe Installation TASK 30-81-01-400-801					404	AKS ALL
ICE DETECTOR SYSTEM LOGIC MODULE - REMOVAL/INSTALLATION	30-81-02				401	AKS ALL
Ice Detector System Logic Module Removal TASK 30-81-02-000-801					401	AKS ALL
Ice Detector System Logic Module Installation TASK 30-81-02-400-801					403	AKS ALL

30-CONTENTS



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

ICE AND RAIN PROTECTION - DDG MAINTENANCE PROCEDURES

1. General

- A. This procedure has the maintenance tasks for the Master Minimum Equipment List (MMEL) maintenance requirements as shown in the Dispatch Deviations Procedures Guide (DDPG). These tasks prepare the airplane for flight with systems/components that are inoperative.
- B. This procedure also has the tasks that put the airplane back to its usual condition.
- C. These are the tasks for the components in the ice and rain protection system.
 - (1) MMEL 30-01 (DDPG) Preparation - Wing Anti-Ice Valves Inoperative
 - (2) MMEL 30-01 (DDPG) Restoration - Wing Anti-Ice Valves Inoperative
 - (3) MMEL 30-02 (DDPG) Preparation - Wing Anti-Ice Valve Position Lights Inoperative
 - (4) MMEL 30-02 (DDPG) Restoration - Wing Anti-Ice Valve Position Lights Inoperative
 - (5) MMEL 30-03 (DDPG) Preparation - Engine and Nose Cowl Anti-Ice Valves Inoperative
 - (6) MMEL 30-03 (DDPG) Restoration - Engine and Nose Cowl Anti-Ice Valves Inoperative
 - (7) MMEL 30-09 (DDPG) Preparation - Pitot, Pitot/Static and Temperature Probe Heater Lights Inoperative
 - (8) MMEL 30-09 (DDPG) Restoration - Pitot, Pitot/Static and Temperature Probe Heater Lights Inoperative
 - (9) MMEL 30-13 (DDPG) Preparation - Windshield Wiper Systems Inoperative
 - (10) MMEL 30-13 (DDPG) Restoration - Windshield Wiper Systems Inoperative
 - (11) MMEL 30-17 (DDPG) Preparation - Cowl Anti-Ice Lights Inoperative
 - (12) MMEL 30-17 (DDPG) Restoration - Cowl Anti-Ice Lights Inoperative
 - (13) MMEL 30-18 (DDPG) Preparation - Alpha Vane Heater Light Inoperative
 - (14) MMEL 30-18 (DDPG) Restoration - Alpha Vane Heater Light Inoperative
 - (15) MMEL 30-19 (DDPG) Preparation - Drain Mast Heater Inoperative
 - (16) MMEL 30-19 (DDPG) Restoration - Drain Mast Heater Inoperative

TASK 30-00-00-040-801

2. MMEL 30-01 (DDPG) Preparation - Wing Anti-Ice Valves Inoperative
(Figure 901)

A. General

- (1) This task gives the maintenance steps which prepare the airplane for flight with the wing anti-ice valves inoperative.
- (2) The location of the wing anti-ice valve relative to the engine exhaust area prohibits personnel from accessing the valve when the associated engine is running.

B. References

Reference	Title
27-81-00-080-801	Leading Edge Flap and Slat Locks Removal (P/B 201)
27-81-00-480-801	Leading Edge Flap and Slat Locks Installation (P/B 201)
71-00-00-800-807-F00	Start the Engine Procedure (Selection) (P/B 201)



30-00-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

C. Location Zones

Zone	Area
522	Left Wing - Slat No. 4
622	Right Wing - Slat No. 5

D. Access Panels

Number	Name/Location
521AB	Outboard Leading Edge Blowout Door - Slat Station 20.04
621AB	Outboard Leading Edge Blowout Door - Slat Station 20.04

E. Prepare to Dispatch With a Wing Anti-Ice Valve Closed

SUBTASK 30-00-00-840-001

- (1) Prepare to close the wing anti-ice valve:

WARNING: MAKE SURE YOU DO THE PROCEDURE TO DEACTIVATE THE LE SLATS.
THE LEADING EDGE SLATS CAN MOVE AND CAUSE INJURIES TO
PERSONS IF THEY ARE NOT DEACTIVATED.

- (a) Do this task: Leading Edge Flap and Slat Locks Installation, TASK 27-81-00-480-801.
(b) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
A	1	C00146	ANTI-ICE & RAIN WING ANTI-ICE VALVE

- (c) For the left wing, open this access panel:

Number Name/Location

521AB	Outboard Leading Edge Blowout Door - Slat Station 20.04
-------	---

- (d) For the right wing, open this access panel:

Number Name/Location

621AB	Outboard Leading Edge Blowout Door - Slat Station 20.04
-------	---

SUBTASK 30-00-00-020-001

- (2) Disconnect the electrical connector from the wing anti-ice valve and stow the connector.

NOTE: The associated wing anti-ice VALVE OPEN light will illuminate bright.

SUBTASK 30-00-00-040-001

- (3) Move the red lever on the wing anti-ice valve to the CLOSED position.

SUBTASK 30-00-00-840-002

- (4) Return the airplane to its usual condition with a wing anti-ice valve locked closed:

- (a) For the left wing, close this access panel:

Number Name/Location

521AB	Outboard Leading Edge Blowout Door - Slat Station 20.04
-------	---

- (b) For the right wing, close this access panel:

Number Name/Location

621AB	Outboard Leading Edge Blowout Door - Slat Station 20.04
-------	---



30-00-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

- (c) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-3

Row Col Number Name

A 1 C00146 ANTI-ICE & RAIN WING ANTI-ICE VALVE

- (d) Activate the LE slats. To activate them, do this task: Leading Edge Flap and Slat Locks Removal, TASK 27-81-00-080-801.

SUBTASK 30-00-00-930-001

- (5) Put an INOP OFF placard on the WING ANTI-ICE switch.

F. Prepare to Dispatch With the Left Wing Anti-Ice Valve Locked Open

SUBTASK 30-00-00-860-001

- (1) To open the valve when APU bleed air will be used to start the engine, do these steps:

WARNING: MAKE SURE YOU DO THE PROCEDURE TO DEACTIVATE THE LE SLATS.
THE LEADING EDGE SLATS CAN MOVE AND CAUSE INJURIES TO PERSONS IF THEY ARE NOT DEACTIVATED.

- (a) Do this task: Leading Edge Flap and Slat Locks Installation, TASK 27-81-00-480-801.
(b) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-3

Row Col Number Name

A 1 C00146 ANTI-ICE & RAIN WING ANTI-ICE VALVE

- (c) Open this access panel:

Number Name/Location

521AB Outboard Leading Edge Blowout Door - Slat Station 20.04

- (d) Disconnect the electrical connector from the left wing anti-ice valve and stow the connector.

NOTE: The associated wing anti-ice VALVE OPEN light will illuminate bright.

- (e) Move the red lever on the left wing anti-ice valve to the CLOSED position.

WARNING: MAKE SURE ALL PERSONNEL AND EQUIPMENT ARE CLEAR OF THE RIGHT ENGINE DANGER AREA. THE ENGINE INTAKE AND EXHAUST CAN INJURE PERSONNEL AND DAMAGE EQUIPMENT IN THE DANGER AREAS.

- (f) Make sure that all personnel are cleared from the right engine danger area.
(g) For the right engine, do this task: Start the Engine Procedure (Selection),
TASK 71-00-00-800-807-F00.
(h) Close the isolation and APU bleed air valves to depressurize the left pneumatic duct.
(i) After the pneumatic duct is depressurized, move the wing anti-ice valve to the open position.
(j) Close this access panel:

Number Name/Location

521AB Outboard Leading Edge Blowout Door - Slat Station 20.04

EFFECTIVITY
AKS ALL

30-00-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

- (k) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	1	C00146	ANTI-ICE & RAIN WING ANTI-ICE VALVE

- (l) Activate the LE slats. To activate them, do this task: Leading Edge Flap and Slat Locks Removal, TASK 27-81-00-080-801.

SUBTASK 30-00-00-860-002

- (2) To open the valve when ground service air will be used to start the engine, do these steps:

WARNING: MAKE SURE YOU DO THE PROCEDURE TO DEACTIVATE THE LE SLATS.
THE LEADING EDGE SLATS CAN MOVE AND CAUSE INJURIES TO PERSONS IF THEY ARE NOT DEACTIVATED.

- (a) Do this task: Leading Edge Flap and Slat Locks Installation, TASK 27-81-00-480-801.
(b) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	1	C00146	ANTI-ICE & RAIN WING ANTI-ICE VALVE

- (c) Open this access panel:

Number Name/Location

521AB Outboard Leading Edge Blowout Door - Slat Station 20.04

- (d) Disconnect the electrical connector from the left wing anti-ice valve and stow the connector.

NOTE: The associated wing anti-ice VALVE OPEN light will illuminate bright.

- (e) Move the red lever on the left wing anti-ice valve to the OPEN position.
(f) Close this access panel:

Number Name/Location

521AB Outboard Leading Edge Blowout Door - Slat Station 20.04

- (g) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	1	C00146	ANTI-ICE & RAIN WING ANTI-ICE VALVE

- (h) Activate the LE slats. To activate them, do this task: Leading Edge Flap and Slat Locks Removal, TASK 27-81-00-080-801.

SUBTASK 30-00-00-930-002

- (3) Put an INOP ON placard on the WING ANTI-ICE switch.

G. Prepare to Dispatch With the Right Wing Anti-Ice Valve Locked Open

SUBTASK 30-00-00-860-003

- (1) To open the valve when APU bleed air will be used to start the engine, do these steps:

WARNING: MAKE SURE YOU DO THE PROCEDURE TO DEACTIVATE THE LE SLATS.
THE LEADING EDGE SLATS CAN MOVE AND CAUSE INJURIES TO PERSONS IF THEY ARE NOT DEACTIVATED.

- (a) Do this task: Leading Edge Flap and Slat Locks Installation, TASK 27-81-00-480-801.



30-00-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

- (b) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	1	C00146	ANTI-ICE & RAIN WING ANTI-ICE VALVE

- (c) Open this access panel:

Number Name/Location

621AB Outboard Leading Edge Blowout Door - Slat Station 20.04

- (d) Disconnect the electrical connector from the right wing anti-ice valve and stow the connector.

NOTE: The associated wing anti-ice VALVE OPEN light will illuminate bright.

- (e) Move the red lever on the right wing anti-ice valve to the OPEN position.

- (f) Close this access panel:

Number Name/Location

621AB Outboard Leading Edge Blowout Door - Slat Station 20.04

- (g) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	1	C00146	ANTI-ICE & RAIN WING ANTI-ICE VALVE

- (h) Activate the LE slats. To activate them, do this task: Leading Edge Flap and Slat Locks Removal, TASK 27-81-00-080-801.

SUBTASK 30-00-00-860-004

- (2) To open the valve when ground service air will be used to start the engine, do these steps:

WARNING: MAKE SURE YOU DO THE PROCEDURE TO DEACTIVATE THE LE SLATS.
THE LEADING EDGE SLATS CAN MOVE AND CAUSE INJURIES TO PERSONS IF THEY ARE NOT DEACTIVATED.

- (a) Do this task: Leading Edge Flap and Slat Locks Installation, TASK 27-81-00-480-801.
(b) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	1	C00146	ANTI-ICE & RAIN WING ANTI-ICE VALVE

- (c) Open this access panel:

Number Name/Location

621AB Outboard Leading Edge Blowout Door - Slat Station 20.04

- (d) Disconnect the electrical connector from the right wing anti-ice valve and stow the connector.

NOTE: The associated wing anti-ice VALVE OPEN light will illuminate bright.

- (e) Move the red lever on the right wing anti-ice valve to the CLOSED position.

WARNING: MAKE SURE ALL PERSONNEL AND EQUIPMENT ARE CLEAR OF THE RIGHT ENGINE DANGER AREA. THE ENGINE INTAKE AND EXHAUST CAN INJURE PERSONNEL AND DAMAGE EQUIPMENT IN THE DANGER AREAS.

- (f) Make sure that all personnel are cleared from the left engine danger area.

EFFECTIVITY
AKS ALL

30-00-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

- (g) For the left engine, do this task: Start the Engine Procedure (Selection), TASK 71-00-00-800-807-F00.
- (h) Remove the ground air source from the airplane.
- (i) Close the isolation and APU bleed air valves to depressurize the right pneumatic duct.
- (j) After the pneumatic duct is depressurized, manually move the wing anti-ice valve to the open position.
- (k) Close this access panel:

Number Name/Location

621AB Outboard Leading Edge Blowout Door - Slat Station 20.04

- (l) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	1	C00146	ANTI-ICE & RAIN WING ANTI-ICE VALVE

- (m) Activate the LE slats. To activate them, do this task: Leading Edge Flap and Slat Locks Removal, TASK 27-81-00-080-801.

SUBTASK 30-00-00-930-003

- (3) Put an INOP ON placard on the WING ANTI-ICE switch.

———— END OF TASK ————

EFFECTIVITY
AKS ALL

30-00-00

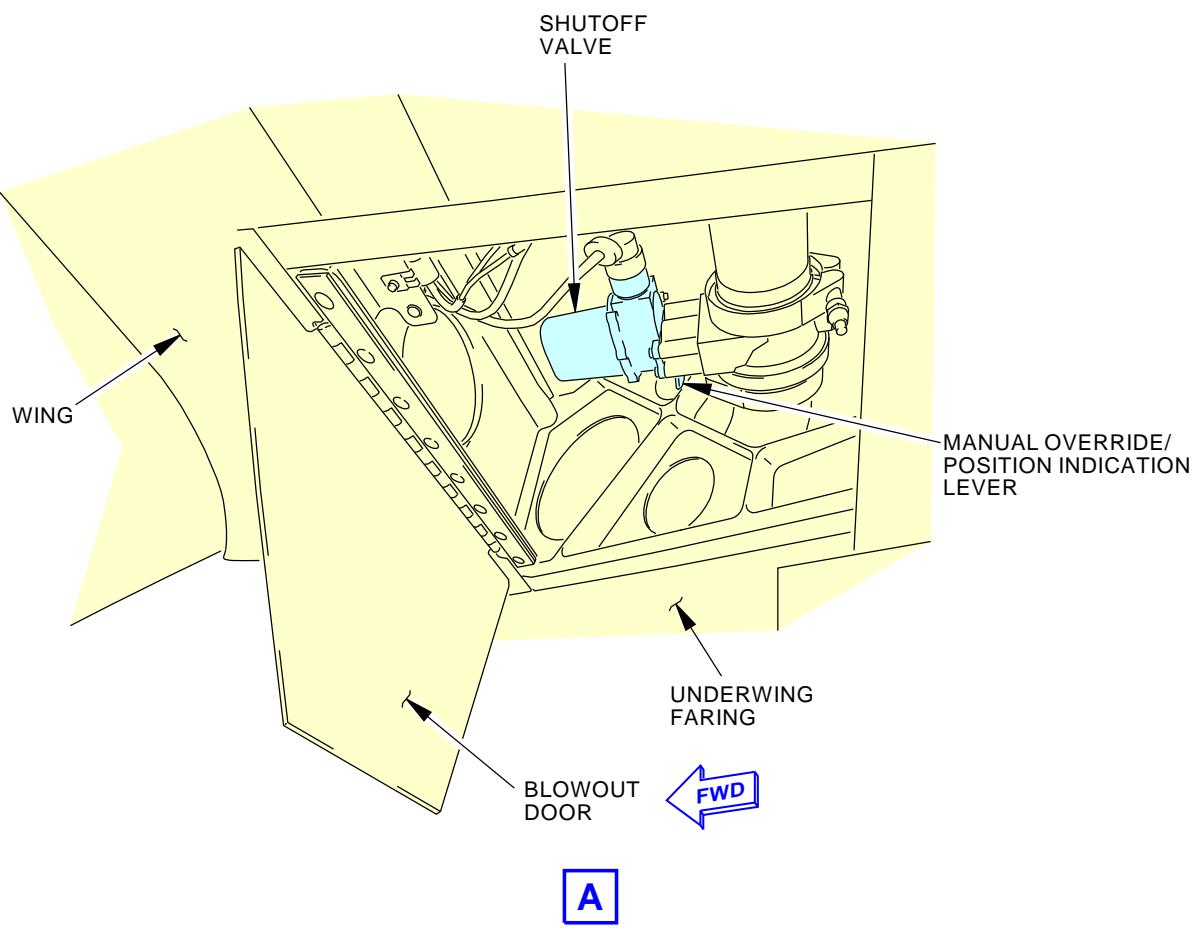
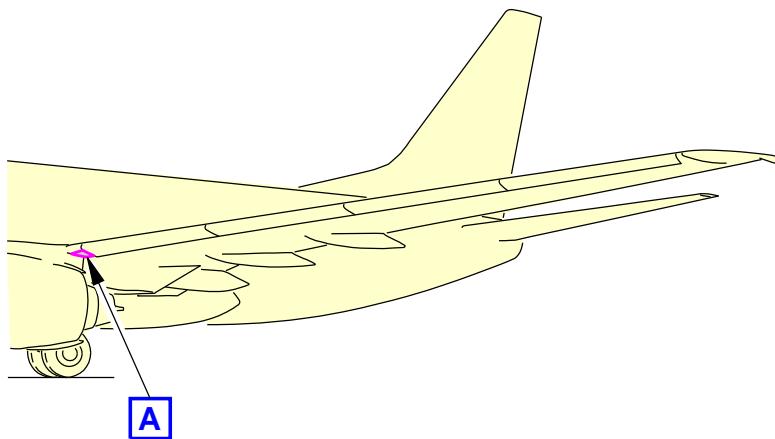
D633A101-AKS

BOEING PROPRIETARY - Copyright © Unpublished Work - See title page for details

Page 906
Oct 15/2014



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL



G99806 S0006573026_V2

Wing Thermal Anti-Icing Shutoff Valve
Figure 901/30-00-00-990-801

EFFECTIVITY
AKS ALL

30-00-00

D633A101-AKS

BOEING PROPRIETARY - Copyright © Unpublished Work - See title page for details

Page 907
Oct 15/2015



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

TASK 30-00-00-440-801

3. **MTEL 30-01 (DDPG) Restoration - Wing Anti-Ice Valves Inoperative**

A. General

- (1) This task puts the airplane back to its usual condition after operation with the wing anti-ice valves inoperative.

B. References

Reference	Title
27-81-00-080-801	Leading Edge Flap and Slat Locks Removal (P/B 201)
27-81-00-480-801	Leading Edge Flap and Slat Locks Installation (P/B 201)

C. Location Zones

Zone	Area
522	Left Wing - Slat No. 4
622	Right Wing - Slat No. 5

D. Access Panels

Number	Name/Location
521AB	Outboard Leading Edge Blowout Door - Slat Station 20.04
621AB	Outboard Leading Edge Blowout Door - Slat Station 20.04

E. Reactivate the Wing Anti-Ice Valve

SUBTASK 30-00-00-860-005

- (1) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
A	1	C00146	ANTI-ICE & RAIN WING ANTI-ICE VALVE

SUBTASK 30-00-00-860-006

- (2) Set the WING ANTI-ICE switch on the anti-ice panel on the P5 overhead panel in the flight compartment to OFF.

SUBTASK 30-00-00-860-007

WARNING: MAKE SURE YOU DO THE PROCEDURE TO DEACTIVATE THE LE SLATS. THE LEADING EDGE SLATS CAN MOVE AND CAUSE INJURIES TO PERSONS IF THEY ARE NOT DEACTIVATED.

- (3) Do this task: Leading Edge Flap and Slat Locks Installation, TASK 27-81-00-480-801.

SUBTASK 30-00-00-010-001

- (4) For the left wing, open this access panel:

Number Name/Location

521AB Outboard Leading Edge Blowout Door - Slat Station 20.04

SUBTASK 30-00-00-010-002

- (5) For the right wing, open this access panel:

Number Name/Location

621AB Outboard Leading Edge Blowout Door - Slat Station 20.04

SUBTASK 30-00-00-420-001

- (6) Connect the electrical connector to the wing anti-ice valve.

EFFECTIVITY
AKS ALL

30-00-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

SUBTASK 30-00-00-860-008

- (7) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	1	C00146	ANTI-ICE & RAIN WING ANTI-ICE VALVE

F. Wing Anti-Ice Valve Repair

SUBTASK 30-00-00-810-001

- (1) Correct the fault.
- Find the fault code or description of the fault that occurred.
 - If you find a fault code, then do these steps:
 - Go to the Fault Code Index in the applicable chapter of the FIM and find the fault code.
NOTE: The first two digits of the fault code is the FIM chapter.
 - Find the task number on the same line as the fault code.
 - Go to the task in the FIM and do the steps in the task.
 - If you find a description of the fault, then do these steps:
 - Go to the Observed Fault List at the beginning of the FIM and find the best description for the fault.
 - Find the task number on the same line as the fault description.
 - Go to the task in the FIM and do the steps in the task.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 30-00-00-410-001

- (1) For the left wing, close this access panel:

<u>Number</u>	<u>Name/Location</u>
521AB	Outboard Leading Edge Blowout Door - Slat Station 20.04

SUBTASK 30-00-00-410-002

- (2) For the right wing, close this access panel:

<u>Number</u>	<u>Name/Location</u>
621AB	Outboard Leading Edge Blowout Door - Slat Station 20.04

SUBTASK 30-00-00-440-001

- (3) Activate the LE slats. To activate them, do this task: Leading Edge Flap and Slat Locks Removal, TASK 27-81-00-080-801.

SUBTASK 30-00-00-020-002

- (4) If the fault was repaired, remove the INOP placard from the WING ANTI-ICE switch.

———— END OF TASK ————



30-00-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

TASK 30-00-00-040-802

4. MMEL 30-02 (DDPG) Preparation - Wing Anti-Ice Valve Position Lights Inoperative

A. General

- (1) This task gives the maintenance steps which prepare the airplane for flight with the wing anti-ice valve position lights inoperative.
- (2) This procedure tests the valve connected to the failed position light. If both position lights are failed, both valves must be tested.

B. References

Reference	Title
27-81-00-080-801	Leading Edge Flap and Slat Locks Removal (P/B 201)
27-81-00-480-801	Leading Edge Flap and Slat Locks Installation (P/B 201)

C. Location Zones

Zone	Area
522	Left Wing - Slat No. 4
622	Right Wing - Slat No. 5

D. Access Panels

Number	Name/Location
521AB	Outboard Leading Edge Blowout Door - Slat Station 20.04
621AB	Outboard Leading Edge Blowout Door - Slat Station 20.04

E. Prepare for the Procedure

SUBTASK 30-00-00-860-009

WARNING: MAKE SURE YOU DO THE PROCEDURE TO DEACTIVATE THE LE SLATS. THE LEADING EDGE SLATS CAN MOVE AND CAUSE INJURIES TO PERSONS IF THEY ARE NOT DEACTIVATED.

- (1) Do this task: Leading Edge Flap and Slat Locks Installation, TASK 27-81-00-480-801.

SUBTASK 30-00-00-010-003

- (2) For the left wing, open this access panel:

Number	Name/Location
521AB	Outboard Leading Edge Blowout Door - Slat Station 20.04

SUBTASK 30-00-00-010-004

- (3) For the right wing, open this access panel:

Number	Name/Location
621AB	Outboard Leading Edge Blowout Door - Slat Station 20.04

F. Test the Wing Anti-Ice Valve

SUBTASK 30-00-00-710-001

- (1) Put the WING ANTI-ICE switch in the ON position.

SUBTASK 30-00-00-710-002

- (2) Observe the position indicator on the wing anti-ice valve and make sure the valve indicates OPEN.

SUBTASK 30-00-00-710-003

- (3) Put the WING ANTI-ICE switch in the OFF position.



30-00-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

SUBTASK 30-00-00-710-004

- (4) Observe the position indicator on the wing anti-ice valve and make sure the valve indicates CLOSED.

SUBTASK 30-00-00-930-004

- (5) Attach an INOP placard to the applicable VALVE OPEN light.

G. Return the Airplane to Its Usual Condition

SUBTASK 30-00-00-010-005

- (1) For the left wing, close this access panel:

Number Name/Location

521AB Outboard Leading Edge Blowout Door - Slat Station 20.04

SUBTASK 30-00-00-010-006

- (2) For the right wing, close this access panel:

Number Name/Location

621AB Outboard Leading Edge Blowout Door - Slat Station 20.04

SUBTASK 30-00-00-440-002

- (3) Do this task: Leading Edge Flap and Slat Locks Removal, TASK 27-81-00-080-801.

————— END OF TASK ————

TASK 30-00-00-440-802

5. MMEL 30-02 (DDPG) Restoration - Wing Anti-Ice Valve Position Lights Inoperative

A. General

- (1) This task puts the airplane back to its usual condition after operation with the wing anti-ice valve position lights inoperative.

B. Location Zones

Zone	Area
-------------	-------------

522	Left Wing - Slat No. 4
-----	------------------------

622	Right Wing - Slat No. 5
-----	-------------------------

C. Procedure

SUBTASK 30-00-00-810-002

- (1) Correct the fault.

(a) Find the fault code or description of the fault that occurred.

(b) If you find a fault code, then do these steps:

- 1) Go to the Fault Code Index in the applicable chapter of the FIM and find the fault code.

NOTE: The first two digits of the fault code is the FIM chapter.

- 2) Find the task number on the same line as the fault code.

- 3) Go to the task in the FIM and do the steps in the task.

(c) If you find a description of the fault, then do these steps:

- 1) Go to the Observed Fault List at the beginning of the FIM and find the best description for the fault.

- 2) Find the task number on the same line as the fault description.

- 3) Go to the task in the FIM and do the steps in the task.

EFFECTIVITY	AKS ALL
-------------	---------

30-00-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

SUBTASK 30-00-00-020-003

- (2) If the fault was repaired, remove the INOP placard from the valve open light.

———— END OF TASK ————

TASK 30-00-00-040-803

6. MMEL 30-03 (DDPG) Preparation - Engine and Nose Cowl Anti-Ice Valves Inoperative
(Figure 902, Figure 903)

A. General

- (1) This task gives the maintenance steps which prepare the airplane for flight with the engine anti-ice valves inoperative.
(2) The engine anti-ice valves can be deactivated by locking them closed or open.

B. References

Reference	Title
71-11-02-010-801-F00	Open the Fan Cowl Panels (P/B 201)
71-11-02-410-801-F00	Close the Fan Cowl Panels (P/B 201)
78-31-00-010-801-F00	Open the Thrust Reverser (Selection) (P/B 201)
78-31-00-010-804-F00	Close the Thrust Reverser (Selection) (P/B 201)

C. Prepare for the Procedure

SUBTASK 30-00-00-010-007

- (1) Do this task: Open the Fan Cowl Panels, TASK 71-11-02-010-801-F00.

SUBTASK 30-00-00-010-008

- (2) Do this task: Open the Thrust Reverser (Selection), TASK 78-31-00-010-801-F00.

SUBTASK 30-00-00-860-019

- (3) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-3

Row Col Number Name

AKS 001-024, 026, 028-999

 A 6 C00148 ANTI-ICE & RAIN ENG 1 & WING CONT

AKS 025, 027

 A 6 C00148 ANTI-ICE-RAIN ENG 1/WING CONT-ICE DET

AKS ALL

 A 7 C01001 ANTI-ICE & RAIN ENG 1 COWL AI VALVE

AKS 001-024, 026, 028-999

 B 6 C00149 ANTI-ICE & RAIN ENGINE 2 CONTROL

AKS 025, 027

 B 6 C00149 ANTI-ICE-RAIN ENG 2/CONT & ICE DET

AKS ALL

 B 7 C01002 ANTI-ICE & RAIN ENG 2 COWL AI VALVE

D. Put the Engine Anti-Ice Valve Inoperative CLOSED

SUBTASK 30-00-00-210-001

- (1) To manually position the valve in the CLOSED position:
(a) Loosen the retaining screw on the manual locking assembly.
(b) Move the hex shaft to the CLOSED desired position.

EFFECTIVITY
AKS ALL

30-00-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

- (c) Slide the locking assembly up the shaft into the recess in the cover plate.
- (d) Tighten the retaining screw to 30 ± 1 in-lb (3.39 ± 0.11 N·m).

E. Put the Engine Anti-Ice Valve Inoperative Open

NOTE: Dispatching with an engine and nose cowl anti-ice valve inoperative open will cause the associated COWL VALVE OPEN light to illuminate bright blue on the P5-11 panel and the associated Thermal Anti-Ice (TAI) indication to illuminate amber on the flight deck common display system (CDS).

SUBTASK 30-00-00-210-002

- (1) To manually position the valve in the OPEN position, do these steps:
 - (a) Loosen the retaining screw on the manual locking assembly.
 - (b) Move the hex shaft to the OPEN position.
 - (c) Slide the locking assembly up the shaft into the recess in the cover plate.
 - (d) Tighten the retaining screw 30 ± 1 in-lb (3.39 ± 0.11 N·m).

SUBTASK 30-00-00-020-006

- (2) Disconnect, cap and stow the DP1302 ELECTRICAL CONNECTOR [3] on the ANTI-ICE PRESSURE SWITCH [4] Figure 902.

SUBTASK 30-00-00-860-010

- (3) Close the HIGH STAGE VALVE [5] from the 9th stage bleed air sourceFigure 903:

NOTE: Only one high stage valve may be locked in the closed position for dispatch. Dispatch with the opposite high stage valve inoperative under MMEL item 36-9 is not allowed.

- (a) Manually wrench the MANUAL OVERRIDE/POSITION INDICATOR [6] on the HIGH STAGE VALVE [5] to the CLOSE position Figure 903.
- (b) Loosen the position indicator screw.
- (c) Slide the lock into the recess in the cover plate.
- (d) Tighten the position indicator screw.

F. Secure the Engine Access Panels

SUBTASK 30-00-00-860-020

- (1) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
AKS 001-024, 026, 028-999			
	A	6	C00148 ANTI-ICE & RAIN ENG 1 & WING CONT
AKS 025, 027			
	A	6	C00148 ANTI-ICE-RAIN ENG 1/WING CONT-ICE DET
AKS ALL			
	A	7	C01001 ANTI-ICE & RAIN ENG 1 COWL AI VALVE
AKS 001-024, 026, 028-999			
	B	6	C00149 ANTI-ICE & RAIN ENGINE 2 CONTROL
AKS 025, 027			
	B	6	C00149 ANTI-ICE-RAIN ENG 2/CONT & ICE DET
AKS ALL			
	B	7	C01002 ANTI-ICE & RAIN ENG 2 COWL AI VALVE

EFFECTIVITY	AKS ALL
-------------	---------

30-00-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

SUBTASK 30-00-00-010-010

- (2) Do this task: Close the Thrust Reverser (Selection), TASK 78-31-00-010-804-F00.

SUBTASK 30-00-00-010-009

- (3) Do this task: Close the Fan Cowl Panels, TASK 71-11-02-410-801-F00.

G. Put INOP Placards on the Affected Switch and Light

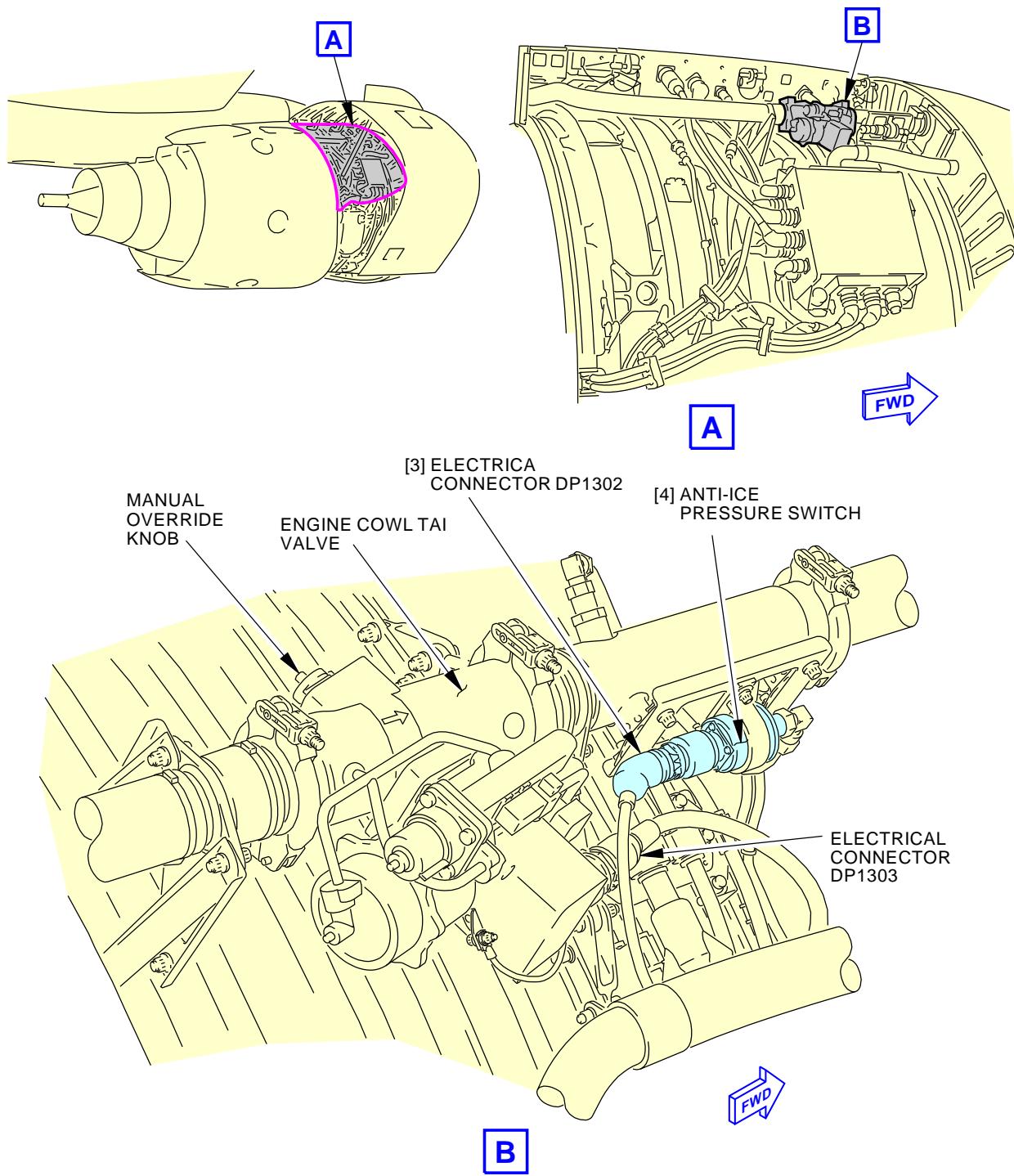
SUBTASK 30-00-00-930-005

- (1) Put an INOP LOCKED OPEN or INOP LOCKED CLOSED placard on the affected ENG ANTI-ICE switch.

———— END OF TASK ————

EFFECTIVITY
AKS ALL

30-00-00

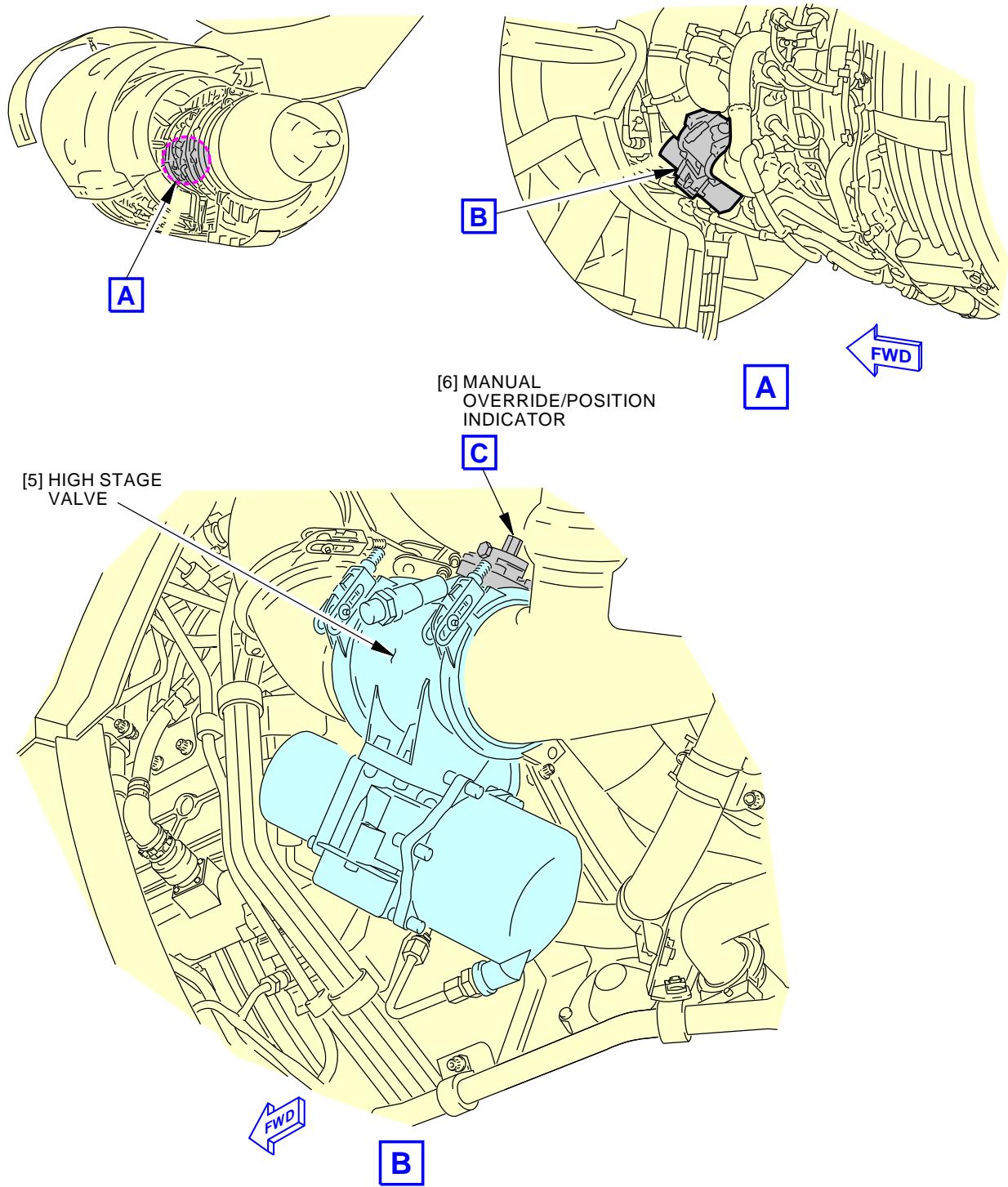


G99855 S0006573031_V5

Engine Cowl TAI Valve Deactivation
Figure 902/30-00-00-990-802

EFFECTIVITY
AKS ALL

30-00-00



G99862 S0006573032_V3

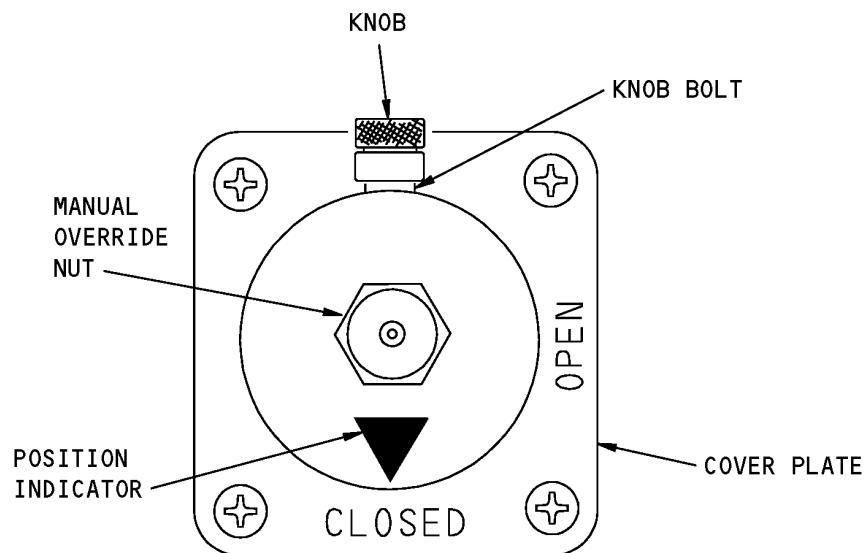
High Stage Valve Deactivation
Figure 903/30-00-00-990-803 (Sheet 1 of 2)

EFFECTIVITY
AKS ALL

30-00-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL



MANUAL OVERRIDE/POSITION INDICATOR

C

High Stage Valve Deactivation
Figure 903/30-00-00-990-803 (Sheet 2 of 2)

EFFECTIVITY
AKS ALL

30-00-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

TASK 30-00-00-440-803

7. MMEL 30-03 (DDPG) Restoration - Engine and Nose Cowl Anti-Ice Valves Inoperative

A. General

- (1) This task puts the airplane back to its usual condition after operation with the engine anti-ice systems inoperative.

B. References

Reference	Title
71-11-02-010-801-F00	Open the Fan Cowl Panels (P/B 201)
71-11-02-410-801-F00	Close the Fan Cowl Panels (P/B 201)
78-31-00-010-801-F00	Open the Thrust Reverser (Selection) (P/B 201)
78-31-00-010-804-F00	Close the Thrust Reverser (Selection) (P/B 201)

C. Location Zones

Zone	Area
411	Engine 1 - Engine
421	Engine 2 - Engine

D. Prepare for the Procedure

SUBTASK 30-00-00-010-011

- (1) Do this task: Open the Fan Cowl Panels, TASK 71-11-02-010-801-F00.

SUBTASK 30-00-00-010-012

- (2) Do this task: Open the Thrust Reverser (Selection), TASK 78-31-00-010-801-F00.

SUBTASK 30-00-00-860-021

- (3) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-3

Row Col Number Name

AKS 001-024, 026, 028-999			
A	6	C00148	ANTI-ICE & RAIN ENG 1 & WING CONT
AKS 025, 027			
A	6	C00148	ANTI-ICE-RAIN ENG 1/WING CONT-ICE DET
AKS ALL			
A	7	C01001	ANTI-ICE & RAIN ENG 1 COWL AI VALVE
AKS 001-024, 026, 028-999			
B	6	C00149	ANTI-ICE & RAIN ENGINE 2 CONTROL
AKS 025, 027			
B	6	C00149	ANTI-ICE-RAIN ENG 2/CONT & ICE DET
AKS ALL			
B	7	C01002	ANTI-ICE & RAIN ENG 2 COWL AI VALVE

E. Procedure

SUBTASK 30-00-00-210-004

- (1) Unlock the engine cowl anti-ice valve:
- Loosen the retaining screw on the manual locking assembly.
 - Slide the locking assembly out of the cover plate recess.
 - Tighten the retaining screw 20 ± 1 in-lb (2.26 ± 0.11 N·m).



30-00-00



737-600/700/800/900

AIRCRAFT MAINTENANCE MANUAL

SUBTASK 30-00-00-420-003

- (2) Connect the electrical connector to the pressure switch.

SUBTASK 30-00-00-860-011

- (3) If it is necessary, unlock the 9th stage bleed air modulating and shutoff valve:
- Loosen the position indicator screw.
 - Slide the lock out of the recess in the cover plate.
 - Tighten the position indicator screw.

SUBTASK 30-00-00-860-022

- (4) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
------------	------------	---------------	-------------

AKS 001-024, 026, 028-999

A	6	C00148	ANTI-ICE & RAIN ENG 1 & WING CONT
---	---	--------	-----------------------------------

AKS 025, 027

A	6	C00148	ANTI-ICE-RAIN ENG 1/WING CONT-ICE DET
---	---	--------	---------------------------------------

AKS ALL

A	7	C01001	ANTI-ICE & RAIN ENG 1 COWL AI VALVE
---	---	--------	-------------------------------------

AKS 001-024, 026, 028-999

B	6	C00149	ANTI-ICE & RAIN ENGINE 2 CONTROL
---	---	--------	----------------------------------

AKS 025, 027

B	6	C00149	ANTI-ICE-RAIN ENG 2/CONT & ICE DET
---	---	--------	------------------------------------

AKS ALL

B	7	C01002	ANTI-ICE & RAIN ENG 2 COWL AI VALVE
---	---	--------	-------------------------------------

F. Secure the Engine Access Panels

SUBTASK 30-00-00-010-014

- (1) Do this task: Close the Thrust Reverser (Selection), TASK 78-31-00-010-804-F00.

SUBTASK 30-00-00-010-013

- (2) Do this task: Close the Fan Cowl Panels, TASK 71-11-02-410-801-F00.

G. Engine Cowl Anti-Ice Valve Repair

SUBTASK 30-00-00-810-003

- (1) Correct the fault.

(a) Find the fault code or description of the fault that occurred.

(b) If you find a fault code, then do these steps:

- Go to the Fault Code Index in the applicable chapter of the FIM and find the fault code.

NOTE: The first two digits of the fault code is the FIM chapter.

- Find the task number on the same line as the fault code.

- Go to the task in the FIM and do the steps in the task.

(c) If you find a description of the fault, then do these steps:

- Go to the Observed Fault List at the beginning of the FIM and find the best description for the fault.

- Find the task number on the same line as the fault description.



30-00-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

- 3) Go to the task in the FIM and do the steps in the task.

SUBTASK 30-00-00-440-003

- (2) If the fault was repaired, remove the INOP placards from the affected position light and ENG ANTI-ICE switch.

———— END OF TASK ————

TASK 30-00-00-040-805

8. MMEL 30-09 (DDPG) Preparation - Pitot, Pitot/Static and Temperature Probe Heater Lights Inoperative

A. General

- (1) This task gives the maintenance steps which prepare the airplane for flight with a pitot, pitot/static, and temperature probe heater light inoperative.

B. References

Reference	Title
24-22-00-860-813	Supply External Power (P/B 201)

C. Location Zones

Zone	Area
200	Upper Half of Fuselage

D. Procedure

SUBTASK 30-00-00-710-005

- (1) Make sure the probe heater associated with the light operates.
(a) Make sure the covers are removed from all air data probes and vanes.
(b) Do this task: Supply External Power, TASK 24-22-00-860-813.

WARNING: DO NOT TOUCH THE AIR DATA PROBE. THE PROBE CAN GET VERY HOT. A HOT PROBE CAN CAUSE INJURY TO PERSONNEL.

CAUTION: DO NOT HEAT THE AIR DATA PROBE LONGER THAN IS NECESSARY TO RUN THE TEST. HEATER LIFE CAN BE SHORTENED IF YOU LEAVE IT ON LONGER THAN NECESSARY TO RUN THE TEST.

- (c) Put the applicable PITOT STATIC HEAT switch to the ON position.
(d) Make sure the applicable probe gets warm.
(e) Put the applicable PITOT STATIC HEAT switch to the OFF or AUTO position.

SUBTASK 30-00-00-930-007

- (2) Put an INOP placard on the affected sensor heater light.

———— END OF TASK ————

TASK 30-00-00-440-805

9. MMEL 30-09 (DDPG) Restoration - Pitot, Pitot/Static and Temperature Probe Heater Lights Inoperative

A. General

- (1) This task puts the airplane back to its usual condition after operation with a pitot, pitot/static, and temperature probe heater light inoperative.

EFFECTIVITY
AKS ALL

30-00-00

D633A101-AKS



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

B. Procedure

SUBTASK 30-00-00-810-005

- (1) Correct the fault.

(a) Find the fault code or description of the fault that occurred.

(b) If you find a fault code, then do these steps:

- 1) Go to the Fault Code Index in the applicable chapter of the FIM and find the fault code.

NOTE: The first two digits of the fault code is the FIM chapter.

- 2) Find the task number on the same line as the fault code.

- 3) Go to the task in the FIM and do the steps in the task.

(c) If you find a description of the fault, then do these steps:

- 1) Go to the Observed Fault List at the beginning of the FIM and find the best description for the fault.

- 2) Find the task number on the same line as the fault description.

- 3) Go to the task in the FIM and do the steps in the task.

SUBTASK 30-00-00-440-005

- (2) If the fault was repaired, remove the INOP placard from the affected light.

————— END OF TASK ————

TASK 30-00-00-040-806

10. MMEL 30-13 (DDPG) Preparation - Windshield Wiper System Inoperative

A. General

- (1) This task gives the maintenance steps which prepare the airplane for flight with windshield wiper systems inoperative.

NOTE: This maintenance procedure is optional.

B. References

Reference	Title
30-42-31-000-801	Windshield Wiper Arm Removal (P/B 201)
30-42-31-400-801	Windshield Wiper Arm Installation (P/B 201)

C. Location Zones

Zone	Area
200	Upper Half of Fuselage

D. Procedure

SUBTASK 30-00-00-930-008

- (1) Put an INOP placard on the wiper switch.

SUBTASK 30-00-00-020-005

- (2) If the wiper blade obstructs forward vision do these steps:

- (a) Do this task: Windshield Wiper Arm Removal, TASK 30-42-31-000-801.

EFFECTIVITY
AKS ALL

30-00-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

- (b) Do this task: Windshield Wiper Arm Installation, TASK 30-42-31-400-801.

NOTE: It is only necessary to put the wiper arm in the parked position and to apply the appropriate downward force on the wiper blade. The steps related to the sweep of the wiper arm are not necessary.

———— END OF TASK ————

TASK 30-00-00-440-806

11. MMEL 30-13 (DDPG) Restoration - Windshield Wiper System Inoperative

A. General

- (1) This task puts the airplane back to its usual condition after operation with the windshield wiper system inoperative.

B. References

Reference	Title
30-42-31-820-802	Windshield Wiper Arm Position Check/Adjustment (P/B 201)

C. Procedure

SUBTASK 30-00-00-810-006

- (1) Correct the fault.
- Find the fault code or description of the fault that occurred.
 - If you find a fault code, then do these steps:
 - Go to the Fault Code Index in the applicable chapter of the FIM and find the fault code.
NOTE: The first two digits of the fault code is the FIM chapter.
 - Find the task number on the same line as the fault code.
 - Go to the task in the FIM and do the steps in the task.
 - If you find a description of the fault, then do these steps:
 - Go to the Observed Fault List at the beginning of the FIM and find the best description for the fault.
 - Find the task number on the same line as the fault description.
 - Go to the task in the FIM and do the steps in the task.

SUBTASK 30-00-00-820-001

- (2) If the windshield wiper arm was adjusted in the preparation task, do this task: Windshield Wiper Arm Position Check/Adjustment, TASK 30-42-31-820-802.

SUBTASK 30-00-00-440-006

- (3) If the fault was repaired, remove the INOP placard from the windshield wiper switch.

———— END OF TASK ————

EFFECTIVITY
AKS ALL

30-00-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

TASK 30-00-00-040-809

12. MMEL 30-17 (DDPG) Preparation - Cowl Anti-Ice Lights Inoperative

(Figure 904, Figure 905)

A. General

- (1) This task gives the maintenance steps which prepare the airplane for flight with the Cowl Anti-Ice Lights Inoperative.
- (2) The Cowl Anti-Ice Light can be deactivated by locking the associated Cowl Anti-Ice Valve open.

B. References

Reference	Title
71-11-02-010-801-F00	Open the Fan Cowl Panels (P/B 201)
71-11-02-410-801-F00	Close the Fan Cowl Panels (P/B 201)
78-31-00-010-801-F00	Open the Thrust Reverser (Selection) (P/B 201)
78-31-00-010-804-F00	Close the Thrust Reverser (Selection) (P/B 201)

C. Prepare for the Procedure

SUBTASK 30-00-00-010-016

- (1) Do this task: Open the Fan Cowl Panels, TASK 71-11-02-010-801-F00.

SUBTASK 30-00-00-010-017

- (2) Do this task: Open the Thrust Reverser (Selection), TASK 78-31-00-010-801-F00.

SUBTASK 30-00-00-860-023

- (3) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
AKS 001-024, 026, 028-999	A	6	C00148 ANTI-ICE & RAIN ENG 1 & WING CONT
AKS 025, 027	A	6	C00148 ANTI-ICE-RAIN ENG 1/WING CONT-ICE DET
AKS ALL	A	7	C01001 ANTI-ICE & RAIN ENG 1 COWL AI VALVE
AKS 001-024, 026, 028-999	B	6	C00149 ANTI-ICE & RAIN ENGINE 2 CONTROL
AKS 025, 027	B	6	C00149 ANTI-ICE-RAIN ENG 2/CONT & ICE DET
AKS ALL			

D. Put the Cowl Anti-Ice Valve Inoperative Open

SUBTASK 30-00-00-860-024

- (1) To manually position the valve in the OPEN position, do these steps:
 - (a) Loosen the retaining screw on the manual locking assembly.
 - (b) Move the hex shaft to the OPEN position:
 - (c) Slide the locking assembly up the shaft into the recess in the cover plate.
 - (d) Tighten the retaining screw 30 ± 1 in-lb (3.39 ± 0.11 N·m).



30-00-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

SUBTASK 30-00-00-020-007

- (2) Disconnect, cap and stow the DP1302 ELECTRICAL CONNECTOR [3] on the ANTI-ICE PRESSURE SWITCH [4] Figure 904.

SUBTASK 30-00-00-860-025

- (3) Close the HIGH STAGE VALVE [5] from the 9th stage bleed air sourceFigure 905:
 - (a) Manually wrench the MANUAL OVERRIDE/POSITION INDICATOR [6] on the HIGH STAGE VALVE [5] to the CLOSE position Figure 905.
 - (b) Loosen the position indicator screw.
 - (c) Slide the lock into the recess in the cover plate.
 - (d) Tighten the position indicator screw.

E. Secure the Engine Access Panels

SUBTASK 30-00-00-860-026

- (1) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
------------	------------	---------------	-------------

AKS 001-024, 026, 028-999

A	6	C00148	ANTI-ICE & RAIN ENG 1 & WING CONT
---	---	--------	-----------------------------------

AKS 025, 027

A	6	C00148	ANTI-ICE-RAIN ENG 1/WING CONT-ICE DET
---	---	--------	---------------------------------------

AKS ALL

A	7	C01001	ANTI-ICE & RAIN ENG 1 COWL AI VALVE
---	---	--------	-------------------------------------

AKS 001-024, 026, 028-999

B	6	C00149	ANTI-ICE & RAIN ENGINE 2 CONTROL
---	---	--------	----------------------------------

AKS 025, 027

B	6	C00149	ANTI-ICE-RAIN ENG 2/CONT & ICE DET
---	---	--------	------------------------------------

AKS ALL

SUBTASK 30-00-00-420-005

- (2) Do this task: Close the Thrust Reverser (Selection), TASK 78-31-00-010-804-F00.

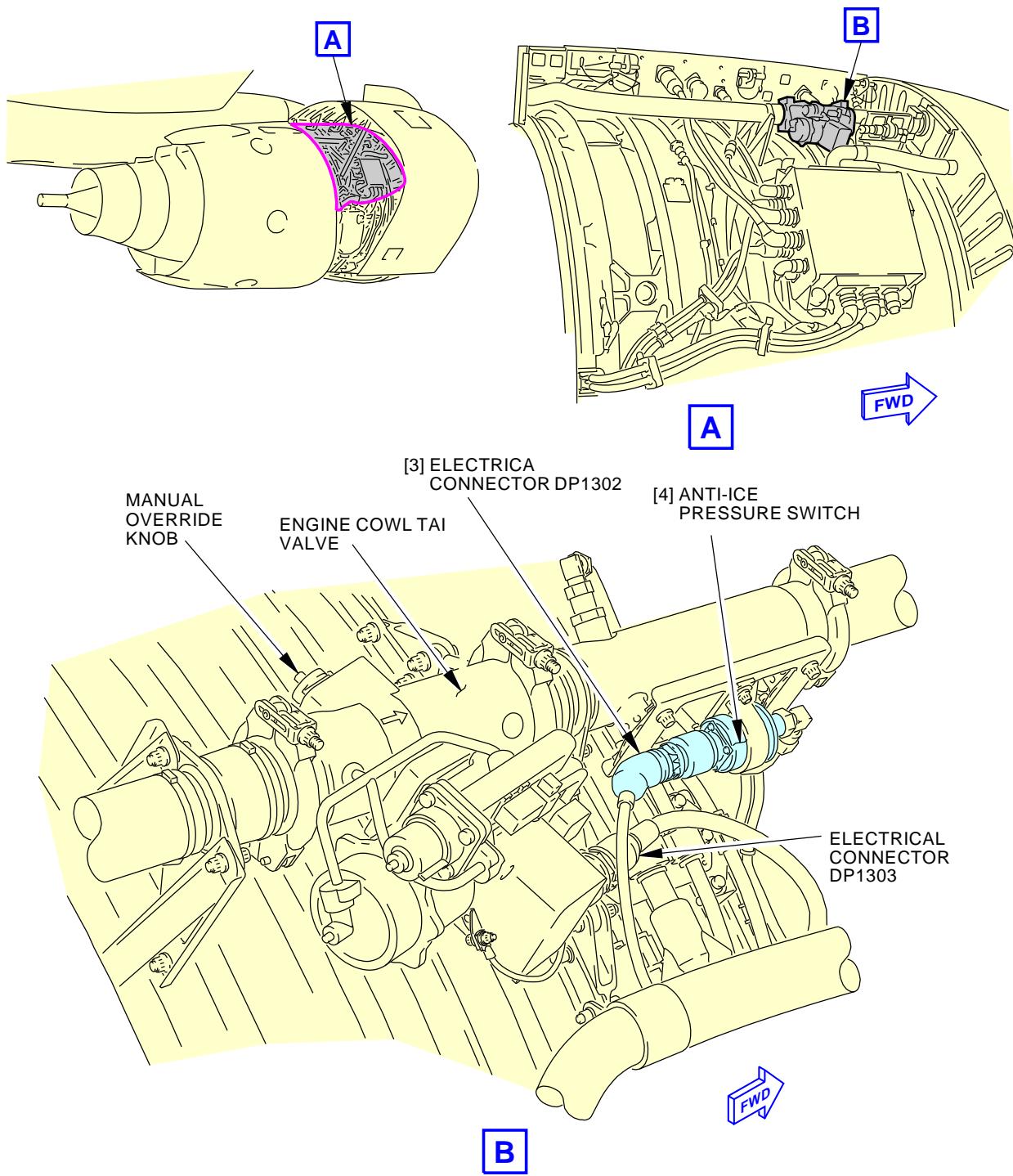
SUBTASK 30-00-00-420-004

- (3) Do this task: Close the Fan Cowl Panels, TASK 71-11-02-410-801-F00.

———— END OF TASK ————

EFFECTIVITY
AKS ALL

30-00-00

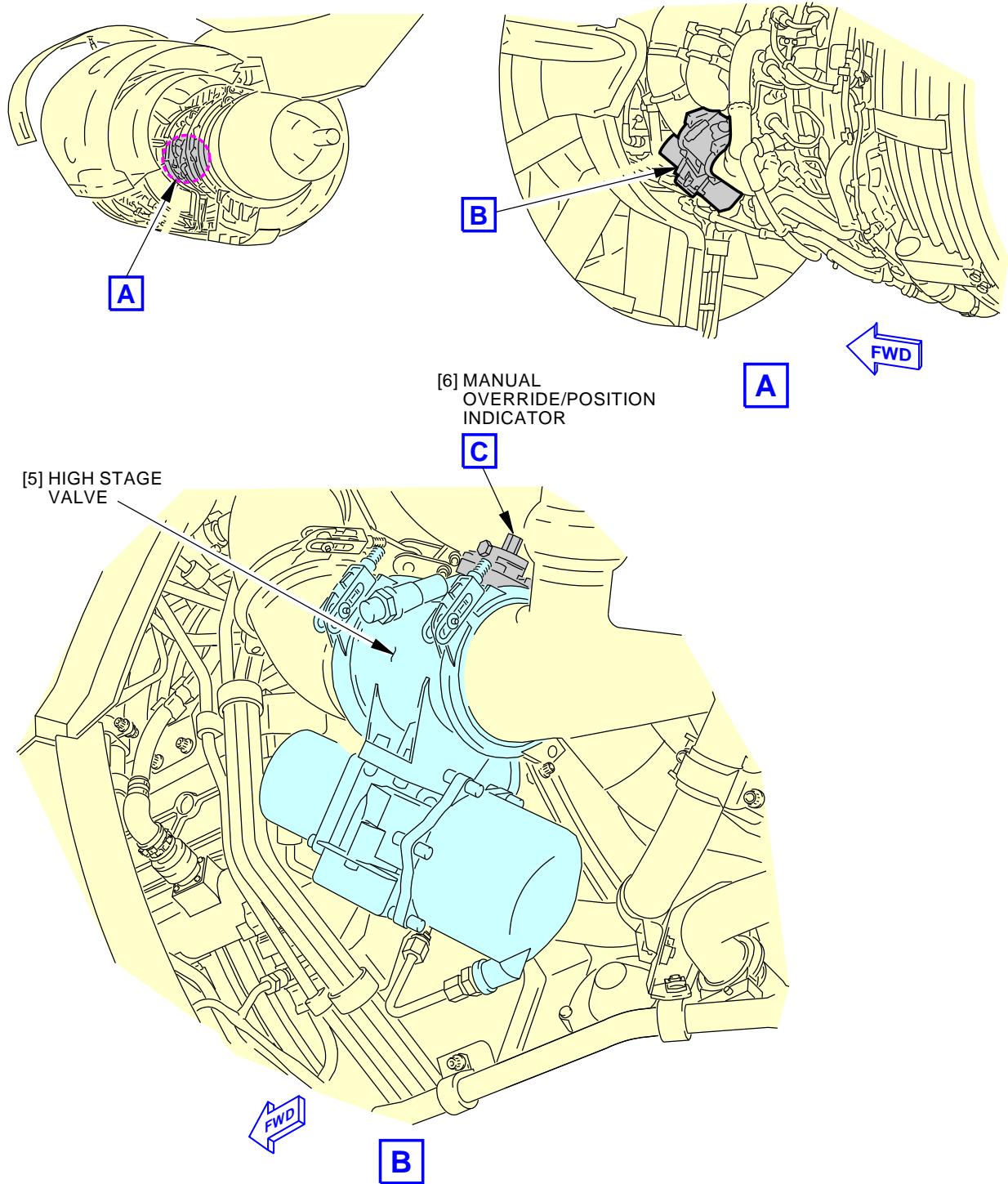


G99855 S0006573031_V5

Engine Cowl TAI Valve Deactivation
Figure 904/30-00-00-990-804

EFFECTIVITY
AKS ALL

30-00-00



G99862 S0006573032_V3

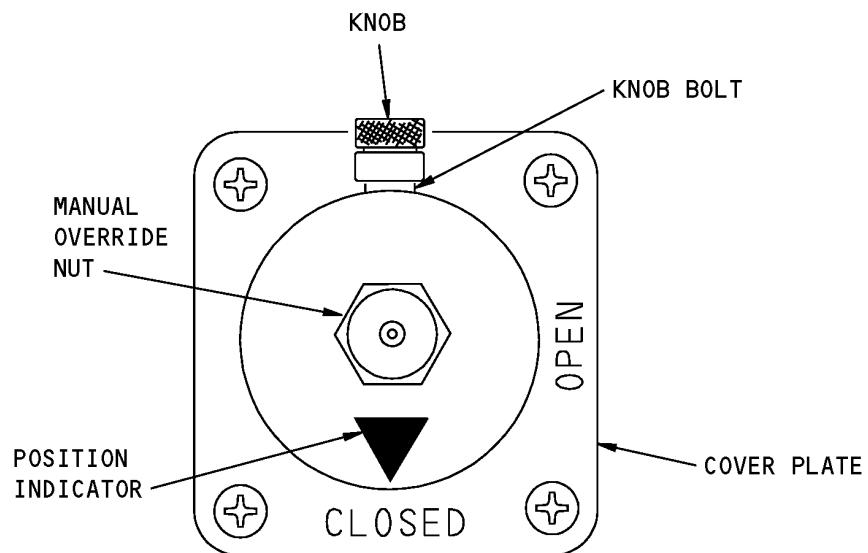
High Stage Valve Deactivation
Figure 905/30-00-00-990-805 (Sheet 1 of 2)

EFFECTIVITY
AKS ALL

30-00-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL



MANUAL OVERRIDE/POSITION INDICATOR

(C)

High Stage Valve Deactivation
Figure 905/30-00-00-990-805 (Sheet 2 of 2)

EFFECTIVITY
AKS ALL

30-00-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

TASK 30-00-00-440-809

13. MMEL 30-17 (DDPG) Restoration - Cowl Anti-Ice Lights Inoperative

A. General

- (1) This task puts the airplane back to its usual condition after operation with the Cowl Anti-Ice Lights Inoperative.

B. References

Reference	Title
71-11-02-010-801-F00	Open the Fan Cowl Panels (P/B 201)
71-11-02-410-801-F00	Close the Fan Cowl Panels (P/B 201)
78-31-00-010-801-F00	Open the Thrust Reverser (Selection) (P/B 201)
78-31-00-010-804-F00	Close the Thrust Reverser (Selection) (P/B 201)

C. Location Zones

Zone	Area
411	Engine 1 - Engine
421	Engine 2 - Engine

D. Prepare for the Procedure

SUBTASK 30-00-00-020-008

- (1) Do this task: Open the Fan Cowl Panels, TASK 71-11-02-010-801-F00.

SUBTASK 30-00-00-020-009

- (2) Do this task: Open the Thrust Reverser (Selection), TASK 78-31-00-010-801-F00.

SUBTASK 30-00-00-860-027

- (3) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-3

Row Col Number Name

AKS 001-024, 026, 028-999			
A	6	C00148	ANTI-ICE & RAIN ENG 1 & WING CONT
AKS 025, 027			
A	6	C00148	ANTI-ICE-RAIN ENG 1/WING CONT-ICE DET
AKS ALL			
A	7	C01001	ANTI-ICE & RAIN ENG 1 COWL AI VALVE
AKS 001-024, 026, 028-999			
B	6	C00149	ANTI-ICE & RAIN ENGINE 2 CONTROL
AKS 025, 027			
B	6	C00149	ANTI-ICE-RAIN ENG 2/CONT & ICE DET
AKS ALL			

E. Procedure

SUBTASK 30-00-00-860-028

- (1) Unlock the engine cowl anti-ice valve:
- Loosen the retaining screw on the manual locking assembly.
 - Slide the locking assembly out of the cover plate recess.
 - Tighten the retaining screw 20 ± 1 in-lb (2.26 ± 0.11 N·m).



30-00-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

SUBTASK 30-00-00-420-006

- (2) Connect the electrical connector to the pressure switch.

SUBTASK 30-00-00-860-029

- (3) If it is necessary, unlock the 9th stage bleed air modulating and shutoff valve:
- Loosen the position indicator screw.
 - Slide the lock out of the recess in the cover plate.
 - Tighten the position indicator screw.

SUBTASK 30-00-00-860-030

- (4) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-3

Row Col Number Name

AKS 001-024, 026, 028-999

A 6 C00148 ANTI-ICE & RAIN ENG 1 & WING CONT

AKS 025, 027

A 6 C00148 ANTI-ICE-RAIN ENG 1/WING CONT-ICE DET

AKS ALL

A 7 C01001 ANTI-ICE & RAIN ENG 1 COWL AI VALVE

AKS 001-024, 026, 028-999

B 6 C00149 ANTI-ICE & RAIN ENGINE 2 CONTROL

AKS 025, 027

B 6 C00149 ANTI-ICE-RAIN ENG 2/CONT & ICE DET

AKS ALL

F. Secure the Engine Access Panels

SUBTASK 30-00-00-420-008

- (1) Do this task: Close the Thrust Reverser (Selection), TASK 78-31-00-010-804-F00.

SUBTASK 30-00-00-420-007

- (2) Do this task: Close the Fan Cowl Panels, TASK 71-11-02-410-801-F00.

G. Engine Cowl Anti-Ice Valve Repair

SUBTASK 30-00-00-810-009

- (1) Correct the fault.

(a) Find the fault code or description of the fault that occurred.

(b) If you find a fault code, then do these steps:

1) Go to the Fault Code Index in the applicable chapter of the FIM and find the fault code.

NOTE: The first two digits of the fault code is the FIM chapter.

2) Find the task number on the same line as the fault code.

3) Go to the task in the FIM and do the steps in the task.

(c) If you find a description of the fault, then do these steps:

1) Go to the Observed Fault List at the beginning of the FIM and find the best description for the fault.

2) Find the task number on the same line as the fault description.



30-00-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

- 3) Go to the task in the FIM and do the steps in the task.

———— END OF TASK ——

TASK 30-00-00-040-807

14. MMEL 30-18 (DDPG) Preparation - Alpha Vane Heater Light Inoperative

A. General

- (1) This task gives the maintenance steps which prepare the airplane for flight with the alpha vane heater light inoperative.

B. References

Reference	Title
24-22-00-860-811	Supply Electrical Power (P/B 201)

C. Location Zones

Zone	Area
200	Upper Half of Fuselage

D. Procedure

SUBTASK 30-00-00-710-006

- (1) Make sure the vane heater associated with the light operates.
(a) Make sure the covers are removed from all probe and vane heads.
(b) Do this task: Supply Electrical Power, TASK 24-22-00-860-811

WARNING: DO NOT TOUCH THE VANE. THE VANE CAN GET VERY HOT. A HOT VANE CAN CAUSE INJURIES TO PERSONNEL.

CAUTION: DO NOT OPERATE THE HEATER FOR A LONGER TIME THAN IS NECESSARY TO DO THE TEST. YOU CAN DECREASE THE LIFE OF THE HEATER.

- (c) Put the applicable PITOT STATIC HEAT switch to the ON position.
(d) Make sure the applicable vane gets warm
(e) Put the applicable PITOT STATIC HEAT switch to the OFF or AUTO position.

SUBTASK 30-00-00-930-009

- (2) Put an INOP placard on the affected sensor heater light.

———— END OF TASK ——

TASK 30-00-00-440-807

15. MMEL 30-18 (DDPG) Restoration - Alpha Vane Heater Light Inoperative

A. General

- (1) This task puts the airplane back to its usual condition after operation with the alpha vane heater light inoperative.

B. Procedure

SUBTASK 30-00-00-810-007

- (1) Correct the fault.
(a) Find the fault code or description of the fault that occurred.
(b) If you find a fault code, then do these steps:

———— EFFECTIVITY ——
AKS ALL

30-00-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

- 1) Go to the Fault Code Index in the applicable chapter of the FIM and find the fault code.
 NOTE: The first two digits of the fault code is the FIM chapter.
 - 2) Find the task number on the same line as the fault code.
 - 3) Go to the task in the FIM and do the steps in the task.
- (c) If you find a description of the fault, then do these steps:
- 1) Go to the Observed Fault List at the beginning of the FIM and find the best description for the fault.
 - 2) Find the task number on the same line as the fault description.
 - 3) Go to the task in the FIM and do the steps in the task.

SUBTASK 30-00-00-440-007

- (2) If the fault was repaired, remove the INOP placard from the affected light.

———— END OF TASK ————

TASK 30-00-00-040-808

16. MMEL 30-19 (DDPG) Preparation - Drain Mast Heaters Inoperative

A. General

- (1) This task gives the maintenance steps which prepare the airplane for flight with the drain mast heater inoperative.

B. Turn off water supply to associated components and deactivate inoperative drain mast heaters

SUBTASK 30-00-00-210-008

- (1) Close the associated water supply shutoff valves (lavatory, galley or fountain).

SUBTASK 30-00-00-040-002

- (2) Deactivate inoperative drain mast heater(s):

- (a) For an inoperative forward drain mast heater, disconnect, cap and stow wire 0243-20 from terminal block TB2201.
- (b) For an inoperative aft drain mast heater, disconnect, cap and stow wire 0244-20 from terminal block TB2201.

SUBTASK 30-00-00-865-001

- (3) Alternatively, both drain mast heaters may be deactivated by opening and collaring the following circuit breakers on the P-18 panel:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	3	C00234	HEATERS DRAIN MAST GND
E	4	C00700	HEATERS DRAIN MAST AIR

———— END OF TASK ————

TASK 30-00-00-440-808

17. MMEL 30-19 (DDPG) Restoration - Drain Mast Heater Inoperative

A. General

- (1) This task puts the airplane back to its usual condition after operation with the drain mast heater inoperative.

EFFECTIVITY
AKS ALL

30-00-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

B. Procedure

SUBTASK 30-00-00-865-002

- (1) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	3	C00234	HEATERS DRAIN MAST GND
E	4	C00700	HEATERS DRAIN MAST AIR

SUBTASK 30-00-00-010-015

- (2) Open the water supply shutoff valves.

C. Drain Mast Heater Repair

SUBTASK 30-00-00-810-008

- (1) Correct the fault.

- (a) Find the fault code or description of the fault that occurred.

- (b) If you find a fault code, then do these steps:

- 1) Go to the Fault Code Index in the applicable chapter of the FIM and find the fault code.

NOTE: The first two digits of the fault code is the FIM chapter.

- 2) Find the task number on the same line as the fault code.

- 3) Go to the task in the FIM and do the steps in the task.

- (c) If you find a description of the fault, then do these steps:

- 1) Go to the Observed Fault List at the beginning of the FIM and find the best description.

- 2) Find the task number on the same line as the fault description

- 3) Go to the task in the FIM and do the steps in the task.

SUBTASK 30-00-00-440-008

- (2) If the fault was repaired, remove the INOP placard from the affected light.

———— END OF TASK ————



30-00-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

WING THERMAL ANTI-ICING - MAINTENANCE PRACTICES

1. General

- A. This procedure has these tasks:
- (1) Wing thermal anti-icing - deactivation.
 - (2) Wing thermal anti-icing - activation.

TASK 30-11-00-040-801

2. Wing Thermal Anti-Icing - Deactivation

A. General

- (1) This task will deactivate the power to the wing thermal anti-ice systems.

B. Location Zones

Zone	Area
212	Flight Compartment - Right
510	Subzone - Left Wing: Leading Edge, Fwd of Front Spar, Inbd of Strut and Nacelle Gap Cover Area
520	Subzone - Left Wing: Leading Edge, Fwd of Front Spar, Outboard of Strut and Nacelle Gap Cover Area
610	Subzone - Right Wing: Leading Edge, Forward of Front Spar, Inboard of Nacelle Strut, Including Gap Cover Area
620	Subzone - Right Wing: Leading Edge, Forward of Front Spar, Outboard of Nacelle Strut

C. Procedure

SUBTASK 30-11-00-020-001

- (1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
A	1	C00146	ANTI-ICE & RAIN WING ANTI-ICE VALVE
AKS 001-024, 026, 028-999			
A	6	C00148	ANTI-ICE & RAIN ENG 1 & WING CONT
AKS 025, 027			
A	6	C00148	ANTI-ICE-RAIN ENG 1/WING CONT-ICE DET
AKS ALL			
A	7	C01001	ANTI-ICE & RAIN ENG 1 COWL AI VALVE
AKS 001-024, 026, 028-999			
B	6	C00149	ANTI-ICE & RAIN ENGINE 2 CONTROL
AKS 025, 027			
B	6	C00149	ANTI-ICE-RAIN ENG 2/CONT & ICE DET
AKS ALL			
B	7	C01002	ANTI-ICE & RAIN ENG 2 COWL AI VALVE

D. Wing Thermal Anti-Icing - Tryout

NOTE: This tryout is to make sure that the power to the wing thermal anti-ice systems is in a zero energy state.

EFFECTIVITY

AKS ALL

30-11-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

SUBTASK 30-11-00-210-004

- (1) Make sure the WING ANTI-ICE switch on the engine and wing anti-ice control panel (P5-11) is in the OFF position.

SUBTASK 30-11-00-210-005

- (2) Make sure the L and R VALVE OPEN lights on the control panel are off.

SUBTASK 30-11-00-020-002

- (3) Push and release the L VALVE OPEN and R VALVE OPEN light switches on the engine and wing anti-ice control panel (P5-11).
 - (a) Make sure that each light stays off.

SUBTASK 30-11-00-420-001

- (4) Put the WING ANTI-ICE switch in the ON position.
 - (a) Make sure that each light stays off.

SUBTASK 30-11-00-020-003

- (5) Put the WING ANTI-ICE switch in the OFF position.

SUBTASK 30-11-00-420-002

- (6) Put the ENG ANTI-ICE 1 switch in the ON position.
 - (a) Make sure that the left COWL VALVE OPEN light stays off.

SUBTASK 30-11-00-020-004

- (7) Put the ENG ANTI-ICE 1 switch in the OFF position.

SUBTASK 30-11-00-420-003

- (8) Put the ENG ANTI-ICE 2 switch in the ON position.
 - (a) Make sure that the right COWL VALVE OPEN light stays off.

SUBTASK 30-11-00-020-005

- (9) Put the ENG ANTI-ICE 2 switch in the OFF position.

SUBTASK 30-11-00-040-001

- (10) Install DO-NOT-OPERATE tags on the WING ANTI-ICE, ENG ANTI-ICE 1 and ENG ANTI-ICE 2 switches on the engine and wing anti-ice control panel (P5-11).

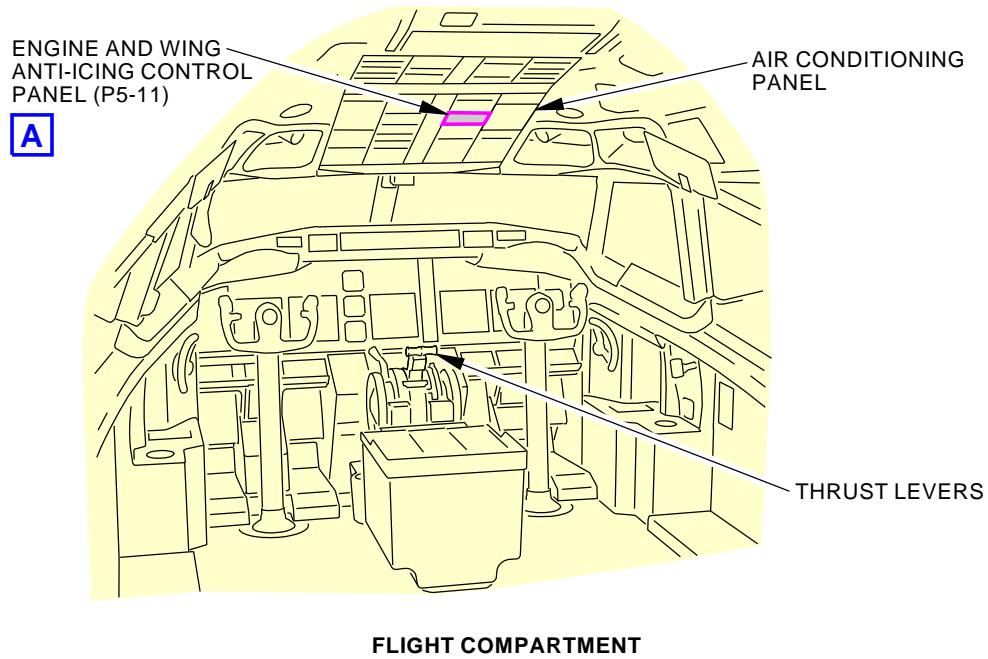
———— END OF TASK ————

EFFECTIVITY
AKS ALL

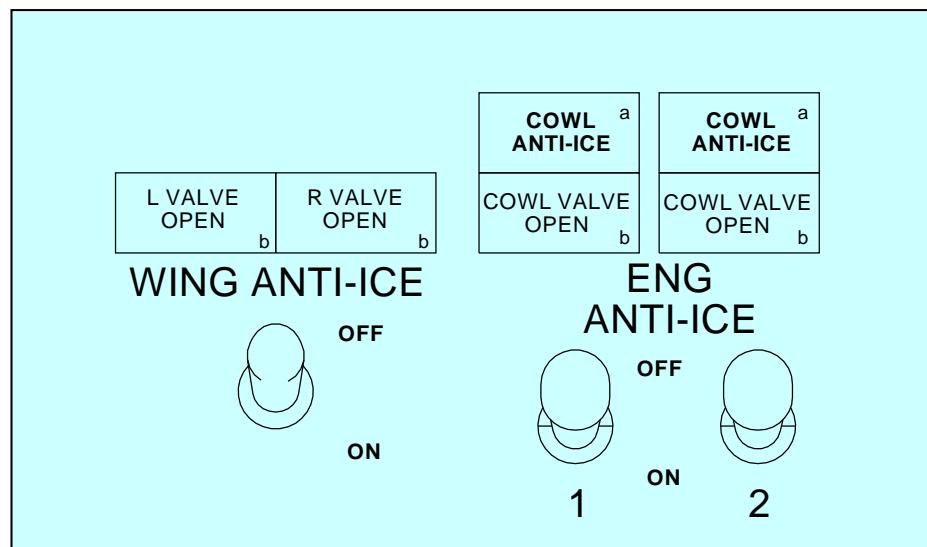
30-11-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL



FLIGHT COMPARTMENT



ENGINE AND WING ANTI-ICE CONTROL PANEL (P5-11)

A

G03363 S0006573045_V2

Wing Thermal Anti-Icing
Figure 201/30-11-00-990-802

EFFECTIVITY
AKS ALL

30-11-00

D633A101-AKS



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

TASK 30-11-00-440-801

3. Wing Thermal Anti-Icing - Activation

(Figure 201)

A. General

- (1) This task will activate the power to the wing thermal anti-ice systems.

B. Location Zones

Zone	Area
212	Flight Compartment - Right
510	Subzone - Left Wing: Leading Edge, Fwd of Front Spar, Inbd of Strut and Nacelle Gap Cover Area
520	Subzone - Left Wing: Leading Edge, Fwd of Front Spar, Outboard of Strut and Nacelle Gap Cover Area
610	Subzone - Right Wing: Leading Edge, Forward of Front Spar, Inboard of Nacelle Strut, Including Gap Cover Area
620	Subzone - Right Wing: Leading Edge, Forward of Front Spar, Outboard of Nacelle Strut

C. Procedure

SUBTASK 30-11-00-440-001

- (1) Remove the DO-NOT-OPERATE tags on the WING ANTI-ICE, ENG ANTI-ICE 1 and ENG ANTI-ICE 2 switches on the engine and wing anti-ice control panel (P5-11).

SUBTASK 30-11-00-420-004

- (2) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
A	1	C00146	ANTI-ICE & RAIN WING ANTI-ICE VALVE
AKS 001-024, 026, 028-999			
A	6	C00148	ANTI-ICE & RAIN ENG 1 & WING CONT
AKS 025, 027			
A	6	C00148	ANTI-ICE-RAIN ENG 1/WING CONT-ICE DET
AKS ALL			
A	7	C01001	ANTI-ICE & RAIN ENG 1 COWL AI VALVE
AKS 001-024, 026, 028-999			
B	6	C00149	ANTI-ICE & RAIN ENGINE 2 CONTROL
AKS 025, 027			
B	6	C00149	ANTI-ICE-RAIN ENG 2/CONT & ICE DET
AKS ALL			
B	7	C01002	ANTI-ICE & RAIN ENG 2 COWL AI VALVE

— END OF TASK —

EFFECTIVITY
AKS ALL

30-11-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

WING THERMAL ANTI-ICING - ADJUSTMENT/TEST

1. General

- A. This procedure has these tasks:
- (1) Wing Thermal Anti-Icing - Operational Test
 - (2) Wing Anti-Icing Duct Leak Test

TASK 30-11-00-710-801

2. Wing Anti-Ice - Operational Test

(Figure 501)

A. General

- (1) This test makes sure that the Wing Anti-Ice System is operating properly. Specific tests for wing anti-ice components are contained in other procedures.

B. References

Reference	Title
24-22-00-860-813	Supply External Power (P/B 201)
24-22-00-860-814	Remove External Power (P/B 201)
32-09-00-840-801	Prepare to Put the Airplane in the Air Mode (P/B 201)
32-09-00-860-801	Put the Airplane in the Air Mode (P/B 201)
32-09-00-860-802	Return the Airplane to the Ground Mode (P/B 201)

C. Location Zones

Zone	Area
212	Flight Compartment - Right
510	Subzone - Left Wing: Leading Edge, Fwd of Front Spar, Inbd of Strut and Nacelle Gap Cover Area
520	Subzone - Left Wing: Leading Edge, Fwd of Front Spar, Outboard of Strut and Nacelle Gap Cover Area
610	Subzone - Right Wing: Leading Edge, Forward of Front Spar, Inboard of Nacelle Strut, Including Gap Cover Area
620	Subzone - Right Wing: Leading Edge, Forward of Front Spar, Outboard of Nacelle Strut

D. Access Panels

Number	Name/Location
521AB	Outboard Leading Edge Blowout Door - Slat Station 20.04
621AB	Outboard Leading Edge Blowout Door - Slat Station 20.04

E. Prepare for the Test

SUBTASK 30-11-00-010-001

- (1) Open these access panels:

Number	Name/Location
521AB	Outboard Leading Edge Blowout Door - Slat Station 20.04
621AB	Outboard Leading Edge Blowout Door - Slat Station 20.04



30-11-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

SUBTASK 30-11-00-860-014

- (2) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	13	C00120	WEATHER RADAR RT

SUBTASK 30-11-00-860-001

- (3) Do this task: Supply External Power, TASK 24-22-00-860-813.

SUBTASK 30-11-00-860-002

- (4) Make sure that the thrust levers are in the IDLE position.

SUBTASK 30-11-00-860-003

- (5) Make sure that the WING ANTI-ICE switch on the engine and wing anti-ice control panel (P5-11) is in the OFF position.

SUBTASK 30-11-00-210-001

- (6) Make sure that the VALVE OPEN light on the control panel is off.

SUBTASK 30-11-00-860-004

- (7) Make sure that the wing anti-ice valves are closed.

NOTE: The wing anti-ice valve has a position indicator which shows whether the valve is open or closed.

F. Test the WING ANTI-ICE Switch and Indication

SUBTASK 30-11-00-860-005

- (1) Push and release the L VALVE OPEN light switch on the engine and wing anti-ice control panel (P5-11).
(a) Make sure that the light comes on then goes off.

SUBTASK 30-11-00-860-016

- (2) Push and release the R VALVE OPEN light switch on the engine and wing anti-ice control panel (P5-11).
(a) Make sure that the light comes on then goes off.

SUBTASK 30-11-00-860-006

CAUTION: DO NOT KEEP THE WING TAI VALVE OPEN FOR MORE THAN 30 SECONDS WHEN THE PNEUMATIC SYSTEM IS PRESSURIZED. IF IT IS OPEN FOR MORE THAN 30 SECONDS, THE HOT AIR CAN CAUSE DAMAGE TO THE WING LEADING EDGE.

- (3) Do this test to make sure that the engine and wing anti-ice panel commands the anti-ice valves open:
(a) Put the WING ANTI-ICE switch in the ON position.
(b) Make sure that the VALVE OPEN lights come on brightly for 1 to 3 seconds.
(c) Make sure that the VALVE OPEN lights become dim after 3 seconds.
(d) Make sure that the two wing anti-ice valves are open.

SUBTASK 30-11-00-720-001

- (4) Do this test to make sure that the wing anti-ice valves close when the thrust lever is advanced:
(a) Put the left thrust lever in the fully advanced position.
 1) Make sure that the VALVE OPEN lights become bright.
(b) Put the left thrust lever in the idle position.



30-11-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

- 1) Make sure that the VALVE OPEN lights become dim after 3 seconds.
- (c) Put the right thrust lever in the fully advanced position.
 - 1) Make sure that the VALVE OPEN lights become bright.
- (d) Put the right thrust lever in the idle position.
 - 1) Make sure that the VALVE OPEN lights become dim after 3 seconds.

SUBTASK 30-11-00-720-002

- (5) Do this test to make sure that the wing anti-ice valves close when the left duct becomes too hot.
 - (a) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	1	C00146	ANTI-ICE & RAIN WING ANTI-ICE VALVE

- (b) Disconnect the electrical connector from the left wing ground thermal anti-ice switch.
- (c) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	1	C00146	ANTI-ICE & RAIN WING ANTI-ICE VALVE

- (d) Connect a jumper wire between pins 1 and 2 of the connector.
 - 1) Make sure that the L and R VALVE OPEN lights come on brightly.
- (e) Remove the jumper wire from the connector.
- (f) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	1	C00146	ANTI-ICE & RAIN WING ANTI-ICE VALVE

- (g) Connect the connector to the left wing ground thermal anti-ice switch.
- (h) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	1	C00146	ANTI-ICE & RAIN WING ANTI-ICE VALVE

- (i) Make sure that the L and R VALVE OPEN lights are dim.

SUBTASK 30-11-00-720-003

- (6) Do this test to make sure that the wing anti-ice valves close when the right duct becomes too hot.
 - (a) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	1	C00146	ANTI-ICE & RAIN WING ANTI-ICE VALVE

- (b) Disconnect the electrical connector from the right wing ground thermal anti-ice switch.



30-11-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

- (c) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	1	C00146	ANTI-ICE & RAIN WING ANTI-ICE VALVE

- (d) Connect a jumper wire between pins 1 and 2 of the connector.
1) Make sure that the L and R VALVE OPEN lights come on brightly.
(e) Remove the jumper wire from the connector.
(f) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	1	C00146	ANTI-ICE & RAIN WING ANTI-ICE VALVE

- (g) Connect the connector to the right wing ground thermal anti-ice switch.
(h) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	1	C00146	ANTI-ICE & RAIN WING ANTI-ICE VALVE

- (i) Make sure that the L and R VALVE OPEN lights are dim.

SUBTASK 30-11-00-720-004

- (7) Do this check of the air mode transition:

WARNING: OBEY THE PROCEDURE THAT PUTS THE AIRPLANE IN THE AIR MODE. IF YOU DO THE PROCEDURE INCORRECTLY, INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT CAN OCCUR.

- (a) Do this task: Prepare to Put the Airplane in the Air Mode, TASK 32-09-00-840-801.
(b) Do this task: Put the Airplane in the Air Mode, TASK 32-09-00-860-801.
1) Make sure that the WING ANTI-ICE switch goes to the OFF position.
2) Make sure that the VALVE OPEN lights are bright for 1 to 3 seconds and then go off.
(c) Put the WING ANTI-ICE switch in the ON position.
1) Make sure that the VALVE OPEN lights are bright for 1 to 3 seconds and then go dim.
(d) Return the airplane to the ground mode. To do this, do this task: Return the Airplane to the Ground Mode, TASK 32-09-00-860-802.

SUBTASK 30-11-00-860-007

- (8) Do these steps to make sure that the engine and wing anti-ice panel commands the anti-ice valves closed:
(a) Put the WING ANTI-ICE switch in the OFF position.
(b) Make sure that the VALVE OPEN lights come on brightly for 1 to 3 seconds.
(c) Make sure that the VALVE OPEN lights go off after 3 seconds.



30-11-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

G. Put the airplane back to its usual condition.

SUBTASK 30-11-00-410-001

- (1) Close these access panels:

Number Name/Location

521AB Outboard Leading Edge Blowout Door - Slat Station 20.04

621AB Outboard Leading Edge Blowout Door - Slat Station 20.04

SUBTASK 30-11-00-860-008

- (2) If electrical power is no longer necessary, do this task: Remove External Power, TASK 24-22-00-860-814.

SUBTASK 30-11-00-860-015

- (3) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-1

Row Col Number Name

D 13 C00120 WEATHER RADAR RT

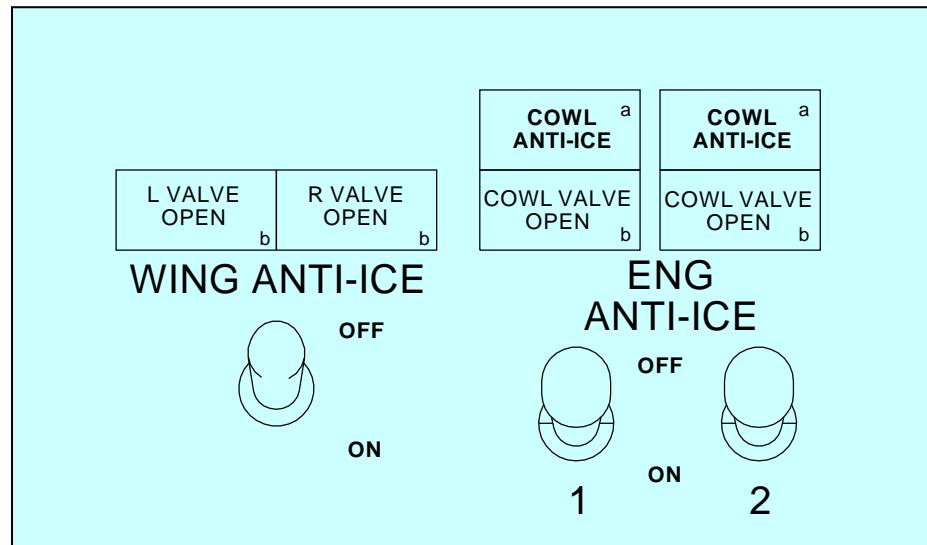
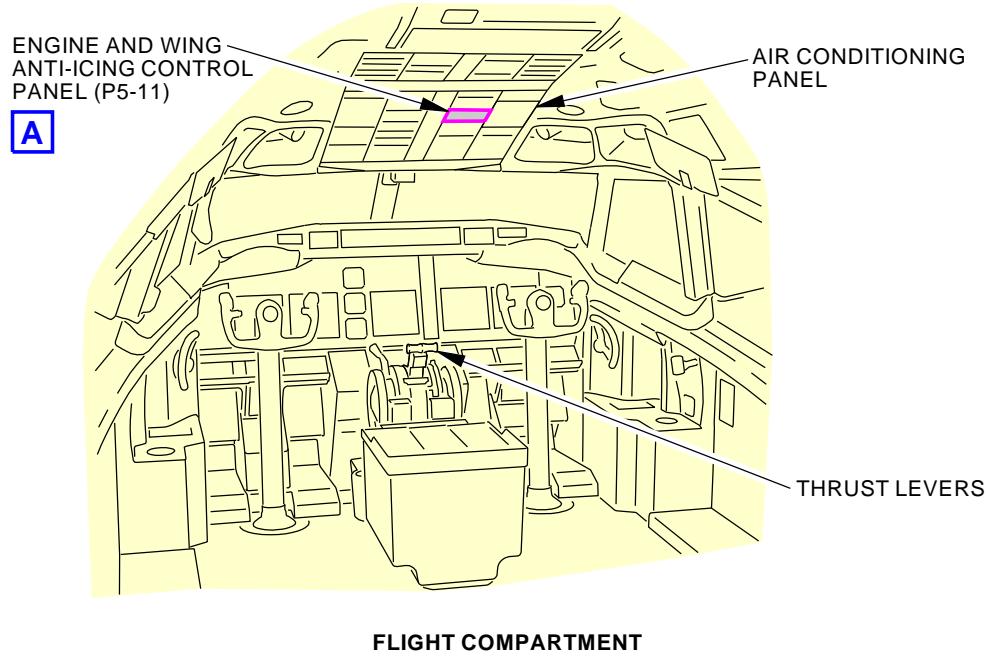
———— END OF TASK ————



30-11-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL



ENGINE AND WING ANTI-ICE CONTROL PANEL (P5-11)

A

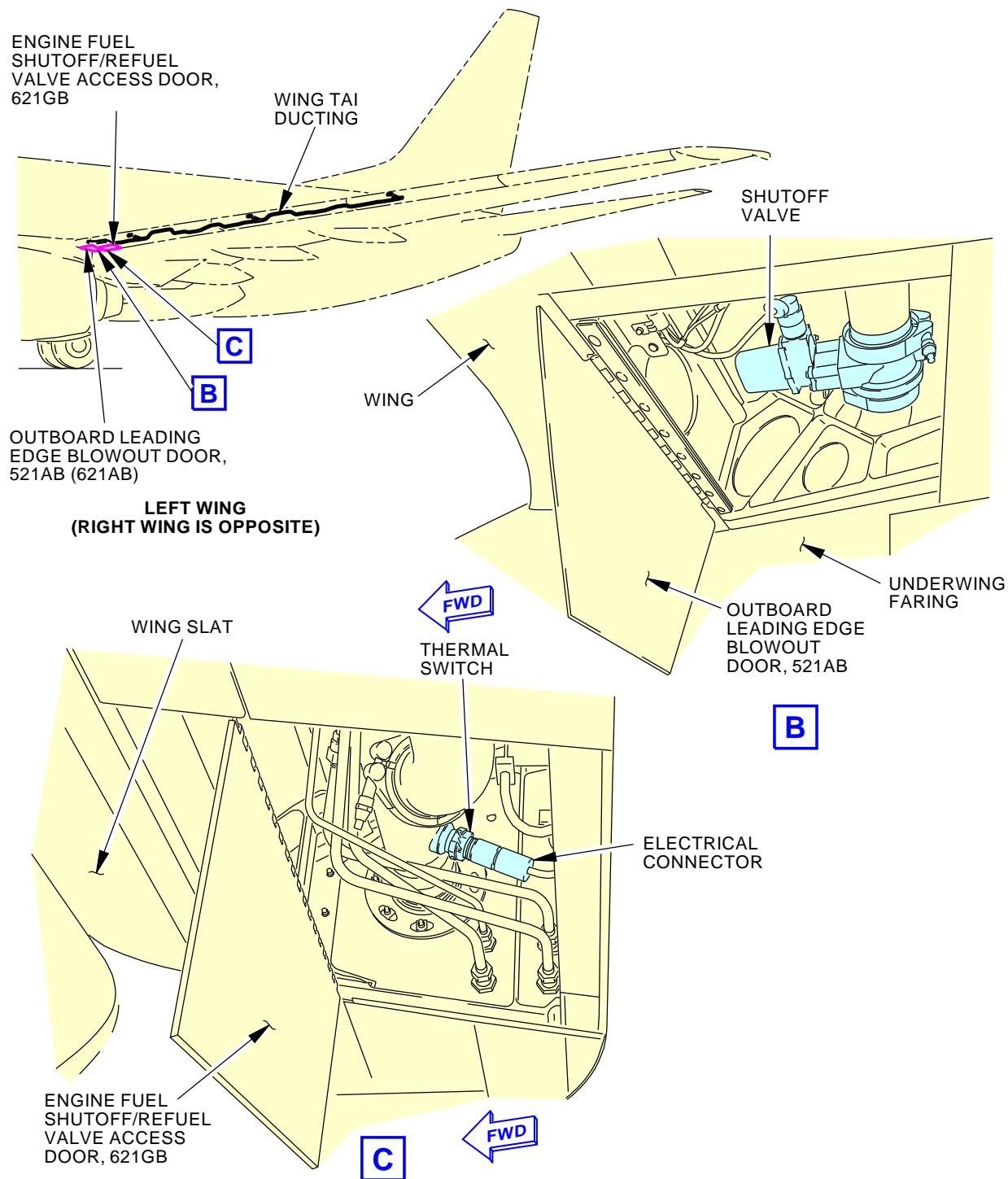
G03363 S0006573045_V2

Wing Thermal Anti-Ice Test
Figure 501/30-11-00-990-801 (Sheet 1 of 2)

EFFECTIVITY
AKS ALL

30-11-00

D633A101-AKS



G03366 S0006573046_V3

Wing Thermal Anti-Ice Test
Figure 501/30-11-00-990-801 (Sheet 2 of 2)

EFFECTIVITY
AKS ALL

30-11-00

D633A101-AKS



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

TASK 30-11-00-790-801

3. Wing Anti-Icing Duct - Leak Test

(Figure 501)

A. General

- (1) This test checks for leaks in the wing anti-icing ducts in the fixed leading edge of the wings, and in the telescoping ducts. The check includes a visual inspection of the ducts and connectors. The check also includes feeling for leaks at the clamp connectors and duct sleeves.

B. References

Reference	Title
24-22-00-860-813	Supply External Power (P/B 201)
24-22-00-860-814	Remove External Power (P/B 201)
36-00-00-860-802	Supply Pressure to the Pneumatic System with an External Ground Air Source (P/B 201)
36-00-00-860-803	Supply Pressure to the Pneumatic System with the APU (P/B 201)
36-00-00-860-806	Remove Pressure from the Pneumatic System (P/B 201)

C. Location Zones

Zone	Area
510	Subzone - Left Wing: Leading Edge, Fwd of Front Spar, Inbd of Strut and Nacelle Gap Cover Area
520	Subzone - Left Wing: Leading Edge, Fwd of Front Spar, Outboard of Strut and Nacelle Gap Cover Area
610	Subzone - Right Wing: Leading Edge, Forward of Front Spar, Inboard of Nacelle Strut, Including Gap Cover Area
620	Subzone - Right Wing: Leading Edge, Forward of Front Spar, Outboard of Nacelle Strut

D. Access Panels

Number	Name/Location
521AB	Outboard Leading Edge Blowout Door - Slat Station 20.04
621AB	Outboard Leading Edge Blowout Door - Slat Station 20.04

E. Prepare for the Procedure

SUBTASK 30-11-00-860-009

- (1) If it is necessary, supply electrical power to the airplane (TASK 24-22-00-860-813).

SUBTASK 30-11-00-860-010

- (2) Make sure that the thrust levers are in the IDLE position.

SUBTASK 30-11-00-010-002

- (3) Open these access panels:

Number	Name/Location
521AB	Outboard Leading Edge Blowout Door - Slat Station 20.04
621AB	Outboard Leading Edge Blowout Door - Slat Station 20.04

F. Procedure

SUBTASK 30-11-00-210-002

- (1) Do a visual check of the wing thermal anti-icing duct and fittings.

EFFECTIVITY
AKS ALL

30-11-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

- (a) Inspect for holes, cracks, and loose components.

SUBTASK 30-11-00-840-001

- (2) Supply pneumatic pressure for the ducts.
- (a) To use the APU to pressurize the TAI duct, do this task: Supply Pressure to the Pneumatic System with the APU, TASK 36-00-00-860-803.
 - (b) To use an external air supply to pressurize the TAI duct, do this task: Supply Pressure to the Pneumatic System with an External Ground Air Source, TASK 36-00-00-860-802.
 - (c) Put the BLEED 1 and 2 switches on the air conditioning panel to the OFF position.
 - (d) Put the L PACK and R PACK switches on the air conditioning panel to the OFF position.
 - (e) Make sure the ISOLATION VALVE switch is in the OPEN or the AUTO position.

SUBTASK 30-11-00-860-011

CAUTION: DO NOT KEEP THE WING TAI VALVE OPEN FOR MORE THAN 30 SECONDS WHEN THE PNEUMATIC SYSTEM IS PRESSURIZED. IF IT IS OPEN FOR MORE THAN 30 SECONDS, THE HOT AIR CAN CAUSE DAMAGE TO THE WING LEADING EDGE.

- (3) Put the WING ANTI-ICE switch to the ON position.

SUBTASK 30-11-00-200-001

- (4) Do this check for leaks from the TAI duct:

WARNING: DO NOT TOUCH THE TAI DUCT. THE DUCT CAN GET VERY HOT. IF YOU TOUCH THE DUCT YOU MAY GET BURNED.

- (a) Move your hand near the TAI duct to feel for leaks.
 - 1) Some leakage along duct seals and joints is satisfactory.
 - 2) Leaks which can be felt 12 in. (305 mm) or more away are not satisfactory.

SUBTASK 30-11-00-720-006

- (5) Put the WING ANTI-ICE switch to the OFF position.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 30-11-00-860-012

- (1) Do this task to remove pneumatic pressure from the ducts: Remove Pressure from the Pneumatic System, TASK 36-00-00-860-806.

SUBTASK 30-11-00-410-003

- (2) Close these access panels:

Number Name/Location

521AB	Outboard Leading Edge Blowout Door - Slat Station 20.04
621AB	Outboard Leading Edge Blowout Door - Slat Station 20.04

SUBTASK 30-11-00-860-013

- (3) If electrical power is not necessary, do this task: Remove External Power, TASK 24-22-00-860-814.

———— END OF TASK ————



30-11-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

WING THERMAL ANTI-ICING SHUTOFF VALVE - REMOVAL/INSTALLATION

1. General

- A. This procedure has these tasks:
- (1) Wing Thermal Anti-Icing Shutoff Valve Removal
 - (2) Wing Thermal Anti-Icing Shutoff Valve Installation.

TASK 30-11-11-000-801

2. Wing Thermal Anti-Icing Shutoff Valve Removal

(Figure 401)

A. General

- (1) This task gives instructions to remove the Wing Thermal Anti-Icing Shutoff Valve.

B. References

Reference	Title
27-81-00-040-801	Leading Edge Flaps and Slats - Deactivation (P/B 201)
36-00-00-860-806	Remove Pressure from the Pneumatic System (P/B 201)
SSM 30-11-11	System Schematics Manual
WDM 30-11-11	Wiring Diagram Manual

C. Location Zones

Zone	Area
520	Subzone - Left Wing: Leading Edge, Fwd of Front Spar, Outboard of Strut and Nacelle Gap Cover Area
620	Subzone - Right Wing: Leading Edge, Forward of Front Spar, Outboard of Nacelle Strut

D. Access Panels

Number	Name/Location
521AB	Outboard Leading Edge Blowout Door - Slat Station 20.04
521AT	Outbd Leading Edge - Gap Cover Access
621AB	Outboard Leading Edge Blowout Door - Slat Station 20.04
621AT	Outbd Leading Edge - Gap Cover Access

E. Prepare for the Removal

SUBTASK 30-11-11-040-001

WARNING: DO THE DEACTIVATION PROCEDURE FOR THE LE SLATS. THE LE SLATS CAN MOVE QUICKLY AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

- (1) Deactivate the leading edge slats. To deactivate them, do this task: Leading Edge Flaps and Slats - Deactivation, TASK 27-81-00-040-801.

SUBTASK 30-11-11-860-001

- (2) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
A	1	C00146	ANTI-ICE & RAIN WING ANTI-ICE VALVE

EFFECTIVITY
AKS ALL

30-11-11



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

SUBTASK 30-11-11-860-011

- (3) Do this task to remove pressure from the pneumatic system: Remove Pressure from the Pneumatic System, TASK 36-00-00-860-806.

SUBTASK 30-11-11-010-001

- (4) Open the applicable wing access panels:

Number

Name/Location

521AB	Outboard Leading Edge Blowout Door - Slat Station 20.04
521AT	Outbd Leading Edge - Gap Cover Access
621AB	Outboard Leading Edge Blowout Door - Slat Station 20.04
621AT	Outbd Leading Edge - Gap Cover Access

F. Wing Thermal Anti-Icing Shutoff Valve Removal

(SSM 30-11-11, WDM 30-11-11)

SUBTASK 30-11-11-020-001

- (1) Disconnect the electrical connector [1] from the valve [6].

SUBTASK 30-11-11-020-002

- (2) Disconnect the bonding jumper [10] from the valve [6].
(a) Remove nut [7], washer [8], washer [11], and screw [12].

SUBTASK 30-11-11-020-003

- (3) Remove the coupling [3] and coupling [4].

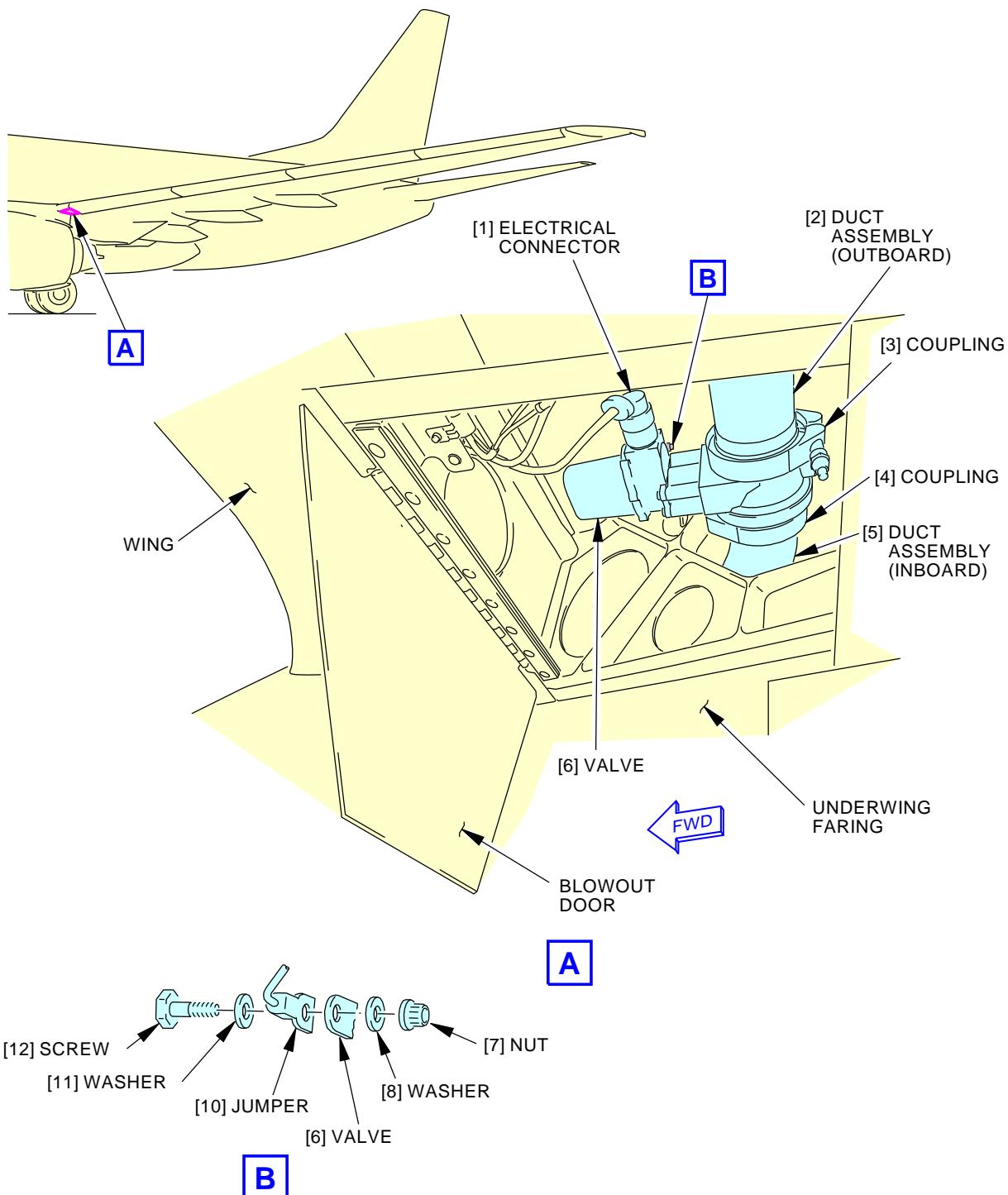
SUBTASK 30-11-11-020-004

- (4) Remove the valve [6].

———— END OF TASK ————



30-11-11



F21631 S0006573051_V3

Wing Thermal Anti-Icing Shutoff Valve Installation

Figure 401/30-11-11-990-801

EFFECTIVITY
AKS ALL

30-11-11

D633A101-AKS



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

TASK 30-11-11-400-801

3. Wing Thermal Anti-Icing Shutoff Valve Installation

(Figure 401)

A. General

- (1) This task gives instructions to install the Wing Thermal Anti-Icing Shutoff Valve.

B. References

Reference	Title
24-22-00-860-814	Remove External Power (P/B 201)
27-81-00-040-801	Leading Edge Flaps and Slats - Deactivation (P/B 201)
27-81-00-440-801	Leading Edge Flaps and Slats - Activation (P/B 201)
30-11-00-790-801	Wing Anti-Icing Duct - Leak Test (P/B 501)
30-11-11-710-801	Wing Thermal Anti Icing Shutoff Valve Test (P/B 501)
SSM 30-11-11	System Schematics Manual
SWPM 20-20-00	Electrical Bonding Processes
WDM 30-11-11	Wiring Diagram Manual

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1550	Bonding Meters - Approved, Intrinsically Safe (Approved for use in Class I, Divisions I & II hazardous (classified) locations. Outside these hazardous locations, COM-614 can be used in lieu of COM-1550). Part #: C15292 (MODEL T477W) Supplier: 01014 Part #: M1 Supplier: 3AD17 Opt Part #: M1B Supplier: 3AD17

D. Consumable Materials

Reference	Description	Specification
B00130	Alcohol - Isopropyl	TT-I-735

E. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
4	Coupling	30-11-11-02-030	AKS ALL
6	Valve	30-11-11-02-035	AKS ALL
7	Nut	30-11-11-02-020	AKS ALL
8	Washer	30-11-11-02-015	AKS 001-012
10	Jumper	30-11-11-02-025	AKS ALL
11	Washer	30-11-11-02-015	AKS 001-012
12	Screw	30-11-11-02-010	AKS ALL

F. Location Zones

Zone	Area
520	Subzone - Left Wing: Leading Edge, Fwd of Front Spar, Outboard of Strut and Nacelle Gap Cover Area



30-11-11

D633A101-AKS



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

(Continued)

Zone	Area
620	Subzone - Right Wing: Leading Edge, Forward of Front Spar, Outboard of Nacelle Strut

G. Access Panels

Number	Name/Location
521AB	Outboard Leading Edge Blowout Door - Slat Station 20.04
521AT	Outbd Leading Edge - Gap Cover Access
621AB	Outboard Leading Edge Blowout Door - Slat Station 20.04
621AT	Outbd Leading Edge - Gap Cover Access

H. Prepare for the Installation

SUBTASK 30-11-11-040-002

WARNING: DO THE DEACTIVATION PROCEDURE FOR THE LEADING EDGE SLATS. THE SLATS RETRACT QUICKLY. THIS CAN CAUSE INJURIES TO PERSONNEL OR DAMAGE TO EQUIPMENT.

- (1) Make sure the leading edge slats are deactivated (TASK 27-81-00-040-801).

SUBTASK 30-11-11-860-012

- (2) Make sure that this circuit breaker is open and has safety tag:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
A	1	C00146	ANTI-ICE & RAIN WING ANTI-ICE VALVE

I. Wing Thermal Anti-Icing Shutoff Valve Installation

(SSM 30-11-11)

(WDM 30-11-11)

SUBTASK 30-11-11-420-001

- (1) Put the valve [6] in its position.

SUBTASK 30-11-11-420-002

- (2) Install the coupling [3] and coupling [4].

SUBTASK 30-11-11-420-004

- (3) Do the following to connect the jumper [10]:

- (a) Clean the bonding surfaces of the jumper, washers, and valve with alcohol, B00130, or equivalent (SWPM 20-20-00, Section 2E, Cleaning of Faying Surfaces).
 - 1) Use Cleaning Procedure 5 to clean the surfaces.
- (b) Install the screw [12], washer [8], washer [11] and nut [7].
- (c) Use an intrinsically safe approved bonding meter, COM-1550, to make sure the resistance between the valve and the airplane structure is 0.0025 ohms or less.

SUBTASK 30-11-11-420-005

- (4) Connect the electrical connector [1].



30-11-11



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

J. Wing Thermal Anti-Icing Shutoff Valve Installation Test

SUBTASK 30-11-11-860-002

- (1) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	1	C00146	ANTI-ICE & RAIN WING ANTI-ICE VALVE

SUBTASK 30-11-11-700-001

- (2) Do this task: Wing Anti-Icing Duct - Leak Test, TASK 30-11-00-790-801 to test for duct leaks.

SUBTASK 30-11-11-710-001

- (3) Do this task: Wing Thermal Anti Icing Shutoff Valve Test, TASK 30-11-11-710-801.

K. Put the Airplane Back to Its Usual Condition

SUBTASK 30-11-11-410-001

- (1) Close the applicable wing panels,

<u>Number</u>	<u>Name/Location</u>
521AB	Outboard Leading Edge Blowout Door - Slat Station 20.04
521AT	Outbd Leading Edge - Gap Cover Access
621AB	Outboard Leading Edge Blowout Door - Slat Station 20.04
621AT	Outbd Leading Edge - Gap Cover Access

SUBTASK 30-11-11-440-001

- (2) Reactivate the leading edge slats. To activate them, do this task: Leading Edge Flaps and Slats - Activation, TASK 27-81-00-440-801.

SUBTASK 30-11-11-860-003

- (3) If it is necessary to remove electrical power, do this task: Remove External Power, TASK 24-22-00-860-814.

———— END OF TASK ————



30-11-11



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

WING THERMAL ANTI-ICING SHUTOFF VALVE - ADJUSTMENT/TEST

1. General

- A. This procedure contains a task to test the wing thermal anti-icing shutoff valve.

TASK 30-11-11-710-801

2. Wing Thermal Anti Icing Shutoff Valve Test

(Figure 501)

A. General

- (1) This test makes sure that the Wing Thermal Anti-Icing Shutoff Valve is operating properly.

B. References

Reference	Title
24-22-00-860-813	Supply External Power (P/B 201)
24-22-00-860-814	Remove External Power (P/B 201)

C. Location Zones

Zone	Area
212	Flight Compartment - Right
520	Subzone - Left Wing: Leading Edge, Fwd of Front Spar, Outboard of Strut and Nacelle Gap Cover Area
620	Subzone - Right Wing: Leading Edge, Forward of Front Spar, Outboard of Nacelle Strut

D. Access Panels

Number	Name/Location
521AB	Outboard Leading Edge Blowout Door - Slat Station 20.04
621AB	Outboard Leading Edge Blowout Door - Slat Station 20.04

E. Prepare for the Test

SUBTASK 30-11-11-860-004

- (1) Do this task: Supply External Power, TASK 24-22-00-860-813.

SUBTASK 30-11-11-860-005

- (2) Make sure that the thrust levers are in the IDLE position.

SUBTASK 30-11-11-010-002

- (3) Open the applicable wing access panels:

Number	Name/Location
521AB	Outboard Leading Edge Blowout Door - Slat Station 20.04
621AB	Outboard Leading Edge Blowout Door - Slat Station 20.04

F. Procedure

SUBTASK 30-11-11-860-006

- (1) Press and release the L VALVE OPEN and R VALVE OPEN light switches on the P5-11 panel.

- (a) Make sure each light comes on then goes off.

SUBTASK 30-11-11-860-007

- (2) Make sure the TAI valves open correctly.

- (a) Put the WING ANTI-ICE switch in the ON position.

- (b) Make sure the VALVE OPEN lights come on brightly for 1 to 3 seconds.

EFFECTIVITY
AKS ALL

30-11-11



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

- (c) Make sure the VALVE OPEN lights are on dimly after 3 seconds.
- (d) Make sure the wing TAI valves are open.

SUBTASK 30-11-11-720-001

- (3) Test the TAI valve indication for the left wing:

- (a) Open this circuit breaker:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	1	C00146	ANTI-ICE & RAIN WING ANTI-ICE VALVE

- (b) Disconnect the electrical connector from the left wing TAI valve.
 - (c) Make sure the L VALVE OPEN light is on brightly and continuously.
 - (d) Reconnect the electrical connector to the TAI valve.
 - (e) Close this circuit breaker:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	1	C00146	ANTI-ICE & RAIN WING ANTI-ICE VALVE

- (f) Make sure the L VALVE OPEN is on dimly and continuously.

SUBTASK 30-11-11-720-002

- (4) Test the TAI valve indication for the right wing:

- (a) Open this circuit breaker:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	1	C00146	ANTI-ICE & RAIN WING ANTI-ICE VALVE

- (b) Disconnect the electrical connector from the right wing TAI valve.
 - (c) Make sure the R VALVE OPEN light is on brightly and continuously.
 - (d) Reconnect the electrical connector to the TAI valve.
 - (e) Close this circuit breaker:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	1	C00146	ANTI-ICE & RAIN WING ANTI-ICE VALVE

- (f) Make sure the R VALVE OPEN is on dimly and continuously.

SUBTASK 30-11-11-860-008

- (5) Make sure the TAI valves close correctly.

- (a) Put the WING ANTI-ICE switch in the OFF position.
 - (b) Make sure the VALVE OPEN lights come on brightly for 1 to 3 seconds.
 - (c) Make sure the VALVE OPEN lights go off after 3 seconds.
 - (d) Make sure the wing TAI valves are closed.



30-11-11



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

G. Put the Airplane in its Usual Condition

SUBTASK 30-11-11-410-002

- (1) Close the applicable wing access panels:

Number **Name/Location**

521AB Outboard Leading Edge Blowout Door - Slat Station 20.04

621AB Outboard Leading Edge Blowout Door - Slat Station 20.04

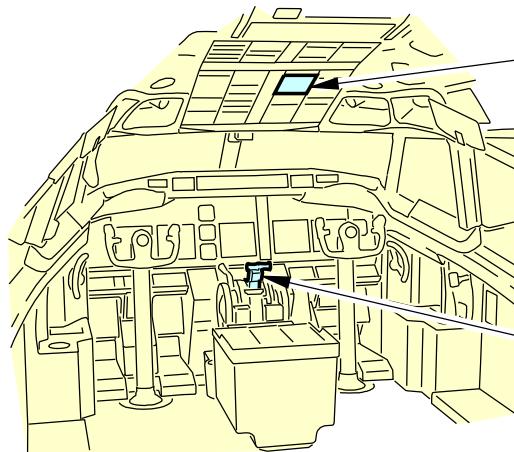
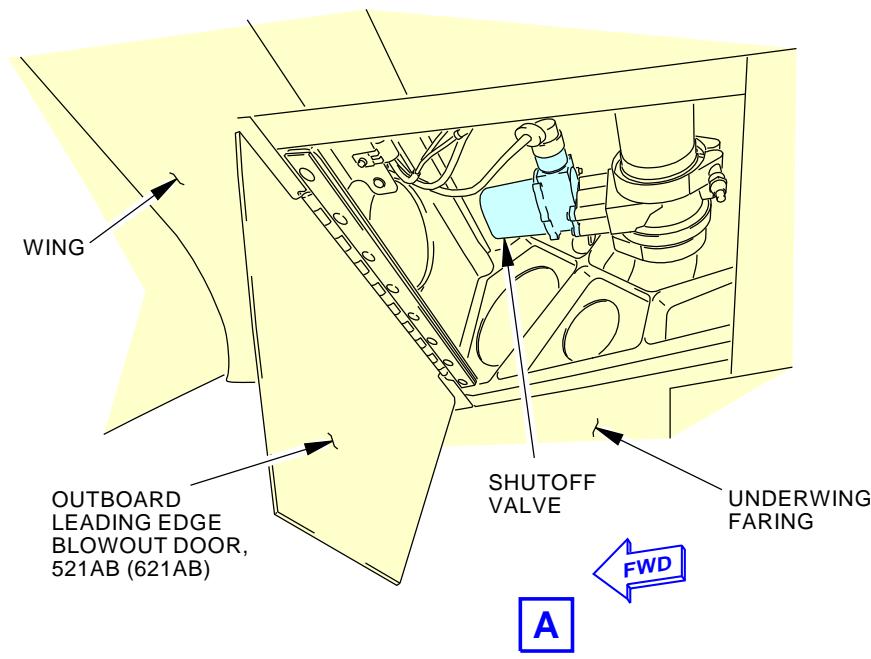
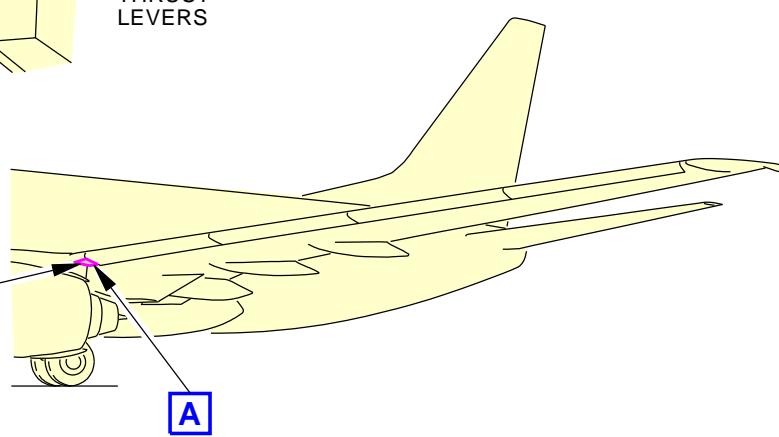
SUBTASK 30-11-11-860-009

- (2) If electrical power is no longer necessary, do this task: Remove External Power, TASK 24-22-00-860-814.

———— END OF TASK ————

EFFECTIVITY
AKS ALL

30-11-11

**737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL**

FLIGHT COMPARTMENT


F99798 S0006573055_V2

**Wing Thermal Anti-Icing Shutoff Valve Test
Figure 501/30-11-11-990-802**

 EFFECTIVITY
AKS ALL
30-11-11



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

GROUND WING THERMAL ANTI-ICING SOLENOID VALVE - REMOVAL/INSTALLATION

1. General

- A. This procedure has these tasks:
 - (1) Ground Wing Thermal Anti-Icing Solenoid Valve Removal.
 - (2) Ground Wing Thermal Anti-Icing Solenoid Valve Installation.

TASK 30-11-12-000-801

2. Ground Wing Thermal Anti-Icing Solenoid Valve Removal

(Figure 401)

A. General

- (1) This task gives instructions to remove the Ground Wing Thermal Anti-Icing Solenoid Valve.

B. References

Reference	Title
78-31-00-010-801-F00	Open the Thrust Reverser (Selection) (P/B 201)

C. Location Zones

Zone	Area
411	Engine 1 - Engine
421	Engine 2 - Engine

D. Prepare for the Removal

SUBTASK 30-11-12-860-001

- (1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
A	1	C00146	ANTI-ICE & RAIN WING ANTI-ICE VALVE
AKS 001-024, 026, 028-999			
A	6	C00148	ANTI-ICE & RAIN ENG 1 & WING CONT
AKS 025, 027			
A	6	C00148	ANTI-ICE-RAIN ENG 1/WING CONT-ICE DET
AKS ALL			

SUBTASK 30-11-12-010-005

WARNING: DO THESE SPECIFIED TASKS IN THE CORRECT SEQUENCE BEFORE YOU OPEN THE THRUST REVERSERS: RETRACT THE LEADING EDGE, DO THE DEACTIVATION PROCEDURES FOR THE LEADING EDGE AND THE THRUST REVERSERS (FOR GROUND MAINTENANCE), AND OPEN THE FAN COWL PANELS. IF YOU DO NOT OBEY THE ABOVE SEQUENCE, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

- (2) Do this task: Open the Thrust Reverser (Selection), TASK 78-31-00-010-801-F00.

E. Ground Wing Thermal Anti-Icing Solenoid Valve Removal

SUBTASK 30-11-12-020-001

- (1) Remove the electrical connector [5].

SUBTASK 30-11-12-020-002

- (2) Remove the tube [4].

EFFECTIVITY
AKS ALL

30-11-12



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

SUBTASK 30-11-12-020-003

- (3) Remove the union [3] and discard the seal [2].

SUBTASK 30-11-12-020-004

- (4) Remove the bolts [6].

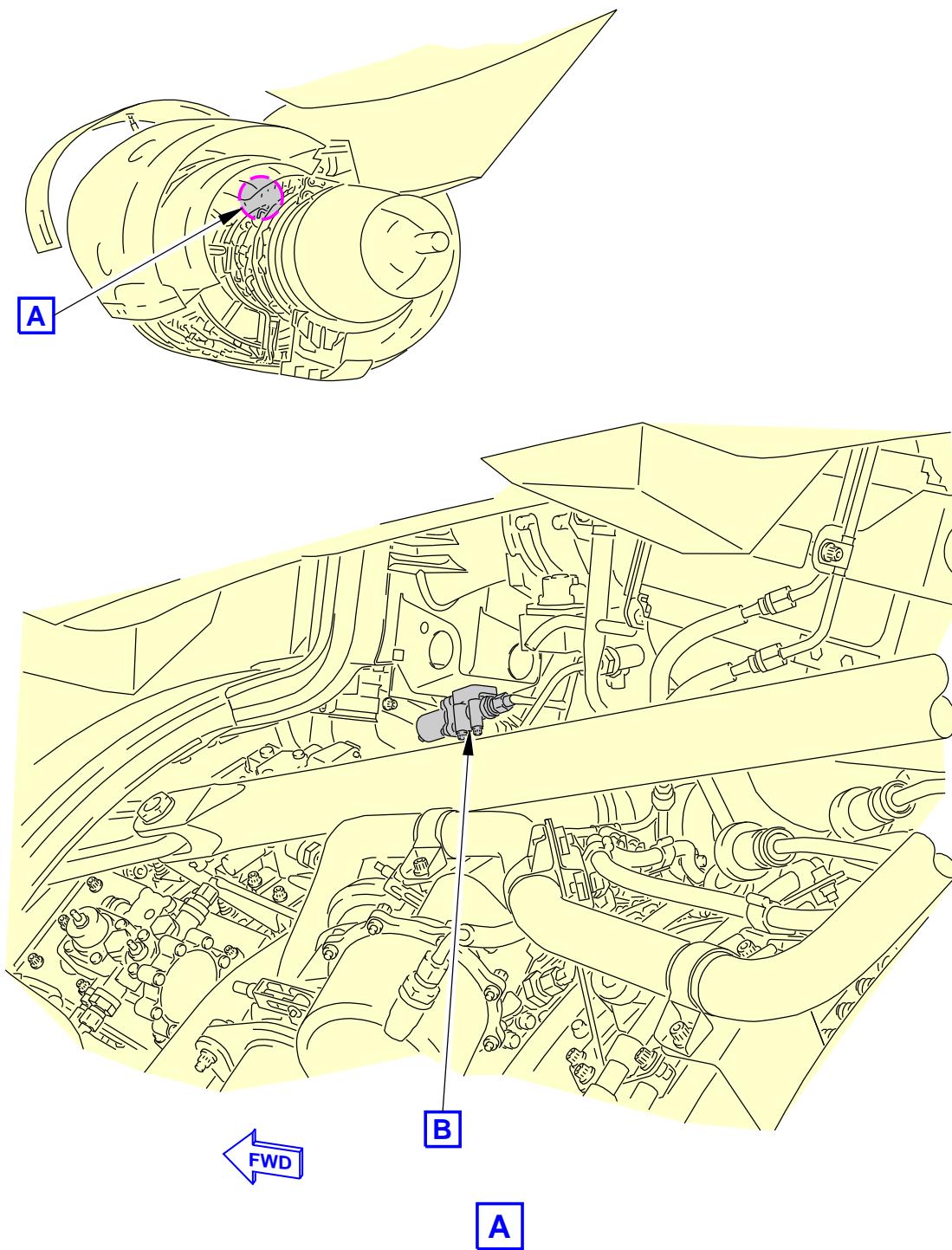
SUBTASK 30-11-12-020-005

- (5) Remove the solenoid valve [7], set the spacer [1] aside.

———— END OF TASK ————

EFFECTIVITY
AKS ALL

30-11-12



F23592 S0006573059_V2

Wing Thermal Anti-Ice Solenoid Valve Installation
Figure 401/30-11-12-990-801 (Sheet 1 of 2)

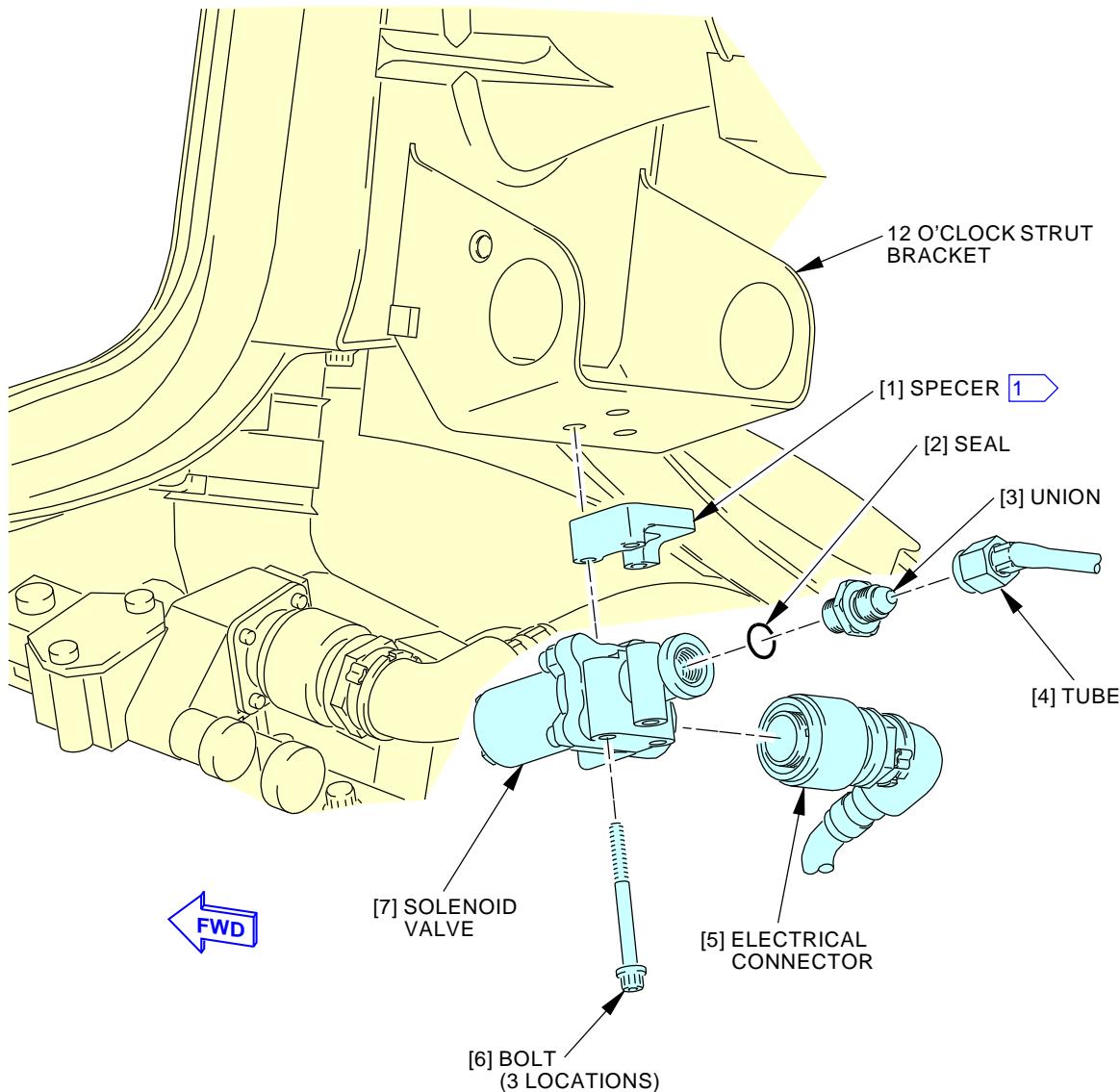
EFFECTIVITY
AKS ALL

30-11-12

D633A101-AKS

BOEING PROPRIETARY - Copyright © Unpublished Work - See title page for details

Page 403
Oct 15/2015



1 ONE SPACER OR THREE BUSHINGS MAY BE USED.

B

F23714 S0006573060_V6

Wing Thermal Anti-Ice Solenoid Valve Installation
Figure 401/30-11-12-990-801 (Sheet 2 of 2)

EFFECTIVITY
AKS ALL

D633A101-AKS

30-11-12

Page 404
Oct 15/2015



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

TASK 30-11-12-400-801

3. Ground Wing Thermal Anti-Icing Solenoid Valve Installation

(Figure 401)

A. General

- (1) This task gives instructions to install the Ground Wing Thermal Anti-Icing Solenoid Valve.

B. References

Reference	Title
78-31-00-010-804-F00	Close the Thrust Reverser (Selection) (P/B 201)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1550	Bonding Meters - Approved, Intrinsically Safe (Approved for use in Class I, Divisions I & II hazardous (classified) locations. Outside these hazardous locations, COM-614 can be used in lieu of COM-1550). Part #: C15292 (MODEL T477W) Supplier: 01014 Part #: M1 Supplier: 3AD17 Opt Part #: M1B Supplier: 3AD17

D. Consumable Materials

Reference	Description	Specification
D50004	Compound - Antiseize	BMS3-28

E. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Spacer	30-11-12-01A-007	AKS ALL
2	Seal	36-11-51-02A-275	AKS ALL
6	Bolt	30-11-12-01A-005	AKS ALL
7	Solenoid valve	30-11-12-01A-025	AKS ALL
		30-11-12-01A-030	AKS ALL

F. Location Zones

Zone	Area
411	Engine 1 - Engine
421	Engine 2 - Engine

G. Prepare for the Installation

SUBTASK 30-11-12-860-012

- (1) Make sure that these circuit breakers are open and have safety tags:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
A	1	C00146	ANTI-ICE & RAIN WING ANTI-ICE VALVE
AKS 001-024, 026, 028-999			
A	6	C00148	ANTI-ICE & RAIN ENG 1 & WING CONT



30-11-12



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

AKS 001-024, 026, 028-999 (Continued)

(Continued)

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
------------	------------	---------------	-------------

AKS 025, 027

A	6	C00148	ANTI-ICE-RAIN ENG 1/WING CONT-ICE DET
---	---	--------	---------------------------------------

AKS ALL

H. Ground Wing Thermal Anti-Icing Solenoid Valve Installation

SUBTASK 30-11-12-420-001

- (1) Position the solenoid valve [7] and spacer [1] on the strut bracket.

SUBTASK 30-11-12-420-002

- (2) Secure the solenoid valve [7] with the bolts [6].

SUBTASK 30-11-12-420-003

- (3) Install the seal [2] and union [3].

- (a) Apply compound, D50004, to the threads of the union [3].

SUBTASK 30-11-12-420-005

- (4) Install the tube [4].

SUBTASK 30-11-12-420-007

- (5) Connect the electrical connector [5] to the solenoid valve [7].

I. Ground Wing Thermal Anti-Icing Solenoid Valve Installation Test

SUBTASK 30-11-12-860-002

- (1) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
------------	------------	---------------	-------------

A	1	C00146	ANTI-ICE & RAIN WING ANTI-ICE VALVE
---	---	--------	-------------------------------------

AKS 001-024, 026, 028-999

A	6	C00148	ANTI-ICE & RAIN ENG 1 & WING CONT
---	---	--------	-----------------------------------

AKS 025, 027

A	6	C00148	ANTI-ICE-RAIN ENG 1/WING CONT-ICE DET
---	---	--------	---------------------------------------

AKS ALL

SUBTASK 30-11-12-760-001

- (2) Use the intrinsically safe approved bonding meter, COM-1550, to make sure the resistance between the solenoid valve and the airplane structure is 0.008 ohm (8 milliohms) or less.

SUBTASK 30-11-12-710-001

- (3) Do this test of the solenoid valve:

NOTE: Two people are necessary to complete this test.

- (a) While one person listens to the solenoid valve, put the WING ANTI-ICE switch in the ON position.

- (b) If the solenoid valve makes a clicking sound, then the valve is open.

NOTE: The solenoid valve operates correctly.

- (c) Put the WING ANTI-ICE switch in the OFF position.

EFFECTIVITY
AKS ALL

30-11-12



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

J. Put the Airplane Back to Its Usual Condition

SUBTASK 30-11-12-410-004

WARNING: OBEY THE INSTRUCTIONS IN THE PROCEDURE TO CLOSE THE THRUST REVERSERS. IF YOU DO NOT OBEY THE INSTRUCTIONS WHEN YOU CLOSE THE THRUST REVERSERS, INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT CAN OCCUR.

- (1) Do this task: Close the Thrust Reverser (Selection), TASK 78-31-00-010-804-F00.

———— END OF TASK ——

EFFECTIVITY
AKS ALL

30-11-12

D633A101-AKS

BOEING PROPRIETARY - Copyright © Unpublished Work - See title page for details

Page 407
Jun 15/2016



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

GROUND WING THERMAL ANTI-ICING SOLENOID VALVE - ADJUSTMENT/TEST

1. General

- A. This procedure contains scheduled maintenance task data.
- B. This procedure has a task to test the Ground Wing TAI Solenoid Valve.

TASK 30-11-12-710-801

2. Ground Wing Thermal Anti-Icing (TAI) Solenoid Valve Test

(Figure 501)

A. General

- (1) This test checks for the proper operation of the ground wing thermal anti-icing (TAI) solenoid valves.

B. References

Reference	Title
24-22-00-860-813	Supply External Power (P/B 201)
24-22-00-860-814	Remove External Power (P/B 201)
32-09-00-840-801	Prepare to Put the Airplane in the Air Mode (P/B 201)
32-09-00-860-801	Put the Airplane in the Air Mode (P/B 201)
32-09-00-860-802	Return the Airplane to the Ground Mode (P/B 201)
36-00-00-860-805	Supply Pressure Upstream of the PRSOV (P/B 201)
36-00-00-860-806	Remove Pressure from the Pneumatic System (P/B 201)
78-31-00-010-801-F00	Open the Thrust Reverser (Selection) (P/B 201)
78-31-00-010-804-F00	Close the Thrust Reverser (Selection) (P/B 201)

C. Tools/Equipment

Reference	Description
STD-1115	Source - Nitrogen, 0-100 PSIG
STD-1198	Regulator - Pressure, 0 to 100 PSI with Pressure Gauge, 3/8 Inch ID Connections

D. Location Zones

Zone	Area
510	Subzone - Left Wing: Leading Edge, Fwd of Front Spar, Inbd of Strut and Nacelle Gap Cover Area
520	Subzone - Left Wing: Leading Edge, Fwd of Front Spar, Outboard of Strut and Nacelle Gap Cover Area
610	Subzone - Right Wing: Leading Edge, Forward of Front Spar, Inboard of Nacelle Strut, Including Gap Cover Area
620	Subzone - Right Wing: Leading Edge, Forward of Front Spar, Outboard of Nacelle Strut

E. Prepare for the Procedure

SUBTASK 30-11-12-860-003

- (1) Do this task: Supply External Power, TASK 24-22-00-860-813.

SUBTASK 30-11-12-860-004

- (2) Make sure each engine start lever is in the CUTOFF position.
 - (a) Install a DO-NOT-OPERATE tag on the each engine start lever.

EFFECTIVITY
AKS ALL

30-11-12



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

SUBTASK 30-11-12-010-003

WARNING: DO THESE SPECIFIED TASKS IN THE CORRECT SEQUENCE BEFORE YOU OPEN THE THRUST REVERSERS: RETRACT THE LEADING EDGE, DEACTIVATE THE LEADING EDGE, DEACTIVATE THE THRUST REVERSER (FOR GROUND MAINTENANCE), AND OPEN THE FAN COWL PANEL. IF YOU DO NOT OBEY THE ABOVE SEQUENCE, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

- (3) Do this task: Open the Thrust Reverser (Selection), TASK 78-31-00-010-801-F00.

SUBTASK 30-11-12-860-005

- (4) Make sure that the thrust levers are in the IDLE position.

F. Procedure

SUBTASK 30-11-12-480-001

- (1) Do these steps to connect the test equipment to the engine:

- (a) Disconnect the bleed air supply line at the inlet tee at the supply pressure sense line on the left of the engine.
- (b) Connect a 0-100 PSIG nitrogen source, STD-1115, pressure regulator, STD-1198, and test line at the tee to the supply pressure sense line.

SUBTASK 30-11-12-710-002

- (2) Do this test of the solenoid valve:

- (a) Slowly increase the supply pressure to between 25 psig (2 kg/cm^2) and 30 psig (2 kg/cm^2).
- (b) Make sure the precooler control valve goes closed.
- (c) Put the WING ANTI-ICE switch on the engine and wing anti-ice control panel (P5-11) in the ON position.
- (d) Make sure these actions occur:
 - 1) Listen for the ground wing thermal anti-icing solenoid valve to make a clicking sound to indicate the valve is open.
 - 2) Make sure the precooler control valve goes fully open, or 30 degrees from fully open.

SUBTASK 30-11-12-720-002

- (3) Do this check of the air mode transition:

WARNING: OBEY THE PROCEDURE THAT PUTS THE AIRPLANE IN THE AIR MODE. IF YOU DO THE PROCEDURE INCORRECTLY, INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT CAN OCCUR.

- (a) Do this task: Prepare to Put the Airplane in the Air Mode, TASK 32-09-00-840-801.
- (b) Do this task: Put the Airplane in the Air Mode, TASK 32-09-00-860-801.
 - 1) Listen for the ground wing thermal anti icing solenoid valve to make a clicking sound to indicate the valve is closed.
 - 2) Make sure the precooler control valve goes closed.
- (c) Put the WING ANTI-ICE switch goes to the OFF position.
- (d) Put the WING ANTI-ICE switch to the ON position.
 - 1) Make sure the ground wing thermal anti icing solenoid valve does not operate, or make any sounds.

EFFECTIVITY	AKS ALL
-------------	---------

30-11-12



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

- 2) Make sure the precooler control valve remains closed.
- (e) Put the WING ANTI-ICE switch in the OFF position.
- (f) Decrease the supply pressure to 0 psig.
- (g) Return the airplane to the ground mode. To do this, do this task: Return the Airplane to the Ground Mode, TASK 32-09-00-860-802.

SUBTASK 30-11-12-080-001

- (4) Remove the test equipment from the engine.

SUBTASK 30-11-12-080-002

- (5) Reinstall the cap on the test port.

SUBTASK 30-11-12-080-003

- (6) Reconnect the bleed air supply line at the inlet tee of the supply pressure sense line.

SUBTASK 30-11-12-780-001

- (7) Do this task: Supply Pressure Upstream of the PRSOV, TASK 36-00-00-860-805.

SUBTASK 30-11-12-200-001

- (8) Inspect and check for leaks at the bleed air supply line at the inlet tee at the supply pressure sense line on the left of the engine, and test port cap on the control pressure sense line on the right side of the engine (see Figure 501).

NOTE: No leakage is permitted at the sense line connections.

SUBTASK 30-11-12-780-002

- (9) Do this task: Remove Pressure from the Pneumatic System, TASK 36-00-00-860-806.

G. Put the airplane back to its usual condition.

SUBTASK 30-11-12-410-005

WARNING: OBEY THE INSTRUCTIONS IN THE PROCEDURE TO CLOSE THE THRUST REVERSERS. IF YOU DO NOT OBEY THE INSTRUCTIONS, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

- (1) Do this task: Close the Thrust Reverser (Selection), TASK 78-31-00-010-804-F00.

SUBTASK 30-11-12-440-002

- (2) Remove the DO-NOT-OPERATE tag from each engine start lever.

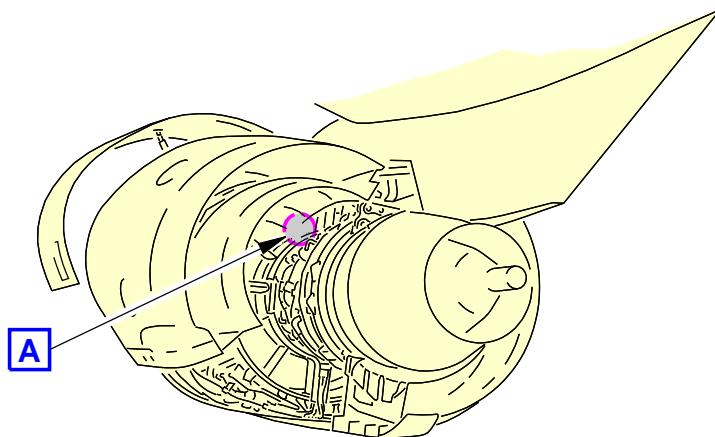
SUBTASK 30-11-12-860-011

- (3) If electrical power is no longer necessary, do this task: Remove External Power, TASK 24-22-00-860-814.

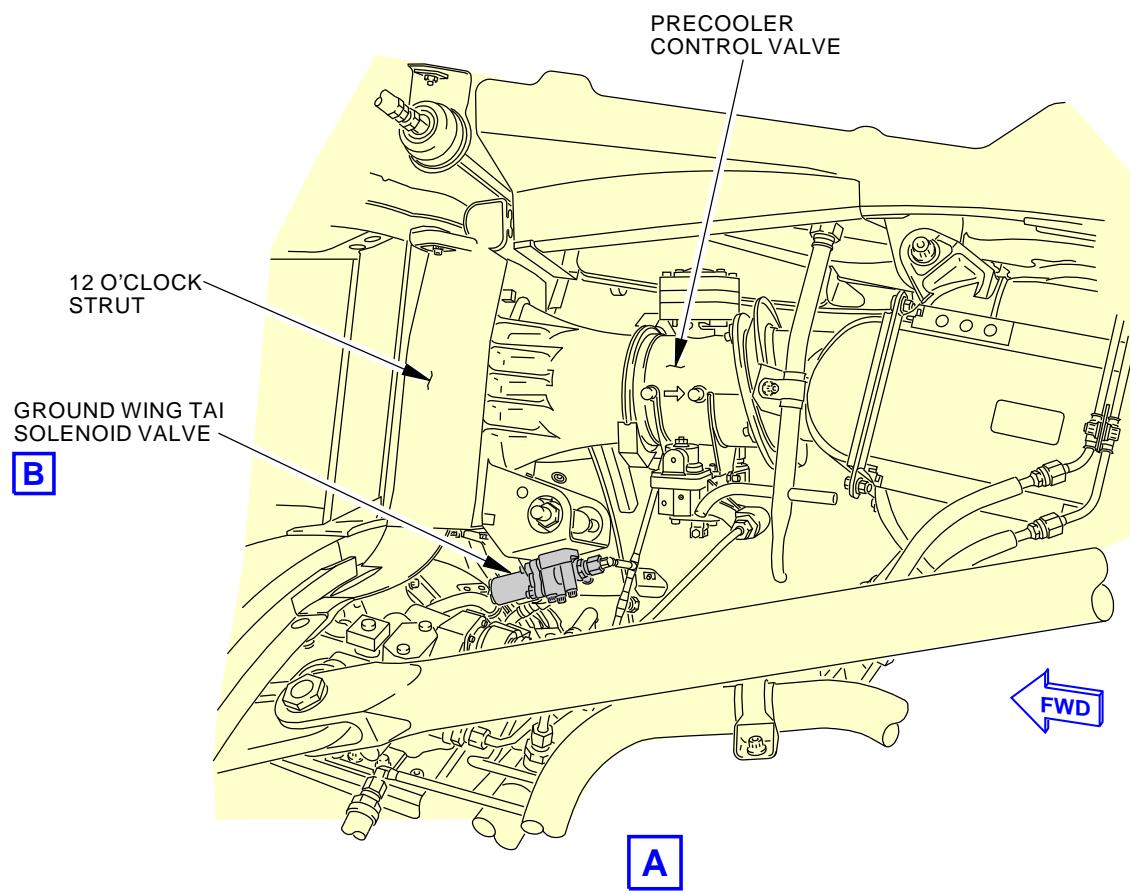
———— END OF TASK ————



30-11-12



**LEFT ENGINE
(RIGHT ENGINE IS EQUIVALENT)**



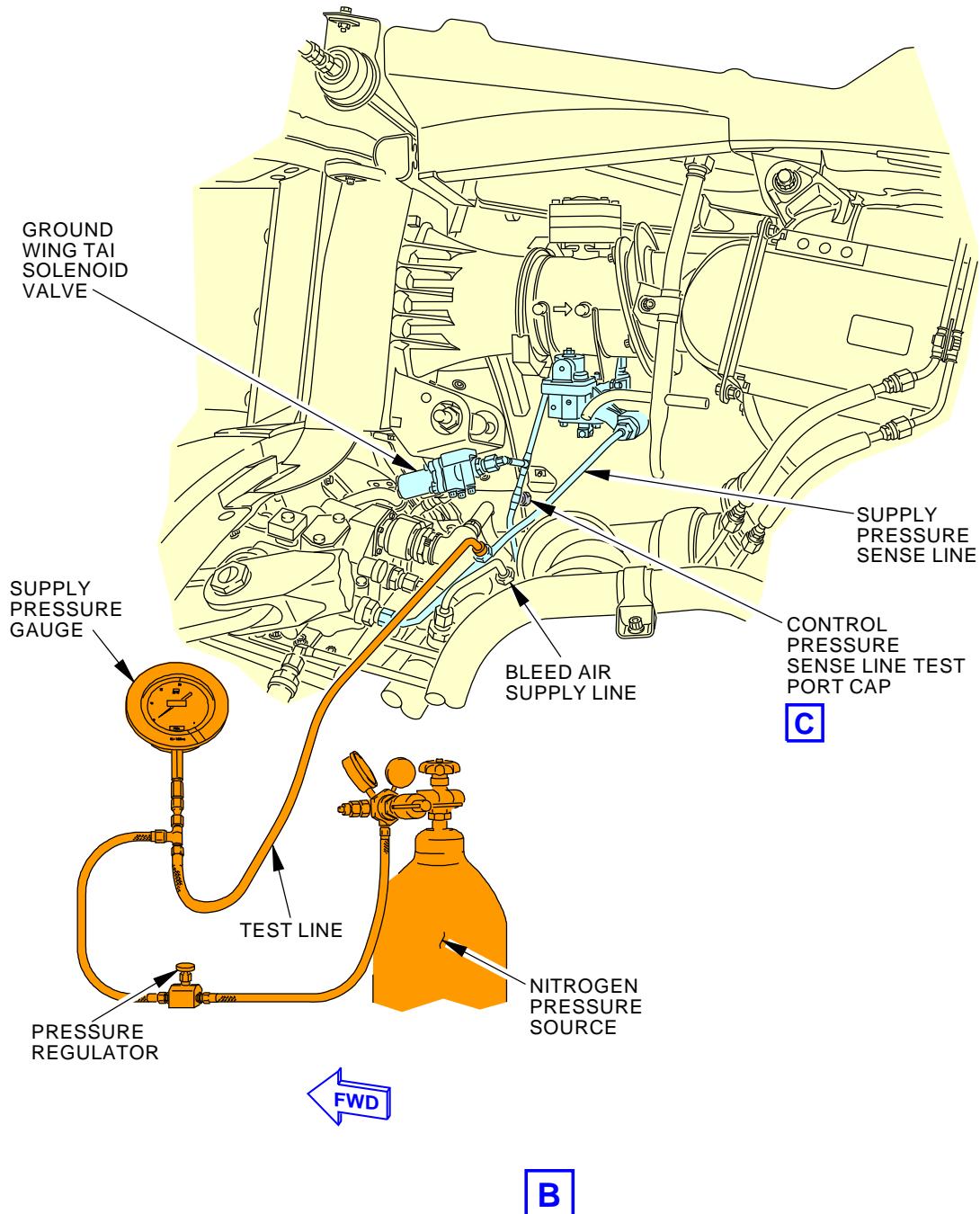
G28089 S0006573064_V2

Ground Wing Thermal Anti-Icing Solenoid Valve Test
Figure 501/30-11-12-990-802 (Sheet 1 of 3)

EFFECTIVITY
AKS ALL

30-11-12

D633A101-AKS



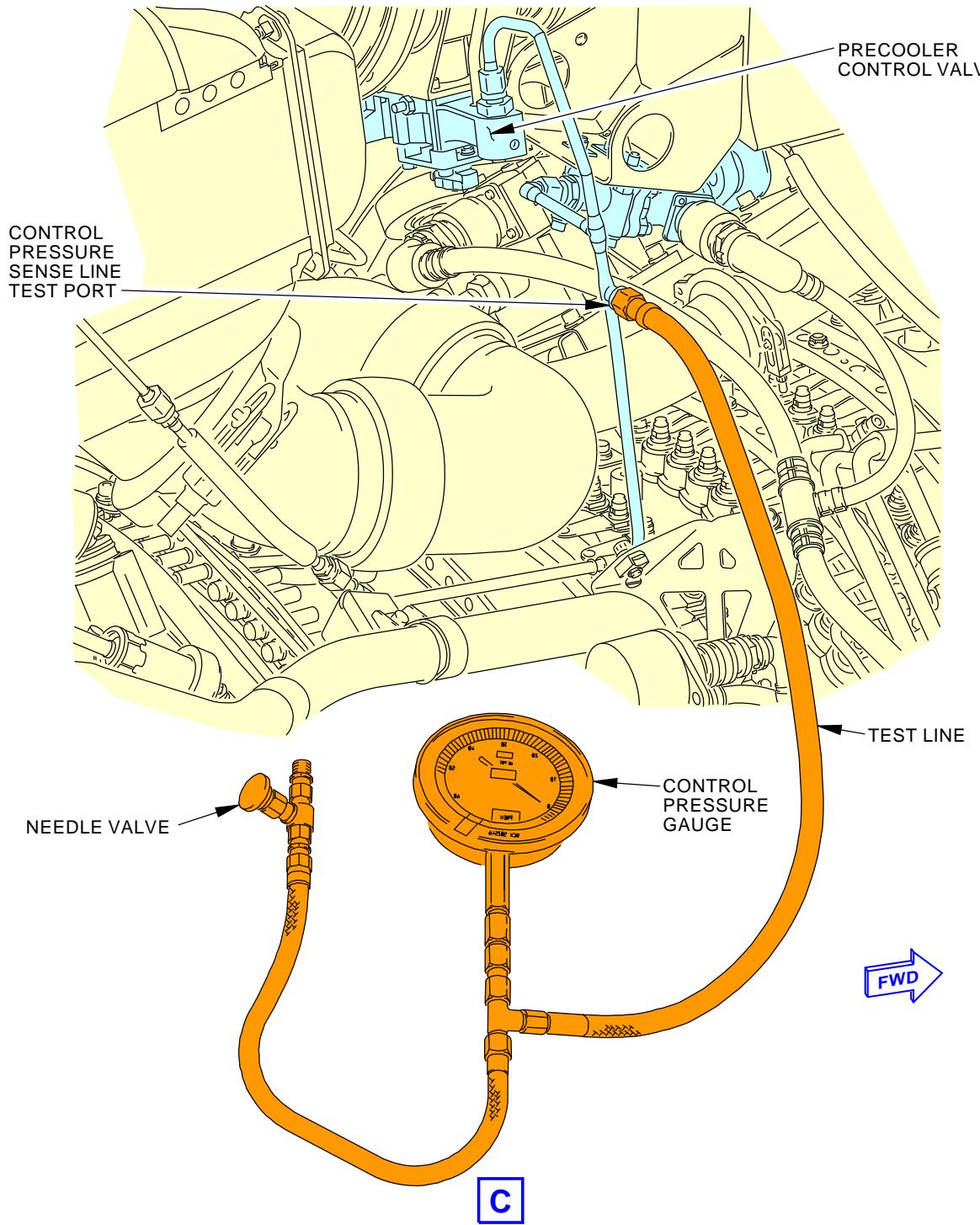
G67993 S0006573065_V2

Ground Wing Thermal Anti-Icing Solenoid Valve Test
Figure 501/30-11-12-990-802 (Sheet 2 of 3)

EFFECTIVITY
 AKS ALL

30-11-12

D633A101-AKS



G68003 S0006573066_V2

Ground Wing Thermal Anti-Icing Solenoid Valve Test
Figure 501/30-11-12-990-802 (Sheet 3 of 3)

EFFECTIVITY
AKS ALL

30-11-12

D633A101-AKS

BOEING PROPRIETARY - Copyright © Unpublished Work - See title page for details



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

WING ANTI-ICING GROUND OVERHEAT THERMAL SWITCH - REMOVAL/INSTALLATION

1. General

- A. This procedure has these tasks:
 - (1) Removal of the wing anti-icing ground overheat thermal switch.
 - (2) Installation of the wing anti-icing ground overheat thermal switch.

TASK 30-11-21-000-801

2. Wing Anti-Icing Ground Overheat Thermal Switch Removal

(Figure 401)

A. General

- (1) This task gives instructions to remove the Wing Anti-Icing Ground Overheat Thermal Switch.

B. References

Reference	Title
27-81-00-480-801	Leading Edge Flap and Slat Locks Installation (P/B 201)

C. Access Panels

Number	Name/Location
521BB	Engine Fuel Valve Shutoff Access Panel - Slat Station 36.02
621BB	Engine Fuel Spar Valve Access Panel - Slat Station 36.02

D. Prepare for the Removal

SUBTASK 30-11-21-860-001

WARNING: YOU MUST CAREFULLY DO THE STEPS IN THE TASK BELOW TO INSTALL THE LEADING EDGE FLAPS AND SLATS LOCKS. IF YOU DO NOT INSTALL THE LOCKS CORRECTLY, THE LEADING EDGE FLAPS CAN MOVE QUICKLY. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

- (1) Install the leading edge flaps and slats locks (TASK 27-81-00-480-801).

SUBTASK 30-11-21-860-002

- (2) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
A	1	C00146	ANTI-ICE & RAIN WING ANTI-ICE VALVE

SUBTASK 30-11-21-010-001

- (3) Open the applicable access panels:

Number Name/Location

521BB	Engine Fuel Valve Shutoff Access Panel - Slat Station 36.02
621BB	Engine Fuel Spar Valve Access Panel - Slat Station 36.02

E. Wing Anti-Icing Ground Overheat Thermal Switch Removal

SUBTASK 30-11-21-020-001

- (1) Disconnect the electrical connector [4] from the thermal switch [3].

SUBTASK 30-11-21-020-002

- (2) Remove the thermal switch [3].



30-11-21



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

- (a) Discard the o-ring [2].

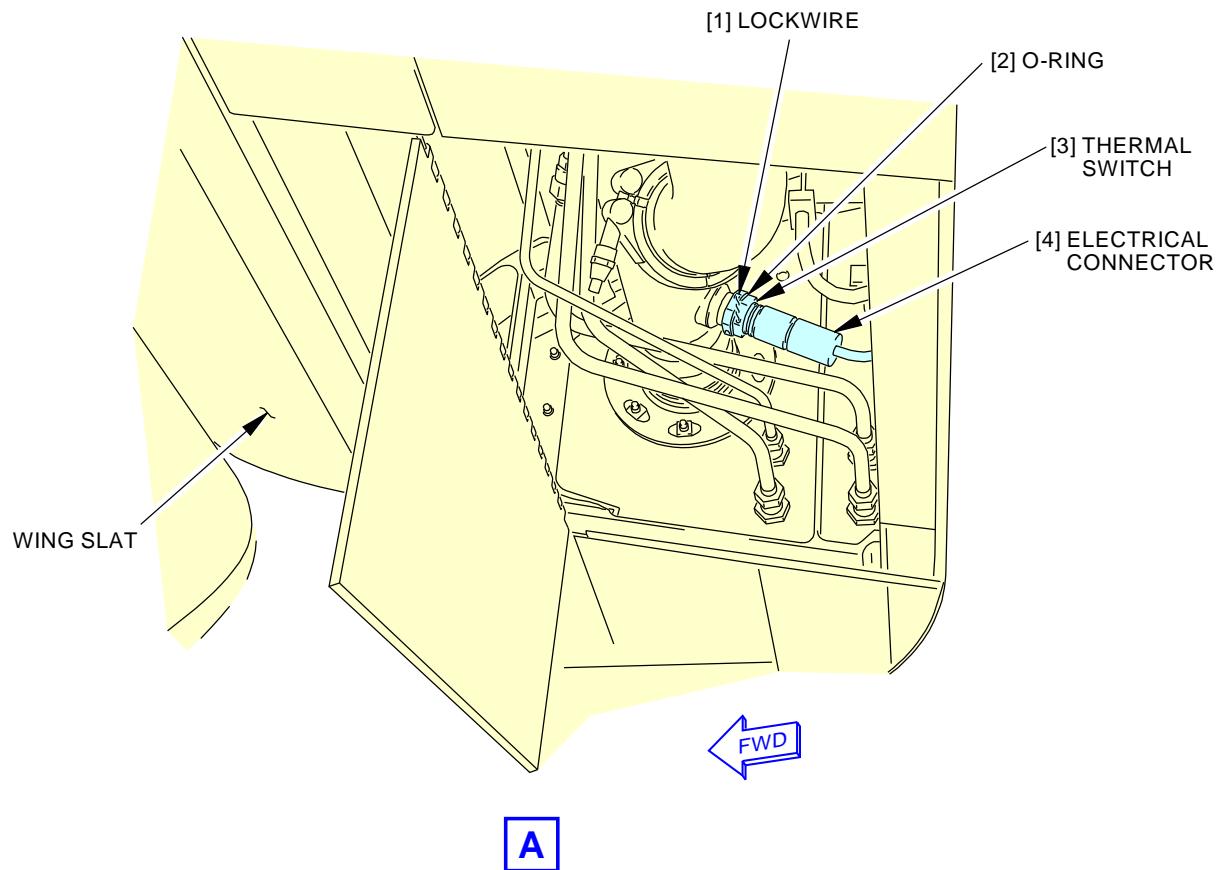
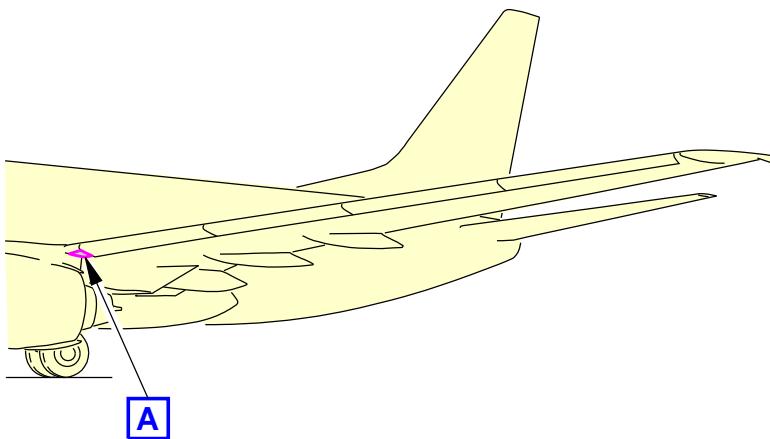
———— END OF TASK ————

———— EFFECTIVITY ————
AKS ALL

30-11-21



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL



F33641 S0006573070_V3

Wing Anti-Icing Ground Overheat Thermal Switch Installation
Figure 401/30-11-21-990-801

EFFECTIVITY	AKS ALL
-------------	---------

D633A101-AKS

30-11-21

Page 403
Oct 15/2015



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

TASK 30-11-21-400-801

3. Wing Anti-Icing Ground Overheat Thermal Switch Installation

(Figure 401)

A. General

- (1) This task gives instructions to install the Wing Anti-Icing Ground Overheat Thermal Switch.

B. References

Reference	Title
24-22-00-860-813	Supply External Power (P/B 201)
24-22-00-860-814	Remove External Power (P/B 201)
27-81-00-080-801	Leading Edge Flap and Slat Locks Removal (P/B 201)

C. Consumable Materials

Reference	Description	Specification
D00010	Compound - Thread Antiseize, High Temperature	MIL-PRF-907

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
2	O-ring	30-11-21-02-010	AKS ALL
3	Thermal switch	30-11-21-02-015	AKS ALL

E. Access Panels

Number	Name/Location
521BB	Engine Fuel Valve Shutoff Access Panel - Slat Station 36.02
621BB	Engine Fuel Spar Valve Access Panel - Slat Station 36.02

F. Wing Anti-Icing Ground Overheat Thermal Switch Installation

SUBTASK 30-11-21-420-001

- (1) Put compound, D00010, on the threads of the overheat thermal switch [3].

SUBTASK 30-11-21-420-002

- (2) Install the o-ring [2] on the thermal switch [3].

SUBTASK 30-11-21-400-001

- (3) Install the thermal switch [3] into the duct boss.

- (a) Torque the thermal switch [3] to 90 ± 10 in-lb (10 ± 1 N·m).

SUBTASK 30-11-21-420-004

- (4) Install the lockwire [1] on the thermal switch [3].

SUBTASK 30-11-21-420-005

- (5) Connect the electrical connector [4] to the thermal switch [3].

NOTE: If you will do the Test of the Thermal Switch Circuit procedure, do not connect the electrical connector until after the test.

G. Wing Anti-Icing Ground Overheat Thermal Switch Installation Test

SUBTASK 30-11-21-860-003

- (1) Supply electrical power to the airplane (TASK 24-22-00-860-813).

EFFECTIVITY
AKS ALL

30-11-21



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

SUBTASK 30-11-21-860-004

- (2) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	1	C00146	ANTI-ICE & RAIN WING ANTI-ICE VALVE

SUBTASK 30-11-21-020-005

- (3) Remove the electrical connector [4] from the thermal switch [3].

SUBTASK 30-11-21-710-001

- (4) Do a test of the thermal switch circuit:

- (a) Set the WING ANTI-ICE switch (P5 overhead panel) to ON.
- (b) Look at the left and right wing anti-ice valves to make sure that they are open.
- (c) Use a jumper to connect the pins 1 and 2 of the switch connector (D738 - left wing, D736 - Right wing).
- (d) Make sure that the L VALVE OPEN and R VALVE OPEN lights come on brightly.
- (e) Look at the left and right wing anti-ice valves to make sure that they are closed.
- (f) Remove the jumper from the thermal switch connector.
- (g) Make sure that the L VALVE OPEN and the R VALVE OPEN lights come on brightly for 1-3 seconds and then become dim.
- (h) Look at the left and right wing anti-ice valves to make sure that they are open.
- (i) Set the WING ANTI-ICE switch to OFF.

SUBTASK 30-11-21-420-006

- (5) Connect the electrical connector [4] to the thermal switch [3].

H. Put the Airplane Back to Its Usual Condition

SUBTASK 30-11-21-410-001

- (1) Close the applicable panels:

<u>Number</u>	<u>Name/Location</u>
521BB	Engine Fuel Valve Shutoff Access Panel - Slat Station 36.02
621BB	Engine Fuel Spar Valve Access Panel - Slat Station 36.02

SUBTASK 30-11-21-840-001

- (2) Remove the leading edge flaps and slats locks (TASK 27-81-00-080-801).

SUBTASK 30-11-21-840-002

- (3) If electrical power is not necessary, do this task: Remove External Power, TASK 24-22-00-860-814.

———— END OF TASK ————

EFFECTIVITY
AKS ALL

30-11-21



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

WING ANTI-ICE TELESCOPING DUCT - REMOVAL/INSTALLATION

1. General

- A. This procedure has these tasks:
 - (1) Wing Anti-Ice Telescoping Duct Seals Removal
 - (2) Wing Anti-Ice Telescoping Duct Seals Installation
 - (3) Wing Anti-Ice Telescoping Duct Removal
 - (4) Wing Anti-Ice Telescoping Duct Installation.
- B. The telescoping ducts connect the wing TAI manifold in the wing leading edge to each of the slat spray tubes. Each telescoping duct assembly has an inner and an outer duct. The inner duct attaches to the wing manifold and the outer duct attaches to the slat spray duct. There are seals between the inner and outer ducts and seals where the inner duct swivel in the fixed leading edge. The installation of all the telescoping ducts and seals are similar.
- C. For this procedure, the leading edge slats are installed in the extended position. To replace the seals with the slat removed, some steps of this procedure are not necessary.

TASK 30-11-31-000-801

2. Wing Anti-Ice Telescoping Duct Seal Removal

(Figure 401)

A. General

- (1) This task gives instructions to remove the Wing Anti-Ice Telescoping Duct Seal.

B. References

Reference	Title
27-81-00-480-801	Leading Edge Flap and Slat Locks Installation (P/B 201)
57-41-02-000-801	Leading Edge Access Panel Removal (P/B 201)

C. Location Zones

Zone	Area
520	Subzone - Left Wing: Leading Edge, Fwd of Front Spar, Outboard of Strut and Nacelle Gap Cover Area
620	Subzone - Right Wing: Leading Edge, Forward of Front Spar, Outboard of Nacelle Strut

D. Access Panels

Number	Name/Location
521DB	Lower Leading Edge Access Panel - Slat Station 71.38
521KB	Lower Leading Edge Access Panel - Slat Station 188.12
521RB	Lower Leading Edge Access Panel - Slat Station 307.75
621DB	Lower Leading Edge Access Panel - Slat Station 71.38
621JB	Lower Leading Edge Access Panel - Slat Station 188.14
621QB	Lower Leading Edge Access Panel - Slat Station 307.75

E. Prepare for the Removal

SUBTASK 30-11-31-860-001

- (1) Extend the Leading Edge Slat.



30-11-31



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

SUBTASK 30-11-31-860-002

WARNING: MAKE SURE THAT YOU INSTALL THE LEADING EDGE SLAT ACTUATOR LOCKS TO PREVENT ACCIDENTAL OPERATION OF THE LEADING EDGE SLATS. THE LEADING EDGE SLATS CAN MOVE QUICKLY. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

- (2) Do this task: Leading Edge Flap and Slat Locks Installation, TASK 27-81-00-480-801.

SUBTASK 30-11-31-010-010

- (3) Remove these panels per Leading Edge Access Panel Removal, TASK 57-41-02-000-801, to get access to the telescoping duct, as needed:

- (a) For the left wing, open these access panels:

Number	Name/Location
---------------	----------------------

521DB	Lower Leading Edge Access Panel - Slat Station 71.38
521KB	Lower Leading Edge Access Panel - Slat Station 188.12
521RB	Lower Leading Edge Access Panel - Slat Station 307.75

- (b) For the right wing, open these access panels:

Number	Name/Location
---------------	----------------------

621DB	Lower Leading Edge Access Panel - Slat Station 71.38
621JB	Lower Leading Edge Access Panel - Slat Station 188.14
621QB	Lower Leading Edge Access Panel - Slat Station 307.75

F. Wing Anti-Ice Telescoping Duct Seal Removal

SUBTASK 30-11-31-020-014

WARNING: DO NOT LET OBJECTS GET IN THE HOUSING ASSEMBLY OF THE SLAT TRACK. THIS WILL HELP PREVENT A PUNCTURE OF THE HOUSING ASSEMBLY THAT COULD CAUSE A FUEL LEAK. THE FUEL LEAK COULD CAUSE A FIRE AND POSSIBLE DEATH OR INJURY TO PERSONNEL.

- (1) Do this to remove the supply ducts [6], bearing [10] and bearing [14]:
- Remove the bolt [16], bolt [17], bolt [18] and washers [15].
 - Disconnect the clamp [5] from one side of the supply duct [6].
 - Remove the section from the supply ducts [6].
 - Remove the bearing [10] and bearing [14].
- (2) Turn the inner telescoping duct [1] 90 degrees and lower the duct from the wing.
- (3) Remove the o-ring [11], o-rings [12], or o-ring [13] from the swivel joint of the inner telescoping duct [1].
- (4) Discard the o-ring [11], o-rings [12] and o-ring [13].

SUBTASK 30-11-31-020-005

- (5) Pull the inner telescoping duct [1] from the outer telescoping duct [26].

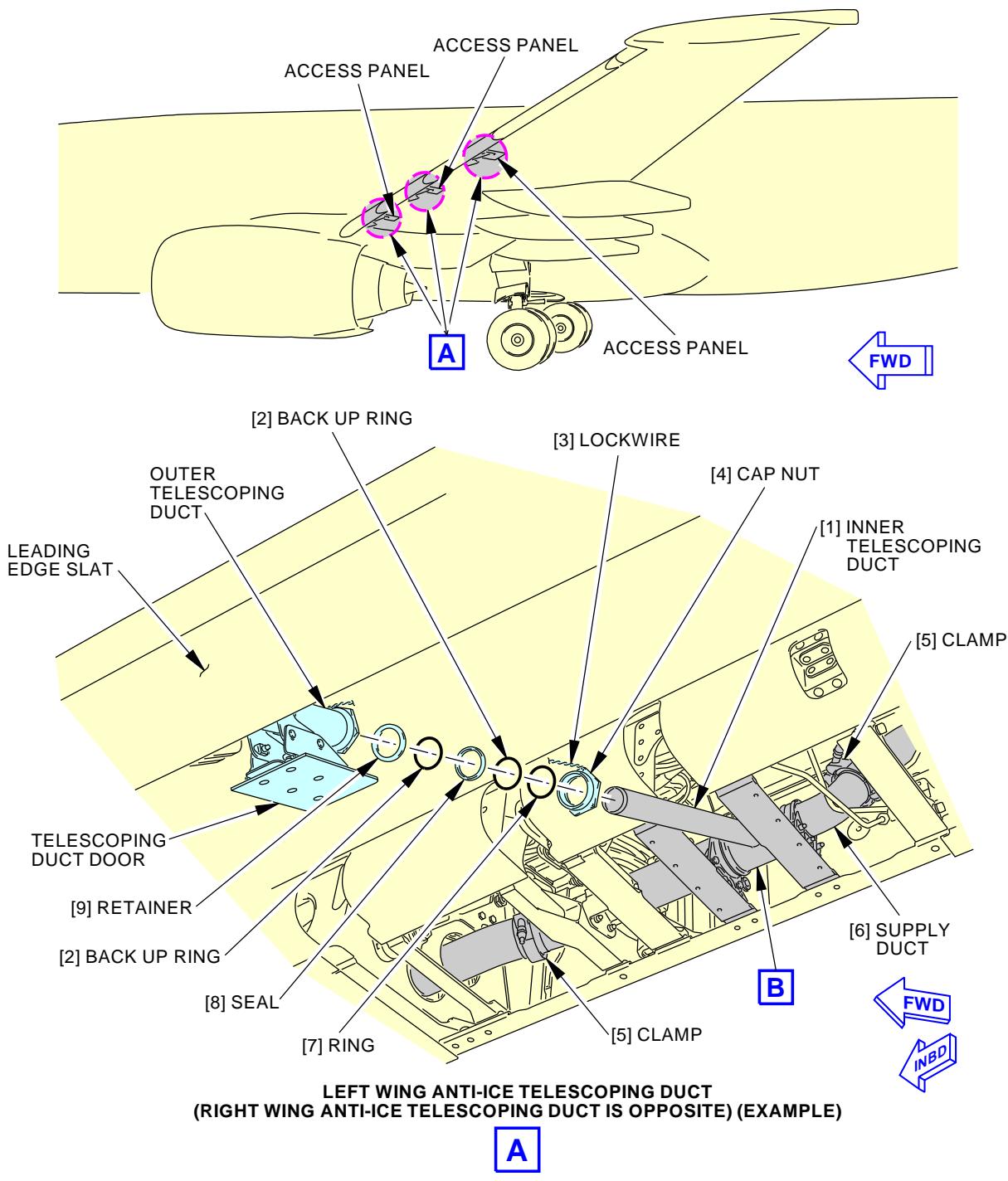
SUBTASK 30-11-31-020-004

- (6) Disassemble the telescoping duct seal.
- Remove the lockwire [3].
 - Loosen the cap nut [4].
 - Remove the cap nut [4], back up rings [2], ring [7], seal [8], and retainer [9].

———— END OF TASK ————

EFFECTIVITY
AKS ALL

30-11-31



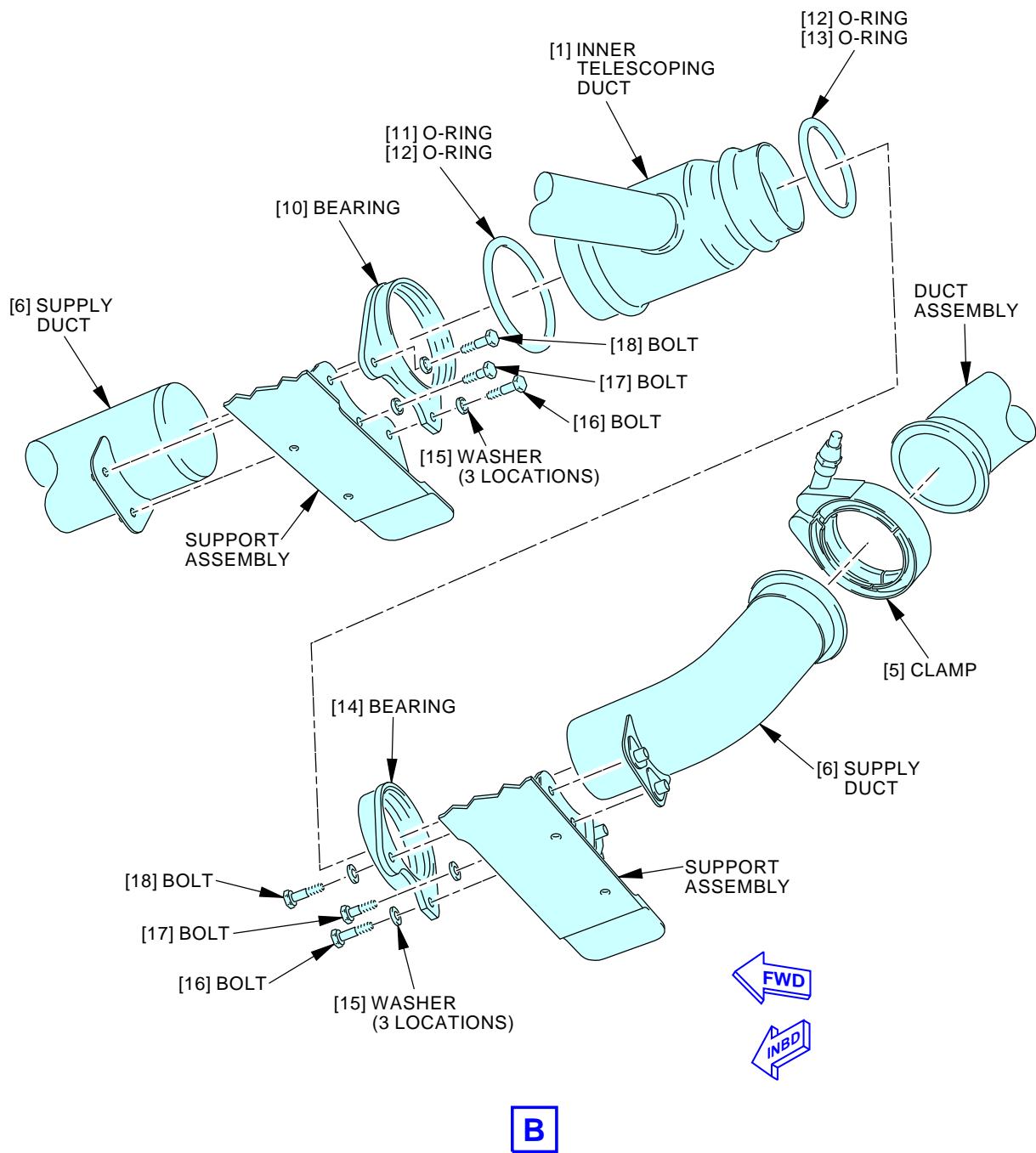
F42429 S0006573075_V5

Wing Anti-Icing Telescoping Duct Installation
Figure 401/30-11-31-990-801 (Sheet 1 of 2)

 EFFECTIVITY
 AKS ALL

30-11-31

D633A101-AKS



F94016 S0006573076_V4

**Wing Anti-Icing Telescoping Duct Installation
Figure 401/30-11-31-990-801 (Sheet 2 of 2)**

EFFECTIVITY
AKS ALL

30-11-31

D633A101-AKS

BOEING PROPRIETARY - Copyright © Unpublished Work - See title page for details



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

TASK 30-11-31-400-801

3. Wing Anti-Ice Telescoping Duct Seal Installation

(Figure 401)

A. General

- (1) This task gives instructions to install the Wing Anti-Ice Telescoping Duct Seal.

B. References

Reference	Title
20-10-44-400-801	Lockwire, Cotter Pins, and Lockrings - Installation (P/B 401)
27-81-00-080-801	Leading Edge Flap and Slat Locks Removal (P/B 201)
27-81-00-480-801	Leading Edge Flap and Slat Locks Installation (P/B 201)
30-11-00-790-801	Wing Anti-Icing Duct - Leak Test (P/B 501)
57-41-02-400-801	Leading Edge Access Panel Installation (P/B 201)
SWPM 20-20-00	Electrical Bonding Processes

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1550	Bonding Meters - Approved, Intrinsically Safe (Approved for use in Class I, Divisions I & II hazardous (classified) locations. Outside these hazardous locations, COM-614 can be used in lieu of COM-1550). Part #: C15292 (MODEL T477W) Supplier: 01014 Part #: M1 Supplier: 3AD17 Opt Part #: M1B Supplier: 3AD17

D. Consumable Materials

Reference	Description	Specification
A50231	Sealant - Pressure And Environmental - Chromate Type	BMS5-95 Class B
B00130	Alcohol - Isopropyl	TT-I-735
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00254	Compound - Silicone	SAE AS8660 (NATO S-736) (Supersedes MIL-S-8660)
G00034	Cotton Wiper - Process Cleaning Absorbent Wiper (Cheesecloth, Gauze)	BMS15-5 Class A

E. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
2	Back up ring	30-11-31-01-045	AKS ALL
4	Cap nut	30-11-31-01-015	AKS ALL
5	Clamp	30-11-31-02A-040	AKS ALL
		30-11-31-02A-045	AKS ALL
6	Supply duct	30-11-31-02A-050	AKS ALL



30-11-31



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

(Continued)

AMM Item	Description	AIPC Reference	AIPC Effectivity
6 (cont.)		30-11-31-02A-055	AKS ALL
		30-11-31-02A-060	AKS ALL
		30-11-31-02A-065	AKS ALL
		30-11-31-02A-070	AKS ALL
		30-11-31-02A-075	AKS ALL
		30-11-31-02A-080	AKS ALL
		30-11-31-02A-085	AKS ALL
		30-11-31-02A-095	AKS ALL
		30-11-31-03A-045	AKS ALL
		30-11-31-03A-050	AKS ALL
		30-11-31-03A-055	AKS ALL
		30-11-31-03A-060	AKS ALL
		30-11-31-03A-065	AKS ALL
		30-11-31-03A-072	AKS ALL
		30-11-31-03A-073	AKS ALL
		30-11-31-03A-075	AKS ALL
		30-11-31-03A-135	AKS ALL
		30-11-31-03A-140	AKS ALL
		30-11-31-03A-145	AKS ALL
		30-11-31-03A-150	AKS 001-010
		30-11-31-03A-157	AKS ALL
		30-11-31-03A-158	AKS ALL
		30-11-31-03A-160	AKS ALL
		30-11-31-03A-165	AKS ALL
		30-11-31-03A-170	AKS ALL
		30-11-31-04A-050	AKS ALL
		30-11-31-04A-055	AKS ALL
		30-11-31-04A-060	AKS ALL
		30-11-31-04A-070	AKS ALL
		30-11-31-04A-075	AKS ALL
		30-11-31-04A-080	AKS ALL
		30-11-31-04A-085	AKS ALL
		30-11-31-04A-100	AKS ALL
		30-11-31-04A-105	AKS ALL
7	Ring	30-11-31-01-040	AKS ALL
8	Seal	30-11-31-01-010	AKS ALL
9	Retainer	30-11-31-01-020	AKS ALL
11	O-ring	30-11-31-02A-090	AKS ALL
		30-11-52-10-035	AKS ALL
12	O-ring	30-11-31-02A-090	AKS ALL



30-11-31



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

(Continued)

AMM Item	Description	AIPC Reference	AIPC Effectivity
12 (cont.)		30-11-52-10-030	AKS ALL
		30-11-52-10-035	AKS ALL
13	O-ring	30-11-31-02A-090	AKS ALL
		30-11-52-10-030	AKS ALL

F. Location Zones

Zone	Area
520	Subzone - Left Wing: Leading Edge, Fwd of Front Spar, Outboard of Strut and Nacelle Gap Cover Area
620	Subzone - Right Wing: Leading Edge, Forward of Front Spar, Outboard of Nacelle Strut

G. Access Panels

Number	Name/Location
521DB	Lower Leading Edge Access Panel - Slat Station 71.38
521KB	Lower Leading Edge Access Panel - Slat Station 188.12
521RB	Lower Leading Edge Access Panel - Slat Station 307.75
621DB	Lower Leading Edge Access Panel - Slat Station 71.38
621JB	Lower Leading Edge Access Panel - Slat Station 188.14
621QB	Lower Leading Edge Access Panel - Slat Station 307.75

H. Wing Anti-Ice Telescoping Duct Seal Installation

SUBTASK 30-11-31-860-003

WARNING: MAKE SURE THAT THE LEADING EDGE SLAT ACTUATOR LOCKS ARE INSTALLED TO PREVENT ACCIDENTAL OPERATION OF THE LEADING EDGE SLATS. THE LEADING EDGE SLATS CAN MOVE QUICKLY. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

- (1) If the actuator locks are not installed, do this task: Leading Edge Flap and Slat Locks Installation, TASK 27-81-00-480-801

SUBTASK 30-11-31-420-001

- (2) Assemble the telescoping duct seal.
 - (a) Put grease, D00013 on the inside diameter of the outer duct assembly.
 - (b) Put the retainer [9], back up rings [2], seal [8], ring [7], and cap nut [4] on the inner telescoping duct [1].

NOTE: See (Figure 401) for the correct sequence.

 - (c) Tighten the cap nut [4] to 250.0 in-lb (28.2 N·m) to 370.0 in-lb (41.8 N·m).
 - (d) Put lockwire [3] on the cap nut [4] (Lockwire, Cotter Pins, and Lockrings - Installation, TASK 20-10-44-400-801).

SUBTASK 30-11-31-420-008

- (3) Install the o-ring [11], o-rings [12], or o-ring [13], as necessary, on the swivel joint of the inner telescoping duct [1].

NOTE: You can use silicone compound, D00254, on the o-rings to make installation easier.

- (4) Do this to install the inner telescoping duct [1]:
 - (a) Put the bearing [10] and bearing [14] on the ends of the inner telescoping duct [1].

EFFECTIVITY
AKS ALL

30-11-31



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

- (b) Put the inner telescoping duct [1] into position.
- (c) Install the bolts [16] and washers [15].
NOTE: Do not tighten the bolts [16] until after the supply duct [6] is installed.
- (5) Do this to install the supply duct [6]:
 - (a) Clean the mating surfaces of the supply duct [6] tab and the support assembly (SWPM 20-20-00).
 - 1) Use a cotton wiper, G00034, made moist with alcohol, B00130.
 - 2) Immediately dry the surfaces with a new cotton wiper.
 - (b) Apply a bead of sealant, A50231, along the top edge of the support assembly and the bearings.
 - (c) Put the supply duct [6] into position.
 - (d) Install the bolts [17], bolts [18] and washers [15].
 - (e) Tighten the bolts [16], bolts [17] and bolts [18].
 - (f) Do a bonding check from the supply duct [6] tab to the support assembly.
 - 1) Use an intrinsically safe approved bonding meter, COM-1550, to measure a maximum of 0.00070 ohms (0.70 milliohms).
 - (g) Fillet seal the supply duct [6] tab with sealant, A50231.
 - (h) Position the clamps [5] so that there is a clearance of at least 0.2 in. (5.1 mm) from any adjacent structure and install the clamps [5].

I. Wing Anti-Ice Telescoping Duct Seal Installation Test

SUBTASK 30-11-31-710-001

- (1) Do this task: Wing Anti-Icing Duct - Leak Test, TASK 30-11-00-790-801.

J. Put the Airplane Back to Its Usual Condition

SUBTASK 30-11-31-410-008

- (1) Install these panels per Leading Edge Access Panel Installation, TASK 57-41-02-400-801, as needed:

- (a) For the left wing, close these access panel:

Number Name/Location

521DB	Lower Leading Edge Access Panel - Slat Station 71.38
521KB	Lower Leading Edge Access Panel - Slat Station 188.12
521RB	Lower Leading Edge Access Panel - Slat Station 307.75

- (b) For the right wing, close these access panel:

Number Name/Location

621DB	Lower Leading Edge Access Panel - Slat Station 71.38
621JB	Lower Leading Edge Access Panel - Slat Station 188.14
621QB	Lower Leading Edge Access Panel - Slat Station 307.75

SUBTASK 30-11-31-440-001

- (2) Do this task: Leading Edge Flap and Slat Locks Removal, TASK 27-81-00-080-801.

———— END OF TASK ————

EFFECTIVITY AKS ALL

30-11-31



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

TASK 30-11-31-000-802

4. Wing Anti-Ice Telescoping Duct Removal

Figure 402

A. General

- (1) This task gives instructions to remove the Wing Anti-Ice Telescoping Duct.

B. References

Reference	Title
27-81-00 P/B 201	LEADING EDGE FLAP AND SLAT CONTROL SYSTEM - MAINTENANCE PRACTICES
27-81-00-480-801	Leading Edge Flap and Slat Locks Installation (P/B 201)
57-41-02-000-801	Leading Edge Access Panel Removal (P/B 201)

C. Location Zones

Zone	Area
520	Subzone - Left Wing: Leading Edge, Fwd of Front Spar, Outboard of Strut and Nacelle Gap Cover Area
620	Subzone - Right Wing: Leading Edge, Forward of Front Spar, Outboard of Nacelle Strut

D. Access Panels

Number	Name/Location
521DB	Lower Leading Edge Access Panel - Slat Station 71.38
521KB	Lower Leading Edge Access Panel - Slat Station 188.12
521RB	Lower Leading Edge Access Panel - Slat Station 307.75
522CB	Slat No. 4 - Cove Skin
523CB	Slat No. 3 - Cove Skin
524CB	Slat No. 2 - Cove Skin
621DB	Lower Leading Edge Access Panel - Slat Station 71.38
621JB	Lower Leading Edge Access Panel - Slat Station 188.14
621QB	Lower Leading Edge Access Panel - Slat Station 307.75
622CB	Slat No. 5 - Cove Skin
623CB	Slat No. 6 - Cove Skin
624CB	Slat No. 7 - Cove Skin

E. Prepare for the Removal

SUBTASK 30-11-31-860-004

WARNING: MAKE SURE THAT PERSONNEL AND EQUIPMENT STAY AWAY FROM THE LEADING EDGE FLAPS AND SLATS, TRAILING EDGE FLAPS, AND DRIVE MECHANISMS. THE FLAPS, SLATS, AND DRIVE MECHANISMS MOVE QUICKLY. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

- (1) Extend the leading edge slats (Leading Edge Flap and Slat Locks Installation, TASK 27-81-00-480-801).

SUBTASK 30-11-31-010-009

- (2) Remove these panels per Leading Edge Access Panel Removal, TASK 57-41-02-000-801, to get access to the telescoping duct, as needed:

EFFECTIVITY
AKS ALL

D633A101-AKS

30-11-31



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

- (a) For the left wing, open these access panels:

<u>Number</u>	<u>Name/Location</u>
521DB	Lower Leading Edge Access Panel - Slat Station 71.38
521KB	Lower Leading Edge Access Panel - Slat Station 188.12
521RB	Lower Leading Edge Access Panel - Slat Station 307.75

- (b) For the right wing, open these access panels:

<u>Number</u>	<u>Name/Location</u>
621DB	Lower Leading Edge Access Panel - Slat Station 71.38
621JB	Lower Leading Edge Access Panel - Slat Station 188.14
621QB	Lower Leading Edge Access Panel - Slat Station 307.75

SUBTASK 30-11-31-020-012

- (3) Remove the four bolts [38] that hold the bracket [39] to the outer telescoping duct [26].

NOTE: The following procedure is applicable to slats 2 through 7, unless otherwise stated.

SUBTASK 30-11-31-200-001

WARNING: DO NOT LET OBJECTS GET IN THE HOUSING ASSEMBLY OF THE SLAT TRACK.
THIS WILL HELP PREVENT A PUNCTURE OF THE HOUSING ASSEMBLY THAT
COULD CAUSE A FUEL LEAK. THE FUEL LEAK COULD CAUSE A FIRE AND
POSSIBLE DEATH OR INJURY TO PERSONNEL.

- (4) Keep clean and free of all unwanted objects (FOD), the housing (can) assemblies of the slat main tracks, at all time.

F. Outer Telescoping Duct Removal

SUBTASK 30-11-31-010-003

- (1) Do this to remove the inner skin panel from the outer slat.

- (a) Remove the backup plates [28].

NOTE: The backup plates hold the assembly seal [29].

- (b) Remove the seal [20].

- (c) Remove the applicable cover panel [21]:

Open these access panels:

<u>Number</u>	<u>Name/Location</u>
522CB	Slat No. 4 - Cove Skin
523CB	Slat No. 3 - Cove Skin
524CB	Slat No. 2 - Cove Skin
622CB	Slat No. 5 - Cove Skin
623CB	Slat No. 6 - Cove Skin
624CB	Slat No. 7 - Cove Skin

SUBTASK 30-11-31-010-008

- (2) Do this to remove the access door from the outer slat.

- (a) Remove the cover plate [22]

SUBTASK 30-11-31-020-010

- (3) Do this to remove the blade seal [24]:

- (a) Remove the retaining bolts [32].

- (b) Remove the washers [33], sleeves [34], springs [35], spacers [36], and spring retainers [37].

EFFECTIVITY
AKS ALL

30-11-31



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

SUBTASK 30-11-31-030-002

- (4) Remove the retaining bolts [25] and washers [43] from the spray duct [27] on both ends of the slat.

SUBTASK 30-11-31-030-003

- (5) Move the spray duct [27] out from the rib ends [31] until the outer telescoping duct [26], with the spray duct bearings [19], can be removed.
 - (a) Remove the outer telescoping duct [26].

NOTE: If there is not sufficient clearance between angle details of the leading edge to remove the duct, do a modification of the leading edge angles (LEADING EDGE FLAP AND SLAT CONTROL SYSTEM - MAINTENANCE PRACTICES, PAGEBLOCK 27-81-00/201).

SUBTASK 30-11-31-030-005

- (6) Remove the spray duct bearings [19].

G. Inner Telescoping Duct Removal

SUBTASK 30-11-31-020-013

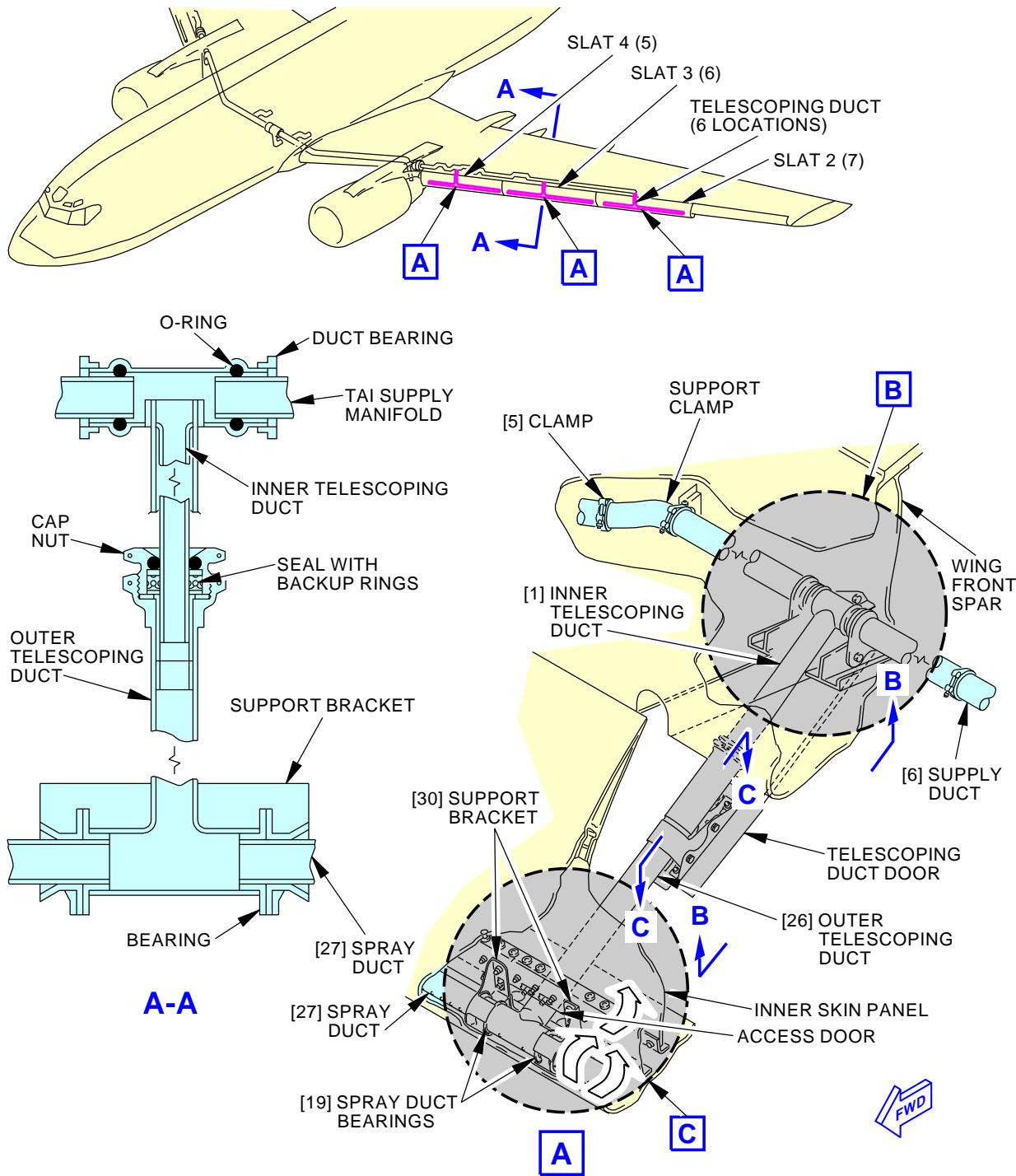
WARNING: DO NOT LET OBJECTS GET IN THE HOUSING ASSEMBLY OF THE SLAT TRACK. THIS WILL HELP PREVENT A PUNCTURE OF THE HOUSING ASSEMBLY THAT COULD CAUSE A FUEL LEAK. THE FUEL LEAK COULD CAUSE A FIRE AND POSSIBLE DEATH OR INJURY TO PERSONNEL.

- (1) Do this to remove the supply ducts [6], bearing [10] and bearing [14]:
 - (a) Remove the bolt [16], bolt [17], bolt [18] and washers [15].
 - (b) Disconnect the clamp [5] from one side of the supply duct [6].
 - 1) Remove the section from the supply ducts [6].
 - (c) Remove the bearing [10] and bearing [14].
- (2) Turn the inner telescoping duct [1] 90 degrees and lower the duct from the wing.
- (3) Remove the o-ring [11], o-rings [12], or o-ring [13] from the swivel joint of the inner telescoping duct [1].
- (4) Discard the o-ring [11], o-rings [12] and o-ring [13].

— END OF TASK —



30-11-31



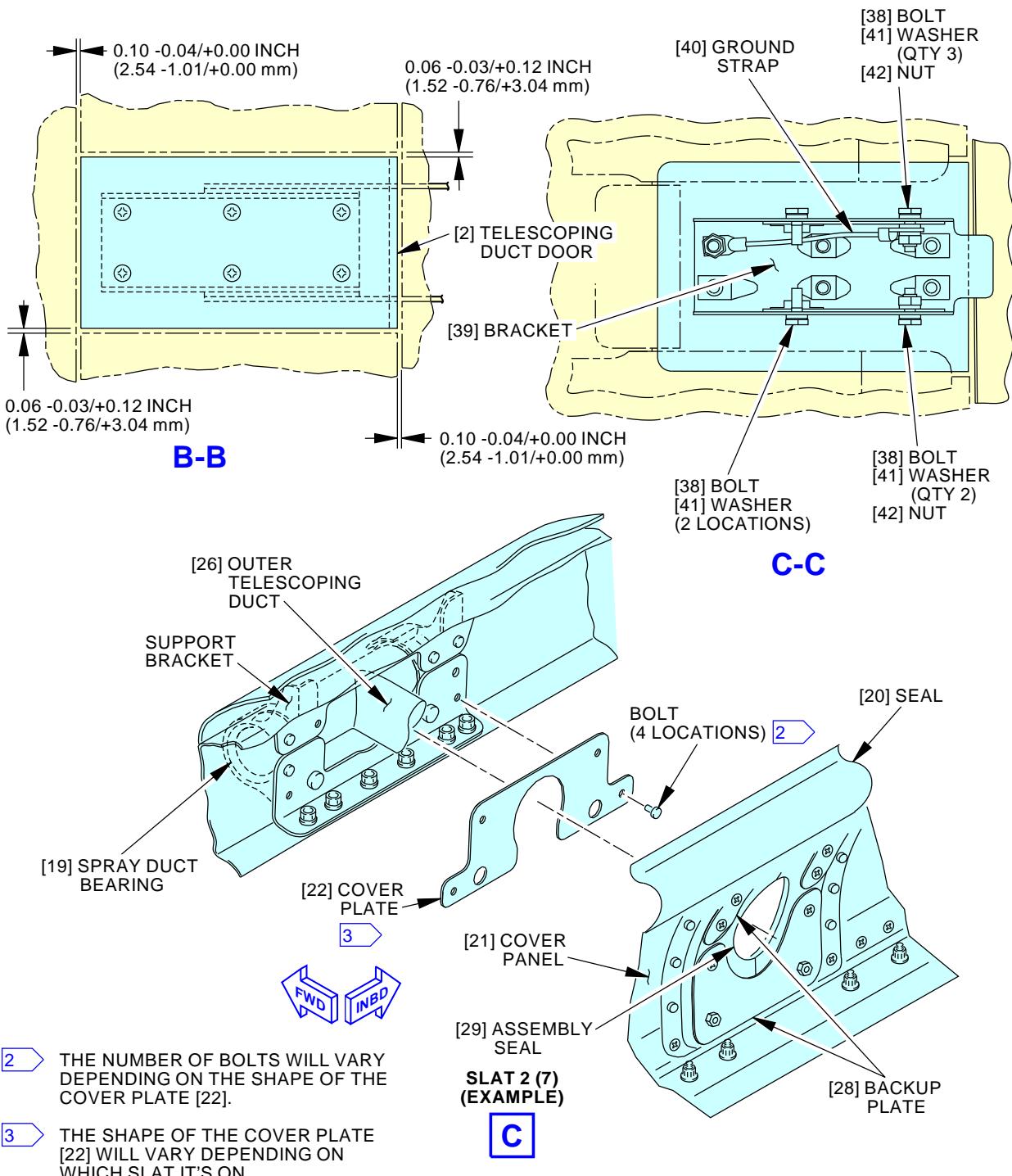
1335838 S0000236138_V3

Wing Anti-Icing Telescoping Duct Installation
Figure 402/30-11-31-990-802 (Sheet 1 of 5)

EFFECTIVITY
AKS ALL

30-11-31

D633A101-AKS

**737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL**


1335874 S0000236140_V3

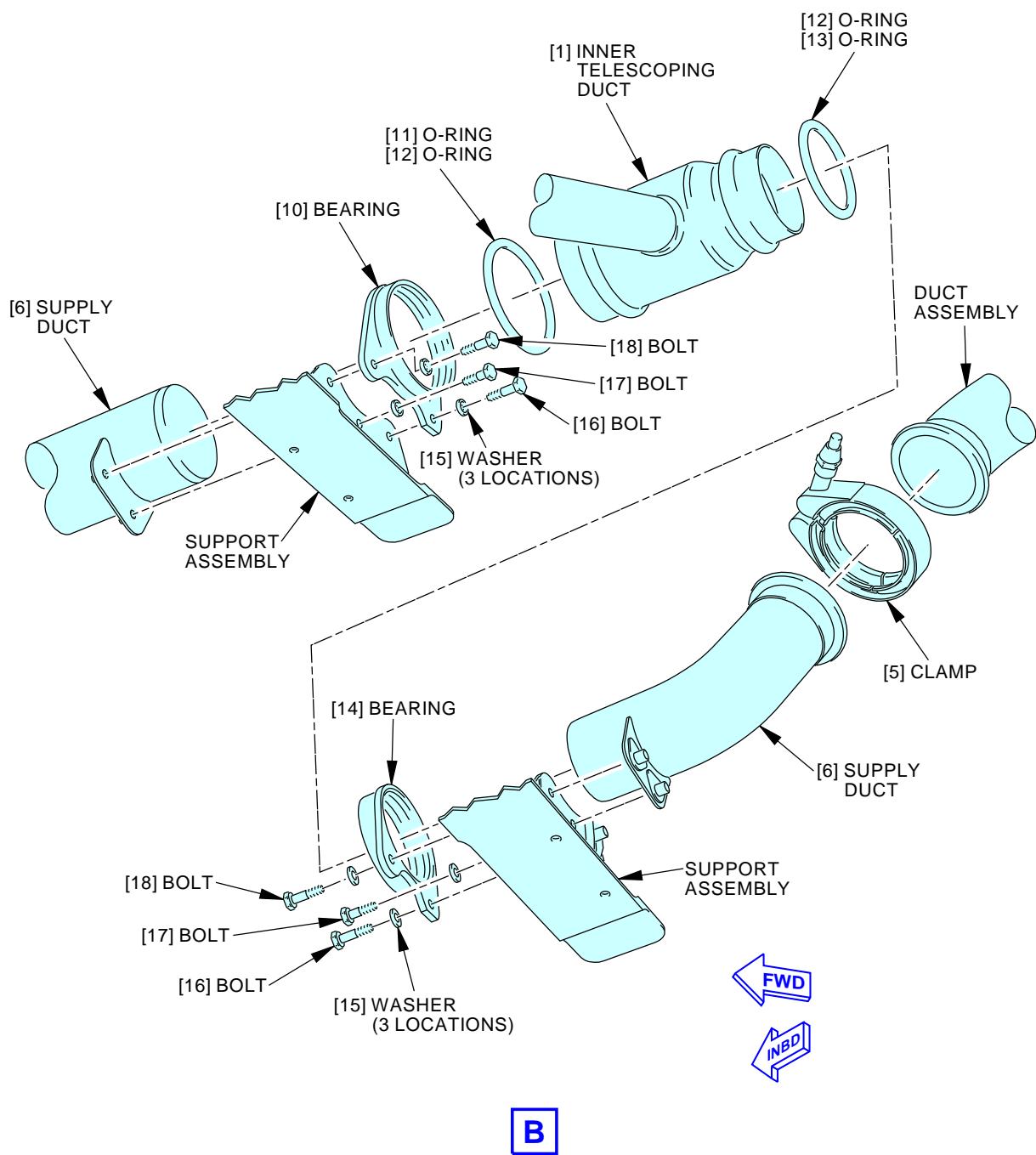
**Wing Anti-Icing Telescoping Duct Installation
Figure 402/30-11-31-990-802 (Sheet 2 of 5)**

EFFECTIVITY

AKS ALL

D633A101-AKS

30-11-31



F94016 S0006573076_V4

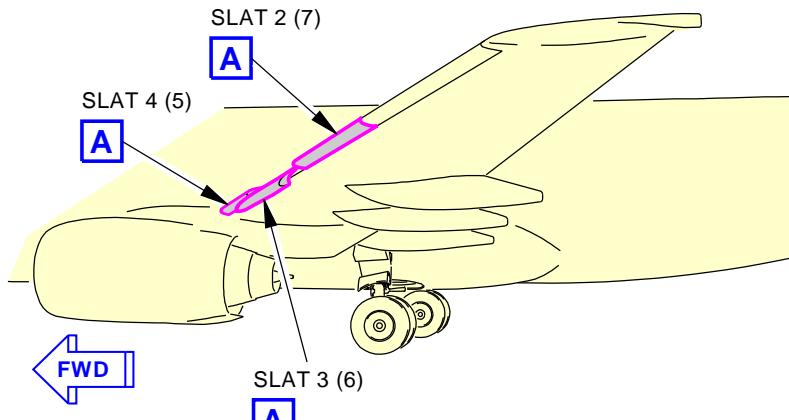
Wing Anti-Icing Telescoping Duct Installation
Figure 402/30-11-31-990-802 (Sheet 3 of 5)

EFFECTIVITY
AKS ALL

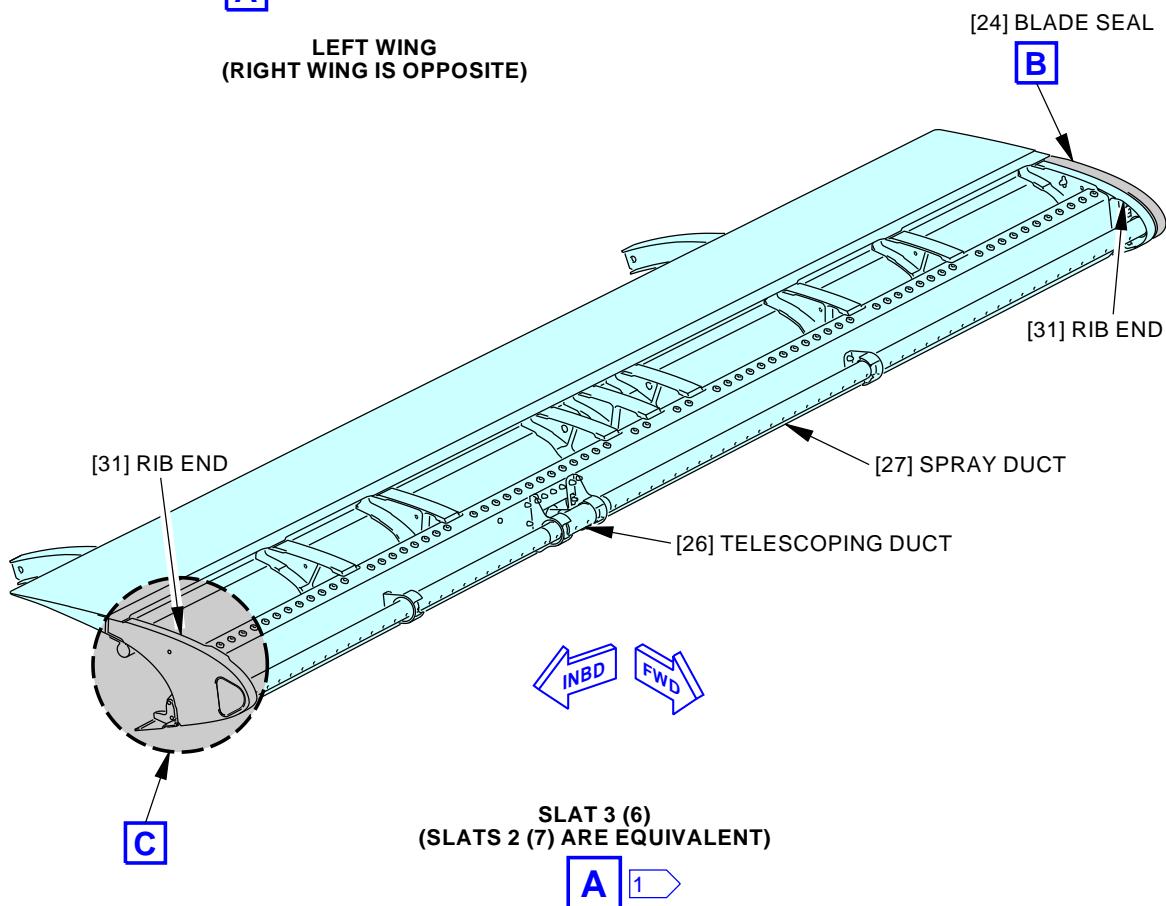
30-11-31

D633A101-AKS

BOEING PROPRIETARY - Copyright © Unpublished Work - See title page for details



**LEFT WING
(RIGHT WING IS OPPOSITE)**



- 1 SLAT 4 (5) HAVE THE BLADE SEAL [24] ON BOTH ENDS OF THE SLAT.

2296254 S0000520540_V2

Wing Anti-Icing Telescoping Duct Installation
Figure 402/30-11-31-990-802 (Sheet 4 of 5)

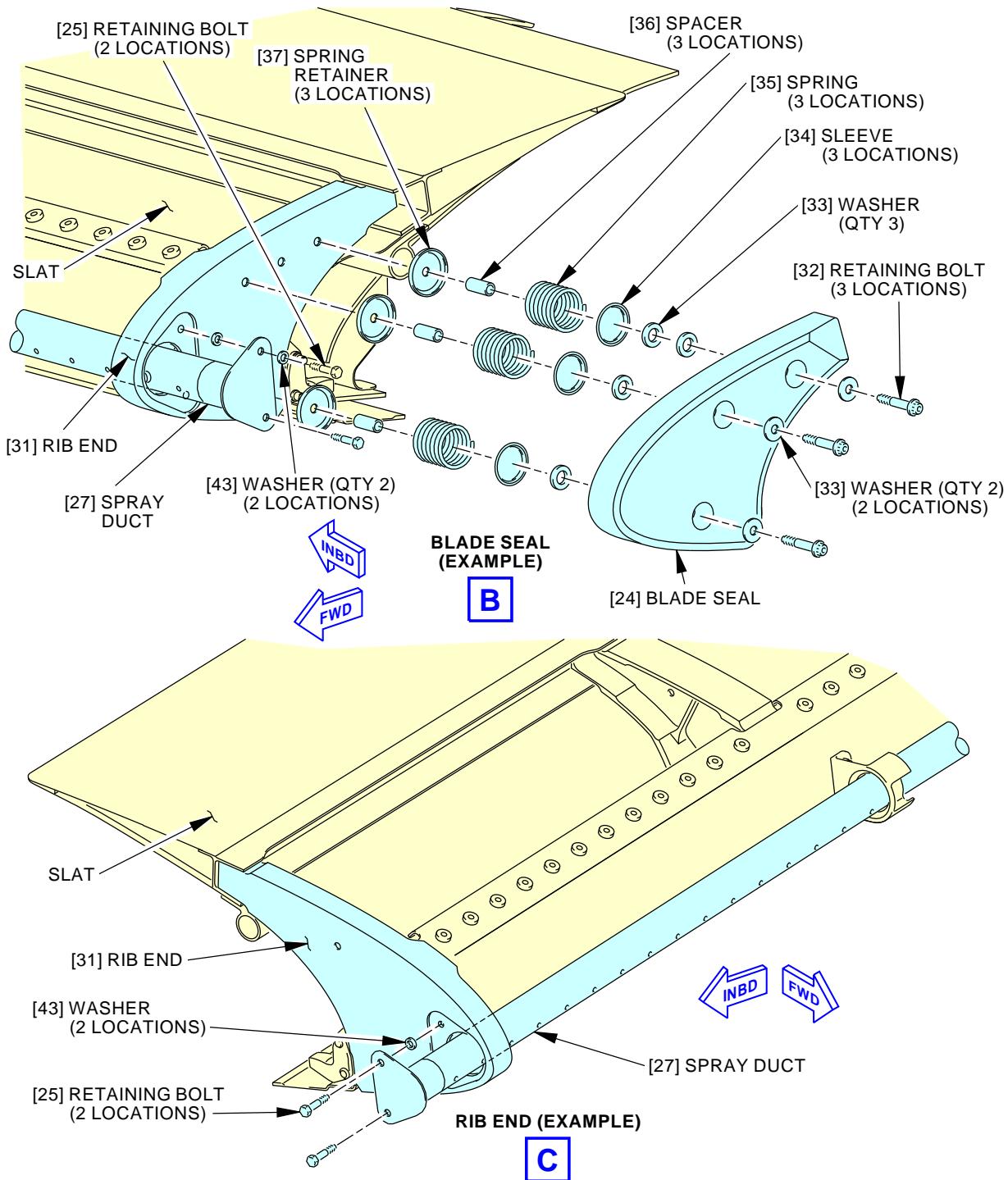
EFFECTIVITY
AKS ALL

D633A101-AKS

30-11-31



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL



2296257 S0000520679_V2

Wing Anti-Icing Telescoping Duct Installation
Figure 402/30-11-31-990-802 (Sheet 5 of 5)

EFFECTIVITY
AKS ALL

30-11-31

D633A101-AKS

BOEING PROPRIETARY - Copyright © Unpublished Work - See title page for details



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

TASK 30-11-31-400-802

5. Wing Anti-Ice Telescoping Duct Installation

Figure 402

A. General

- (1) This task gives instructions to install the Wing Anti-Ice Telescoping Duct.

B. References

Reference	Title
27-81-00-080-801	Leading Edge Flap and Slat Locks Removal (P/B 201)
30-11-00-790-801	Wing Anti-Icing Duct - Leak Test (P/B 501)
57-41-02-400-801	Leading Edge Access Panel Installation (P/B 201)
SWPM 20-20-00	Electrical Bonding Processes

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1550	Bonding Meters - Approved, Intrinsically Safe (Approved for use in Class I, Divisions I & II hazardous (classified) locations. Outside these hazardous locations, COM-614 can be used in lieu of COM-1550). Part #: C15292 (MODEL T477W) Supplier: 01014 Part #: M1 Supplier: 3AD17 Opt Part #: M1B Supplier: 3AD17

D. Consumable Materials

Reference	Description	Specification
A00900	Sealant - Silicone, RTV - Dow Corning 93-006-1RF (Formerly 93-006-1. Use until Stock depleted)	
A50231	Sealant - Pressure And Environmental - Chromate Type	BMS5-95 Class B
B00130	Alcohol - Isopropyl	TT-I-735
C00528	Compound - Corrosion Preventive, Petroleum Hot Application (Soft Film)	MIL-C-11796 Class III
D00254	Compound - Silicone	SAE AS8660 (NATO S-736) (Supersedes MIL-S-8660)
G00034	Cotton Wiper - Process Cleaning Absorbent Wiper (Cheesecloth, Gauze)	BMS15-5 Class A

E. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
5	Clamp	30-11-31-02A-040	AKS ALL
		30-11-31-02A-045	AKS ALL
6	Supply duct	30-11-31-02A-050	AKS ALL
		30-11-31-02A-055	AKS ALL
		30-11-31-02A-060	AKS ALL

EFFECTIVITY
AKS ALL

30-11-31



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

(Continued)

AMM Item	Description	AIPC Reference	AIPC Effectivity
6 (cont.)		30-11-31-02A-065	AKS ALL
		30-11-31-02A-070	AKS ALL
		30-11-31-02A-075	AKS ALL
		30-11-31-02A-080	AKS ALL
		30-11-31-02A-085	AKS ALL
		30-11-31-02A-095	AKS ALL
		30-11-31-03A-045	AKS ALL
		30-11-31-03A-050	AKS ALL
		30-11-31-03A-055	AKS ALL
		30-11-31-03A-060	AKS ALL
		30-11-31-03A-065	AKS ALL
		30-11-31-03A-072	AKS ALL
		30-11-31-03A-073	AKS ALL
		30-11-31-03A-075	AKS ALL
		30-11-31-03A-135	AKS ALL
		30-11-31-03A-140	AKS ALL
		30-11-31-03A-145	AKS ALL
		30-11-31-03A-150	AKS 001-010
		30-11-31-03A-157	AKS ALL
		30-11-31-03A-158	AKS ALL
		30-11-31-03A-160	AKS ALL
		30-11-31-03A-165	AKS ALL
		30-11-31-03A-170	AKS ALL
		30-11-31-04A-050	AKS ALL
		30-11-31-04A-055	AKS ALL
		30-11-31-04A-060	AKS ALL
		30-11-31-04A-070	AKS ALL
		30-11-31-04A-075	AKS ALL
		30-11-31-04A-080	AKS ALL
		30-11-31-04A-085	AKS ALL
		30-11-31-04A-100	AKS ALL
		30-11-31-04A-105	AKS ALL
11	O-ring	30-11-31-02A-090	AKS ALL
		30-11-52-10-035	AKS ALL
12	O-ring	30-11-31-02A-090	AKS ALL
		30-11-52-10-030	AKS ALL
		30-11-52-10-035	AKS ALL
13	O-ring	30-11-31-02A-090	AKS ALL
		30-11-52-10-030	AKS ALL



30-11-31



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

F. Location Zones

Zone	Area
520	Subzone - Left Wing: Leading Edge, Fwd of Front Spar, Outboard of Strut and Nacelle Gap Cover Area
620	Subzone - Right Wing: Leading Edge, Forward of Front Spar, Outboard of Nacelle Strut

G. Access Panels

Number	Name/Location
521DB	Lower Leading Edge Access Panel - Slat Station 71.38
521KB	Lower Leading Edge Access Panel - Slat Station 188.12
521RB	Lower Leading Edge Access Panel - Slat Station 307.75
522CB	Slat No. 4 - Cove Skin
523CB	Slat No. 3 - Cove Skin
524CB	Slat No. 2 - Cove Skin
621DB	Lower Leading Edge Access Panel - Slat Station 71.38
621JB	Lower Leading Edge Access Panel - Slat Station 188.14
621QB	Lower Leading Edge Access Panel - Slat Station 307.75
622CB	Slat No. 5 - Cove Skin
623CB	Slat No. 6 - Cove Skin
624CB	Slat No. 7 - Cove Skin

H. Inner Telescoping Duct Installation

SUBTASK 30-11-31-420-009

- (1) Install the o-ring [11], o-rings [12], or o-ring [13], as necessary, on the swivel joint of the inner telescoping duct [1].
NOTE: You can use silicone compound, D00254, on the o-rings to make installation easier.
- (2) Do this to install the inner telescoping duct [1]:
 - (a) Put the bearing [10] and bearing [14] on the ends of the inner telescoping duct [1].
 - (b) Put the inner telescoping duct [1] into position.
 - (c) Install the bolts [16] and washers [15].
NOTE: Do not tighten the bolts [16] until after the supply duct [6] is installed.
- (3) Do this to install the supply duct [6]:
 - (a) Clean the mating surfaces of the supply duct [6] tab and the support assembly (SWPM 20-20-00).
 - 1) Use a cotton wiper, G00034, made moist with alcohol, B00130.
 - 2) Immediately dry the surfaces with a new cotton wiper.
 - (b) Apply a bead of sealant, A50231, along the top edge of the support assembly and the bearings.
 - (c) Put the supply duct [6] into position.
 - (d) Install the bolts [17], bolts [18] and washers [15].
 - (e) Tighten the bolts [16], bolts [17] and bolts [18].
 - (f) Do a bonding check from the supply duct [6] tab to the support assembly.
 - 1) Use an intrinsically safe approved bonding meter, COM-1550, to measure a maximum of 0.00070 ohms (0.70 milliohms).



30-11-31



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

- (g) Fillet seal the supply duct [6] tab with sealant, A50231.
- (h) Position the clamps [5] so that there is a clearance of at least 0.2 in. (5.1 mm) from any adjacent structure and install the clamps [5].

I. Outer Telescoping Duct Installation

SUBTASK 30-11-31-430-006

- (1) Put the spray duct bearings [19] on each end of the outer telescoping duct [26].

SUBTASK 30-11-31-430-007

- (2) Put the outer telescoping duct [26] into the support brackets [30].

SUBTASK 30-11-31-430-008

- (3) Do this to install spray duct [27].

- (a) Clean the mating surfaces of the spray duct [27] flange, washers [43], and rib end [31].
 - 1) Use a cotton wiper, G00034, made moist with alcohol, B00130.
 - 2) Immediately dry the surfaces with a new cotton wiper.
- (b) Install the retaining bolts [25] and washers [43] and the spray duct [27]

SUBTASK 30-11-31-430-009

- (4) Do a bonding check from the spray duct [27] flange to the rib end [31].

- (a) Use an intrinsically safe approved bonding meter, COM-1550, to measure a maximum of 0.00070 ohms.

- (5) Fillet seal the spray duct [27] flange with Dow Corning 93-006-1 RF sealant, A00900.

SUBTASK 30-11-31-420-006

- (6) Do this to install the blade seal [24]:

- (a) Connect the washers [33], sleeves [34], springs [35], spacers [36], and spring retainers [37] to the blade seal [24].
- (b) Install the retaining bolts [32] to attach the blade seal [24].

SUBTASK 30-11-31-410-002

- (7) Do this to install the access door:

- (a) Install the cover plate [22].

SUBTASK 30-11-31-410-009

- (8) Do this to install the inner skin panel of the outer slat:

- (a) Install the applicable cover panel [21]:

Open these access panels:

Number	Name/Location
522CB	Slat No. 4 - Cove Skin
523CB	Slat No. 3 - Cove Skin
524CB	Slat No. 2 - Cove Skin
622CB	Slat No. 5 - Cove Skin
623CB	Slat No. 6 - Cove Skin
624CB	Slat No. 7 - Cove Skin

- (b) Install the seal [20].

- (c) Install the backup plates [28].

- 1) Apply compound, C00528, to the hex bolt on the lower backup plate [28].

EFFECTIVITY
AKS ALL

30-11-31



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

SUBTASK 30-11-31-790-001

- (9) Do this task: Wing Anti-Icing Duct - Leak Test, TASK 30-11-00-790-801.

J. Put the Airplane Back to Its Usual Condition

SUBTASK 30-11-31-410-010

- (1) Install these panels per Leading Edge Access Panel Installation, TASK 57-41-02-400-801, as needed:
- (a) For the left wing, close these access panel:

<u>Number</u>	<u>Name/Location</u>
521DB	Lower Leading Edge Access Panel - Slat Station 71.38
521KB	Lower Leading Edge Access Panel - Slat Station 188.12
521RB	Lower Leading Edge Access Panel - Slat Station 307.75

- (b) For the right wing, close these access panel:

<u>Number</u>	<u>Name/Location</u>
621DB	Lower Leading Edge Access Panel - Slat Station 71.38
621JB	Lower Leading Edge Access Panel - Slat Station 188.14
621QB	Lower Leading Edge Access Panel - Slat Station 307.75

SUBTASK 30-11-31-420-005

- (2) Clean the mating surfaces of the ground strap [40] and bracket [39].
- (a) Use a cotton wiper, G00034, made moist with alcohol, B00130.
- (b) Immediately dry the surfaces with a new cotton wiper.
- (3) Install the bolts [38], ground strap [40], washers [41], and nuts [42] that hold the bracket [39] to the outer telescoping duct [26].
- (a) Adjust the vertical position of the bracket [39] to make sure that it is flush with the other access panels.
- (b) Tighten the bolts [38] after the vertical position of the bracket [39] is set.
- (c) Do a bonding check for the ground strap [40].
- 1) Use an intrinsically safe approved bonding meter, COM-1550, to measure a maximum overall resistance of 0.010 ohms between the door and the duct.
- (d) Apply sealant, A50231, to the terminal that was removed.

SUBTASK 30-11-31-860-008

- (4) Retract the slats to the full up position (TASK 27-81-00-080-801).

SUBTASK 30-11-31-410-004

- (5) Adjust the telescoping duct door [2], if needed, to get equal clearances on the inboard and outboard sides, and equal clearances and on the forward and aft sides as specified in Figure 402.

———— END OF TASK ————



30-11-31



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

WING ANTI-ICE TELESCOPING DUCT - INSPECTION/CHECK

TASK 30-11-31-200-801

1. Wing Anti-Ice Telescoping Duct Check

A. General

- (1) This procedure has the wear limits for the inner telescoping duct of the anti-ice telescopic ducts. These ducts are installed on the leading edges for slats 1 through 6.

B. References

Reference	Title
27-81-00-080-801	Leading Edge Flap and Slat Locks Removal (P/B 201)
27-81-00-480-801	Leading Edge Flap and Slat Locks Installation (P/B 201)
30-11-31-000-801	Wing Anti-Ice Telescoping Duct Seal Removal (P/B 401)
30-11-31-400-801	Wing Anti-Ice Telescoping Duct Seal Installation (P/B 401)

C. Location Zones

Zone	Area
520	Subzone - Left Wing: Leading Edge, Fwd of Front Spar, Outboard of Strut and Nacelle Gap Cover Area
620	Subzone - Right Wing: Leading Edge, Forward of Front Spar, Outboard of Nacelle Strut

D. Procedure

SUBTASK 30-11-31-860-009

WARNING: MAKE SURE THAT ALL PERSONNEL AND EQUIPMENT ARE AWAY FROM THE SLATS. THE SLATS MOVE QUICKLY. INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT CAN OCCUR.

- (1) Do this task to extend the leading edge slats and lock them out: Leading Edge Flap and Slat Locks Installation, TASK 27-81-00-480-801.

SUBTASK 30-11-31-211-001

- (2) Examine the inner telescoping duct for wear and use the Table 601 for reference.

Table 601/30-11-31-993-801 WEAR LIMIT CHART

	Max allowable wear damage of coating for Area I	Max allowable wear damage of coating for Area II
Coating total missing	0.75 square inches	Unlimited
Max length of radial damage	1.00 inch	Unlimited
Max length of longitudinal damage	Unlimited	Unlimited

- (a) Only damage to the coating is allowed. Dents or damage to the base metal are not allowed.
(b) If the damage is more than the wear limits then replace the damaged duct (Wing Anti-Ice Telescoping Duct Seal Removal, TASK 30-11-31-000-801 and Wing Anti-Ice Telescoping Duct Seal Installation, TASK 30-11-31-400-801).

EFFECTIVITY
AKS ALL

30-11-31



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

E. Put the airplane back to its usual condition

SUBTASK 30-11-31-860-010

- (1) Do this task to unlock the leading edge slats and retract them: Leading Edge Flap and Slat Locks Removal, TASK 27-81-00-080-801.

———— END OF TASK ————

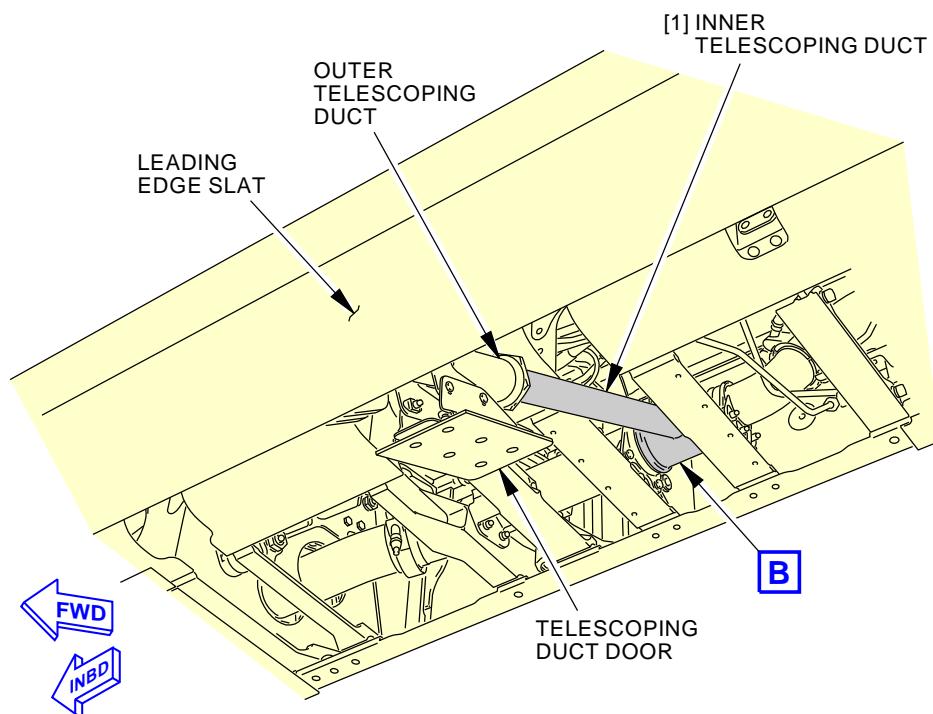
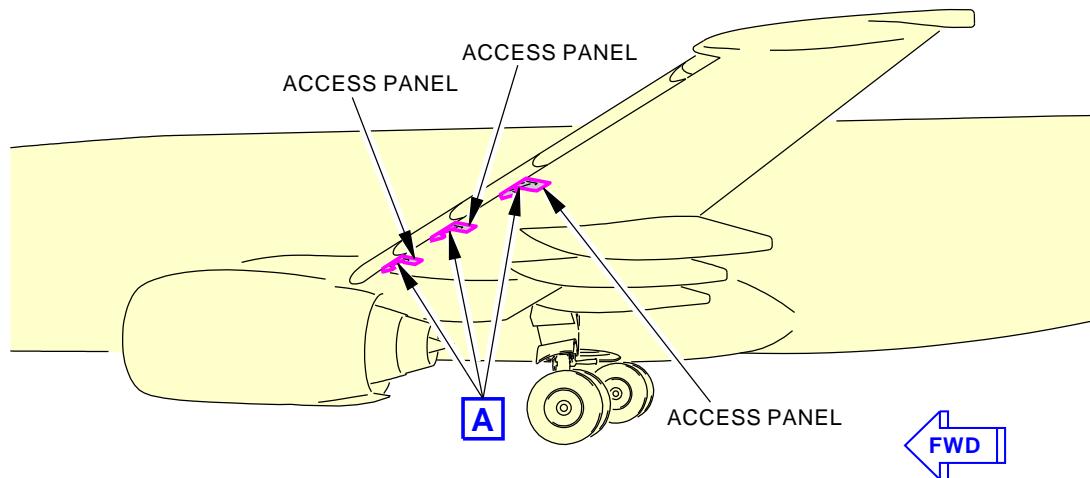
EFFECTIVITY
AKS ALL

30-11-31

D633A101-AKS



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL



LEFT WING ANTI-ICE TELESCOPING DUCT
(RIGHT WING ANTI-ICE TELESCOPING DUCT IS OPPOSITE) (EXAMPLE)

A

2167198 S0000476998_V2

Wing Anti-Ice Telescoping Duct Inspection
Figure 601/30-11-31-990-804 (Sheet 1 of 2)

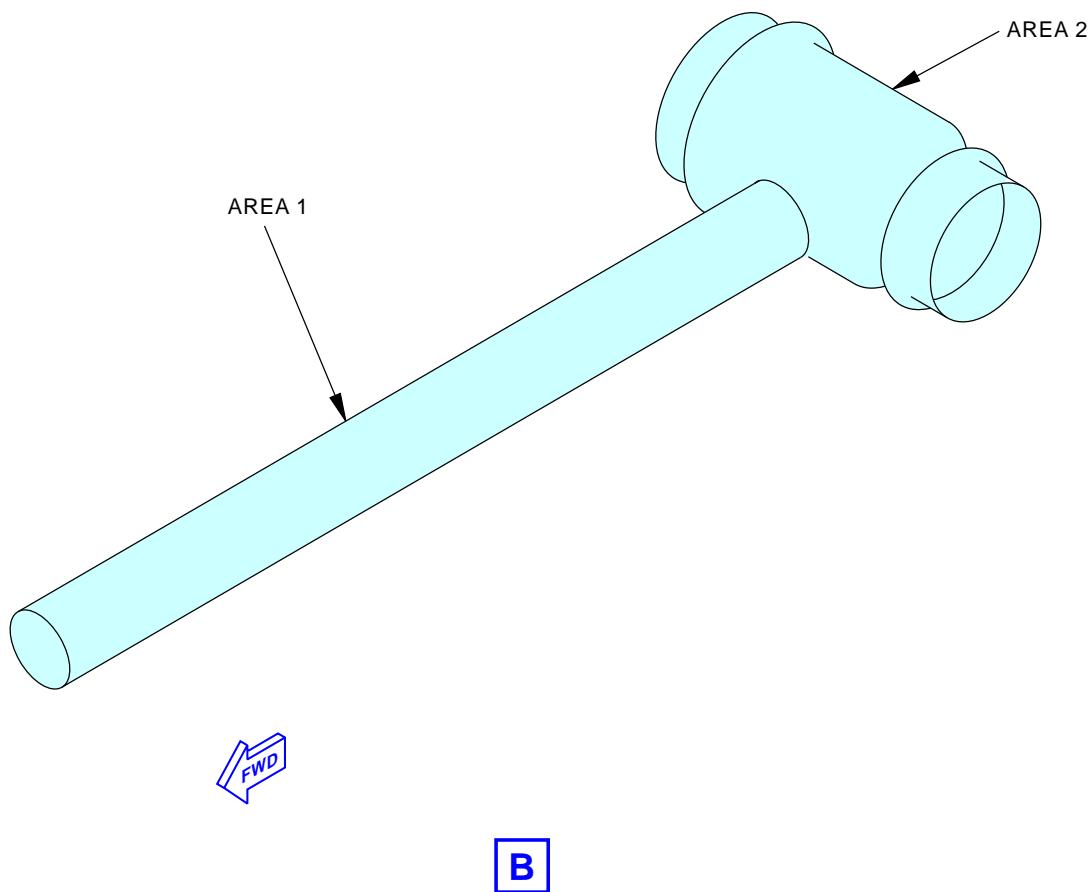
EFFECTIVITY
AKS ALL

30-11-31

D633A101-AKS



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL



2167200 S0000476999_V2

Wing Anti-Ice Telescoping Duct Inspection
Figure 601/30-11-31-990-804 (Sheet 2 of 2)

EFFECTIVITY
AKS ALL

30-11-31

D633A101-AKS

BOEING PROPRIETARY - Copyright © Unpublished Work - See title page for details

Page 604
Oct 15/2015



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

ENGINE AND WING ANTI-ICE PANEL - REMOVAL/INSTALLATION

1. General

- A. This procedure has these tasks:
- (1) Removal of the engine and wing anti-ice panel.
 - (2) Installation of the engine and wing anti-ice panel.

TASK 30-11-41-000-801

2. Engine and Wing Anti-Ice Panel Removal

(Figure 401)

A. General

- (1) This task gives instructions to remove the Engine and Wing Anti-Ice Panel.

B. Location Zones

Zone	Area
212	Flight Compartment - Right

C. Prepare for the Removal

SUBTASK 30-11-41-860-012

- (1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
A	1	C00146	ANTI-ICE & RAIN WING ANTI-ICE VALVE
AKS 001-024, 026, 028-999			
A	6	C00148	ANTI-ICE & RAIN ENG 1 & WING CONT
AKS 025, 027			
A	6	C00148	ANTI-ICE-RAIN ENG 1/WING CONT-ICE DET
AKS ALL			
A	7	C01001	ANTI-ICE & RAIN ENG 1 COWL AI VALVE
AKS 001-024, 026, 028-999			
B	6	C00149	ANTI-ICE & RAIN ENGINE 2 CONTROL
AKS 025, 027			
B	6	C00149	ANTI-ICE-RAIN ENG 2/CONT & ICE DET
AKS ALL			
B	7	C01002	ANTI-ICE & RAIN ENG 2 COWL AI VALVE

SUBTASK 30-11-41-010-002

- (2) Open the P5 overhead panel.
 - (a) Loosen the quarter turn fasteners on the bottom corners of the P5 overhead panel.

WARNING: HOLD THE PANEL TIGHTLY BEFORE YOU RELEASE THE LATCH. THE PANEL IS HEAVY. INJURIES CAN OCCUR IF IT HITS YOU.

- (b) Release the panel safety latch.



30-11-41



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

D. Engine and Wing Anti-Ice Panel Removal

SUBTASK 30-11-41-020-002

WARNING: THERE ARE HIGH VOLTAGES IN THE P5 OVERHEAD PANEL. MAKE SURE YOU DO NOT TOUCH OR SHORT EXPOSED TERMINALS. INJURY TO PERSONNEL OR DAMAGE TO EQUIPMENT CAN OCCUR.

- (1) Remove the connectors from the engine and wing anti-ice panel.

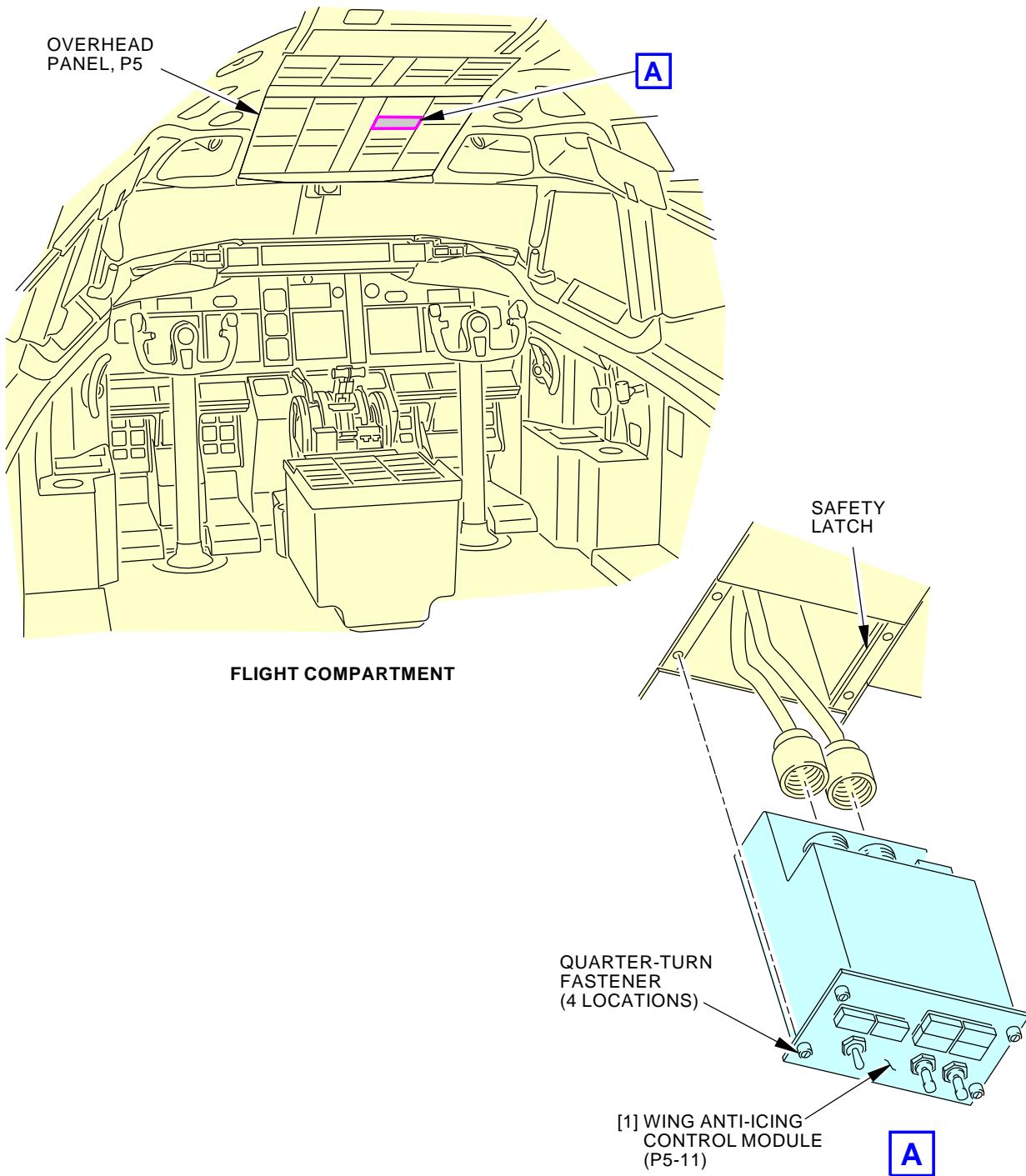
SUBTASK 30-11-41-020-001

- (2) Remove the engine and wing anti-ice module [1]:
 - (a) Release the fasteners which attach the engine and wing anti-ice module [1] to the P5 overhead panel.
 - (b) Remove the engine and wing anti-ice module [1].

———— END OF TASK ————

EFFECTIVITY
AKS ALL

30-11-41



F72796 S0006573081_V3

Wing Anti-Icing Control Module Installation
Figure 401/30-11-41-990-802

EFFECTIVITY
AKS ALL

30-11-41



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

TASK 30-11-41-400-801

3. Engine and Wing Anti-Ice Panel Installation

(Figure 401)

A. General

- (1) This task gives instructions to install the Engine and Wing Anti-Ice Panel.

B. References

Reference	Title
24-22-00-860-813	Supply External Power (P/B 201)

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Engine and wing anti-ice module	30-11-41-06-020	AKS ALL
		30-11-41-06-025	AKS ALL
		30-11-51-06-025	AKS ALL

D. Prepare for the Removal

SUBTASK 30-11-41-860-016

- (1) Make sure that these circuit breakers are open and have safety tags:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
A	1	C00146	ANTI-ICE & RAIN WING ANTI-ICE VALVE
AKS 001-024, 026, 028-999			
A	6	C00148	ANTI-ICE & RAIN ENG 1 & WING CONT
AKS 025, 027			
A	6	C00148	ANTI-ICE-RAIN ENG 1/WING CONT-ICE DET
AKS ALL			
A	7	C01001	ANTI-ICE & RAIN ENG 1 COWL AI VALVE
AKS 001-024, 026, 028-999			
B	6	C00149	ANTI-ICE & RAIN ENGINE 2 CONTROL
AKS 025, 027			
B	6	C00149	ANTI-ICE-RAIN ENG 2/CONT & ICE DET
AKS ALL			
B	7	C01002	ANTI-ICE & RAIN ENG 2 COWL AI VALVE

SUBTASK 30-11-41-010-004

- (2) Open the P5 overhead panel.
(a) Loosen the quarter turn fasteners on the bottom corners of the P5 overhead panel.

WARNING: HOLD THE PANEL TIGHTLY BEFORE YOU RELEASE THE LATCH. THE PANEL IS HEAVY. INJURIES CAN OCCUR IF IT HITS YOU.

- (b) Release the panel safety latch.

E. Engine and Wing Anti-Ice Panel Installation

SUBTASK 30-11-41-420-004

- (1) Install the engine and wing anti-ice module [1] in the P5 overhead panel.



30-11-41



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

SUBTASK 30-11-41-420-005

- (2) Tighten the fasteners.

SUBTASK 30-11-41-420-006

WARNING: THERE ARE HIGH VOLTAGES IN THE P5 OVERHEAD PANEL. MAKE SURE YOU DO NOT TOUCH OR SHORT EXPOSED TERMINALS. INJURY TO PERSONNEL OR DAMAGE TO EQUIPMENT CAN OCCUR.

- (3) Attach the connectors to the engine and wing anti-ice module [1].

SUBTASK 30-11-41-410-002

CAUTION: MAKE SURE THE WIRE ASSEMBLIES ARE FLEXIBLE. DO NOT BEND OR TWIST THEM DURING REMOVAL OR INSTALLATION. THIS CAN CAUSE DAMAGE TO THE WIRE HARNESSSES.

- (4) Do these steps to close the P5 overhead panel:

- (a) Raise the P5 overhead panel.

WARNING: HOLD THE PANEL TIGHTLY BEFORE YOU RELEASE THE LATCH. THE PANEL IS HEAVY. INJURIES CAN OCCUR IF IT HITS YOU.

- (b) Make sure the safety latch is in the proper position.
 - (c) Tighten the quarter turn fasteners on the bottom corners of the P5 overhead panel.

SUBTASK 30-11-41-860-013

- (5) Make sure that these circuit breakers are closed:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	1	C00146	ANTI-ICE & RAIN WING ANTI-ICE VALVE
AKS 001-024, 026, 028-999			
A	6	C00148	ANTI-ICE & RAIN ENG 1 & WING CONT
AKS 025, 027			
A	6	C00148	ANTI-ICE-RAIN ENG 1/WING CONT-ICE DET
AKS ALL			
A	7	C01001	ANTI-ICE & RAIN ENG 1 COWL AI VALVE
AKS 001-024, 026, 028-999			
B	6	C00149	ANTI-ICE & RAIN ENGINE 2 CONTROL
AKS 025, 027			
B	6	C00149	ANTI-ICE-RAIN ENG 2/CONT & ICE DET
AKS ALL			
B	7	C01002	ANTI-ICE & RAIN ENG 2 COWL AI VALVE

F. Engine and Wing Anti-Ice Panel Installation Test

SUBTASK 30-11-41-860-014

- (1) Do this task: Supply External Power, TASK 24-22-00-860-813.

SUBTASK 30-11-41-710-001

- (2) Push the MASTER DIM AND TEST switch.

- (a) Make sure the COWL VALVE OPEN indicators on the anti-ice panel turn blue.

———— END OF TASK ————

EFFECTIVITY
AKS ALL

30-11-41



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

ENGINE AND WING ANTI-ICE PANEL - ADJUSTMENT/TEST

1. **General**

- A. This procedure contains a task to do a test of the engine and wing anti-ice panel (P5-11).

TASK 30-11-41-710-801

2. **Engine and Wing Thermal Anti-Ice Panel (P5-11) Test**

(Figure 501)

A. **General**

- (1) This test makes sure that the Engine and Wing Anti-Ice Panel (P5-11) is operating properly.

B. **References**

Reference	Title
24-22-00-860-813	Supply External Power (P/B 201)
24-22-00-860-814	Remove External Power (P/B 201)
36-00-00-860-802	Supply Pressure to the Pneumatic System with an External Ground Air Source (P/B 201)
36-00-00-860-803	Supply Pressure to the Pneumatic System with the APU (P/B 201)
36-00-00-860-806	Remove Pressure from the Pneumatic System (P/B 201)
71-11-02-010-801-F00	Open the Fan Cowl Panels (P/B 201)
71-11-02-410-801-F00	Close the Fan Cowl Panels (P/B 201)
78-31-00-010-801-F00	Open the Thrust Reverser (Selection) (P/B 201)

C. **Location Zones**

Zone	Area
212	Flight Compartment - Right

D. **Prepare for the Tests**

SUBTASK 30-11-41-860-001

- (1) Do this task: Supply External Power, TASK 24-22-00-860-813.

SUBTASK 30-11-41-860-002

- (2) Provide pneumatic pressure for the TAI ducts.

- (a) To use the APU to pressurize the TAI duct:

- 1) Do this task: Supply Pressure to the Pneumatic System with the APU, TASK 36-00-00-860-803.

- (b) To use an external air supply to pressurize the TAI duct:

- 1) Do this task: Supply Pressure to the Pneumatic System with an External Ground Air Source, TASK 36-00-00-860-802.

- (c) Put the BLEED 1 and 2 switches on the air conditioning panel in the OFF position.

- (d) Put the L PACK AND R PACK switches on the air conditioning panel in the OFF position.

- (e) Make sure the ISOLATION VALVE switch is in the OPEN or the AUTO position.

SUBTASK 30-11-41-010-001

- (3) For the applicable engine, open the right fan cowl panel. To do this, do this task: Open the Fan Cowl Panels, TASK 71-11-02-010-801-F00.

SUBTASK 30-11-41-860-003

- (4) Make sure that the thrust levers are in the IDLE position.

EFFECTIVITY _____
AKS ALL

30-11-41



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

E. Test the WING ANTI-ICE Switch and Indication

SUBTASK 30-11-41-860-004

- (1) Press and release the L VALVE OPEN and R VALVE OPEN light switches on the P5-11 panel.
 - (a) Make sure each light comes on then goes off.

SUBTASK 30-11-41-860-005

- (2) Make sure the engine and wing anti-ice panel commands the anti-icing valves open:
 - (a) Put the WING ANTI-ICE switch in the ON position.
 - (b) Make sure the VALVE OPEN lights come on brightly for 1 to 6 seconds.
 - (c) Make sure the VALVE OPEN lights are on dimly after 6 seconds.

SUBTASK 30-11-41-720-001

- (3) Check the thrust switch inputs to the engine and wing anti-ice panel:
 - (a) Put the thrust levers in the full throttle position.
 - 1) Make sure the L and R VALVE OPEN lights come on brightly.
 - (b) Put the thrust levers in the IDLE position.
 - (c) Make sure the VALVE OPEN lights are on dimly after 6 seconds.

SUBTASK 30-11-41-860-006

- (4) Make sure the engine and wing anti-ice panel commands the anti-icing valves closed:
 - (a) Put the WING ANTI-ICE switch in the OFF position.
 - (b) Make sure the VALVE OPEN lights come on brightly for 1 to 6 seconds.
 - (c) Make sure the VALVE OPEN lights go off after 6 seconds.

F. Test the ENG ANTI-ICE Switches and Indication

SUBTASK 30-11-41-860-007

- (1) Press and release the COWL ANTI-ICE and COWL VALVE OPEN light switches on the P5-11 panel.
 - (a) Make sure each light comes on then goes off.

SUBTASK 30-11-41-860-015

- (2) Manually open the PRSOV valve on each engine:

WARNING: DO THESE SPECIFIED TASKS IN THE CORRECT SEQUENCE BEFORE YOU OPEN THE THRUST REVERSER: RETRACT THE LEADING EDGE, DO THE DEACTIVATION PROCEDURES FOR THE LEADING EDGE AND THE THRUST REVERSER (FOR GROUND MAINTENANCE), AND OPEN THE FAN COWL PANELS. IF YOU DO NOT OBEY THE ABOVE SEQUENCE, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

- (a) Open the left thrust reverser. To do this, do this task: Open the Thrust Reverser (Selection), TASK 78-31-00-010-801-F00.
- (b) Put the applicable engine BLEED switch on the P5-10, forward overhead panel to the ON position.
- (c) Use a wrench on the manual override nut for the PRSOV to put it to the open position.
- (d) Make sure that the PRSOV stays in the open position.

NOTE: The PRSOV is spring-loaded to the closed position. If there is pressure supplied and the PRSOV does not stay open, there may be a leakage in the PRSOV or in the sense line(s).

EFFECTIVITY
AKS ALL

30-11-41



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

SUBTASK 30-11-41-860-008

- (3) Make sure the engine and wing anti-ice panel commands the cowl anti-icing valves open:
- Put the ENG ANTI-ICE 1 switch in the ON position.
 - Make sure the left COWL VALVE OPEN light comes on brightly for 1 to 6 seconds.
 - Make sure the COWL VALVE OPEN light goes dimly after 6 seconds.
 - Put the ENG ANTI-ICE 2 switch in the ON position.
 - Make sure the right COWL VALVE OPEN light comes on brightly for 1 to 6 seconds.
 - Make sure the COWL VALVE OPEN light goes dimly after 6 seconds.

SUBTASK 30-11-41-720-002

- (4) Check the cowl thermal anti-ice (TAI) duct pressure switch inputs to the engine and wing anti-ice panel:
- Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-3

Row Col Number Name

AKS 001-024, 026, 028-999

A 6 C00148 ANTI-ICE & RAIN ENG 1 & WING CONT

AKS 025, 027

A 6 C00148 ANTI-ICE-RAIN ENG 1/WING CONT-ICE DET

AKS ALL

A 7 C01001 ANTI-ICE & RAIN ENG 1 COWL AI VALVE

- Remove the electrical connector from the left cowl TAI duct pressure switch.
- Connect a jumper wire between pins 1 and 2 of the electrical connector.
 - Make sure the left COWL ANTI-ICE light comes on.
- Remove the jumper wire.
- Connect the electrical connector to the pressure switch.
 - Put the ENG ANTI-ICE 1 switch in the OFF position.
 - Make sure the left COWL ANTI-ICE light goes off.
- Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-3

Row Col Number Name

AKS 001-024, 026, 028-999

A 6 C00148 ANTI-ICE & RAIN ENG 1 & WING CONT

AKS 025, 027

A 6 C00148 ANTI-ICE-RAIN ENG 1/WING CONT-ICE DET

AKS ALL

A 7 C01001 ANTI-ICE & RAIN ENG 1 COWL AI VALVE

- Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-3

Row Col Number Name

AKS 001-024, 026, 028-999

B 6 C00149 ANTI-ICE & RAIN ENGINE 2 CONTROL

EFFECTIVITY
AKS ALL

30-11-41



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

AKS 001-024, 026, 028-999 (Continued)

(Continued)

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
------------	------------	---------------	-------------

AKS 025, 027

B	6	C00149	ANTI-ICE-RAIN ENG 2/CONT & ICE DET
---	---	--------	------------------------------------

AKS ALL

B	7	C01002	ANTI-ICE & RAIN ENG 2 COWL AI VALVE
---	---	--------	-------------------------------------

- (h) Remove the electrical connector from the right cowl TAI duct pressure switch.
- (i) Connect a jumper wire between pins 1 and 2 of the electrical connector.
 - 1) Make sure the right COWL ANTI-ICE light comes on.
- (j) Remove the jumper wire.
- (k) Connect the electrical connector to the pressure switch.
 - 1) Put the ENG ANTI-ICE 2 switch in the OFF position.
 - 2) Make sure the right COWL ANTI-ICE light goes off.
- (l) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
------------	------------	---------------	-------------

AKS 001-024, 026, 028-999

B	6	C00149	ANTI-ICE & RAIN ENGINE 2 CONTROL
---	---	--------	----------------------------------

AKS 025, 027

B	6	C00149	ANTI-ICE-RAIN ENG 2/CONT & ICE DET
---	---	--------	------------------------------------

AKS ALL

B	7	C01002	ANTI-ICE & RAIN ENG 2 COWL AI VALVE
---	---	--------	-------------------------------------

SUBTASK 30-11-41-860-009

- (5) Make sure the engine and wing anti-ice panel commands the cowl anti-icing valves closed:
 - (a) Put the ENG ANTI-ICE 1 switch in the OFF position.
 - 1) Make sure the left COWL VALVE OPEN light comes on brightly for 1 to 6 seconds.
 - 2) Make sure the COWL VALVE OPEN light goes off after 6 seconds.
 - (b) Put the ENG ANTI-ICE 2 switch in the OFF position.
 - 1) Make sure the right COWL VALVE OPEN light comes on brightly for 1 to 6 seconds.
 - 2) Make sure the COWL VALVE OPEN light goes off after 6 seconds.

G. Put the airplane back to its usual condition.

SUBTASK 30-11-41-410-001

- (1) Close the right fan cowl panel. To do this, do this task: Close the Fan Cowl Panels, TASK 71-11-02-410-801-F00.

SUBTASK 30-11-41-860-010

- (2) Do this task: Remove Pressure from the Pneumatic System, TASK 36-00-00-860-806.

EFFECTIVITY
AKS ALL

30-11-41

D633A101-AKS



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

SUBTASK 30-11-41-860-011

- (3) If electrical power is no longer necessary, do this task: Remove External Power, TASK 24-22-00-860-814.

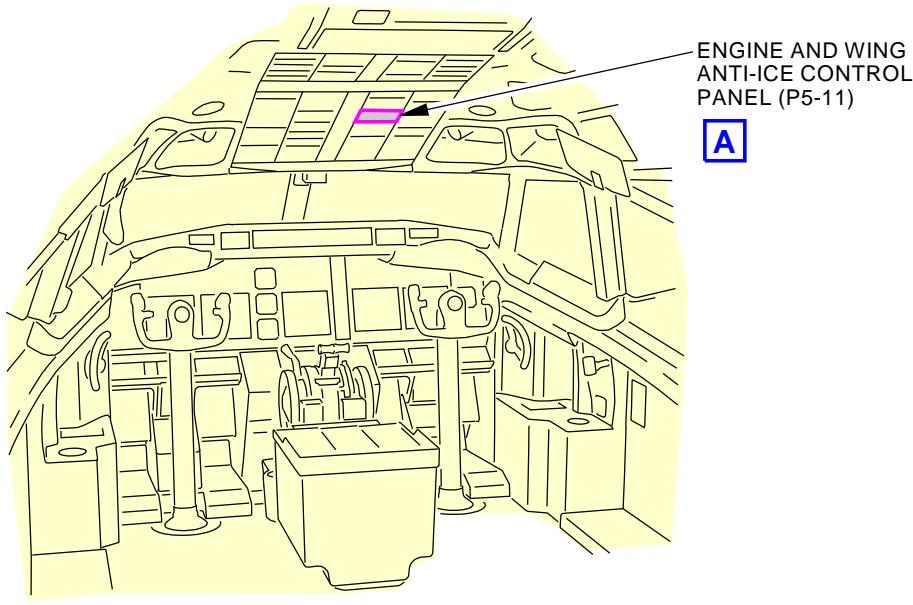
———— END OF TASK ————

EFFECTIVITY
AKS ALL

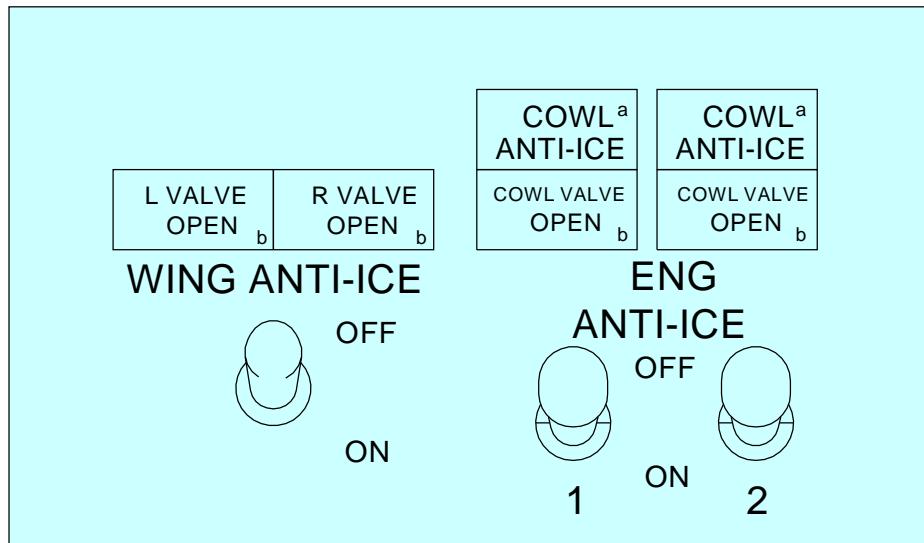
30-11-41



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL



FLIGHT COMPARTMENT



ENGINE AND WING ANTI-ICE CONTROL PANEL (P5-11)

A

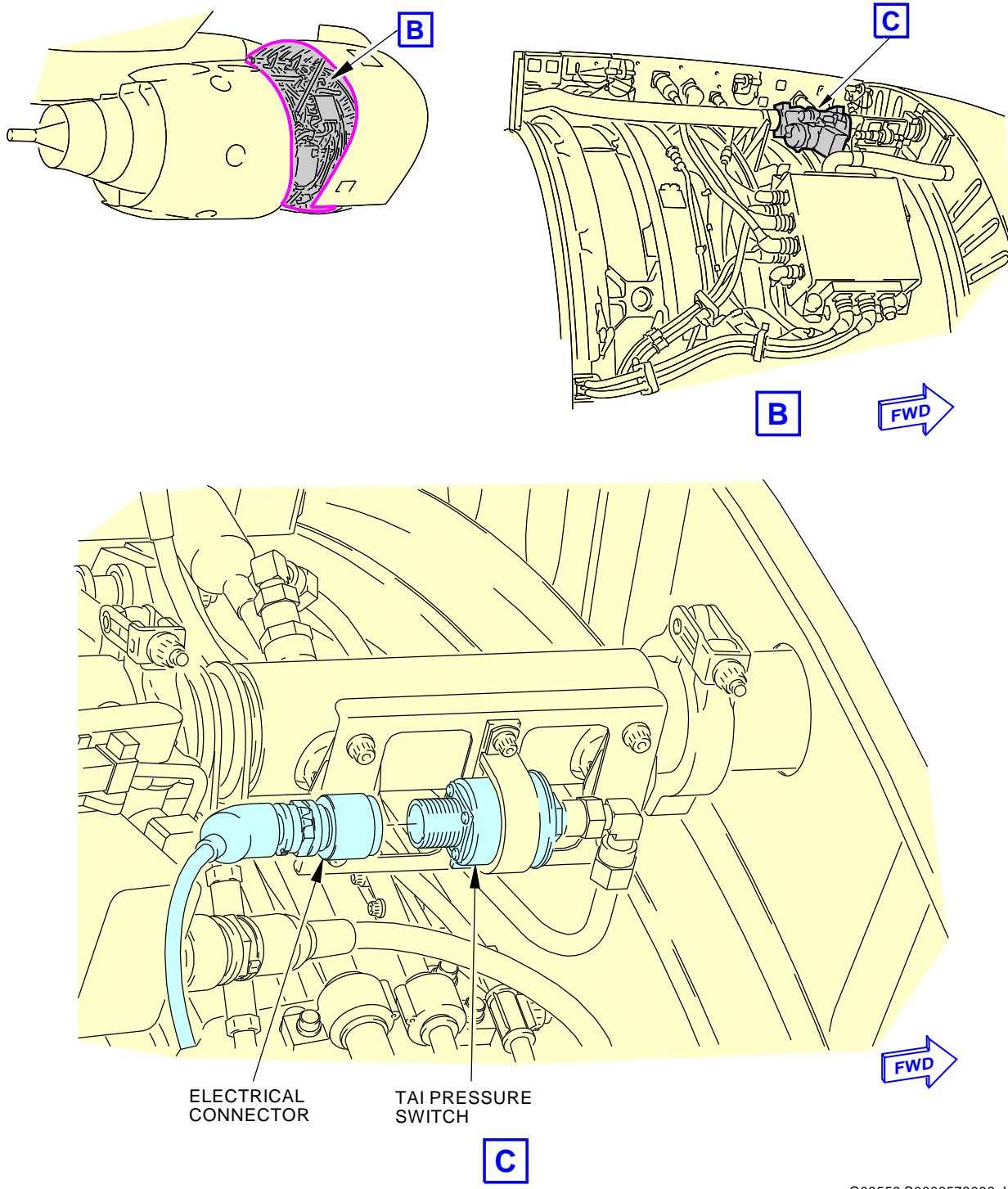
G02010 S0006573085_V2

Engine and Wing Anti-Ice Control Panel Test
Figure 501/30-11-41-990-801 (Sheet 1 of 2)

EFFECTIVITY
AKS ALL

30-11-41

D633A101-AKS



G03553 S0006573086_V2

Engine and Wing Anti-Ice Control Panel Test
Figure 501/30-11-41-990-801 (Sheet 2 of 2)

EFFECTIVITY
AKS ALL

30-11-41

D633A101-AKS



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

ENGINE COWL ANTI-ICING SYSTEM - ADJUSTMENT/TEST

1. General

- A. This procedure has these tasks:
- (1) Test of the Engine Cowl Thermal Anti-Icing System.

TASK 30-21-00-710-801

2. Engine Cowl Anti-Icing - Operational Test

(Figure 501)

A. General

- (1) This test makes sure that the cowl thermal anti-icing (TAI) system is operating properly. Specific tests for cowl TAI components are contained in other procedures.

B. References

Reference	Title
24-22-00-860-813	Supply External Power (P/B 201)
24-22-00-860-814	Remove External Power (P/B 201)
36-00-00-860-802	Supply Pressure to the Pneumatic System with an External Ground Air Source (P/B 201)
36-00-00-860-803	Supply Pressure to the Pneumatic System with the APU (P/B 201)
36-00-00-860-806	Remove Pressure from the Pneumatic System (P/B 201)
71-00-00-700-819-F00	Stop the Engine Procedure (Usual Engine Stop) (P/B 201)
71-00-00-800-807-F00	Start the Engine Procedure (Selection) (P/B 201)
71-11-02-010-801-F00	Open the Fan Cowl Panels (P/B 201)
71-11-02-410-801-F00	Close the Fan Cowl Panels (P/B 201)
78-31-00-010-801-F00	Open the Thrust Reverser (Selection) (P/B 201)
78-31-00-010-804-F00	Close the Thrust Reverser (Selection) (P/B 201)

C. Location Zones

Zone	Area
212	Flight Compartment - Right

D. Prepare for the Test

SUBTASK 30-21-00-860-001

- (1) Supply electrical power to the airplane. To do this, do this task: Supply External Power, TASK 24-22-00-860-813.

E. Test of the ENG ANTI-ICE switches and Indication

SUBTASK 30-21-00-910-001

CAUTION: DO NOT KEEP THE COWL TAI VALVE OPEN FOR MORE THAN THE SPECIFIED TIME WHEN THE TEMPERATURE IS MORE THAN THE SPECIFIED LIMIT. DAMAGE TO THE INLET COWL CAN OCCUR.

- (1) Do not use the inlet cowl anti-icing system for more than 30 seconds when the temperature is more than 65°F (18°C).

SUBTASK 30-21-00-910-002

- (2) There is no time limit for operation of the cowl anti-icing system when the temperature is at or less than 65°F (18°C).

EFFECTIVITY
AKS ALL

30-21-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

SUBTASK 30-21-00-840-002

- (3) Do these steps to provide pneumatic pressure for the ducts:
- (a) To use the engines to pressurize the TAI duct, do this task: Start the Engine Procedure (Selection), TASK 71-00-00-800-807-F00.
 - (b) To use the APU to pressurize the TAI duct, do this task: Supply Pressure to the Pneumatic System with the APU, TASK 36-00-00-860-803.
 - (c) To use an external air supply to pressurize the TAI duct, do this task: Supply Pressure to the Pneumatic System with an External Ground Air Source, TASK 36-00-00-860-802
 - (d) If you use the APU, external air, or a single engine to pressurize the TAI duct, then do these steps:
 - 1) Put the BLEED 1 and 2 switches on the air conditioning panel in the OFF position.
 - 2) Put the L PACK and R PACK switches on the air conditioning panel in the OFF position.
 - 3) Make sure the ISOLATION VALVE switch is in the OPEN or the AUTO position.
 - 4) If you use the APU or external air to pressurize the TAI duct, then you must manually open the PRSOV valves.
 - 5) If you use the a single engine to pressurize the TAI duct, then you must manually open the PRSOV valve on the non-running engine.
 - 6) To open a PRSOV valve, do these steps on the applicable engine or engines:

WARNING: DO THESE SPECIFIED TASKS IN THE CORRECT SEQUENCE BEFORE YOU OPEN THE THRUST REVERSER: RETRACT THE LEADING EDGE, DO THE DEACTIVATION PROCEDURES FOR THE LEADING EDGE AND THE THRUST REVERSER (FOR GROUND MAINTENANCE), AND OPEN THE FAN COWL PANELS. IF YOU DO NOT OBEY THE ABOVE SEQUENCE, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

- a) Open the left thrust reverser. To do this, do this task: Open the Thrust Reverser (Selection), TASK 78-31-00-010-801-F00.
- b) Put the applicable engine BLEED switch on the P5-10, forward overhead panel to the ON position.
- c) Use a wrench on the manual override nut for the PRSOV to put it to the open position.
- d) Make sure that the PRSOV stays in the open position.

NOTE: The PRSOV is spring-loaded to the closed position. If there is pressure supplied and the PRSOV does not stay open, there may be a leakage in the PRSOV or in the sense line(s).

SUBTASK 30-21-00-860-003

- (4) Do this test of the COWL VALVE OPEN and COWL ANTI-ICE light switches:
- (a) Push and release the COWL VALVE OPEN and COWL ANTI-ICE light switches on the P5-11 panel.
 - (b) Make sure each light comes on then goes off.

SUBTASK 30-21-00-860-004

- (5) Make sure the engine and wing anti-ice panel commands the cowl TAI valves open:
- (a) Put the ENG ANTI-ICE 1 switch in the ON position.

EFFECTIVITY
AKS ALL

30-21-00

D633A101-AKS



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

- 1) Make sure the left COWL VALVE OPEN light come on brightly for 1 to 3 seconds.
 - 2) Make sure the COWL VALVE OPEN light is on dimly after 3 seconds.
 - 3) Make sure the green TAI indication shows on the CDS (Common Display System) display, above the left N1 speed display.
- (b) Put the ENG ANTI-ICE 2 switch in the ON position.
- 1) Make sure the right COWL VALVE OPEN light come on brightly for 1 to 3 seconds.
 - 2) Make sure the COWL VALVE OPEN light is on dimly after 3 seconds.
 - 3) Make sure the green TAI indication shows on the CDS display above the right N1 speed display.

SUBTASK 30-21-00-860-005

- (6) Make sure the engine and wing anti-ice panel commands the cowl TAI valves closed:
- (a) Put the ENG ANTI-ICE 1 switch in the OFF position.
- 1) Make sure the left COWL VALVE OPEN light comes on brightly for 1 to 3 seconds.
 - 2) Make sure the COWL VALVE OPEN light goes off after 3 seconds.
- (b) Put the ENG ANTI-ICE 2 switch in the OFF position.
- 1) Make sure the right COWL VALVE OPEN light comes on brightly for 1 to 3 seconds.
 - 2) Make sure the COWL VALVE OPEN light goes off after 3 seconds.

NOTE: If the COWL VALVE OPEN lights remain illuminated bright with engines at IDLE, position APU BLEED air switch to OFF and increase thrust slightly (up to a maximum of 30% N1).

SUBTASK 30-21-00-860-006

- (7) If you used the engines to pressurize the TAI ducts, then stop the engines. To do this, do this task: Stop the Engine Procedure (Usual Engine Stop), TASK 71-00-00-700-819-F00.

SUBTASK 30-21-00-860-009

- (8) If you used the APU or external air to pressurize the TAI ducts, then, do this task: Remove Pressure from the Pneumatic System, TASK 36-00-00-860-806.

SUBTASK 30-21-00-860-007

- (9) Make sure the fuel shutoff levers are in the cutoff position and install DO-NOT-OPERATE tags.

SUBTASK 30-21-00-010-001

- (10) For the right fan cowl panel, do this task: Open the Fan Cowl Panels, TASK 71-11-02-010-801-F00.

SUBTASK 30-21-00-720-004

- (11) Do this test of the left cowl TAI duct overpressure detection circuit:
- (a) Disconnect the electrical connector from the left engine duct overpressure switch.
- (b) Connect a jumper wire between pins 1 and 2 of the connector.
- 1) Make sure the left COWL ANTI-ICE light comes on.
- (c) Remove the jumper wire from the connector.
- (d) Re-connect the connector to the overpressure switch.
- (e) Make sure the left COWL ANTI-ICE light is off.

SUBTASK 30-21-00-720-005

- (12) Do this test of the right cowl TAI duct overpressure detection circuit:
- (a) Disconnect the electrical connector from the right engine duct overpressure switch.

EFFECTIVITY
AKS ALL

30-21-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

- (b) Connect a jumper wire between pins 1 and 2 of the connector.
 - 1) Make sure the right COWL ANTI-ICE light comes on.
- (c) Remove the jumper wire from the connector.
- (d) Connect the connector to the overpressure switch.
- (e) Make sure the right COWL ANTI-ICE light is off.

SUBTASK 30-21-00-720-003

- (13) Do this test to make sure the TAI fault is shown:

- (a) Do a test of the left cowl TAI system:
 - 1) Put the ENG ANTI-ICE 1 switch in the ON position.
 - 2) Make sure the amber TAI indication is shown on the CDS (Common Display System) display above the left N1 speed display.
 - 3) Make sure the left COWL VALVE OPEN light comes on brightly.
 - 4) Put the ENG ANTI-ICE 1 switch in the OFF position.
 - 5) Make sure the TAI indication on the CDS display goes away.
 - 6) Make sure the COWL VALVE OPEN light goes off.
- (b) Do a test of the right cowl TAI system:
 - 1) Put the ENG ANTI-ICE 2 switch in the ON position.
 - 2) Make sure the amber TAI indication is shown on the CDS display above the right N1 speed display.
 - 3) Make sure the right COWL VALVE OPEN light comes on brightly.
 - 4) Put the ENG ANTI-ICE 2 switch in the OFF position.
 - 5) Make sure the TAI indication on the CDS display goes away.
 - 6) Make sure the COWL VALVE OPEN light goes off.

F. Put the airplane back to its usual condition.

SUBTASK 30-21-00-410-002

WARNING: OBEY THE INSTRUCTIONS IN THE PROCEDURE TO CLOSE THE THRUST REVERSERS. IF YOU DO NOT OBEY THE INSTRUCTIONS, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

- (1) Close the thrust reverser. To close the thrust reverser, do this task: Close the Thrust Reverser (Selection), TASK 78-31-00-010-804-F00.

SUBTASK 30-21-00-410-001

- (2) Close the right fan cowl panel. To close the panel, do this task: Close the Fan Cowl Panels, TASK 71-11-02-410-801-F00.

SUBTASK 30-21-00-840-001

- (3) Remove the DO-NOT-OPERATE tags from the fuel shutoff levers.

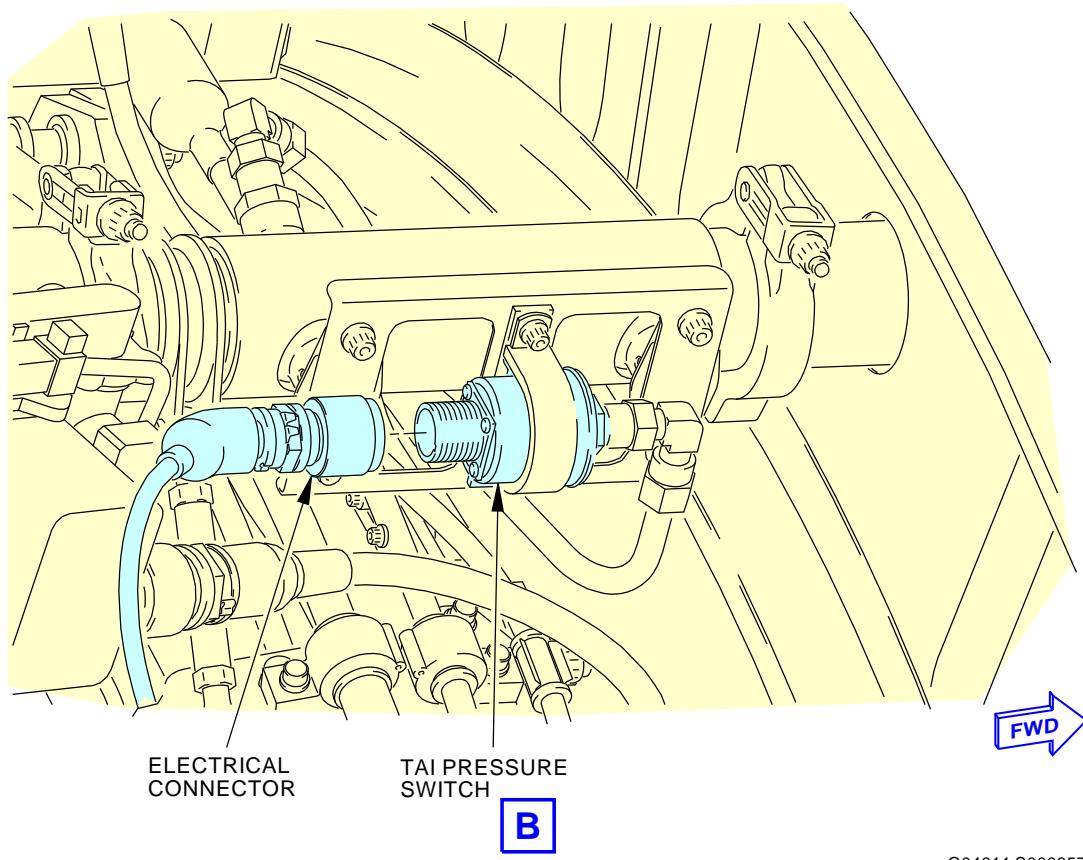
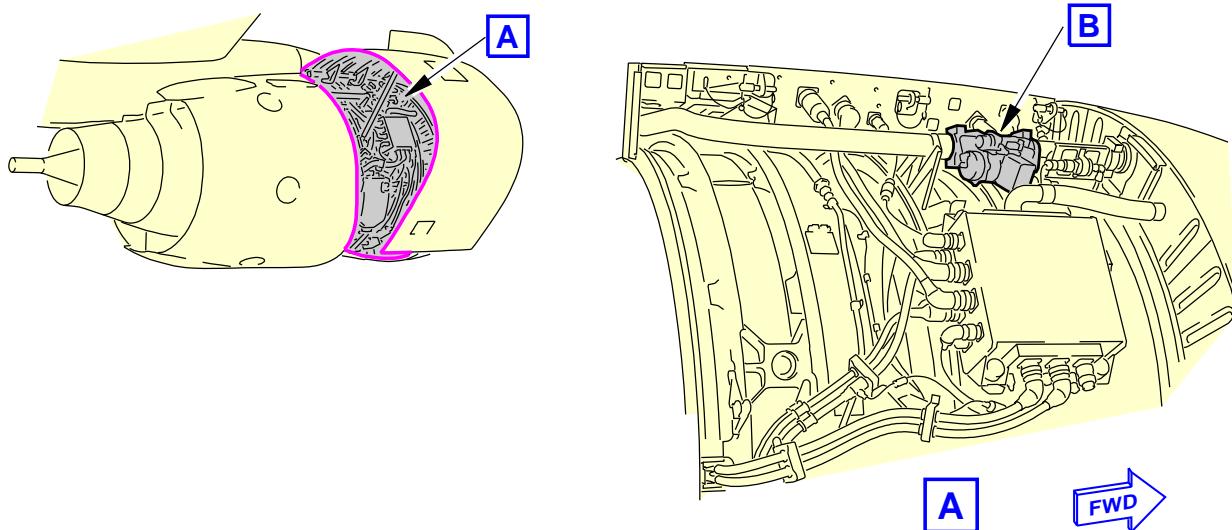
SUBTASK 30-21-00-860-008

- (4) If electrical power is no longer necessary, do this task: Remove External Power, TASK 24-22-00-860-814.

———— END OF TASK ————

EFFECTIVITY
AKS ALL

30-21-00

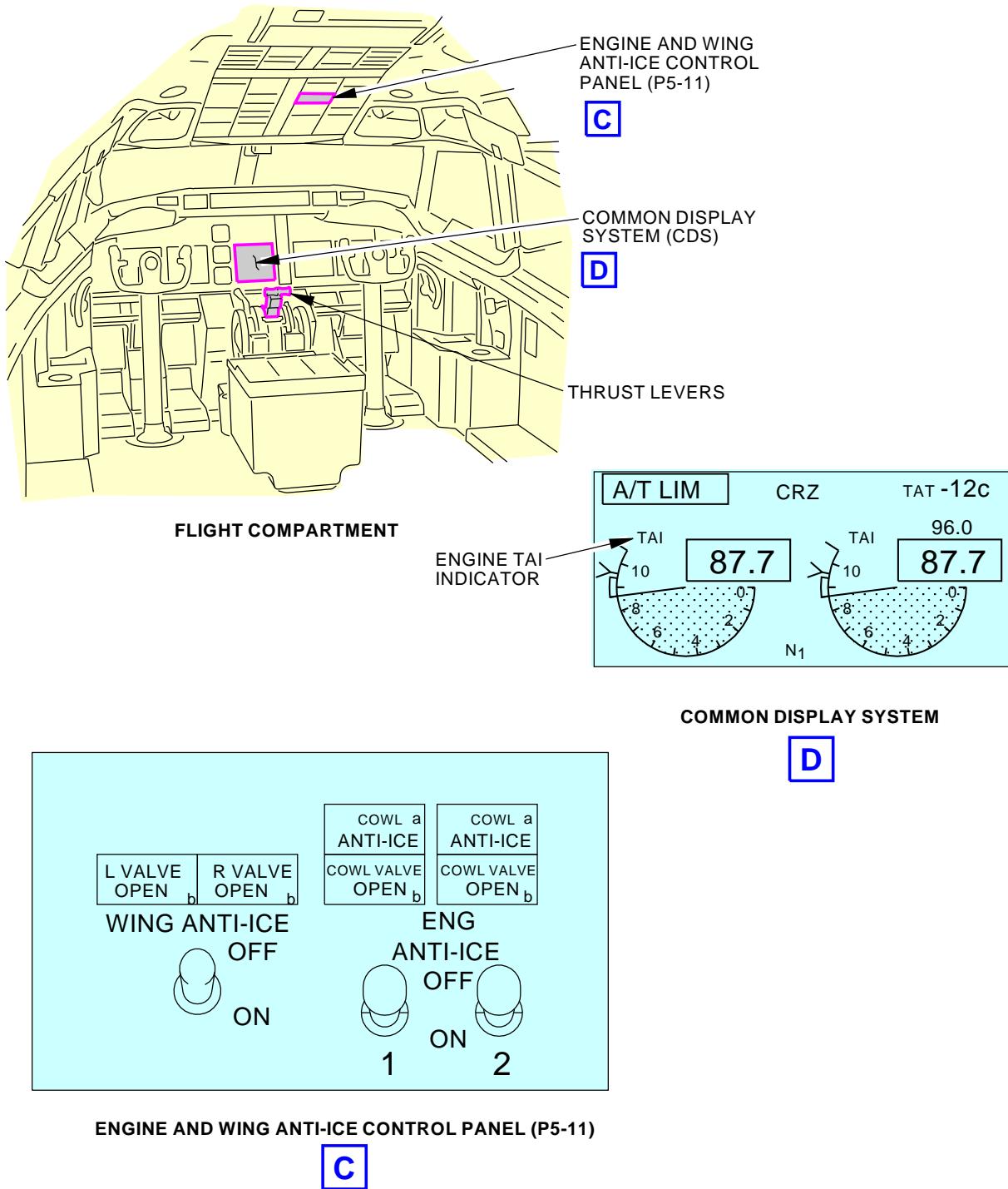


G04611 S0006573101_V2

Engine Cowl Anti-Icing Test
Figure 501/30-21-00-990-801 (Sheet 1 of 2)

EFFECTIVITY
AKS ALL

30-21-00



G04607 S0006573102_V2

Engine Cowl Anti-Icing Test
Figure 501/30-21-00-990-801 (Sheet 2 of 2)

EFFECTIVITY
 AKS ALL

D633A101-AKS

30-21-00

 Page 506
 Oct 15/2015



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

ENGINE COWL TAI VALVE - REMOVAL/INSTALLATION

1. General

- A. This procedure has tasks:
 - (1) The removal of the engine cowl TAI valve
 - (2) The installation of the engine cowl TAI valve.
- B. The engine cowl TAI valve is at the 2 o'clock position on the right side of the engine fan case.

TASK 30-21-11-000-801

2. Engine Cowl TAI Valve Removal

(Figure 401)

A. General

- (1) This task gives instructions to remove the Engine Cowl TAI Valve.
- (2) For this procedure the engine cowl TAI valve will be referred to as the valve.

B. References

Reference	Title
36-00-00-860-806	Remove Pressure from the Pneumatic System (P/B 201)
71-11-02-010-801-F00	Open the Fan Cowl Panels (P/B 201)

C. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2

D. Prepare for the Removal

SUBTASK 30-21-11-860-001

- (1) To remove the valve on the No. 1 power plant, do this step:
 - (a) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
AKS 001-024, 026, 028-999			
A	6	C00148	ANTI-ICE & RAIN ENG 1 & WING CONT
AKS 025, 027			
A	6	C00148	ANTI-ICE-RAIN ENG 1/WING CONT-ICE DET
AKS ALL			
A	7	C01001	ANTI-ICE & RAIN ENG 1 COWL AI VALVE

SUBTASK 30-21-11-860-002

- (2) To remove the valve on the No. 2 power plant, do this step:
 - (a) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
AKS 001-024, 026, 028-999			

B 6 C00149 ANTI-ICE & RAIN ENGINE 2 CONTROL

EFFECTIVITY
AKS ALL

30-21-11



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

AKS 001-024, 026, 028-999 (Continued)

(Continued)

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
------------	------------	---------------	-------------

AKS 025, 027

B	6	C00149	ANTI-ICE-RAIN ENG 2/CONT & ICE DET
---	---	--------	------------------------------------

AKS ALL

B	7	C01002	ANTI-ICE & RAIN ENG 2 COWL AI VALVE
---	---	--------	-------------------------------------

SUBTASK 30-21-11-860-003

- (3) Make sure the fuel shutoff lever for the applicable engine is in the cutoff position and install a DO-NOT-OPERATE tag.

SUBTASK 30-21-11-860-004

- (4) If not already done, do this task: Remove Pressure from the Pneumatic System, TASK 36-00-00-860-806.

SUBTASK 30-21-11-010-001

- (5) For the right fan cowl panel, do this task: Open the Fan Cowl Panels, TASK 71-11-02-010-801-F00

E. Engine Cowl TAI Valve Removal

SUBTASK 30-21-11-020-001

- (1) Disconnect the electrical connector DP1303 [10] from the valve [5].

SUBTASK 30-21-11-020-002

- (2) Remove the bolt [6], the washer [7] and the nut [9] that attach the bonding jumper [8] to the valve [5].
 - (a) Move the bonding jumper [8] away from the valve [5].

SUBTASK 30-21-11-020-003

- (3) Remove the bolts [11] and the nuts [12] that attach the aft duct to the fan case bracket.

SUBTASK 30-21-11-020-004

- (4) Do these steps to remove the valve [5]:
 - (a) Disconnect the couplings [1] at each end of the valve [5].

CAUTION: DO NOT APPLY TOO MUCH FORCE TO THE AFT DUCT. APPLY ONLY ENOUGH FORCE TO MOVE THE AFT DUCT REARWARD APPROXIMATELY 0.5 INCH (13 MM). IF YOU APPLY TOO MUCH FORCE, YOU CAN DAMAGE THE AFT DUCT.

- (b) Push the aft duct rearward to disengage the duct flanges.

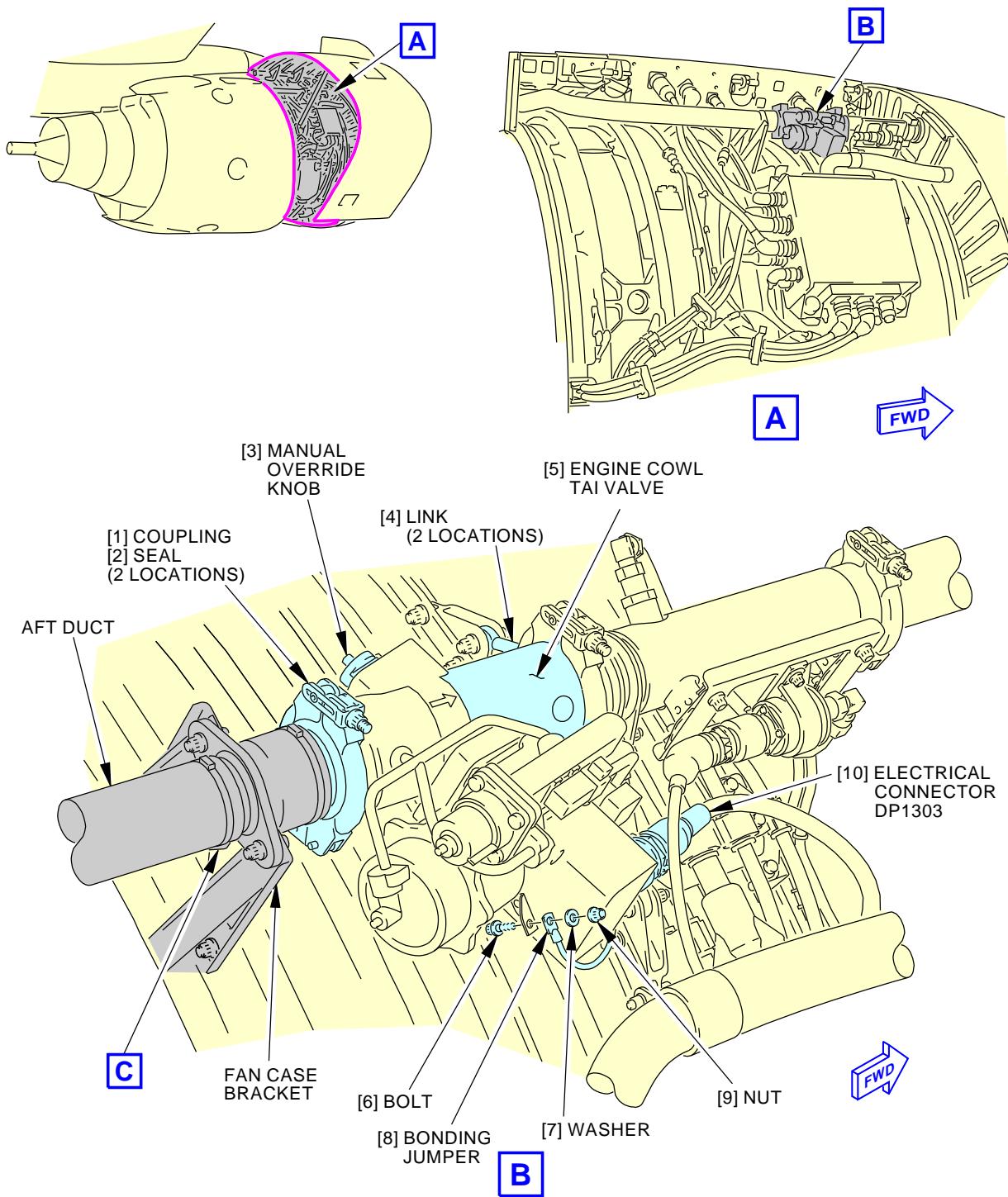
NOTE: You can install a temporary support between the fan case bracket and the aft duct to hold the duct in this position. This will make the removal of the valve easier.

- (c) Remove the valve [5] from the engine.
- (d) Remove the seal [2] from the forward end of the valve [5] and the aft duct flange.
- (e) Install protective covers on the openings of the ducts and the valve [5].

———— END OF TASK ————

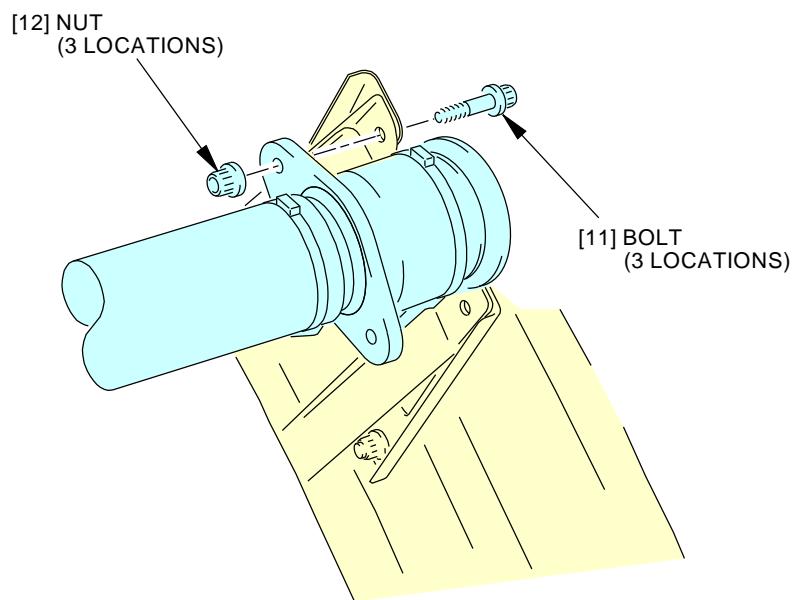
EFFECTIVITY
AKS ALL

30-21-11



Engine Cowl TAI Valve Installation
Figure 401/30-21-11-990-801 (Sheet 1 of 2)

BOEING
737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL



FWD

C

2349786 S0000533114_V2

Engine Cowl TAI Valve Installation
Figure 401/30-21-11-990-801 (Sheet 2 of 2)

EFFECTIVITY
AKS ALL

30-21-11



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

TASK 30-21-11-400-801

3. Engine Cowl TAI Valve Installation

(Figure 401)

A. General

- (1) This task gives instructions to install the Engine Cowl TAI Valve.
- (2) For this procedure the engine cowl TAI valve will be referred to as the valve.

B. References

Reference	Title
36-00-00-860-802	Supply Pressure to the Pneumatic System with an External Ground Air Source (P/B 201)
36-00-00-860-803	Supply Pressure to the Pneumatic System with the APU (P/B 201)
36-00-00-860-806	Remove Pressure from the Pneumatic System (P/B 201)
71-00-00-700-819-F00	Stop the Engine Procedure (Usual Engine Stop) (P/B 201)
71-00-00-800-807-F00	Start the Engine Procedure (Selection) (P/B 201)
71-11-02-410-801-F00	Close the Fan Cowl Panels (P/B 201)
78-31-00-010-801-F00	Open the Thrust Reverser (Selection) (P/B 201)
78-31-00-010-804-F00	Close the Thrust Reverser (Selection) (P/B 201)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1550	Bonding Meters - Approved, Intrinsically Safe (Approved for use in Class I, Divisions I & II hazardous (classified) locations. Outside these hazardous locations, COM-614 can be used in lieu of COM-1550). Part #: C15292 (MODEL T477W) Supplier: 01014 Part #: M1 Supplier: 3AD17 Opt Part #: M1B Supplier: 3AD17
STD-1014	Wrench - Torque, 0 to 150 in-lbs (0 to 16.9 N-m)
STD-3906	Mallet - Rubber

D. Consumable Materials

Reference	Description	Specification
B00130	Alcohol - Isopropyl	TT-I-735
G01048	Lockwire - MS20995C32, Corrosion Resistant Steel - 0.032 Inch (0.8128 mm) Diameter	NASM20995

E. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
2	Seal	30-21-11-01A-125	AKS ALL
5	Valve	30-21-11-01A-250	AKS ALL

F. Location Zones

Zone	Area
410	Subzone - Engine 1



30-21-11



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

(Continued)

Zone Area

420 Subzone - Engine 2

G. Prepare for the Installation

SUBTASK 30-21-11-860-016

- (1) Make sure that these circuit breakers are open and have safety tags:

CAPT Electrical System Panel, P18-3

Row Col Number Name

AKS 001-024, 026, 028-999

A 6 C00148 ANTI-ICE & RAIN ENG 1 & WING CONT

AKS 025, 027

A 6 C00148 ANTI-ICE-RAIN ENG 1/WING CONT-ICE DET

AKS ALL

A 7 C01001 ANTI-ICE & RAIN ENG 1 COWL AI VALVE

AKS 001-024, 026, 028-999

B 6 C00149 ANTI-ICE & RAIN ENGINE 2 CONTROL

AKS 025, 027

B 6 C00149 ANTI-ICE-RAIN ENG 2/CONT & ICE DET

AKS ALL

B 7 C01002 ANTI-ICE & RAIN ENG 2 COWL AI VALVE

SUBTASK 30-21-11-820-001

- (2) Look at the manual override knob [3] on the valve [5] and make sure the valve [5] is not in the LOCKED closed position.

H. Engine Cowl TAI Valve Installation

SUBTASK 30-21-11-420-001

- (1) Remove the protective covers from the ducts and the valve [5].

SUBTASK 30-21-11-210-001

- (2) Examine the seal [2] as follows:

- (a) Make sure the seal [2] do not have cracks, dents, or other damage.
(b) Replace all damaged seal [2] that you find.

SUBTASK 30-21-11-420-002

- (3) Do these steps to install the valve [5]:

CAUTION: DO NOT APPLY TOO MUCH FORCE TO THE AFT DUCT. APPLY ONLY ENOUGH FORCE TO MOVE THE AFT DUCT REARWARD APPROXIMATELY 0.5 INCH (13 MM). IF YOU APPLY TOO MUCH FORCE, YOU CAN DAMAGE THE AFT DUCT.

- (a) If removed, install a temporary support between the aft duct and the fan case bracket to move the aft duct rearward.

NOTE: You can install a temporary support between the fan case bracket and the aft duct to hold the duct in this position. This will make the installation of the valve easier.

- (b) Install a seal [2] in the forward end of the valve [5] and on the aft duct flange.

EFFECTIVITY
AKS ALL

30-21-11



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

- (c) Install the valve [5] between the ducts.

NOTE: Make sure the flow arrow points forward and the locking feature on the downstream flange is correctly engaged.

- (d) Remove the temporary support between the aft duct and the fan case bracket.

- (e) Loosely install the coupling [1] to attach the valve [5] to the ducts.

NOTE: Make sure the coupling nuts on the couplings are on top and the nuts face outboard.

CAUTION: WHEN YOU INSTALL THE COUPLINGS, MAKE SURE THE COUPLINGS DO NOT APPLY A FORCE ON THE DUCTS OR THE INLET COWL TAI VALVE. DAMAGE TO EQUIPMENT CAN OCCUR.

- (f) Do these steps to tighten the coupling [1]:

NOTE: If it is difficult to attach the valve [5] to the adjacent ducts, remove the lockwire from the link [4] and adjust the links until no force is applied to the ducts or the valve [5]. Tighten the link [4] and install a MS20995C32 lockwire, G01048.

- 1) Use a torque wrench, STD-1014, to tighten the coupling [1] to the range specified on the part.
- 2) Lightly hit the surface of each coupling [1] with a rubber mallet, STD-3906.
- 3) Use a torque wrench, STD-1014 to tighten the coupling [1] again to the range specified on the part.
- 4) Install the bolts [11] and the nuts [12] that attach the aft duct to the fan case bracket.
 - a) Use a torque wrench, STD-1014, to tighten the bolts to a torque of 97.0 in-lb (11.0 N·m) to 103.0 in-lb (11.6 N·m).

SUBTASK 30-21-11-020-005

- (4) Connect the connector, DP1303, [10] to the valve [5].

NOTE: Make sure that there is clearance between the TAI valve and adjacent structures.

SUBTASK 30-21-11-760-001

- (5) Do these steps to connect the bonding jumper [8] to the valve [5]:

- (a) Clean the bonding surface on the valve [5] with alcohol, B00130.

- (b) Attach the bonding jumper [8] to the valve [5] with the bolt [6], the washer [7] and the nut [9].

NOTE: To minimize slack between the two attached lugs of the bonding jumper[8], rotate the lug at the valve[5] forward and/or the lug on the fan case toward the upward 12 o'clock position of the fan case. Do not allow any riding condition (slack) of the jumper on the valve or the engine fan case.

- 1) Use a torque wrench, STD-1014, to tighten the nut [9] to 28.0 in-lb (3.2 N·m) to 35.0 in-lb (4.0 N·m).

- (c) Use an intrinsically safe approved bonding meter, COM-1550, to measure the resistance between the bonding jumper [8] and the valve [5].

- 1) Make sure the resistance is 0.008 ohms (8.0 milliohms) or less.



30-21-11



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

I. Engine Cowl TAI Valve Installation Test

SUBTASK 30-21-11-860-009

- (1) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
-----	-----	--------	------

AKS 001-024, 026, 028-999

A	6	C00148	ANTI-ICE & RAIN ENG 1 & WING CONT
---	---	--------	-----------------------------------

AKS 025, 027

A	6	C00148	ANTI-ICE-RAIN ENG 1/WING CONT-ICE DET
---	---	--------	---------------------------------------

AKS ALL

A	7	C01001	ANTI-ICE & RAIN ENG 1 COWL AI VALVE
---	---	--------	-------------------------------------

AKS 001-024, 026, 028-999

B	6	C00149	ANTI-ICE & RAIN ENGINE 2 CONTROL
---	---	--------	----------------------------------

AKS 025, 027

B	6	C00149	ANTI-ICE-RAIN ENG 2/CONT & ICE DET
---	---	--------	------------------------------------

AKS ALL

B	7	C01002	ANTI-ICE & RAIN ENG 2 COWL AI VALVE
---	---	--------	-------------------------------------

SUBTASK 30-21-11-840-001

- (2) Do these steps to provide pneumatic pressure for the ducts:

- To use the engines to pressurize the TAI duct, do this task: Start the Engine Procedure (Selection), TASK 71-00-00-800-807-F00.
- To use the APU to pressurize the TAI duct, do this task: Supply Pressure to the Pneumatic System with the APU, TASK 36-00-00-860-803.
- To use an external air supply to pressurize the TAI duct, do this task: Supply Pressure to the Pneumatic System with an External Ground Air Source, TASK 36-00-00-860-802.
- If you use the APU or external air to pressurize the TAI duct, then do these steps:
 - Put the BLEED 1 and 2 switches on the air conditioning panel in the OFF position.
 - Put the L PACK and R PACK switches on the air conditioning panel in the OFF position.
 - Make sure the ISOLATION VALVE switch is in the OPEN or the AUTO position.
- Do these steps on the applicable engine to manually open the PRSOV at the applicable engine:

WARNING: DO THESE SPECIFIED TASKS IN THE CORRECT SEQUENCE BEFORE YOU OPEN THE THRUST REVERSER: RETRACT THE LEADING EDGE, DO THE DEACTIVATION PROCEDURES FOR THE LEADING EDGE AND THE THRUST REVERSER (FOR GROUND MAINTENANCE), AND OPEN THE FAN COWL PANELS. IF YOU DO NOT OBEY THE ABOVE SEQUENCE, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

- Open the left thrust reverser. To open it, do this task: Open the Thrust Reverser (Selection), TASK 78-31-00-010-801-F00.
- Put the applicable engine BLEED switch, on the P5-10 panel, to the ON position.
- Use a wrench on the manual override nut for the PRSOV to put it to the open position.

EFFECTIVITY

AKS ALL

30-21-11



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

- 4) Make sure that the PRSOV stays in the open position.

NOTE: The PRSOV is spring-loaded to the closed position. If there is pressure supplied and the PRSOV does not stay open, there may be a leakage in the PRSOV or in the sense line(s).

WARNING: OBEY THE INSTRUCTIONS IN THE PROCEDURE TO CLOSE THE THRUST REVERSERS. IF YOU DO NOT OBEY THE INSTRUCTIONS, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

- 5) Close the thrust reverser. To close it, do this task: Close the Thrust Reverser (Selection), TASK 78-31-00-010-804-F00.

SUBTASK 30-21-11-860-010

- (3) Do this test of the COWL VALVE OPEN and COWL ANTI-ICE light switches:

- (a) Push and release the COWL VALVE OPEN and COWL ANTI-ICE light switches on the P5-11 panel.
- (b) Make sure each light comes on then goes off.

SUBTASK 30-21-11-860-011

- (4) Make sure the engine and wing anti-ice panel commands the applicable cowl TAI valves open:

- (a) For the left cowl TAI valve, put the ENG ANTI-ICE 1 switch in the ON position.
 - 1) Make sure the left COWL VALVE OPEN light comes on brightly for 1 to 3 seconds.
 - 2) Make sure the COWL VALVE OPEN light is on dimly after 3 seconds.
 - 3) Make sure the green TAI indication shows on the CDS (Common Display System) display, above the left N1 speed display.
- (b) For the right cowl TAI valve, put the ENG ANTI-ICE 2 switch in the ON position.
 - 1) Make sure the right COWL VALVE OPEN light comes on brightly for 1 to 3 seconds.
 - 2) Make sure the COWL VALVE OPEN light is on dimly after 3 seconds.
 - 3) Make sure the green TAI indication shows on the CDS (Common Display System) display, above the right N1 speed display.

SUBTASK 30-21-11-860-015

WARNING: DO NOT TOUCH THE COWL TAI DUCTS OR TAI VALVE WHEN THEY ARE HOT. IF YOU ARE NOT CAREFUL, INJURIES TO PERSONS CAN OCCUR.

- (5) Make sure there is no leakage around the engine cowl TAI ducts and TAI valve.

- (a) To repair jet blast leakage, align the couplings.

SUBTASK 30-21-11-860-012

- (6) Make sure the engine and wing anti-ice panel commands the cowl TAI valves closed:

- (a) For the left cowl TAI valve, put the ENG ANTI-ICE 1 switch in the OFF position.
 - 1) Make sure the left COWL VALVE OPEN light comes on brightly for 1 to 3 seconds.
 - 2) Make sure the COWL VALVE OPEN light goes off after 3 seconds.
- (b) For the right cowl TAI valve, put the ENG ANTI-ICE 2 switch in the OFF position.
 - 1) Make sure the right COWL VALVE OPEN light comes on brightly for 1 to 3 seconds.
 - 2) Make sure the COWL VALVE OPEN light goes off after 3 seconds.



30-21-11



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

J. Put the Airplane Back to Its Usual Condition.

SUBTASK 30-21-11-860-013

- (1) If you used the engines to pressurize the TAI ducts, then stop the engines. To do this, do this task: Stop the Engine Procedure (Usual Engine Stop), TASK 71-00-00-700-819-F00.

SUBTASK 30-21-11-860-014

- (2) If you used the APU or external air to pressurize the TAI ducts, then, do this task: Remove Pressure from the Pneumatic System, TASK 36-00-00-860-806.

SUBTASK 30-21-11-860-007

- (3) Remove the DO-NOT-OPERATE tags from the fuel shutoff levers.

SUBTASK 30-21-11-860-008

- (4) For the right fan cowl panel, do this task: Close the Fan Cowl Panels, TASK 71-11-02-410-801-F00

———— END OF TASK ————



30-21-11



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

ENGINE COWL TAI VALVE - CLEANING/PAINTING

1. General

- A. This procedure has this task:
- (1) A cleaning of the honest orifice on the engine cowl thermal anti-ice valve.

TASK 30-21-11-100-801

2. Honest Orifice - Cleaning

Figure 701

A. General

- (1) This procedure provides the steps necessary to remove, clean, and install the honest orifice on those engine cowl TAI valves which have a removable honest orifice.

B. References

Reference	Title
36-00-00-860-806	Remove Pressure from the Pneumatic System (P/B 201)
71-11-02-010-801-F00	Open the Fan Cowl Panels (P/B 201)
71-11-02-410-801-F00	Close the Fan Cowl Panels (P/B 201)

C. Tools/Equipment

Reference	Description
STD-182	Cleaner - Ultrasonic
STD-6462	Bottle - Squeeze
STD-6638	Air Source - Compressed, Clean, Filtered, and Dry, 0 - 100 psi

D. Consumable Materials

Reference	Description	Specification
B50270	Cleaner - Medium Duty, Soak/Electrolytic, Immersion Cleaner	BAC5749 Method 3
D50179	Compound - Lubricating (Lockrey Liqui-Moly NV Thread Compound)	MIL-PRF-907
G50225	Lockwire - MS20995C20, Corrosion Resistant Steel - 0.020 Inch (0.508 mm) Diameter	NASM20995

E. Location Zones

Zone	Area
410	Subzone - Engine 1
420	Subzone - Engine 2

F. Prepare for the Cleaning

SUBTASK 30-21-11-870-001

- (1) If not already done, do this task: Remove Pressure from the Pneumatic System, TASK 36-00-00-860-806.

SUBTASK 30-21-11-860-018

- (2) For the right fan cowl panel, do this task: Open the Fan Cowl Panels, TASK 71-11-02-010-801-F00.

G. Honest Orifice Cleaning

SUBTASK 30-21-11-020-006

- (1) Do the following to remove the honest orifice [4]:

EFFECTIVITY

AKS ALL; AIRPLANES WITH ENGINE COWL TAI
VALVE P/N 3215618-5

30-21-11



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

- (a) Remove the lockwire [1].
- (b) Remove the screw [2] and washer [3].
- (c) Remove the honest orifice [4].

SUBTASK 30-21-11-170-001

- (2) Clean the orifice with one of the following methods:
 - (a) Method one uses compressed air:
 - 1) Apply an air source, STD-6638, through the orifice from the threaded end and at each of the four vent holes.
 - 2) If necessary, use a 0.032 in. (0.813 mm) lockwire to clean out the internal hole of the honest orifice.
 - (b) Method two uses ultrasonic cleaning:
 - 1) Put the orifice in a solution of Turco C MXP, B50270, for 4 to 6 minutes.
 - 2) Flush the orifice internally and externally with clean water at high pressure.
 - 3) Put the removable orifice in a beaker with the open end of the orifice down and fill the beaker with the Turco C MXP, B50270.
 - 4) Put the beaker in an ultrasonic cleaner, STD-182, and fill the tank with water until the water level is 0.375 in. (9.525 mm) from the top of the beaker.
 - 5) Operate the ultrasonic cleaner for 5 minutes.
 - 6) Remove the orifice from the beaker and discard the dirty cleaning solution.
 - 7) Flush the orifice and beaker with the cleaning solution using a squeeze bottle, STD-6462.
 - 8) Put the removable orifice back in the beaker with the open end of the orifice down and fill the beaker with the cleaning solution.
 - 9) Operate the ultrasonic cleaner for another 5 minutes.
 - 10) Repeat the process from step 6 until the cleaning solution is clear after a 5 minute period of operation in the ultrasonic cleaner.

SUBTASK 30-21-11-420-003

CAUTION: OBEY THESE INSTRUCTIONS. IF YOU INSTALL THE HONEST ORIFICE INCORRECTLY, HOT AIR LEAKS WILL CAUSE DAMAGE TO EQUIPMENT.

- (3) Install the honest orifice [4].
 - (a) Tighten the orifice 17 in-lb (2 N·m) to 20 in-lb (2 N·m).
- (4) Use thread lubricating compound for the assembly of all threaded parts as follows:

CAUTION: USE OF TOO MUCH THREAD LUBRICATING COMPOUND CAN CAUSE CLOGGED VENTS AND ORIFICES.

 - (a) Apply a small quantity of Liqui-Moly NV Thread Compound, D50179 to the threads of all male threaded parts.
- (5) Install the washer [3] and screw [2].
 - (a) Tighten the screw 6 in-lb (1 N·m) to 8 in-lb (1 N·m).
- (6) Remove all of the thread lubricating compound that is remaining after assembly of the threaded parts.
- (7) Using MS20995C20 lockwire, G50225, lockwire both the screw and the orifice as one to the housing.

EFFECTIVITY
AKS ALL; AIRPLANES WITH ENGINE COWL TAI
VALVE P/N 3215618-5

30-21-11



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

H. Put the Airplane Back to Its Usual Condition

SUBTASK 30-21-11-860-020

- (1) For the right fan cowl panel, do this task: Close the Fan Cowl Panels,
TASK 71-11-02-410-801-F00

———— END OF TASK ————

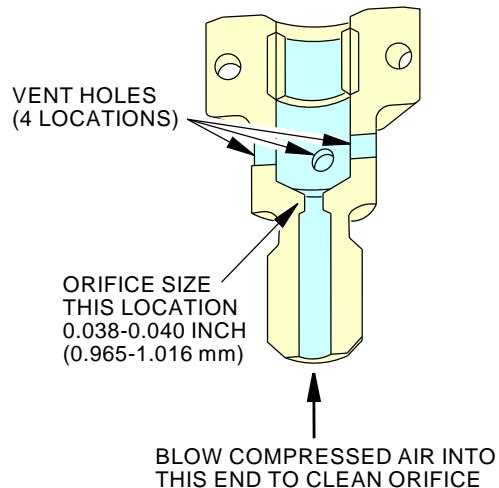
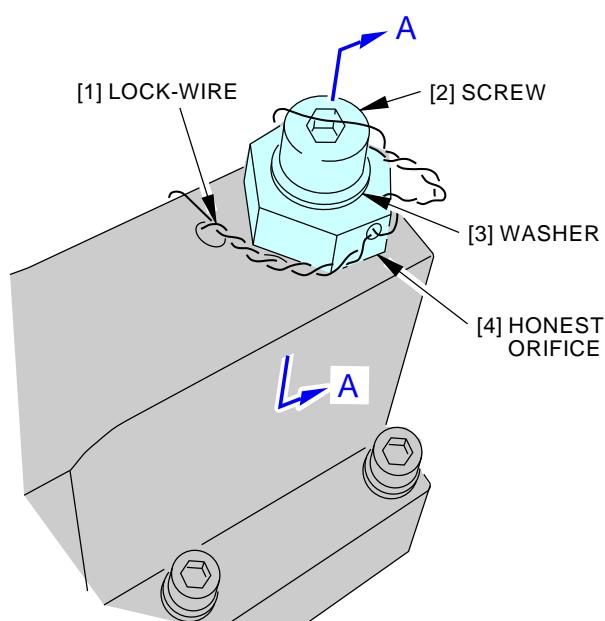
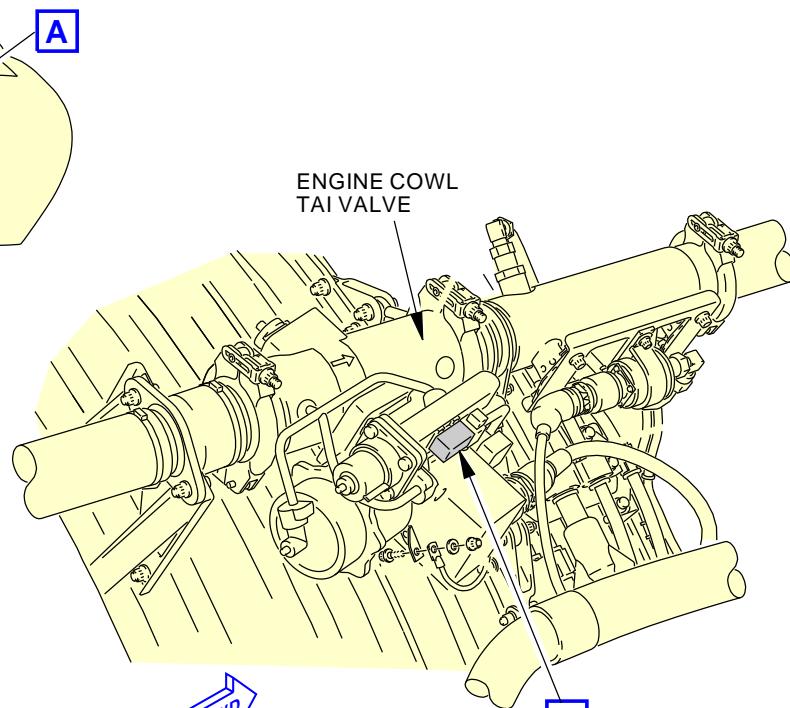
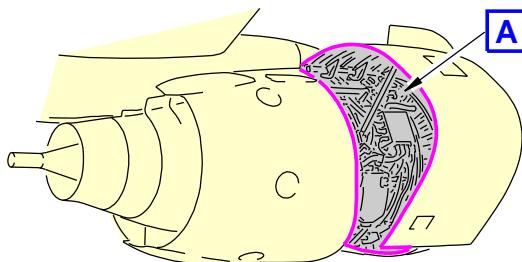
EFFECTIVITY
AKS ALL; AIRPLANES WITH ENGINE COWL TAI
VALVE P/N 3215618-5

30-21-11

D633A101-AKS

BOEING PROPRIETARY - Copyright © Unpublished Work - See title page for details

Page 703
Jun 15/2016


A-A

2261082 S0000507060_V3

Honest Orifice Cleaning

Figure 701/30-21-11-990-803

EFFECTIVITY
**AKS ALL; AIRPLANES WITH ENGINE COWL TAI
VALVE P/N 3215618-5**

30-21-11



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

ENGINE ANTI-ICE PRESSURE SENSOR - REMOVAL/INSTALLATION

1. General

- A. This procedure has these tasks:
- (1) Engine Anti-Ice Pressure Sensor Removal
 - (2) Engine Anti-Ice Pressure Sensor Installation.

TASK 30-21-21-000-802

2. Engine Anti-Ice Pressure Sensor Removal

(Figure 401)

A. General

- (1) This task gives instructions to remove the Engine Anti-Ice Pressure Sensor.

B. References

Reference	Title
36-00-00-860-806	Remove Pressure from the Pneumatic System (P/B 201)
71-11-02-010-801-F00	Open the Fan Cowl Panels (P/B 201)

C. Location Zones

Zone	Area
411	Engine 1 - Engine
421	Engine 2 - Engine

D. Prepare for the Removal

SUBTASK 30-21-21-860-004

- (1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
AKS 001-024, 026, 028-999			
A	6	C00148	ANTI-ICE & RAIN ENG 1 & WING CONT
AKS 025, 027			
A	6	C00148	ANTI-ICE-RAIN ENG 1/WING CONT-ICE DET
AKS 001-024, 026, 028-999			
B	6	C00149	ANTI-ICE & RAIN ENGINE 2 CONTROL
AKS 025, 027			
B	6	C00149	ANTI-ICE-RAIN ENG 2/CONT & ICE DET
AKS ALL			

SUBTASK 30-21-21-010-009

- (2) If not already done, do this task: Remove Pressure from the Pneumatic System, TASK 36-00-00-860-806.

SUBTASK 30-21-21-010-005

- (3) For the right fan cowl panel, do this task: Open the Fan Cowl Panels, TASK 71-11-02-010-801-F00.

E. Engine Anti-Ice Pressure Sensor Removal

SUBTASK 30-21-21-020-001

- (1) Disconnect the electrical connector [5] from the TAI pressure switch [4].

EFFECTIVITY
AKS ALL

30-21-21



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

SUBTASK 30-21-21-020-002

CAUTION: WHEN YOU DISCONNECT THE PNEUMATIC FITTING, HOLD THE FITTING ON THE PRESSURE SWITCH IN PLACE WITH A SECOND WRENCH. IF YOU DO NOT HOLD THE FITTING IN PLACE YOU WILL DAMAGE THE TAI PRESSURE SWITCH.

- (2) Remove the pneumatic fitting [1] from the TAI pressure switch [4].

SUBTASK 30-21-21-020-003

- (3) Loosen the bolts [2] to loosen the clamp [3].

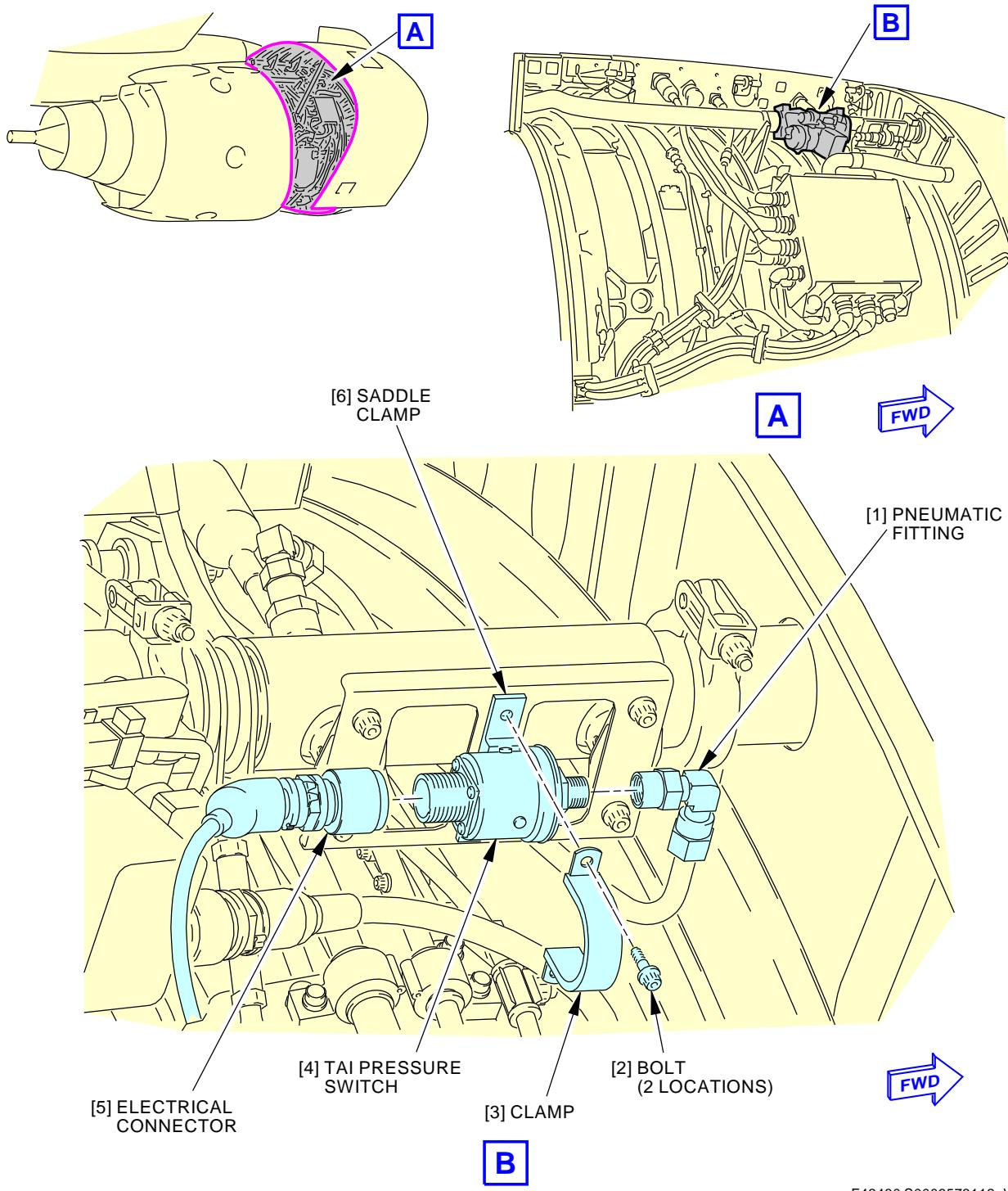
SUBTASK 30-21-21-020-004

- (4) Remove the clamp [3], TAI pressure switch [4] and saddle clamp [6].

———— END OF TASK ————

EFFECTIVITY
AKS ALL

30-21-21



F42430 S0006573112_V3

Engine Anti-ice Pressure Switch Installation
Figure 401/30-21-21-990-802

EFFECTIVITY
AKS ALL

30-21-21



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

TASK 30-21-21-400-801

3. Engine Anti-Ice Pressure Sensor Installation

(Figure 401)

A. General

- (1) This task gives instructions to install the Engine Anti-Ice Pressure Sensor.

B. References

Reference	Title
36-00-00-860-806	Remove Pressure from the Pneumatic System (P/B 201)
71-11-02-010-801-F00	Open the Fan Cowl Panels (P/B 201)
71-11-02-410-801-F00	Close the Fan Cowl Panels (P/B 201)

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
3	Clamp	30-21-21-01A-010	AKS ALL
4	TAI pressure switch	30-21-21-01A-020	AKS ALL
6	Saddle clamp	30-21-21-01A-015	AKS ALL

D. Location Zones

Zone	Area
411	Engine 1 - Engine
421	Engine 2 - Engine

E. Prepare for the Installation

SUBTASK 30-21-21-860-005

- (1) Make sure that these circuit breakers are open and have safety tags:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
AKS 001-024, 026, 028-999			
A	6	C00148	ANTI-ICE & RAIN ENG 1 & WING CONT
AKS 025, 027			
A	6	C00148	ANTI-ICE-RAIN ENG 1/WING CONT-ICE DET
AKS 001-024, 026, 028-999			
B	6	C00149	ANTI-ICE & RAIN ENGINE 2 CONTROL
AKS 025, 027			
B	6	C00149	ANTI-ICE-RAIN ENG 2/CONT & ICE DET
AKS ALL			

SUBTASK 30-21-21-010-008

- (2) If not already done, do this task: Remove Pressure from the Pneumatic System, TASK 36-00-00-860-806.

SUBTASK 30-21-21-010-007

- (3) If not already done, do this task: Open the Fan Cowl Panels, TASK 71-11-02-010-801-F00.

F. Engine Anti-Ice Pressure Sensor Installation

SUBTASK 30-21-21-420-002

- (1) Loosely install the TAI pressure switch [4] in the saddle clamp [6] with the clamp [3] and bolts [2].

NOTE: Do not tighten the bolts [2] at this time.

EFFECTIVITY
AKS ALL

30-21-21



737-600/700/800/900 AIRCRAFT MAINTENANCE MANUAL

SUBTASK 30-21-21-820-001

- (2) Position the TAI pressure switch [4] such that the electrical connector [5] master keyway is furthest away from the duct.

SUBTASK 30-21-21-420-003

- (3) Connect the electrical connector [5] to the TAI pressure switch [4].

SUBTASK 30-21-21-420-005

CAUTION: HOLD THE FITTING ON THE PRESSURE SWITCH IN PLACE WITH A SECOND WRENCH WHEN YOU CONNECT THE TUBE. IF YOU DO NOT HOLD THE FITTING IN PLACE YOU WILL DAMAGE THE TAI PRESSURE SWITCH.

- (4) Connect the elbow to the TAI pressure switch [4].

SUBTASK 30-21-21-420-006

CAUTION: WHEN YOU TIGHTEN THE TUBE ASSEMBLY, HOLD THE FITTING ON THE PRESSURE SWITCH IN PLACE WITH A SECOND WRENCH. IF YOU DO NOT HOLD THE FITTING IN PLACE YOU WILL DAMAGE THE TAI PRESSURE SWITCH.

- (5) Tighten the elbow to 256.5 in-lb (29.0 N·m) to 283.5 in-lb (32.0 N·m).

SUBTASK 30-21-21-420-008

- (6) Tighten the bolts [2] on the clamp [3] to 50.0 in-lb (5.6 N·m) to 56.0 in-lb (6.3 N·m).

SUBTASK 30-21-21-860-003

- (7) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	4	C01003	ENGINE 1 THRUST REVERSER IND

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
AKS 001-024, 026, 028-999	A	6	C00148 ANTI-ICE & RAIN ENG 1 & WING CONT
AKS 025, 027	A	6	C00148 ANTI-ICE-RAIN ENG 1/WING CONT-ICE DET
AKS ALL	A	7	C01001 ANTI-ICE & RAIN ENG 1 COWL AI VALVE
AKS 001-024, 026, 028-999	B	6	C00149 ANTI-ICE & RAIN ENGINE 2 CONTROL
AKS 025, 027	B	6	C00149 ANTI-ICE-RAIN ENG 2/CONT & ICE DET
AKS ALL	B	7	C01002 ANTI-ICE & RAIN ENG 2 COWL AI VALVE

F/O Electrical System Panel, P6-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	4	C00154	ENGINE 2 START VALVE

G. Left Anti-Ice Overpressure Pressure Sensor Installation Test

SUBTASK 30-21-21-710-003

- (1) Do this test of the left cowl TAI duct overpressure detection circuit:

EFFECTIVITY	_____
AKS ALL	

30-21-21



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

- (a) Disconnect the electrical connector from the left engine duct overpressure switch.
- (b) Connect a jumper wire between pins 1 and 2 of the connector.
 - 1) Make sure the left COWL ANTI-ICE light comes on.
- (c) Remove the jumper wire from the connector.
- (d) Re-connect the connector to the overpressure switch.
- (e) Make sure the left COWL ANTI-ICE light is off.

H. Right Anti-Ice Overpressure Pressure Sensor Installation Test

SUBTASK 30-21-21-710-004

- (1) Do this test of the right cowl TAI duct overpressure detection circuit:
 - (a) Disconnect the electrical connector from the right engine duct overpressure switch.
 - (b) Connect a jumper wire between pins 1 and 2 of the connector.
 - 1) Make sure the right COWL ANTI-ICE light comes on.
 - (c) Remove the jumper wire from the connector.
 - (d) Connect the connector to the overpressure switch.
 - (e) Make sure the right COWL ANTI-ICE light is off.

I. Put the Airplane back to its Usual Condition

SUBTASK 30-21-21-410-001

- (1) For the right fan cowl panel, do this task: Close the Fan Cowl Panels, TASK 71-11-02-410-801-F00.

———— END OF TASK ————

EFFECTIVITY
AKS ALL

30-21-21



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

AIR DATA SENSOR ANTI-ICING - MAINTENANCE PRACTICES

1. General

A. This procedure has these tasks:

- (1) Replacement of the pitot probe, angle of attack (AOA) sensor, and total air temperature (TAT) probe.
NOTE: The angle of attack (AOA) sensors are also referred to as alpha vanes.
 - (a) The pitot probe, AOA sensor, and TAT probe heaters are built into the respective air data sensor.
 - (b) If a heater fails, then the sensor must be replaced.
- (2) AOA Vane, Pitot, Elevator Pitot, Temperature Probes Deactivation.
- (3) AOA Vane, Pitot, Elevator Pitot, Temperature Probes Activation.

TASK 30-31-00-900-801

2. Pitot Probe, AOA Sensor, and TAT Probe Heater Replacement

A. References

Reference	Title
34-11-01-000-801	Pitot Probe - Removal (P/B 401)
34-11-01-400-801	Pitot Probe - Installation (P/B 401)
34-21-05-000-801	Angle of Attack Sensor - Removal (P/B 401)
34-21-05-400-801	Angle of Attack Sensor Installation (P/B 401)
34-21-06-000-801	Total Air Temperature Probe - Removal (P/B 401)
34-21-06-400-801	Total Air Temperature Probe - Installation (P/B 401)

B. Location Zones

Zone	Area
113	Area Above and Outboard of Nose Landing Gear Wheel Well - Left
114	Area Above and Outboard of Nose Landing Gear Wheel Well - Right
323	Vertical Fin - Front Spar To Rear Spar

C. Procedure

SUBTASK 30-31-00-900-001

- (1) If a pitot probe heater is failed, then you must replace the pitot probe.

These are the tasks:

Pitot Probe - Removal, TASK 34-11-01-000-801,

Pitot Probe - Installation, TASK 34-11-01-400-801.

SUBTASK 30-31-00-900-002

- (2) If an AOA sensor heater is failed, then you must replace the AOA sensor.

These are the tasks:

Angle of Attack Sensor - Removal, TASK 34-21-05-000-801,

Angle of Attack Sensor Installation, TASK 34-21-05-400-801.

SUBTASK 30-31-00-900-003

- (3) If a TAT probe heater is failed, then you must replace the TAT probe.

These are the tasks:

Total Air Temperature Probe - Removal, TASK 34-21-06-000-801,

EFFECTIVITY

AKS ALL

D633A101-AKS

30-31-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

Total Air Temperature Probe - Installation, TASK 34-21-06-400-801.

———— END OF TASK ————

TASK 30-31-00-040-801

3. AOA Vane, Pitot, Elevator Pitot, Temperature Probes - Deactivation

(Figure 30-31-00-990-801)

A. General

- (1) This procedure removes electrical power to the AOA Vane, Pitot, Elevator Pitot, and Temperature Probe systems.

B. References

Reference	Title
30-31-00-990-801	Figure: Window/Pitot Heat Module (P/B 501)

C. Location Zones

Zone	Area
113	Area Above and Outboard of Nose Landing Gear Wheel Well - Left
114	Area Above and Outboard of Nose Landing Gear Wheel Well - Right
211	Flight Compartment - Left
212	Flight Compartment - Right
323	Vertical Fin - Front Spar To Rear Spar
324	Vertical Fin - Rear Spar To Trailing Edge

D. Procedure

SUBTASK 30-31-00-860-017

WARNING: DO NOT TOUCH THE AIR DATA SENSORS. THE SENSORS CAN GET VERY HOT.
THE SENSORS CAN BURN YOU.

CAUTION: REMOVE ALL CAPS AND COVERS FROM ALL AIR DATA SENSORS. THE SENSORS
BECOME HOT. THIS CAN CAUSE DAMAGE TO THE COVERS.

- (1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
C	1	C00523	HEATERS CAPT PITOT
C	2	C00238	HEATERS TEMP PROBE
C	3	C01072	HEATERS ALPHA VANE LEFT
C	4	C00236	HEATERS ELEV PITOT LEFT
AKS 001-022			
D	1	C00226	WINDOW HEAT CONTROL RIGHT FRONT AC
D	2	C00225	WINDOW HEAT CONTROL LEFT SIDE AC
AKS ALL			
D	3	C01071	HEATERS ALPHA VANE RIGHT
D	4	C00237	HEATERS ELEV PITOT RIGHT
D	5	C00525	HEATERS F/O PITOT
D	6	C00524	HEATERS AUX PITOT
AKS 001-022			
E	1	C00224	WINDOW HEAT CONTROL LEFT FRONT AC
E	2	C00227	WINDOW HEAT CONTROL RIGHT SIDE AC

———— EFFECTIVITY ————

AKS ALL

30-31-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

AKS ALL

E. AOA Vane, Pitot, Elevator Pitot, Temperature Probes - Tryout

NOTE: This tryout is to make sure the AOA Vane, Pitot, Elevator Pitot, Temperature Probes is in a zero energy state.

SUBTASK 30-31-00-210-001

- (1) At the P5-9 Window/Pitot Heat Module do the following steps:
 - (a) Press the PROBE HEAT A switch to the ON position.
 - 1) Make sure the CAPT PITOT, L ELEV PITOT, L ALPHA VANE, and TEMP PROBE lights on the Window and Pitot Heat Module remain ON.
 - (b) Press the PROBE HEAT A switch to the OFF position.
 - (c) Press the PROBE HEAT B switch to the ON position.
 - 1) Make sure the CAPT PITOT, L ELEV PITOT, L ALPHA VANE, and TEMP PROBE lights on the Window and Pitot Heat Module remain ON.
 - (d) Press the PROBE HEAT B switch to the OFF position.
 - (e) Press the four WINDOW HEAT switches to the ON position one at a time.
 - 1) Make sure the corresponding ON light on the Window and Pitot Heat Module remains OFF.
 - 2) Make sure the corresponding OVERHEAT light turns ON.
 - (f) Press all four WINDOW HEAT switches on the Window and Pitot Heat Module to the OFF position.

———— END OF TASK ————

TASK 30-31-00-440-801

4. AOA Vane, Pitot, Elevator Pitot, Temperature Probes - Activation

(Figure 30-31-00-990-801)

A. General

- (1) This procedure adds electrical power to the AOA Vane, Pitot, Elevator Pitot, Temperature Probe systems.

B. References

Reference	Title
30-31-00-990-801	Figure: Window/Pitot Heat Module (P/B 501)

C. Location Zones

Zone	Area
113	Area Above and Outboard of Nose Landing Gear Wheel Well - Left
114	Area Above and Outboard of Nose Landing Gear Wheel Well - Right
211	Flight Compartment - Left
212	Flight Compartment - Right
323	Vertical Fin - Front Spar To Rear Spar
324	Vertical Fin - Rear Spar To Trailing Edge

EFFECTIVITY
AKS ALL

30-31-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

D. Procedure

SUBTASK 30-31-00-860-018

WARNING: DO NOT TOUCH THE AIR DATA SENSORS. THE SENSORS CAN GET VERY HOT.
THE SENSORS CAN BURN YOU.

CAUTION: REMOVE ALL CAPS AND COVERS FROM ALL AIR DATA SENSORS. THE SENSORS
BECOME HOT. THIS CAN CAUSE DAMAGE TO THE COVERS.

- (1) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	1	C00523	HEATERS CAPT PITOT
C	2	C00238	HEATERS TEMP PROBE
C	3	C01072	HEATERS ALPHA VANE LEFT
C	4	C00236	HEATERS ELEV PITOT LEFT

AKS 001-022

D	1	C00226	WINDOW HEAT CONTROL RIGHT FRONT AC
D	2	C00225	WINDOW HEAT CONTROL LEFT SIDE AC

AKS ALL

D	3	C01071	HEATERS ALPHA VANE RIGHT
D	4	C00237	HEATERS ELEV PITOT RIGHT
D	5	C00525	HEATERS F/O PITOT
D	6	C00524	HEATERS AUX PITOT

AKS 001-022

E	1	C00224	WINDOW HEAT CONTROL LEFT FRONT AC
E	2	C00227	WINDOW HEAT CONTROL RIGHT SIDE AC

———— END OF TASK ————



30-31-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

AIR DATA SENSOR ANTI-ICING - ADJUSTMENT/TEST

1. General

- A. This procedure contains scheduled maintenance task data.
- B. This procedure consists of two tasks:
 - (1) A task to test the AUTO Air Data Sensor heating feature.
 - (2) A task to do a test of the pitot probe, angle of attack (AOA) sensor, and TAT probe heaters.
NOTE: The AOA sensors are also referred to as alpha vanes.

TASK 30-31-00-750-801

2. AUTO Air Data Sensor heating - Operational Test

Figure 501

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
24-22-00-860-813	Supply External Power (P/B 201)
24-22-00-860-814	Remove External Power (P/B 201)
31-62-21-000-801	Display Electronic Unit Removal (P/B 401)
31-62-21-400-801	Display Electronic Unit Installation (P/B 401)
71-00-00-700-819-F00	Stop the Engine Procedure (Usual Engine Stop) (P/B 201)
71-00-00-800-807-F00	Start the Engine Procedure (Selection) (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1930	Box - Breakout, ARINC 600 Part #: A34016-XX Supplier: 81205

C. Location Zones

Zone	Area
113	Area Above and Outboard of Nose Landing Gear Wheel Well - Left
114	Area Above and Outboard of Nose Landing Gear Wheel Well - Right

D. Prepare for the Operational Test

SUBTASK 30-31-00-860-015

- (1) Make sure the PROBE HEAT A and B switches are set to the AUTO position.
- (2) Supply electrical power to the airplane. To supply power, do this task: Supply External Power, TASK 24-22-00-860-813.

SUBTASK 30-31-00-010-001

- (3) Make sure there are no protective covers on the air data sensors.

EFFECTIVITY	AKS ALL
-------------	---------

30-31-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

E. AUTO Air Data Sensor heating Operational Test

SUBTASK 30-31-00-750-001

WARNING: KEEP PERSONNEL, AND EQUIPMENT AWAY FROM THE PITOT PROBES, TOTAL AIR TEMPERATURE PROBE, AND ANGLE-OF-ATTACK VANE. THESE COMPONENTS WILL BECOME VERY HOT. THEY CAN CAUSE INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT.

- (1) Do this check of the following lights on the window and pitot heat module:
 - (a) Make sure the CAPT PITOT, L ELEV PITOT, L ALPHA VANE, TEMP PROBE, F/O PITOT, R ELEV PITOT, R ALPHA VANE, and AUX PITOT lights on the window and pitot heat module go on.
- (2) Test the AUTO position of the PROBE HEAT A and B switches.

NOTE: Only one engine should be operating while performing this test of the AUTO position of the PROBE HEAT switches. This is done to test the full health of the system.

 - (a) Do this task for engine 1: Start the Engine Procedure (Selection),
TASK 71-00-00-800-807-F00
 - (b) With the engine running, check the following lights on the window and pitot heat module:
 - 1) Make sure the CAPT PITOT, L ELEV PITOT, L ALPHA VANE, TEMP PROBE, F/O PITOT, R ELEV PITOT, R ALPHA VANE, and AUX PITOT lights on the window and pitot heat module go off.
 - (c) Do this task for engine 1: Stop the Engine Procedure (Usual Engine Stop),
TASK 71-00-00-700-819-F00
 - 1) Make sure the CAPT PITOT, L ELEV PITOT, L ALPHA VANE, TEMP PROBE, F/O PITOT, R ELEV PITOT, R ALPHA VANE, and AUX PITOT lights on the window and pitot heat module go on.
 - (d) Do this task for engine 2: Start the Engine Procedure (Selection),
TASK 71-00-00-800-807-F00
 - (e) With the engine running, check the following lights on the window and pitot heat module:
 - 1) Make sure the CAPT PITOT, L ELEV PITOT, L ALPHA VANE, TEMP PROBE, F/O PITOT, R ELEV PITOT, R ALPHA VANE, and AUX PITOT lights on the window and pitot heat module go off.
 - (f) Do this task for engine 2: Stop the Engine Procedure (Usual Engine Stop),
TASK 71-00-00-700-819-F00
 - 1) Make sure the CAPT PITOT, L ELEV PITOT, L ALPHA VANE, TEMP PROBE, F/O PITOT, R ELEV PITOT, R ALPHA VANE, and AUX PITOT lights on the window and pitot heat module go on.

F. AUTO Air Data Sensor heating Operational Test - Alternative Procedure

NOTE: The alternative method does not require engines running.

SUBTASK 30-31-00-750-002

WARNING: KEEP PERSONNEL, AND EQUIPMENT AWAY FROM THE PITOT PROBES, TOTAL AIR TEMPERATURE PROBE, AND ANGLE-OF-ATTACK VANE. THESE COMPONENTS WILL BECOME VERY HOT. THEY CAN CAUSE INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT.

- (1) Make sure the PROBE HEAT A and B switches are set to the AUTO position.
- (2) Do this check of the following lights on the window and pitot heat module:

EFFECTIVITY	AKS ALL
-------------	---------

30-31-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

- (a) Make sure the CAPT PITOT, L ELEV PITOT, L ALPHA VANE, TEMP PROBE, F/O PITOT, R ELEV PITOT, R ALPHA VANE, and AUX PITOT lights on the window and pitot heat module go on.
- (3) Test the AUTO position of the PROBE HEAT A and B switches.
 - (a) Do this task for DEU 1, M1808: Display Electronic Unit Removal, TASK 31-62-21-000-801.
 - (b) Install an ARINC 600 breakout box, SPL-1930 in place of DEU 1.
NOTE: It is possible to perform this subtask without ARINC 600 breakout box, SPL-1930, although use of it minimizes risk of damage to the pins.
 - (c) Apply a ground to pin F12 of connector D3973B.
 - (d) Check the following lights on the window and pitot heat module:
 - 1) Make sure the CAPT PITOT, L ELEV PITOT, L ALPHA VANE, TEMP PROBE, F/O PITOT, R ELEV PITOT, R ALPHA VANE, and AUX PITOT lights on the window and pitot heat module go off.
 - (e) Remove the ground from pin F12 of connector D3973B.
 - 1) Make sure the CAPT PITOT, L ELEV PITOT, L ALPHA VANE, TEMP PROBE, F/O PITOT, R ELEV PITOT, R ALPHA VANE, and AUX PITOT lights on the window and pitot heat module go on.
 - (f) Apply a ground to pin F12 of connector D3973E.
 - (g) Check the following lights on the window and pitot heat module:
 - 1) Make sure the CAPT PITOT, L ELEV PITOT, L ALPHA VANE, TEMP PROBE, F/O PITOT, R ELEV PITOT, R ALPHA VANE, and AUX PITOT lights on the window and pitot heat module go off.
 - (h) Remove the ground from pin F12 of connector D3973E.
 - 1) Make sure the CAPT PITOT, L ELEV PITOT, L ALPHA VANE, TEMP PROBE, F/O PITOT, R ELEV PITOT, R ALPHA VANE, and AUX PITOT lights on the window and pitot heat module go on.
 - (i) Remove the breakout box.
 - (j) Do this task for DEU 1, M1808: Display Electronic Unit Installation, TASK 31-62-21-400-801.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 30-31-00-860-016

- (1) If electrical power is not necessary, do this task: Remove External Power, TASK 24-22-00-860-814.

———— END OF TASK ———

TASK 30-31-00-730-801

3. Pitot Probe, AOA Sensor, and TAT Probe Heater - System Test

(Figure 501)

A. References

Reference	Title
24-22-00-860-813	Supply External Power (P/B 201)
24-22-00-860-814	Remove External Power (P/B 201)

EFFECTIVITY
AKS ALL

30-31-00

D633A101-AKS



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

<u>Reference</u>	<u>Description</u>
COM-1523	Stand and Personnel Lifting Equipment - General Purpose Part #: B-14 Supplier: 05060 Part #: B-9 Supplier: 05060 Part #: Z-45-25J Supplier: 59497

C. Location Zones

<u>Zone</u>	<u>Area</u>
113	Area Above and Outboard of Nose Landing Gear Wheel Well - Left
114	Area Above and Outboard of Nose Landing Gear Wheel Well - Right

D. Procedure

SUBTASK 30-31-00-861-001

- (1) Supply electrical power to the airplane. To supply power, do this task: Supply External Power, TASK 24-22-00-860-813.

SUBTASK 30-31-00-860-011

- (2) Make sure there are no protective covers on the air data sensors.
 - (a) If there are any protective covers, then proceed with the next step; otherwise, continue with SUBTASK 30-31-00-865-002.

SUBTASK 30-31-00-865-006

- (3) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	1	C00523	HEATERS CAPT PITOT
C	2	C00238	HEATERS TEMP PROBE
C	3	C01072	HEATERS ALPHA VANE LEFT
C	4	C00236	HEATERS ELEV PITOT LEFT
D	3	C01071	HEATERS ALPHA VANE RIGHT
D	4	C00237	HEATERS ELEV PITOT RIGHT
D	5	C00525	HEATERS F/O PITOT
D	6	C00524	HEATERS AUX PITOT

SUBTASK 30-31-00-860-010

- (4) Remove the protective covers.

SUBTASK 30-31-00-865-004

- (5) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	1	C00523	HEATERS CAPT PITOT
C	2	C00238	HEATERS TEMP PROBE
C	3	C01072	HEATERS ALPHA VANE LEFT
C	4	C00236	HEATERS ELEV PITOT LEFT
D	3	C01071	HEATERS ALPHA VANE RIGHT

EFFECTIVITY
AKS ALL

30-31-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

(Continued)

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	4	C00237	HEATERS ELEV PITOT RIGHT
D	5	C00525	HEATERS F/O PITOT
D	6	C00524	HEATERS AUX PITOT

- (a) Make sure the amber OVERHEAT lights on the window and pitot heat module go off.

SUBTASK 30-31-00-860-012

- (6) Continue with SUBTASK 30-31-00-860-003.

SUBTASK 30-31-00-865-002

- (7) Make sure that these circuit breakers are closed:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	1	C00523	HEATERS CAPT PITOT
C	2	C00238	HEATERS TEMP PROBE
C	3	C01072	HEATERS ALPHA VANE LEFT
C	4	C00236	HEATERS ELEV PITOT LEFT
D	3	C01071	HEATERS ALPHA VANE RIGHT
D	4	C00237	HEATERS ELEV PITOT RIGHT
D	5	C00525	HEATERS F/O PITOT
D	6	C00524	HEATERS AUX PITOT

- (a) Make sure the amber OVERHEAT lights on the window and pitot heat module go off.

SUBTASK 30-31-00-860-003

- (8) Put the PROBE HEAT A switch in the ON position.

- (a) Make sure the CAPT PITOT, L ELEV PITOT, L ALPHA VANE, and TEMP PROBE lights on the window and pitot heat module go off.

SUBTASK 30-31-00-860-004

- (9) Put the PROBE HEAT B switch in the ON position.

- (a) Make sure the F/O PITOT, R ELEV PITOT, R ALPHA VANE, and AUX PITOT lights on the window and pitot heat module go off.

WARNING: THE AIR DATA SENSORS CAN GET VERY HOT. DO NOT TOUCH THE SENSORS. YOU MAY GET BURNED IF YOU TOUCH THE SENSORS.

- (b) Make sure the air data sensor heaters get warm. Here are some optional ways to do this:

NOTE: You will need a work platform, COM-1523 or equivalent to get access to the elevator pitot probe. If you use an infrared or thermal imager to check for heat, then you do not need the stand.

- 1) Spray the air data sensors with water to check for heat.
- 2) Measure the temperature of the sensor with an infrared or contact thermometer.
- 3) Look at the sensor with an infrared or thermal imager.

SUBTASK 30-31-00-860-005

- (10) Put the PROBE HEAT switches in the AUTO position.



30-31-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

SUBTASK 30-31-00-860-014

- (11) Do this task to test the AUTO position of the PROBE HEAT switches: AUTO Air Data Sensor heating - Operational Test, TASK 30-31-00-750-801.

NOTE: It is only necessary to perform a test of the AUTO position (with engine run) after replacement of the window/pitot heat module (P5-9). A test of the AUTO position is not necessary following replacement of a pitot probe, AOA sensor, or TAT probe.

E. Put the airplane in its normal condition.

SUBTASK 30-31-00-860-006

- (1) If electrical power is not necessary, do this task: Remove External Power, TASK 24-22-00-860-814.

———— END OF TASK ————

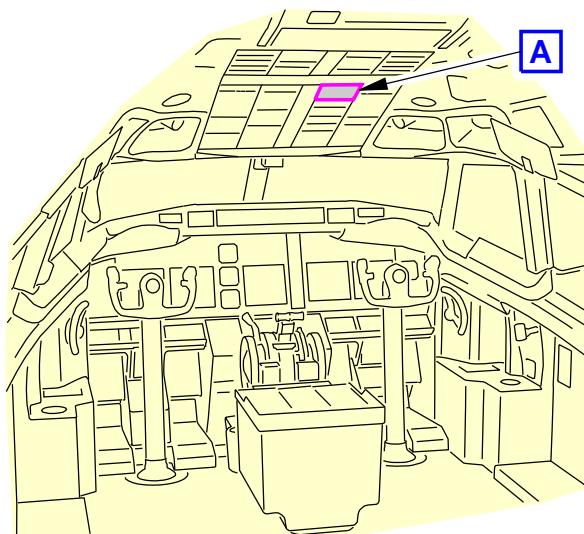
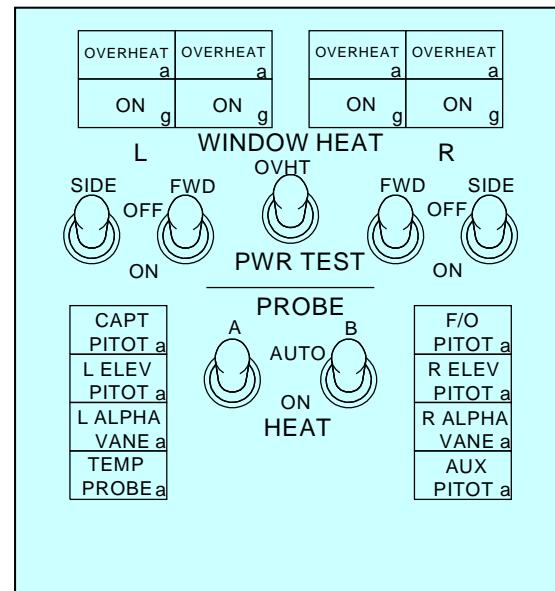
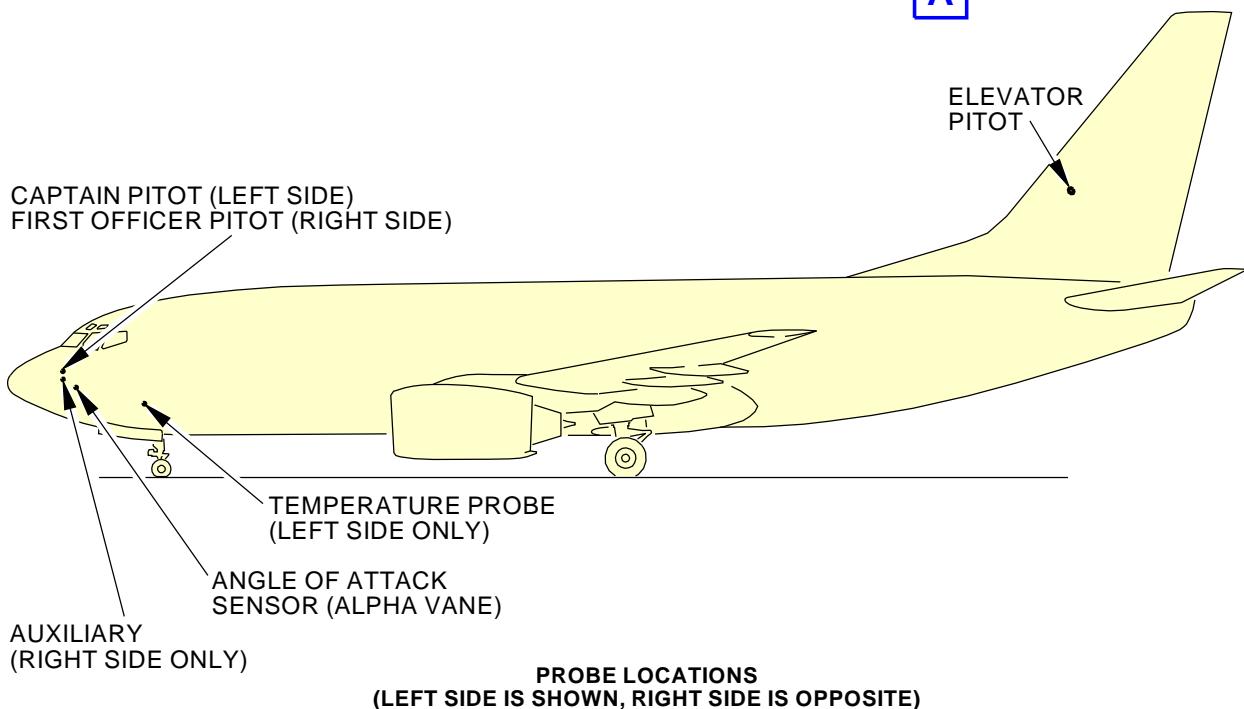
EFFECTIVITY
AKS ALL

30-31-00

D633A101-AKS

BOEING PROPRIETARY - Copyright © Unpublished Work - See title page for details

Page 506
Jun 15/2015


FLIGHT COMPARTMENT

**WINDOW/PITOT HEAT MODULE
(P5-9)**
A


2010691 S0000396484_V2

**Window/Pitot Heat Module
Figure 501/30-31-00-990-801**

 EFFECTIVITY
 AKS ALL

30-31-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

CONTROL CABIN WINDOW HEAT - MAINTENANCE PRACTICES

1. **General**

- A. This procedure has these tasks:
- (1) Control Cabin Window Heat Deactivation.
 - (2) Control Cabin Window Heat Activation.

TASK 30-41-00-040-801

2. **Control Cabin Window Heat - Deactivation**

Figure 30-31-00-990-801

A. **General**

- (1) This procedure removes electrical power to the Control Cabin Window Heat systems.

B. **References**

Reference	Title
30-31-00-990-801	Figure: Window/Pitot Heat Module (P/B 501)

C. **Location Zones**

Zone	Area
113	Area Above and Outboard of Nose Landing Gear Wheel Well - Left
114	Area Above and Outboard of Nose Landing Gear Wheel Well - Right
211	Flight Compartment - Left
212	Flight Compartment - Right
323	Vertical Fin - Front Spar To Rear Spar
324	Vertical Fin - Rear Spar To Trailing Edge

D. **Procedure**

SUBTASK 30-41-00-860-018

WARNING: DO NOT TOUCH THE AIR DATA SENSORS. THE SENSORS CAN GET VERY HOT.
THE SENSORS CAN BURN YOU.

CAUTION: REMOVE ALL CAPS AND COVERS FROM ALL AIR DATA SENSORS. THE SENSORS
BECOME HOT. THIS CAN CAUSE DAMAGE TO THE COVERS.

- (1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
C	1	C00523	HEATERS CAPT PITOT
C	2	C00238	HEATERS TEMP PROBE
C	3	C01072	HEATERS ALPHA VANE LEFT
C	4	C00236	HEATERS ELEV PITOT LEFT

AKS 001-022

D	1	C00226	WINDOW HEAT CONTROL RIGHT FRONT AC
D	2	C00225	WINDOW HEAT CONTROL LEFT SIDE AC

AKS ALL

D	3	C01071	HEATERS ALPHA VANE RIGHT
D	4	C00237	HEATERS ELEV PITOT RIGHT
D	5	C00525	HEATERS F/O PITOT

EFFECTIVITY
AKS ALL

30-41-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

(Continued)

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	6	C00524	HEATERS AUX PITOT
AKS 001-022			
E	1	C00224	WINDOW HEAT CONTROL LEFT FRONT AC
E	2	C00227	WINDOW HEAT CONTROL RIGHT SIDE AC

AKS ALL

E. Control Cabin Window Heat -Tryout

NOTE: This tryout is to make sure the Control Cabin Window heat is in a zero energy state.

SUBTASK 30-41-00-210-007

- (1) At the P5-9 Window/Pitot Heat Module do the following steps:
 - (a) Press the PROBE HEAT A switch to the ON position.
 - 1) Make sure the CAPT PITOT, L ELEV PITOT, L ALPHA VANE, and TEMP PROBE lights on the Window and Pitot Heat Module remain ON.
 - (b) Press the PROBE HEAT A switch to the OFF position.
 - (c) Press the PROBE HEAT B switch to the ON position.
 - 1) Make sure the CAPT PITOT, L ELEV PITOT, L ALPHA VANE, and TEMP PROBE lights on the Window and Pitot Heat Module remain ON.
 - (d) Press the PROBE HEAT B switch to the OFF position.
 - (e) Press the four WINDOW HEAT switches to the ON position one at a time.
 - 1) Make sure the corresponding ON light on the Window and Pitot Heat Module remains OFF.
 - 2) Make sure the corresponding OVERHEAT light turns ON.
 - (f) Press all four WINDOW HEAT switches on the Window and Pitot Heat Module to the OFF position.

— END OF TASK —

TASK 30-41-00-440-801

3. Control Cabin Window Heat - Activation

(Figure 30-31-00-990-801)

A. General

- (1) This procedure add electrical power to the Control Cabin Window Heat systems.

B. References

Reference	Title
30-31-00-990-801	Figure: Window/Pitot Heat Module (P/B 501)

C. Location Zones

Zone	Area
113	Area Above and Outboard of Nose Landing Gear Wheel Well - Left
114	Area Above and Outboard of Nose Landing Gear Wheel Well - Right
211	Flight Compartment - Left
212	Flight Compartment - Right



30-41-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

(Continued)

Zone	Area
323	Vertical Fin - Front Spar To Rear Spar
324	Vertical Fin - Rear Spar To Trailing Edge

D. Procedure

SUBTASK 30-41-00-860-019

WARNING: DO NOT TOUCH THE AIR DATA SENSORS. THE SENSORS CAN GET VERY HOT.
THE SENSORS CAN BURN YOU.

CAUTION: REMOVE ALL CAPS AND COVERS FROM ALL AIR DATA SENSORS. THE SENSORS
BECOME HOT. THIS CAN CAUSE DAMAGE TO THE COVERS.

- (1) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
C	1	C00523	HEATERS CAPT PITOT
C	2	C00238	HEATERS TEMP PROBE
C	3	C01072	HEATERS ALPHA VANE LEFT
C	4	C00236	HEATERS ELEV PITOT LEFT

AKS 001-022

D	1	C00226	WINDOW HEAT CONTROL RIGHT FRONT AC
D	2	C00225	WINDOW HEAT CONTROL LEFT SIDE AC

AKS ALL

D	3	C01071	HEATERS ALPHA VANE RIGHT
D	4	C00237	HEATERS ELEV PITOT RIGHT
D	5	C00525	HEATERS F/O PITOT
D	6	C00524	HEATERS AUX PITOT

AKS 001-022

E	1	C00224	WINDOW HEAT CONTROL LEFT FRONT AC
E	2	C00227	WINDOW HEAT CONTROL RIGHT SIDE AC

———— END OF TASK ————



30-41-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

CONTROL CABIN WINDOW ANTI-ICING SYSTEM - ADJUSTMENT/TEST

1. **General**

- A. This procedure contains scheduled maintenance task data.
- B. This procedure has a task to do an operational test of the window heat system.

TASK 30-41-00-710-801

2. **Window Heat System - Operational Test**

(Figure 501)

A. **General**

- (1) This test makes sure the control cabin window anti-icing system provides heat to these control cabin windows:
 - (a) Front windows
 - (b) Side windows

B. **Tools/Equipment**

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1572	Thermometer - Infrared, Intrinsically Safe Part #: EX-MP4 A Supplier: 3GT36 Opt Part #: DHS24XC-FM Supplier: 08086 Opt Part #: DHS24XF-FM Supplier: 08086 Opt Part #: IR-16L3 IS Supplier: 75037
STD-1179	Tester - Pyrometer

C. **Location Zones**

Zone	Area
212	Flight Compartment - Right

D. **Procedure**

SUBTASK 30-41-00-080-001

CAUTION: ALL PROTECTIVE CAPS AND COVERS MUST BE REMOVED FROM ALL AIR DATA SENSORS. THE SENSORS AND COVERS COULD BE DAMAGED IF THERE ARE COVERS INSTALLED ON THE SENSORS WHEN THEY ARE HEATED.

- (1) Make sure that there are no protective covers on the air data sensors.
 - (a) If protective covers are found, then remove them before you continue this test.

SUBTASK 30-41-00-840-001

- (2) Use a Infrared Thermometer, COM-1572 (including pyrometer, STD-1179) or other temperature indicating device near each window temperature sensor to measure the window temperature.

SUBTASK 30-41-00-880-001

- (3) If the window temperature is greater than 110 degrees F (43 degrees C), then cool the window.

NOTE: The window can be cooled with cool water or by providing shade from the sun.

EFFECTIVITY
AKS ALL

30-41-00

D633A101-AKS



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

SUBTASK 30-41-00-860-001

- (4) One switch at a time, put the WINDOW HEAT switches on the Window and Pitot Heat Module to the on position.
 - (a) Make sure the corresponding ON light on the window and pitot heat module comes on.
NOTE: It can take up to 15 seconds for the light to come on.
 - (b) Make sure both master caution lights are off.

SUBTASK 30-41-00-210-001

- (5) Wait for the windows to heat up.
 - (a) Make sure the front and side windows stabilize at 90 to 120 degrees F (32 to 49 degrees C).
NOTE: It can take up to 4 minutes for the window temperatures to stabilize.

SUBTASK 30-41-00-860-002

- (6) Put the WINDOW HEAT TEST OVHT/PWR switch to the OVHT position for 1 second.
 - (a) Make sure that the OVERHEAT lights come on.
 - (b) Make sure the MASTER CAUTION lights come on.
 - (c) Make sure ANTI-ICE light comes on.
 - (d) Make sure the ON lights go off in less than 70 seconds.
 - (e) Make sure the windows start to cool.
 - (f) Wait until the window temperatures go below 110 degrees F (43 degrees C).

SUBTASK 30-41-00-860-003

- (7) One switch at a time, put each WINDOW HEAT power switch in the off position for 1 second and then put the switch in the on position.
 - (a) Make sure that the applicable OVERHEAT light goes off.
 - (b) Make sure the window heat ON light comes on.
 - (c) Make sure the windows begin to heat.

SUBTASK 30-41-00-860-004

- (8) Press either MASTER CAUTION light.
 - (a) Make sure the MASTER CAUTION light goes off.
 - (b) Make sure the ANTI-ICE light goes off.

SUBTASK 30-41-00-860-005

- (9) Wait 4 minutes.

SUBTASK 30-41-00-860-006

- (10) Hold the window heat TEST switch to PWR.
 - (a) Make sure that the window heat ON lights stay on for each window.
 - (b) If holding the window heat TEST switch to PWR causes the OVERHEAT light to illuminate, the window heat ON lights shall go off within 70 seconds.

SUBTASK 30-41-00-860-011

- (11) Release the window heat TEST switch.

SUBTASK 30-41-00-860-007

- (12) Put the WINDOW HEAT power switches in the off position.

EFFECTIVITY
AKS ALL

30-41-00

D633A101-AKS

BOEING PROPRIETARY - Copyright © Unpublished Work - See title page for details

Page 502
Feb 15/2015



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

SUBTASK 30-41-00-860-010

- (13) If the PWR TEST switch caused an overheat condition, then press either MASTER CAUTION light.
(a) Make sure the OVERHEAT lights, the MASTER CAUTION lights, and the ANTI-ICE lights are off.

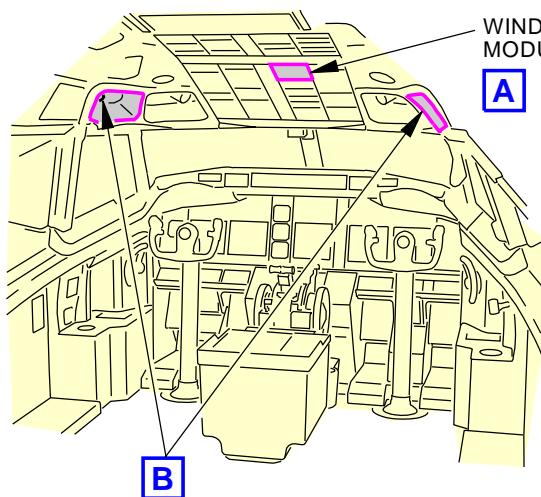
SUBTASK 30-41-00-860-014

- (14) Put the airplane in its normal condition.

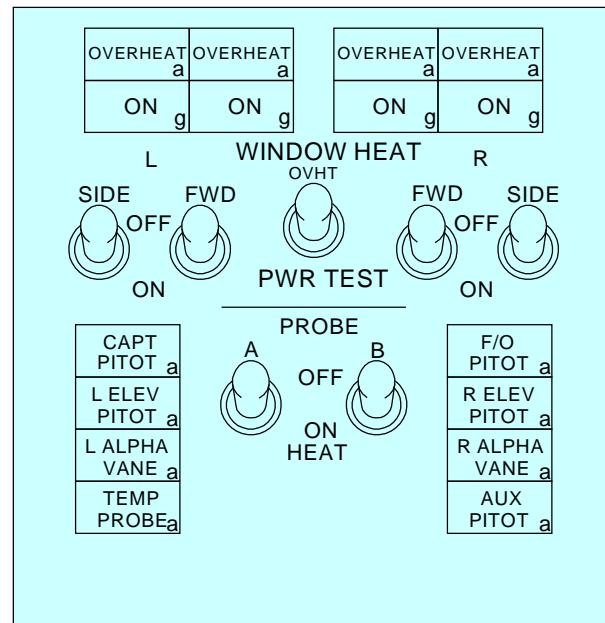
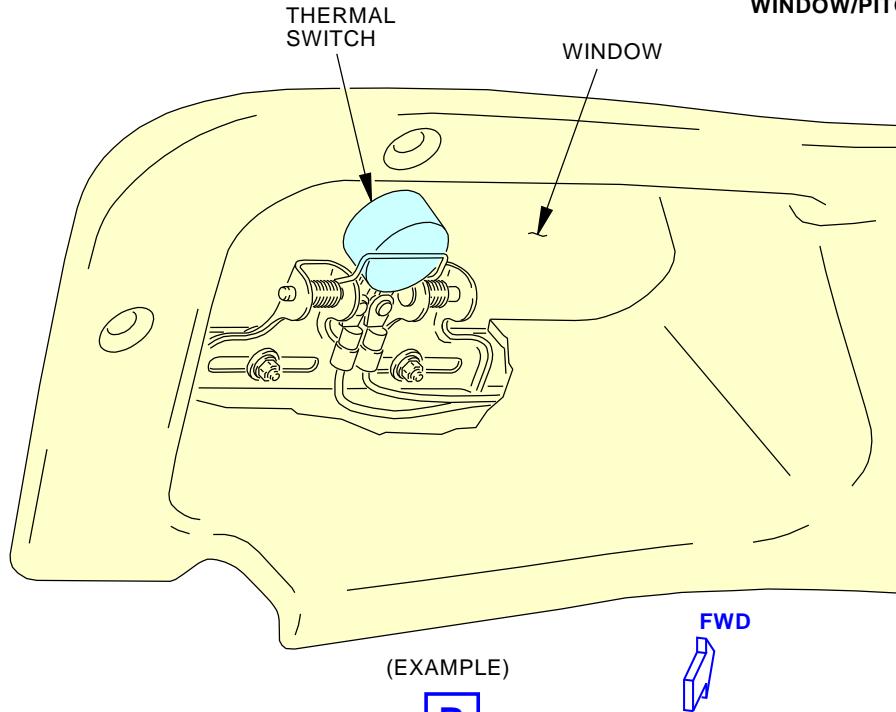
———— END OF TASK ————

EFFECTIVITY
AKS ALL

30-41-00

**737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL**

FLIGHT COMPARTMENT

 WINDOW/PITOT HEAT
MODULE (P5-9)

A
B

WINDOW/PITOT HEAT MODULE (P5-9)

A
(EXAMPLE)
B

2351896 S0000536617_V2

**Control Cabin Window Anti-Icing System Test
Figure 501/30-41-00-990-801 (Sheet 1 of 3)**

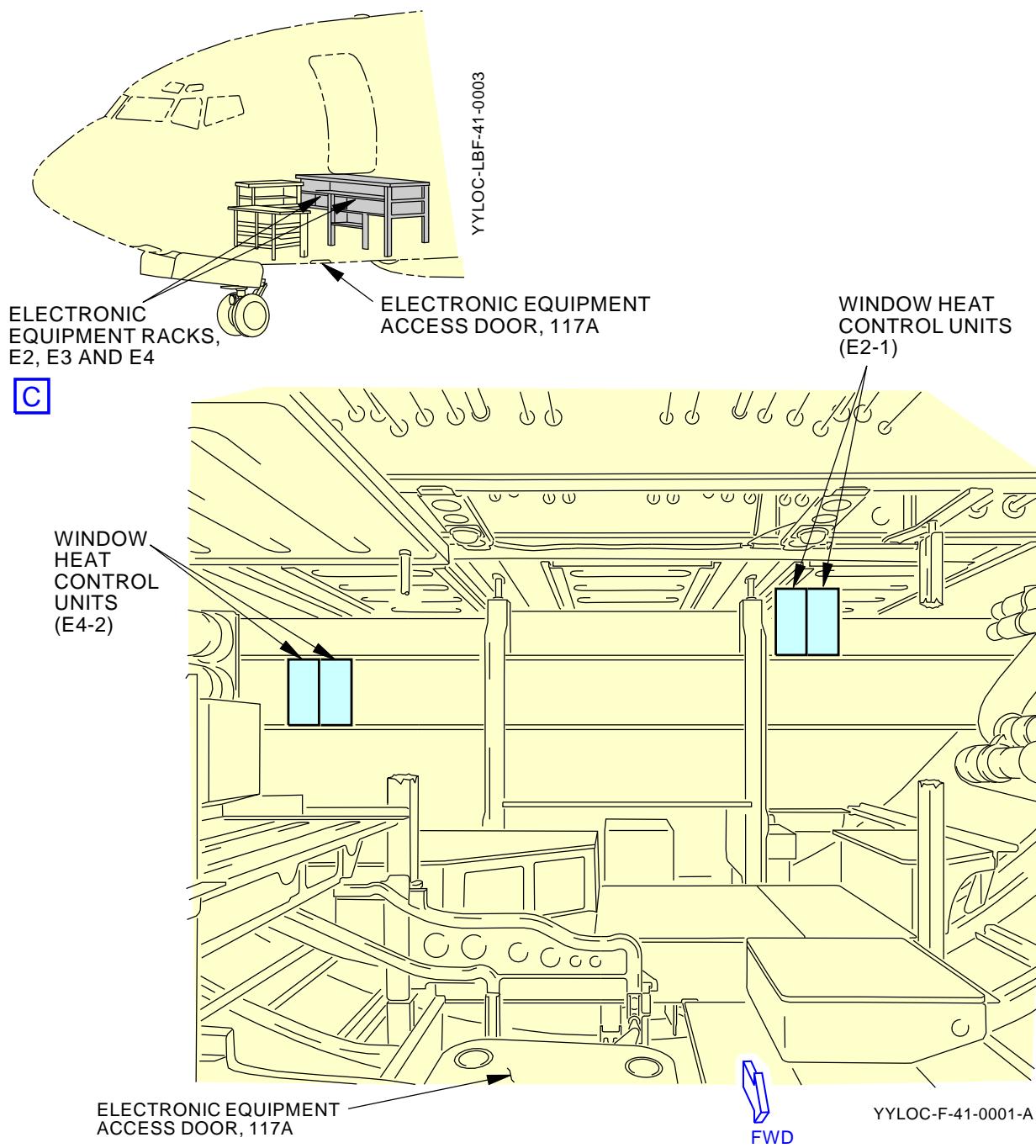
 EFFECTIVITY
AKS ALL

30-41-00

D633A101-AKS



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL



G07152 S0006573136_V2

Control Cabin Window Anti-Icing System Test
Figure 501/30-41-00-990-801 (Sheet 2 of 3)

EFFECTIVITY
AKS 001-022

30-41-00

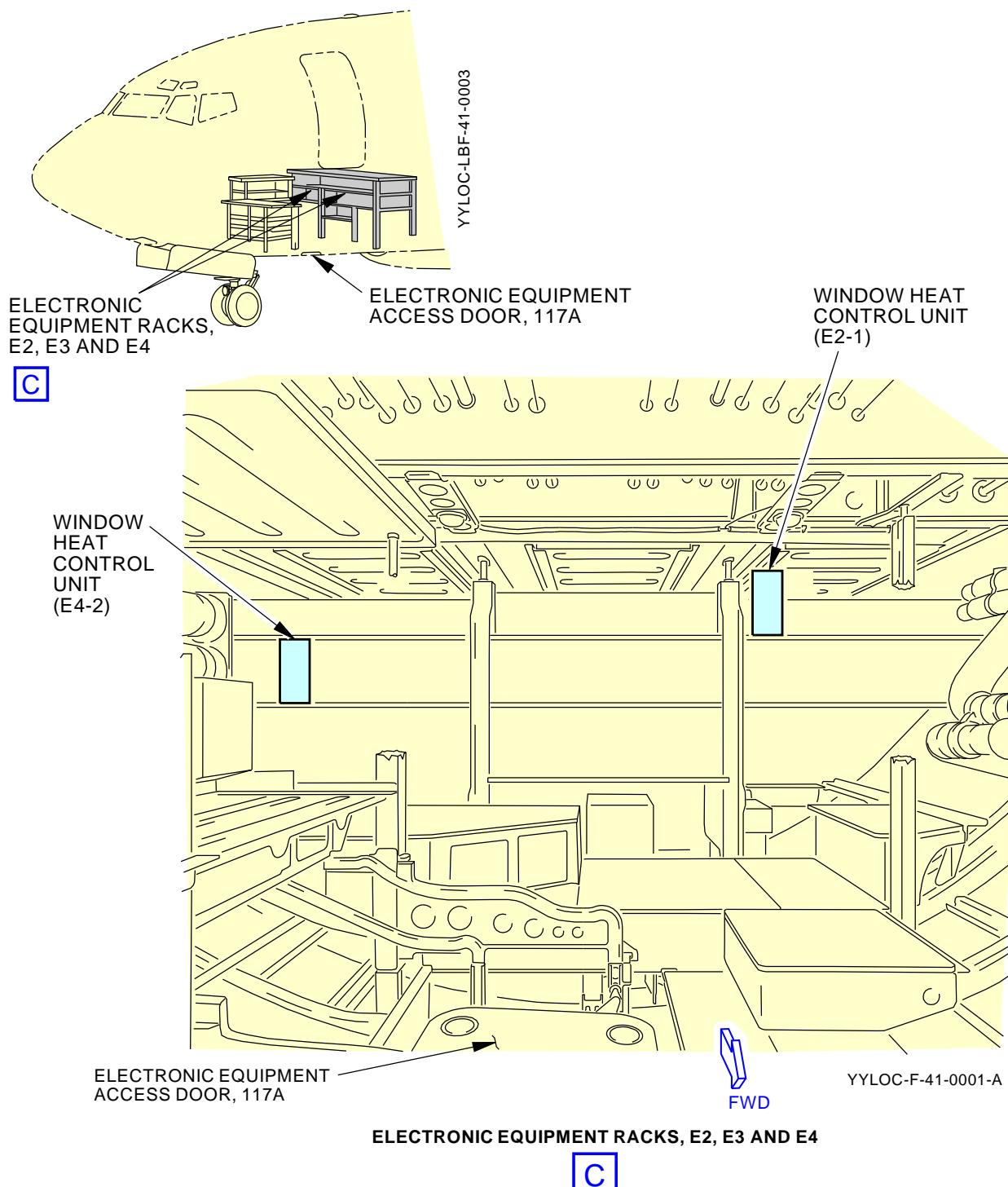
D633A101-AKS

BOEING PROPRIETARY - Copyright © Unpublished Work - See title page for details

Page 505
Feb 15/2016



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL



2430778 S0000562205_V1

Control Cabin Window Anti-Icing System Test
Figure 501/30-41-00-990-801 (Sheet 3 of 3)

EFFECTIVITY
AKS 023-999

30-41-00

D633A101-AKS

BOEING PROPRIETARY - Copyright © Unpublished Work - See title page for details



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

CONTROL CABIN WINDOW ANTI-ICE SYSTEM - COIL CORD - INSPECTION/CHECK

TASK 30-41-00-200-801

1. Coil Cord - Inspection

(Figure 601)

A. General

- (1) This procedure has a task to do an inspection of the No. 2 window coil cord and coil cord keyway positions.

B. References

Reference	Title
20-60-04-100-801	General Visual Inspection of EWIS (P/B 201)
24-22-00-860-811	Supply Electrical Power (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)
25-11-21-000-801	Flight Compartment Forward Ceiling Panel Removal (P/B 201)
25-11-21-400-801	Flight Compartment Forward Ceiling Panel Installation (P/B 201)
30-41-00-710-801	Window Heat System - Operational Test (P/B 501)

C. Location Zones

Zone	Area
212	Flight Compartment - Right

D. Prepare for the Inspection

SUBTASK 30-41-00-010-001

- (1) Get access to the flight compartment.

SUBTASK 30-41-00-860-012

- (2) Do this task: Remove Electrical Power, TASK 24-22-00-860-812.

SUBTASK 30-41-00-860-016

- (3) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-3

Row **Col** **Number** **Name**

AKS 001-022

D	2	C00225	WINDOW HEAT CONTROL LEFT SIDE AC
E	2	C00227	WINDOW HEAT CONTROL RIGHT SIDE AC

F/O Electrical System Panel, P6-11

Row **Col** **Number** **Name**

AKS ALL

B	8	C00393	WINDOW HEAT POWER RIGHT SIDE
---	---	--------	------------------------------

F/O Electrical System Panel, P6-12

Row **Col** **Number** **Name**

B	9	C00392	WINDOW HEAT POWER LEFT SIDE
---	---	--------	-----------------------------

E. Procedure

SUBTASK 30-41-00-020-001

- (1) Remove the coil cord from the captain's side of the flight compartment.

EFFECTIVITY
AKS ALL

30-41-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

SUBTASK 30-41-00-210-002

- (2) Examine the position of the captain's sidewall receptacle connector keyway.
 - (a) If the captain's sidewall receptacle connector keyway is not set at the up position, or 12 o'clock, do the steps that follow:
 - 1) Remove the captain's sidewall, Flight Compartment Forward Ceiling Panel Removal, TASK 25-11-21-000-801.
 - 2) Remove the four screws [3] and four washers [2] at the sidewall receptacle connector.
 - 3) Turn the sidewall receptacle connector keyway to the up position, or 12 o'clock, and install the screws and washers.
 - 4) Install the captain's sidewall, Flight Compartment Forward Ceiling Panel Installation, TASK 25-11-21-400-801.
 - (3) Examine the position of the captain's window receptacle connector keyway.
 - (a) If the captain's window receptacle connector keyway is not set at the left position, or 9 o'clock, do the steps that follow:
 - 1) Remove the four screws [5] to remove the captain's window cover.
 - 2) Remove the four screws [3] and four washers [2] at the window receptacle connector.
 - 3) Turn the window receptacle connector keyway to the left position, or 9 o'clock, and install the screws and washers.
 - 4) Install the captain's window cover.

SUBTASK 30-41-00-210-005

- (4) Examine the captain's coil cord for signs of rub damage at the connector ends.
 - (a) Do this task: General Visual Inspection of EWIS, TASK 20-60-04-100-801.

SUBTASK 30-41-00-420-001

- (5) Install the coil cord on the captain's side of the flight compartment.

SUBTASK 30-41-00-020-002

- (6) Remove the coil cord on the first officer's side of the flight compartment.

SUBTASK 30-41-00-210-004

- (7) Examine the position of the first officer's sidewall receptacle connector keyway.
 - (a) If the first officer's sidewall receptacle connector keyway is not set at the up position, or 12 o'clock, do the steps that follow:
 - 1) Remove the first officer's sidewall, Flight Compartment Forward Ceiling Panel Removal, TASK 25-11-21-000-801.
 - 2) Remove the four screws [3] and four washers [2] at the sidewall receptacle connector.
 - 3) Turn the sidewall receptacle connector keyway to the up position, or 12 o'clock, and install the screws and washers.
 - 4) Install the first officer's sidewall, Flight Compartment Forward Ceiling Panel Installation, TASK 25-11-21-400-801.
 - (8) Examine the position of the first officer's window receptacle connector keyway.
 - (a) If the first officer's window receptacle connector keyway is not set at the right position, or 3 o'clock, do the steps that follow:



30-41-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

- 1) Remove the four screws [5] to remove the first officer's window cover.
- 2) Remove the four screws [3] and four washers [2] at the window receptacle connector.
- 3) Turn the window receptacle connector keyway to the right position, or 3 o'clock, and install the screws and washers.
- 4) Install the first officer's window cover.

SUBTASK 30-41-00-210-006

- (9) Examine the first officer's coil cord for signs of rub damage at the connector ends.
 - (a) Do this task: General Visual Inspection of EWIS, TASK 20-60-04-100-801.

SUBTASK 30-41-00-420-002

- (10) Install the coil cord on the first officer's side of the flight compartment.

F. Put the Airplane Back to its Normal Condition

SUBTASK 30-41-00-860-015

- (1) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
------------	------------	---------------	-------------

AKS 001-022

D	2	C00225	WINDOW HEAT CONTROL LEFT SIDE AC
E	2	C00227	WINDOW HEAT CONTROL RIGHT SIDE AC

F/O Electrical System Panel, P6-11

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
------------	------------	---------------	-------------

AKS ALL

B	8	C00393	WINDOW HEAT POWER RIGHT SIDE
---	---	--------	------------------------------

F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
------------	------------	---------------	-------------

B	9	C00392	WINDOW HEAT POWER LEFT SIDE
---	---	--------	-----------------------------

SUBTASK 30-41-00-860-013

- (2) If necessary, do this task: Supply Electrical Power, TASK 24-22-00-860-811.

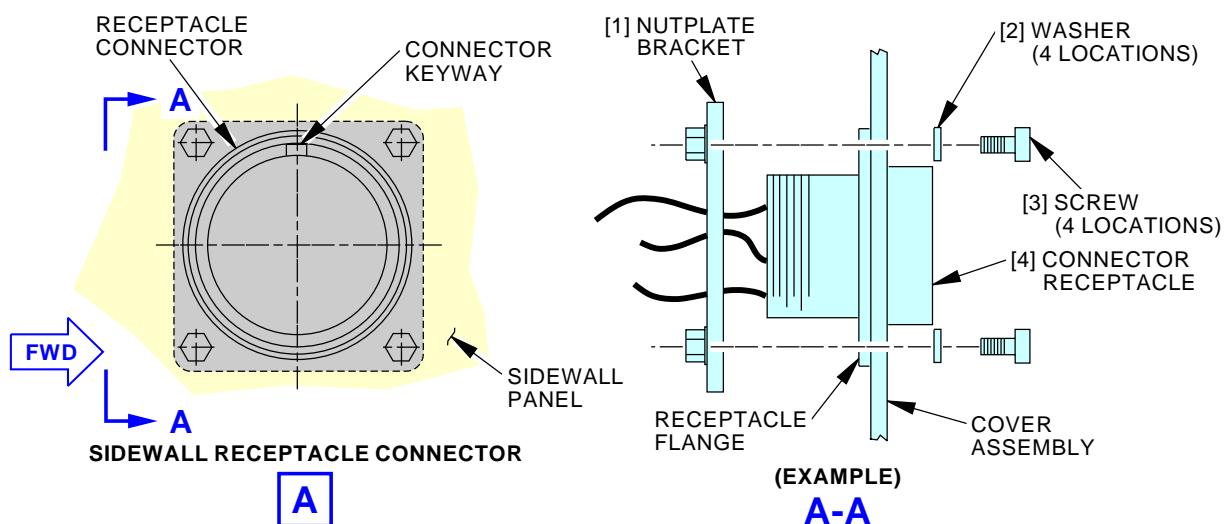
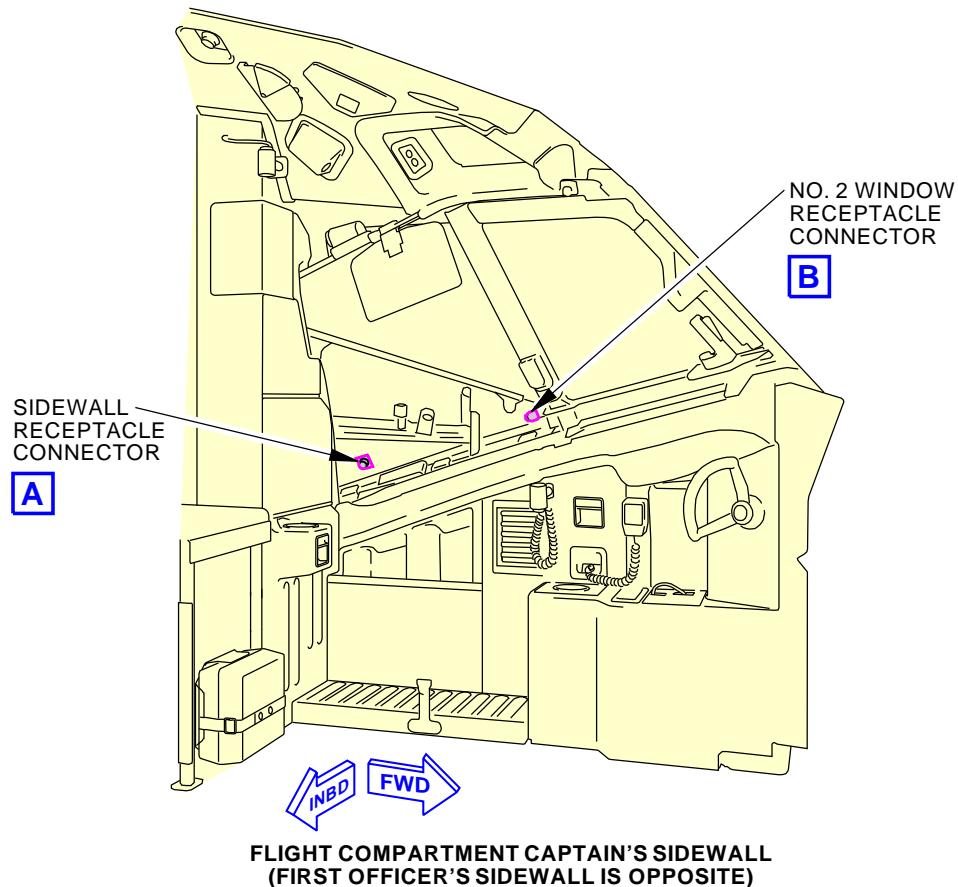
SUBTASK 30-41-00-710-002

- (3) Do this task: Window Heat System - Operational Test, TASK 30-41-00-710-801.

———— END OF TASK ————

EFFECTIVITY
AKS ALL

30-41-00

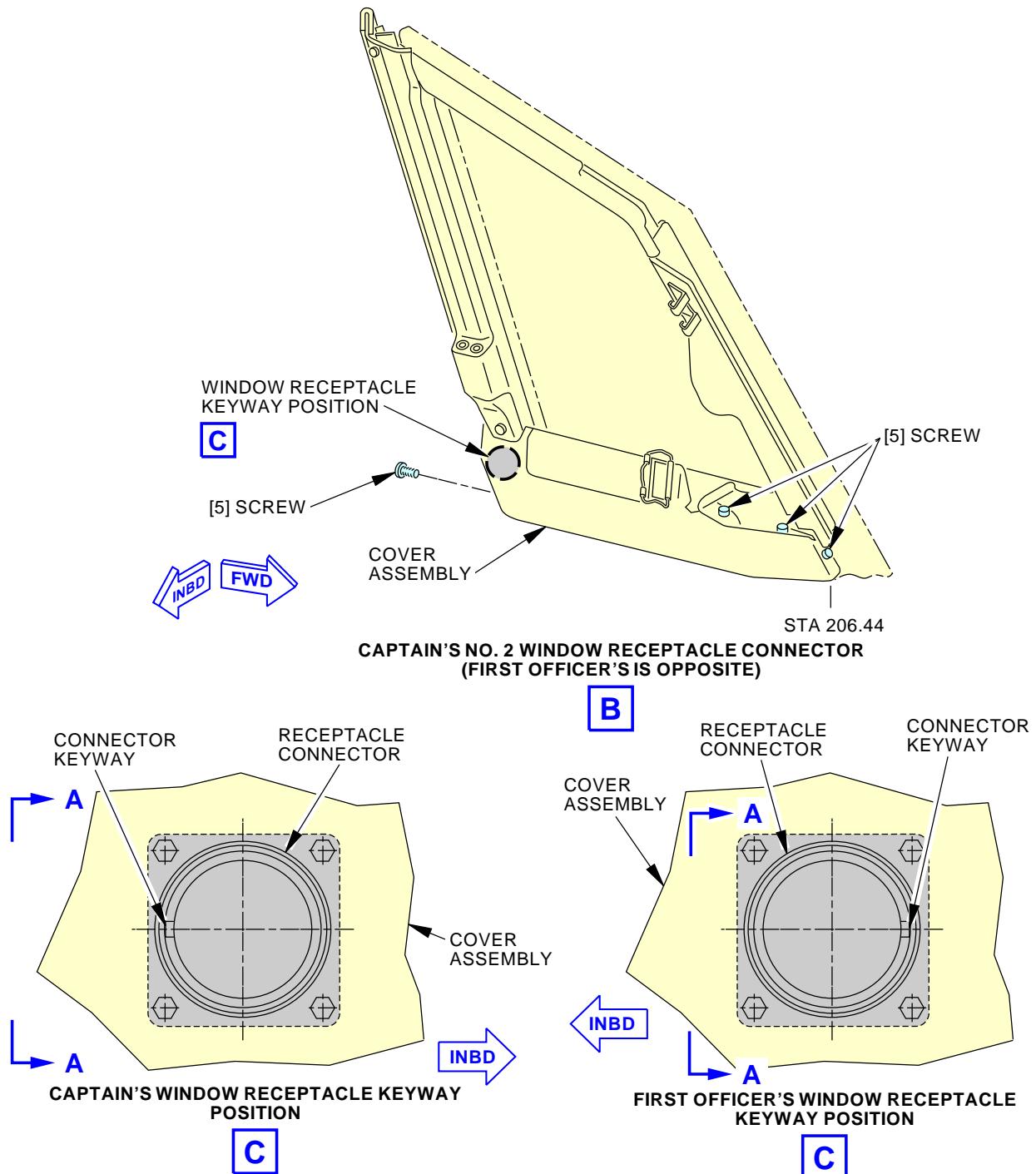


2158219 S0000473556_V3

Coil Cord Keyway Position Inspection
Figure 601/30-41-00-990-802 (Sheet 1 of 2)

EFFECTIVITY
 AKS ALL

30-41-00



2311976 S0000525803_V2

Coil Cord Keyway Position Inspection
Figure 601/30-41-00-990-802 (Sheet 2 of 2)

 EFFECTIVITY
AKS ALL

30-41-00

D633A101-AKS



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

CONTROL CABIN WINDOW ANTI-ICING SYSTEM - REPAIRS

1. General

- A. This procedure connects the spare window temperature sensor.
- B. The captain's and first officer's No. 1 and No. 2 windows are electrically heated. Each window has a control (primary) and a spare temperature sensor.
- C. This procedure gives the steps necessary to disconnect the bad control (primary) temperature sensor and connect the spare temperature sensor. If none of the temperature sensors operate, you must replace the window.

TASK 30-41-00-420-801

2. Control Cabin Window Temperature Sensor - Repairs

(Figure 801)

A. References

Reference	Title
24-22-00-860-811	Supply Electrical Power (P/B 201)
24-22-00-860-814	Remove External Power (P/B 201)
56-12-11-000-801	No. 2 Openable Window Removal (P/B 401)
56-12-11-400-801	No. 2 Openable Window Installation (P/B 401)

B. Consumable Materials

Reference	Description	Specification
D50244	Compound - Dow Corning 340 Heat Sink Compound	
G01659	Swab - Cotton Or Rayon, (Disposable)	

C. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

D. Access Panels

Number	Name/Location
117A	Electronic Equipment Access Door

E. Procedure

SUBTASK 30-41-00-440-001

- (1) For No. 1 window, do the steps that follow:

- (a) Open this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

- (b) Put the applicable WNDSHLD SNSR switch(es) in the spare position.

SUBTASK 30-41-00-900-001

- (2) For No. 2 window, do the steps that follow:

- (a) Disconnect the coil cord that is attached to the side window.
 - (b) If it is necessary, remove the side window (TASK 56-12-11-000-801).
 - (c) Disconnect the wire connected to the primary sensor's D terminal located at the bottom corner of the window.

EFFECTIVITY
AKS ALL

30-41-00

D633A101-AKS



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

- (d) Connect the wire to the spare temperature sensor's D terminal.
- (e) Apply a layer of Dow Corning 340 heat sink compound, D50244, to the terminals with a swab, G01659.

NOTE: The Dow Corning 340 heat sink compound, D50244, is intended to prevent inadvertent loss of insulation between the sensor terminals and the metal frame of the window, which can cause the window to overheat.

- (f) Do this task to install the side window, if it was removed: No. 2 Openable Window Installation, TASK 56-12-11-400-801.
- (g) Connect the coil cord to the side window.

SUBTASK 30-41-00-710-001

- (3) Do a test on the temperature control sensor connections:
 - (a) Do this task: Supply Electrical Power, TASK 24-22-00-860-811.
 - (b) Push the BIT/VERIFY switch on the window heat control unit.
 - (c) Make sure the green light comes on.

F. Put the Airplane Back to Its Usual Condition

SUBTASK 30-41-00-410-003

- (1) Close this access panel as necessary:

Number	Name/Location
117A	Electronic Equipment Access Door

SUBTASK 30-41-00-860-017

- (2) If electrical power is not necessary, do this task: Remove External Power, TASK 24-22-00-860-814.

———— END OF TASK ————

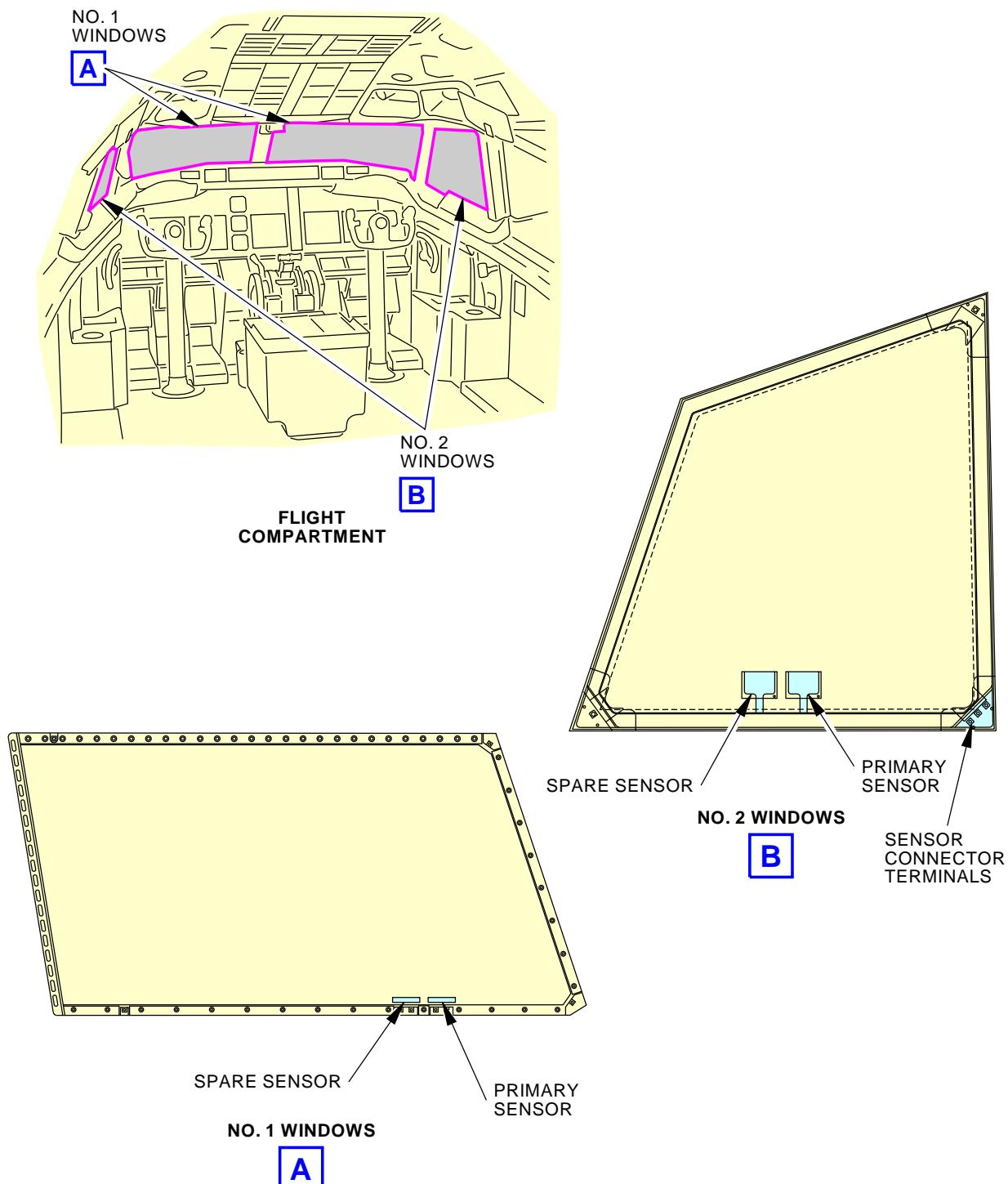


30-41-00

D633A101-AKS

BOEING PROPRIETARY - Copyright © Unpublished Work - See title page for details

Page 802
Jun 15/2015



2350719 S0000536151_V2

Flight Compartment Window Temperature Sensor Connections
Figure 801/30-41-00-990-803

EFFECTIVITY
 AKS ALL

30-41-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

WINDOW HEAT CONTROL UNIT - REMOVAL/INSTALLATION

1. General

- A. This procedure contains scheduled maintenance task data.
- B. This Procedure has these tasks:
 - (1) Removal of the window heat control unit.
 - (2) Installation of the window heat control unit.
 - (3) Thermal Switch Removal.
 - (4) Thermal Switch Installation.
 - (5) Replace the Thermal Switch Fairing Compound.

AKS 001-022

TASK 30-41-11-000-801

2. Window Heat Control Unit (WHCU) Removal

(Figure 401)

A. General

- (1) This task gives instructions to remove the four WHCUs.
- (2) The window heat control units (WHCUs [1]) are installed on the E4-2 and E2-1 racks in the main equipment center.

B. References

Reference	Title
20-10-07-000-801	E/E Box Removal (P/B 201)
20-40-12-000-802	ESDS Handling for Metal Encased Unit Removal (P/B 201)

C. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right

D. Access Panels

Number	Name/Location
117A	Electronic Equipment Access Door

E. Prepare for the Removal

SUBTASK 30-41-11-010-001

- (1) To get access to the Main Equipment Center, do this step:
Open this access panel:

Number	Name/Location
117A	Electronic Equipment Access Door

SUBTASK 30-41-11-860-011

- (2) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
D	1	C00226	WINDOW HEAT CONTROL RIGHT FRONT AC
D	2	C00225	WINDOW HEAT CONTROL LEFT SIDE AC

EFFECTIVITY
AKS ALL

30-41-11



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

AKS 001-022 (Continued)

(Continued)

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	1	C00224	WINDOW HEAT CONTROL LEFT FRONT AC
E	2	C00227	WINDOW HEAT CONTROL RIGHT SIDE AC

F/O Electrical System Panel, P6-11

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	8	C00393	WINDOW HEAT POWER RIGHT SIDE
B	9	C00228	WINDOW HEAT POWER LEFT FRONT

F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	8	C00394	WINDOW HEAT POWER RIGHT FRONT
B	9	C00392	WINDOW HEAT POWER LEFT SIDE

F. WHCU Removal

SUBTASK 30-41-11-840-001

CAUTION: DO NOT TOUCH THE WINDOW HEAT CONTROL UNIT BEFORE YOU DO THE PROCEDURE FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE WINDOW HEAT CONTROL UNIT.

- (1) To handle the WHCU [1], do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

SUBTASK 30-41-11-020-001

- (2) To remove the WHCU [1] from the shelf, do this task: E/E Box Removal, TASK 20-10-07-000-801.

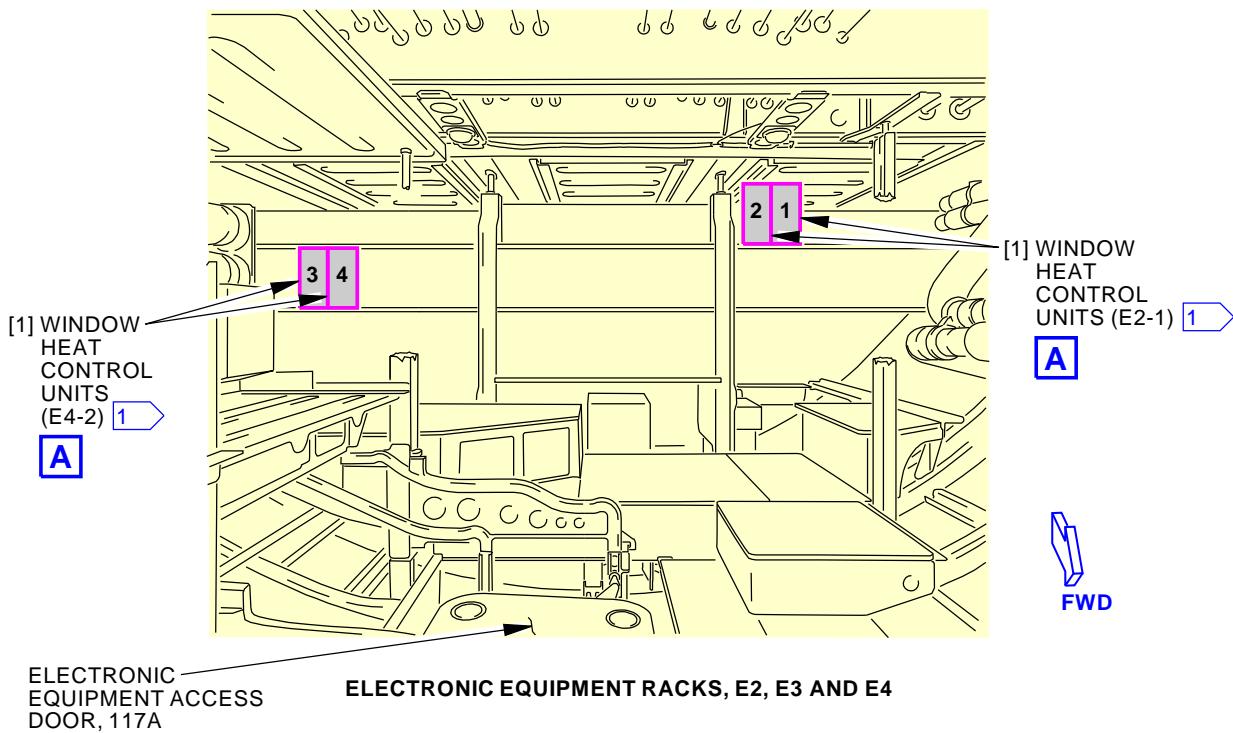
———— END OF TASK ————



30-41-11

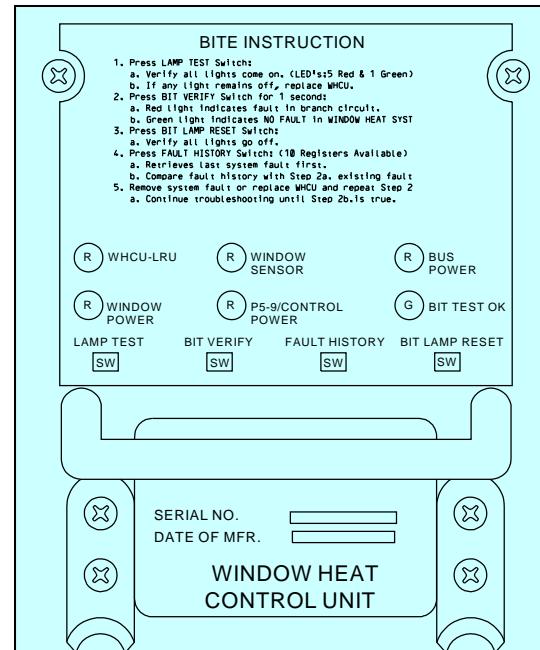


**737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL**



1 →

UNIT	ELECTRICAL EQUIPMENT NO.	WINDOW
1	M320	R SIDE
2	M321	L FWD
3	M322	L SIDE
4	M323	R FWD



G79821 S0006573141_V3

**Window Heat Control Unit Installation
Figure 401/30-41-11-990-802**

EFFECTIVITY
AKS 001-022

30-41-11



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

AKS 001-022 (Continued)

TASK 30-41-11-400-801

3. Window Heat Control Unit (WHCU) Installation

(Figure 401)

A. General

- (1) This task gives instructions to install the four WHCUs.

B. References

Reference	Title
20-10-07-400-801	E/E Box Installation (P/B 201)
20-40-12-400-802	ESDS Handling for Metal Encased Unit Installation (P/B 201)

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	WHCU	30-41-11-02-005	AKS 001-022
		30-41-11-03-005	AKS 001-022

D. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right

E. Access Panels

Number	Name/Location
117A	Electronic Equipment Access Door

F. WHCU Installation

SUBTASK 30-41-11-860-012

- (1) Make sure that these circuit breakers are open and have safety tags:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
D	1	C00226	WINDOW HEAT CONTROL RIGHT FRONT AC
D	2	C00225	WINDOW HEAT CONTROL LEFT SIDE AC
E	1	C00224	WINDOW HEAT CONTROL LEFT FRONT AC
E	2	C00227	WINDOW HEAT CONTROL RIGHT SIDE AC

F/O Electrical System Panel, P6-11

Row	Col	Number	Name
B	8	C00393	WINDOW HEAT POWER RIGHT SIDE
B	9	C00228	WINDOW HEAT POWER LEFT FRONT

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
B	8	C00394	WINDOW HEAT POWER RIGHT FRONT
B	9	C00392	WINDOW HEAT POWER LEFT SIDE

EFFECTIVITY
AKS ALL

30-41-11



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

AKS 001-022 (Continued)

SUBTASK 30-41-11-840-002

CAUTION: DO NOT TOUCH THE WINDOW HEAT CONTROL UNIT BEFORE YOU DO THE PROCEDURE FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE WINDOW HEAT CONTROL UNIT.

- (2) To handle the WHCU [1], do this task: ESDS Handling for Metal Encased Unit Installation, TASK 20-40-12-400-802.

SUBTASK 30-41-11-420-001

- (3) To install the WHCU [1] on the shelf, do this task: E/E Box Installation, TASK 20-10-07-400-801.

G. WHCU Installation Test.

SUBTASK 30-41-11-860-013

- (1) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	1	C00226	WINDOW HEAT CONTROL RIGHT FRONT AC
D	2	C00225	WINDOW HEAT CONTROL LEFT SIDE AC
E	1	C00224	WINDOW HEAT CONTROL LEFT FRONT AC
E	2	C00227	WINDOW HEAT CONTROL RIGHT SIDE AC

F/O Electrical System Panel, P6-11

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	8	C00393	WINDOW HEAT POWER RIGHT SIDE
B	9	C00228	WINDOW HEAT POWER LEFT FRONT

F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	8	C00394	WINDOW HEAT POWER RIGHT FRONT
B	9	C00392	WINDOW HEAT POWER LEFT SIDE

SUBTASK 30-41-11-740-004

- (2) Do this test on the WHCU BITE.
- Put the WINDOW HEAT switches to the ON position.
 - Press the LAMP TEST switch.
 - Make sure all lights (5 red, 1 green) on the face come on.
 - If any light stays off, replace the unit.
 - Press the BIT VERIFY switch for 1 second.
 - Make sure that the green light comes on.

H. Put the Airplane back to Its Usual Condition.

SUBTASK 30-41-11-410-001

- (1) Close this access panel:

<u>Number</u>	<u>Name/Location</u>
117A	Electronic Equipment Access Door

EFFECTIVITY
AKS ALL

30-41-11



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

— END OF TASK —

AKS 023-999

TASK 30-41-11-000-803

4. Window Heat Control Unit (WHCU) Removal

(Figure 402)

A. General

- (1) This task gives instructions to remove the two WHCUs.
- (2) The window heat control units (WHCUs [1]) are installed on the E4-2 and E2-1 racks in the main equipment center.

B. References

Reference	Title
20-10-07-000-801	E/E Box Removal (P/B 201)
20-40-12-000-802	ESDS Handling for Metal Encased Unit Removal (P/B 201)

C. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right

D. Access Panels

Number	Name/Location
117A	Electronic Equipment Access Door

E. Prepare for the Removal

SUBTASK 30-41-11-010-003

- (1) To get access to the Main Equipment Center, do this step:

Open this access panel:

Number Name/Location

117A Electronic Equipment Access Door

SUBTASK 30-41-11-860-021

- (2) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-11

Row	Col	Number	Name
B	8	C00393	WINDOW HEAT POWER RIGHT SIDE
B	9	C00228	WINDOW HEAT POWER LEFT FRONT

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
B	8	C00394	WINDOW HEAT POWER RIGHT FRONT
B	9	C00392	WINDOW HEAT POWER LEFT SIDE



30-41-11



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

AKS 023-999 (Continued)

F. WHCU Removal

SUBTASK 30-41-11-910-001

CAUTION: DO NOT TOUCH THE UNIT BEFORE YOU DO THE PROCEDURE FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE UNIT.

- (1) To handle the WHCU [1], do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

SUBTASK 30-41-11-020-002

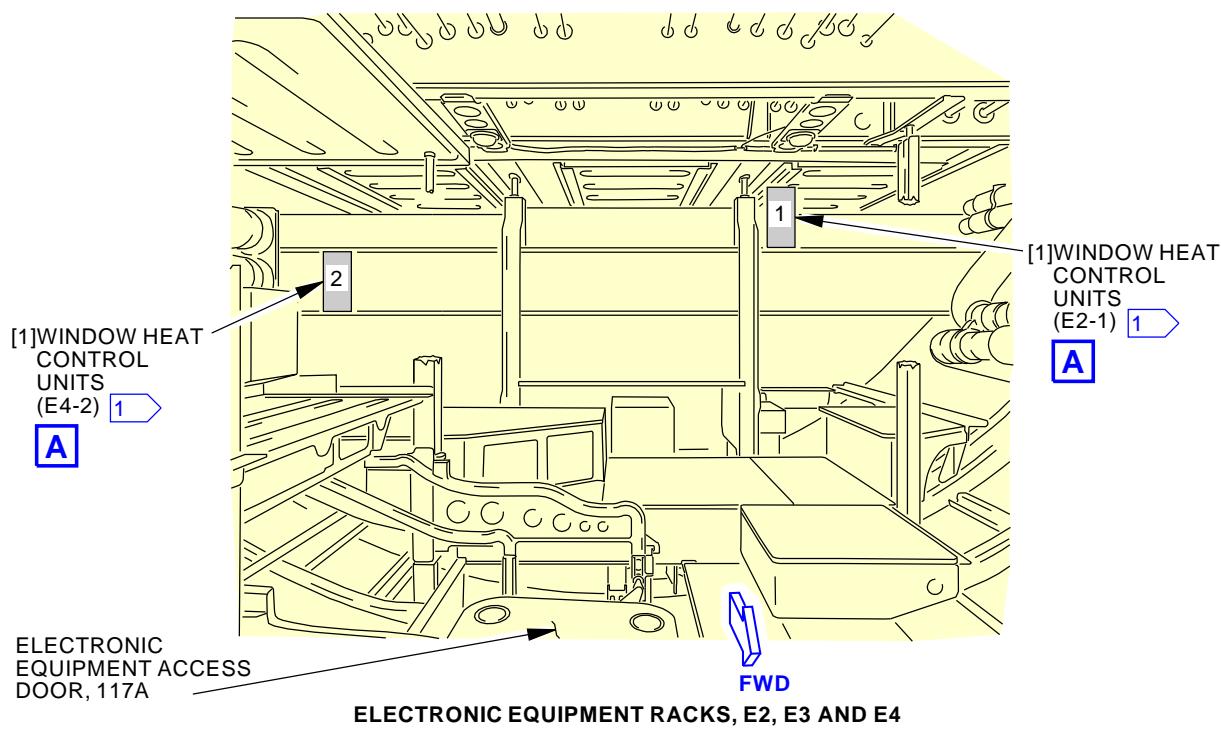
- (2) To remove the WHCU [1] from the shelf, do this task: E/E Box Removal, TASK 20-10-07-000-801.

———— END OF TASK ————

EFFECTIVITY
AKS ALL

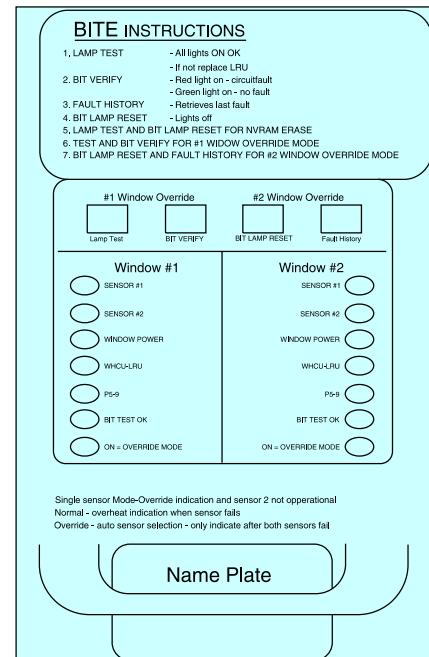
30-41-11

**737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL**



1 →

UNIT	ELECTRICAL EQUIPMENT NO.	WINDOW
1	M321	L FWD AND R SIDE
2	M323	R FWD AND L SIDE



2368189 S0000542194_V2

**Window Heat Control Unit Installation
Figure 402/30-41-11-990-805**

EFFECTIVITY
AKS 023-999

30-41-11

D633A101-AKS

BOEING PROPRIETARY - Copyright © Unpublished Work - See title page for details



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

AKS 023-999 (Continued)

TASK 30-41-11-400-803

5. Window Heat Control Unit (WHCU) Installation

(Figure 402)

A. General

- (1) This task gives instructions to install the two WHCUs.

B. References

Reference	Title
20-10-07-400-801	E/E Box Installation (P/B 201)
20-40-12-400-802	ESDS Handling for Metal Encased Unit Installation (P/B 201)

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	WHCU		Not Specified

D. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right

E. Access Panels

Number	Name/Location
117A	Electronic Equipment Access Door

F. WHCU Installation

SUBTASK 30-41-11-860-022

- (1) Make sure that these circuit breakers are open and have safety tags:

F/O Electrical System Panel, P6-11

Row	Col	Number	Name
B	8	C00393	WINDOW HEAT POWER RIGHT SIDE
B	9	C00228	WINDOW HEAT POWER LEFT FRONT

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
B	8	C00394	WINDOW HEAT POWER RIGHT FRONT
B	9	C00392	WINDOW HEAT POWER LEFT SIDE

SUBTASK 30-41-11-910-002

CAUTION: DO NOT TOUCH THE UNIT BEFORE YOU DO THE PROCEDURE FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE UNIT.

- (2) To handle the WHCU [1], do this task: ESDS Handling for Metal Encased Unit Installation, TASK 20-40-12-400-802.

SUBTASK 30-41-11-420-002

- (3) To install the WHCU [1] on the shelf, do this task: E/E Box Installation, TASK 20-10-07-400-801.

EFFECTIVITY
AKS ALL

D633A101-AKS



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

AKS 023-999 (Continued)

G. WHCU Installation Test

SUBTASK 30-41-11-860-023

- (1) Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-11

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	8	C00393	WINDOW HEAT POWER RIGHT SIDE
B	9	C00228	WINDOW HEAT POWER LEFT FRONT

F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	8	C00394	WINDOW HEAT POWER RIGHT FRONT
B	9	C00392	WINDOW HEAT POWER LEFT SIDE

SUBTASK 30-41-11-710-002

- (2) Do this test on the WHCU BITE.
- Put the WINDOW HEAT switches to the ON position.
 - Press the LAMP TEST switch.
 - Make sure all lights on the face come on.
 - If any light stays off, replace the LRU.
 - Press the BIT VERIFY switch.
 - Make sure that the green light comes on.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 30-41-11-410-003

- (1) Close this access panel:

<u>Number</u>	<u>Name/Location</u>
117A	Electronic Equipment Access Door

———— END OF TASK ————

EFFECTIVITY
AKS ALL

30-41-11



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

WINDOW HEAT CONTROL UNIT - ADJUSTMENT/TEST

1. General

- A. This procedure consists of a task to test the window heat control units:

TASK 30-41-11-710-801

2. Window Heat Control Unit System Test

(Figure 501)

A. General

- (1) The window heat control units (WHCU) are installed in the electrical equipment center. A BITE module is installed on the control unit. The test makes sure the WHCUs operate properly.
- (2) The WHCUs can be tested separately or they can all be tested at the same time. Use the table on (Figure 501) to determine which WHCU controls each window heat.

B. References

Reference	Title
24-22-00-860-813	Supply External Power (P/B 201)
24-22-00-860-814	Remove External Power (P/B 201)

C. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right
211	Flight Compartment - Left
212	Flight Compartment - Right

D. Prepare for the Test

SUBTASK 30-41-11-860-001

- (1) Do this task: Supply External Power, TASK 24-22-00-860-813.

SUBTASK 30-41-11-860-002

- (2) Press and release the reset switch on the WHCUs.
 - (a) Make sure all the indicator lights are off.

E. Test the Normal Functions of the WHCUs

SUBTASK 30-41-11-860-003

- (1) One switch at a time, put the WINDOW HEAT power switches on the window and pitot heat module to the on position.

NOTE: If you are only testing one WHCU, you only need to put the applicable switch in the ON position. The table in (Figure 501) shows which WHCU controls each window heat.

- (a) Make sure the corresponding ON light on the window and pitot heat module comes on.
NOTE: It can take up to five seconds for a light to come on.
 - (b) Make sure both master caution lights are off.

SUBTASK 30-41-11-860-004

- (2) Put the WINDOW HEAT TEST OVHT/PWR switch to the OVHT position for 1 second.
 - (a) Make sure that the OVERHEAT lights come on.
 - (b) Make sure the MASTER CAUTION lights come on.
 - (c) Make sure ANTI-ICE light comes on.

EFFECTIVITY
AKS ALL

30-41-11



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

- (d) Make sure the ON lights go off in less than 70 seconds.

SUBTASK 30-41-11-860-005

- (3) One switch at a time, put each window heat control switch in the off position for 1 second and then put the switch in the on position.
- (a) Make sure that the applicable OVERHEAT light goes off.
 - (b) Make sure the window heat ON light comes on.

SUBTASK 30-41-11-860-006

- (4) Press either MASTER CAUTION light.
- (a) Make sure the MASTER CAUTION light goes off.
 - (b) Make sure the ANTI-ICE light goes off.

SUBTASK 30-41-11-860-007

- (5) Wait 4 minutes.

SUBTASK 30-41-11-860-008

- (6) Hold the window heat TEST switch to PWR.
- (a) Make sure that the window heat ON lights stay on for each window.
 - (b) If holding the window heat TEST switch to PWR causes the OVERHEAT light to illuminate, the window heat ON lights shall go off within 70 seconds.

SUBTASK 30-41-11-860-019

- (7) Release the window heat TEST switch.

SUBTASK 30-41-11-860-009

- (8) Put the WINDOW HEAT power switches in the off position.

F. BITE test

SUBTASK 30-41-11-740-005

- (1) Set the applicable window heat control switch to ON.
- (2) Push both of the front panel BITE switches marked LAMP TEST and BITE LAMP RESET at the same time. Hold for 4 seconds until the green BIT TEST OK light comes on.
NOTE: This will erase all existing faults stored in the WHCU memory.
- (3) Push the FAULT HISTORY switch on the WHCU.
 - (a) Make sure the green BIT TEST OK lights come on for 15 seconds.
- (4) Push the LAMP TEST switch.

AKS 001-022

- (a) Make sure that all six lights come on.

AKS 023-999

- (b) Make sure that all seven lights come on.

AKS ALL

- (5) Push the BIT VERIFY switch on the WHCU.
 - (a) Make sure that no red lights come on and that the green BIT TEST OK light comes on in less than 10 seconds and stays on for 15 seconds.
- (6) Push the BIT LAMP RESET switch on the WHCU.
 - (a) Make sure that the green BIT TEST OK light shuts off.

EFFECTIVITY
AKS ALL

30-41-11



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

- (7) Set the applicable window heat control switch to OFF.

G. Put the Airplane Back to its Normal Condition.

SUBTASK 30-41-11-860-010

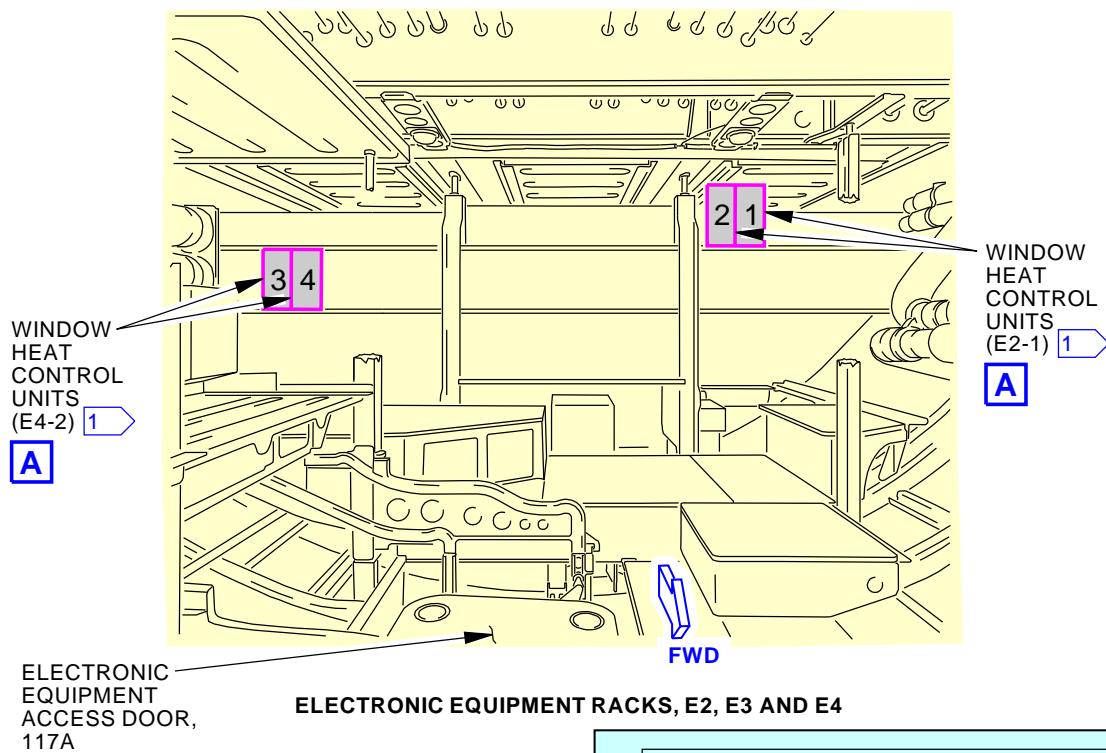
- (1) If it is no longer necessary, do this task: Remove External Power, TASK 24-22-00-860-814.

———— END OF TASK ————

EFFECTIVITY
AKS ALL

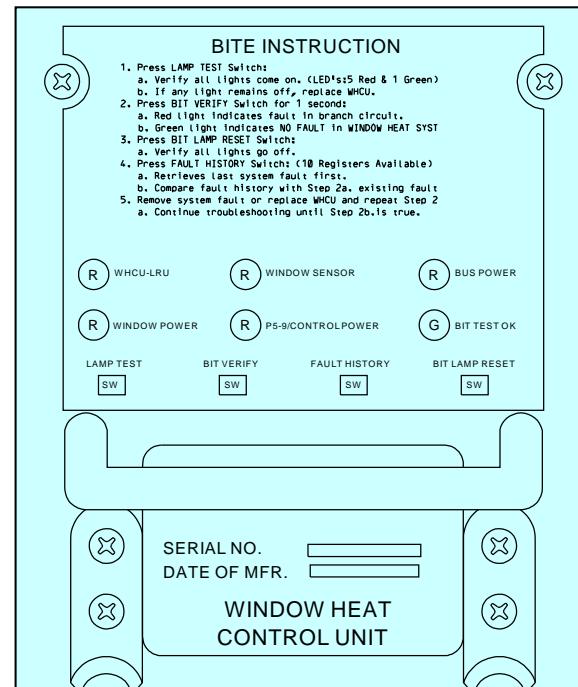
30-41-11

**737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL**



ELECTRONIC EQUIPMENT RACKS, E2, E3 AND E4

UNIT	ELECTRICAL EQUIPMENT NO.	WINDOW
1	M320	R SIDE
2	M321	L FWD
3	M322	L SIDE
4	M323	R FWD

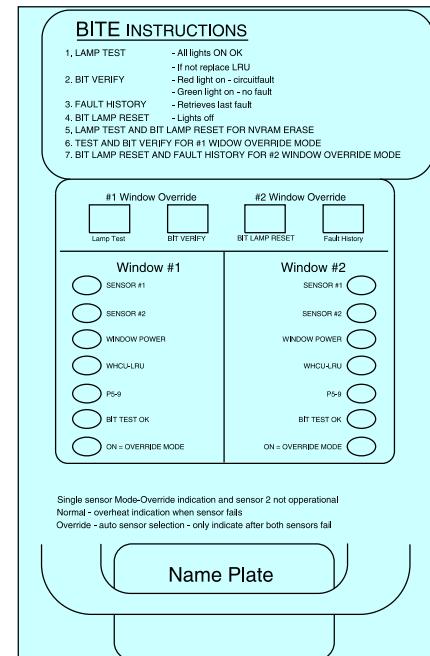
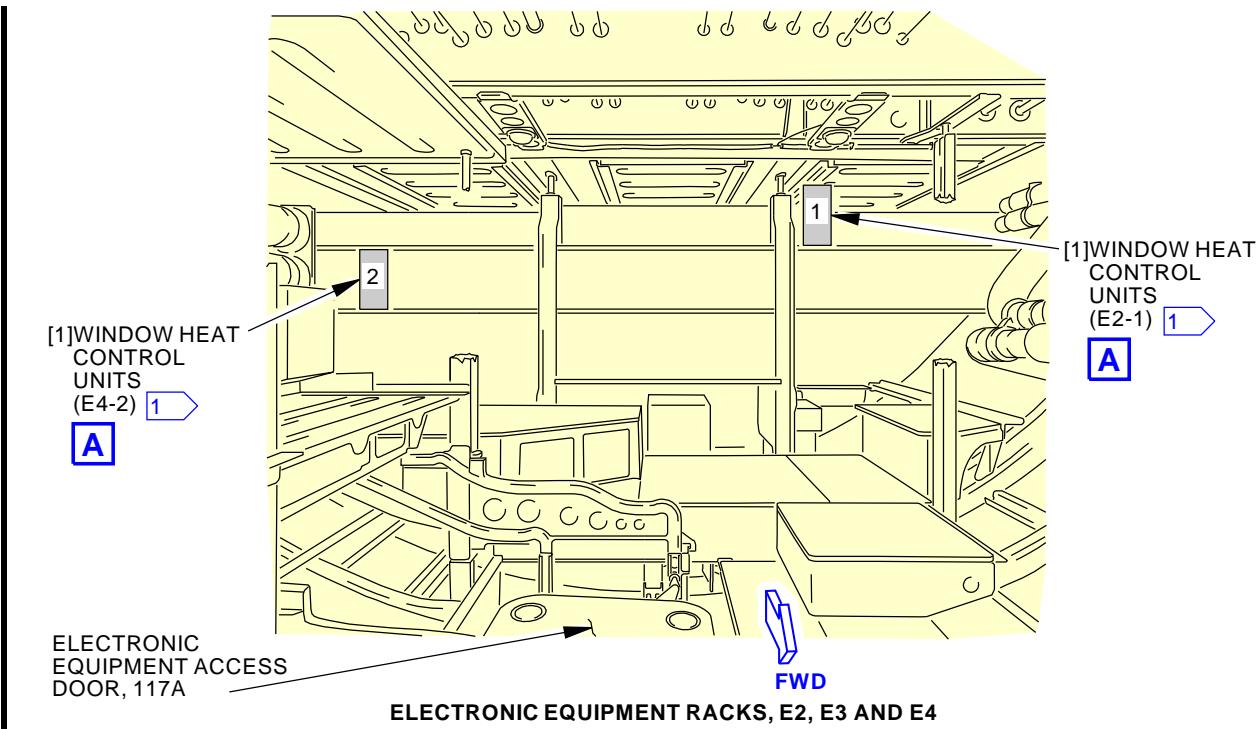


G79825 S0006573146_V2

**Window Heat Control Unit Test
Figure 501/30-41-11-990-801 (Sheet 1 of 3)**

EFFECTIVITY
AKS 001-022

30-41-11

**737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL**


1 ➤

UNIT	ELECTRICAL EQUIPMENT NO.	WINDOW
1	M321	L FWD AND R SIDE
2	M323	R FWD AND L SIDE

2368189 S0000542194_V2

Window Heat Control Unit Test
Figure 501/30-41-11-990-801 (Sheet 2 of 3)

EFFECTIVITY
AKS 023-999

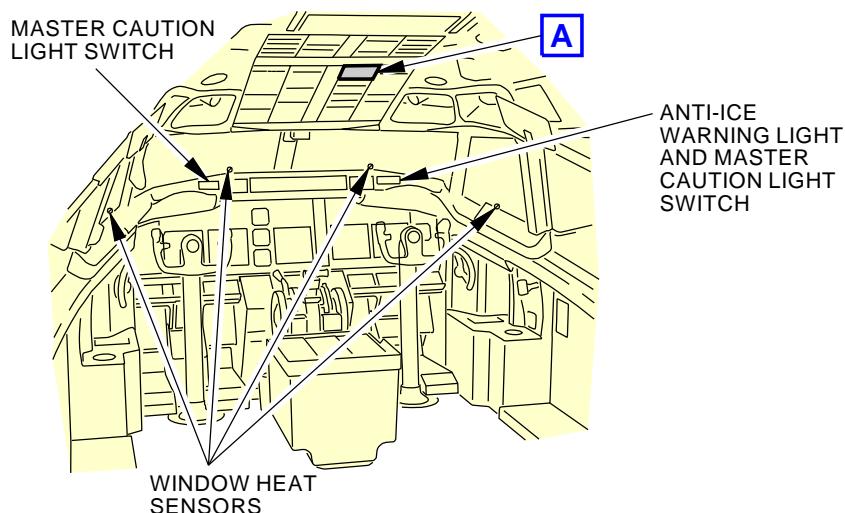
30-41-11

D633A101-AKS

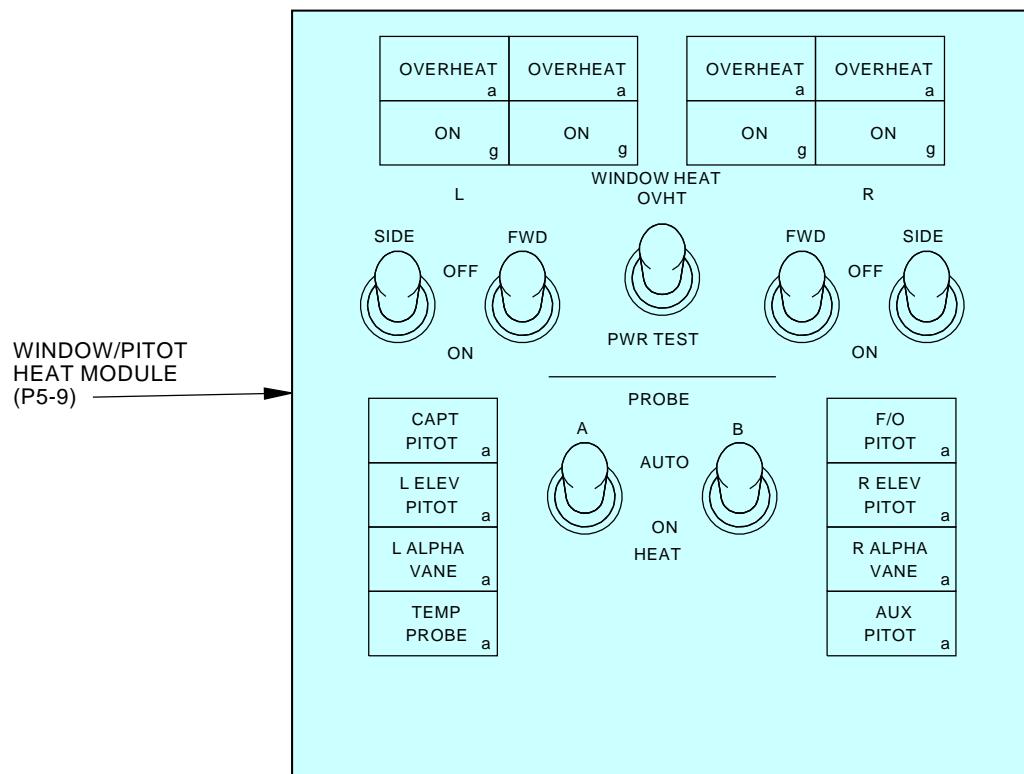


737-600/700/800/900

AIRCRAFT MAINTENANCE MANUAL



FLIGHT COMPARTMENT



2351970 S0000536616 V2

Window Heat Control Unit Test
Figure 501/30-41-11-990-801 (Sheet 3 of 3)

EFFECTIVITY
AKS ALL

30-41-11

D633A101 AKS



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

WINDOW HEAT CONDUCTIVE COATING AND SENSOR - ADJUSTMENT/TEST

1. General

- A. This procedure has these tasks:
- (1) Check of the electrical resistance of the window heat film.
 - (2) Check of the temperature sensors on windows 1 and 2.

AKS 001-022

TASK 30-41-21-000-801

2. Check the Electrical Resistance of the Window Heat Film

(Figure 501)

A. General

- (1) The number 1 and number 2 windows have a layer of material which heat the windows when electricity is applied. The window heat control units (WHCUs) provide power to heat the windows. The WHCUs have various output connections which should be matched to each window resistance. This test checks the electrical resistance of the window heaters and makes sure the heaters are matched to the WHCU.

B. References

Reference	Title
30-41-11-000-801	Window Heat Control Unit (WHCU) Removal (P/B 401)
30-41-11-400-801	Window Heat Control Unit (WHCU) Installation (P/B 401)

C. Consumable Materials

Reference	Description	Specification
D50244	Compound - Dow Corning 340 Heat Sink Compound	
G01659	Swab - Cotton Or Rayon, (Disposable)	

D. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right
121	Forward Cargo Compartment - Left
122	Forward Cargo Compartment - Right

E. Prepare for the Procedure

SUBTASK 30-41-21-860-001

- (1) Do these steps to heat the windows if the temperature is too cold:

NOTE: These steps can be used if the ambient temperature is significantly less than the specified test temperature range of 68 to 108 degrees F (20 to 42 degrees C).

- (a) One switch at a time, put the WINDOW HEAT switches on the Window and Pitot Heat Module to the on position.
 - 1) Make sure the corresponding ON light on the window and pitot heat module comes on.
NOTE: It can take up to 15 seconds for the light to come on.
 - 2) Make sure both master caution lights are off.
- (b) Wait for the windows to heat up.

EFFECTIVITY
AKS ALL

30-41-21



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

AKS 001-022 (Continued)

- 1) Make sure the front and side windows stabilize at 90 to 120 degrees F (32 to 49 degrees C).

NOTE: It can take up to 4 minutes for the window temperatures to stabilize.

- (c) Put the WINDOW HEAT power switches in the off position.

- 1) Push either MASTER CAUTION light.

- 2) Make sure the OVERHEAT lights, the MASTER CAUTION lights, and the ANTI-ICE lights are off.

SUBTASK 30-41-21-010-001

- (2) Remove the applicable WHCU for the window. To remove the WHCU, do this task: Window Heat Control Unit (WHCU) Removal, TASK 30-41-11-000-801.

NOTE: See (Table 501) to identify which Window Heat Control Unit (WHCU) needs to be removed.

SUBTASK 30-41-21-840-001

- (3) Make sure the window temperature is between 68 and 108 degrees F (20 and 42 degrees C).

SUBTASK 30-41-21-010-002

- (4) Remove the panels on the forward end of the forward cargo compartment to access the window heat terminal connections Figure 501.

F. Procedure

SUBTASK 30-41-21-020-001

- (1) Remove the window connector terminals D40070P and D40068P from the terminal blocks (Figure 501 and Table 501).

SUBTASK 30-41-21-760-001

- (2) Measure the resistance at pins A3 and F of each connector to ground.

- (a) Apply a layer of Dow Corning 340 heat sink compound, D50244, to the connector terminals D40070P and D40068P with a swab, G01659.

NOTE: The Dow Corning 340 heat sink compound, D50244, is intended to prevent inadvertent loss of insulation between the sensor terminals and the metal frame of the window, which can cause the window to overheat.

SUBTASK 30-41-21-210-001

- (3) Determine the terminal board tap that matches the resistance measured on the connector terminal (Table 501).

NOTE: For example, if you measure 40 ohms on D40070P-F (Left Front), the matching terminal is TB5010-3 on M321.

Table 501/30-41-21-993-803

WINDOW HEAT	CONNECTOR TERMINAL	WINDOW CODE	RESISTANCE	TERMINAL BOARD TAP	WHCU	WDM
LEFT FRONT 1	D40070P F	H13 H12 H11	31.4-35.1 OHM 35.1-38.8 OHM 38.8-42.6 OHM 42.6-47.3 OHM	TB5010 - 1 -2 -3 -4	M321	30-41-11

EFFECTIVITY
AKS ALL

30-41-21



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

AKS 001-022 (Continued)

Table 501/30-41-21-993-803 (Continued)

WINDOW HEAT	CONNECTOR TERMINAL	WINDOW CODE	RESISTANCE	TERMINAL BOARD TAP	WHCU	WDM
			47.3-52.0 OHM	-5		
RIGHT SIDE 2	D40070P A3	H16	55.7-62.3 OHM	TB5014 - 1	M320	30-41-11
		H15	62.3-69.0 OHM	2		
		H14	69.0-75.5 OHM	3		
			75.5-81.6 OHM	4		
			81.6-90.3 OHM	5		
			90.3-100 OHM	6		
RIGHT FRONT 1	D40068P F	H13	31.4-35.1 OHM	TB5012 - 1	M323	30-41-12
		H12	35.1-38.8 OHM	2		
		H11	38.8-42.6 OHM	3		
			42.6-47.3 OHM	4		
			47.3-52.0 OHM	5		
LEFT SIDE 2	D40068P A3	H16	55.7-62.3 OHM	TB5016 - 1	M322	30-41-12
		H15	62.3-69.0 OHM	2		
		H14	69.0-75.5 OHM	3		
			75.5-81.6 OHM	4		
			81.6-90.3 OHM	5		
			90.3-100 OHM	6		

SUBTASK 30-41-21-810-002

- (4) If the window resistance is outside the limits of the table, then go to the fault isolation manual for assistance.

SUBTASK 30-41-21-820-002

- (5) Connect the connector terminals to the applicable terminal board taps.

G. Return the airplane to its usual condition

SUBTASK 30-41-21-410-001

- (1) Reinstall the forward cargo compartment access panels.

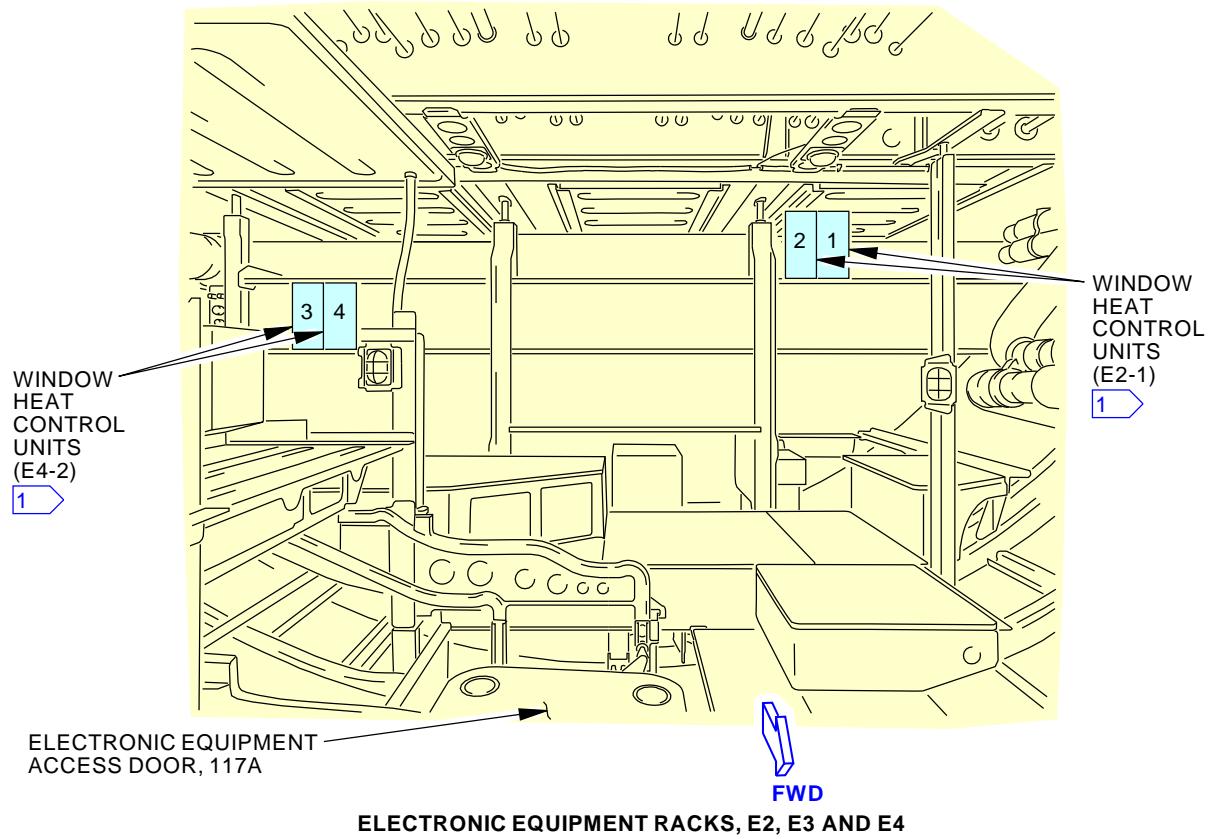
SUBTASK 30-41-21-420-001

- (2) Re-install the WHCU. To install the WHCU, do this task: Window Heat Control Unit (WHCU) Installation, TASK 30-41-11-400-801.

———— END OF TASK ————

EFFECTIVITY
AKS ALL

30-41-21



UNIT	ELECTRICAL EQUIPMENT NO.	WINDOW
1	M320	R SIDE
2	M321	L FWD
3	M322	L SIDE
4	M323	R FWD

G35291 S0006573155_V2

Window Heat Conductive Coating Test
Figure 501/30-41-21-990-801 (Sheet 1 of 2)

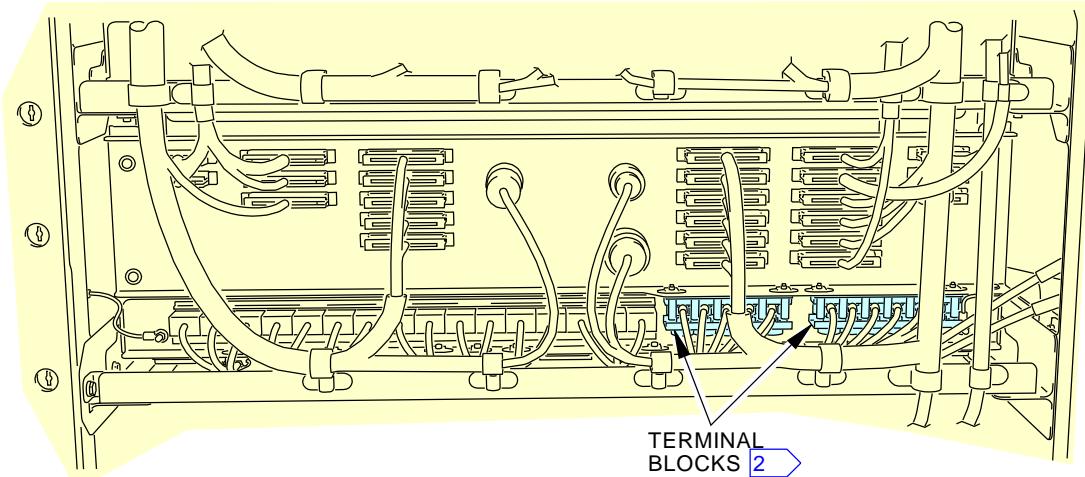
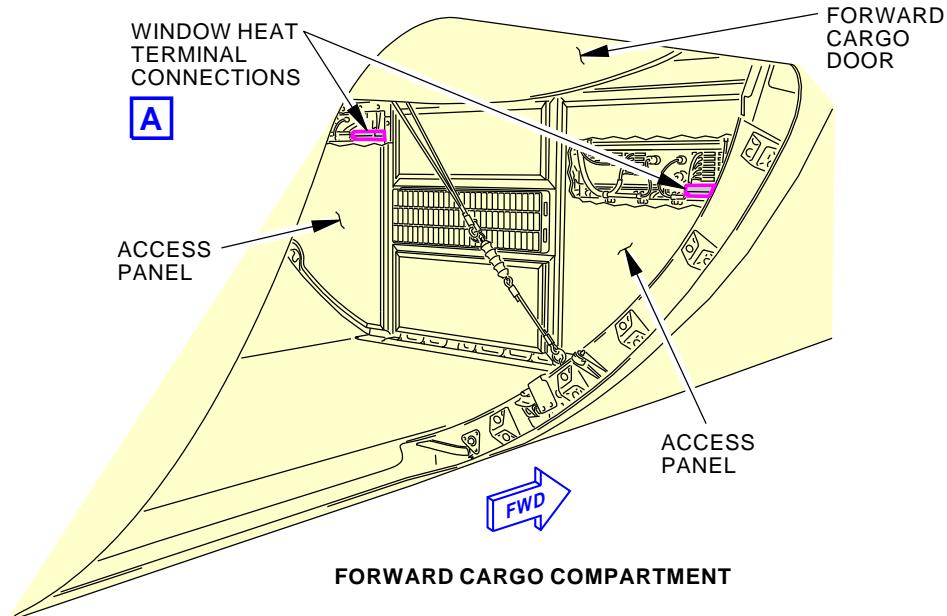
EFFECTIVITY
AKS 001-022

30-41-21

D633A101-AKS



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL



WINDOW HEAT TERMINAL CONNECTIONS
(EXAMPLE)

2 →

WINDOW	WHCU	SHELF	TERMINAL BOARD
R SIDE	M320	E2-1	TB5014
L FWD	M321	E2-1	TB5010
L SIDE	M322	E4-2	TB5016
R FWD	M323	E4-2	TB5012

A

G25829 S0006573156_V2

Window Heat Conductive Coating Test
Figure 501/30-41-21-990-801 (Sheet 2 of 2)

EFFECTIVITY
AKS 001-022

30-41-21

D633A101-AKS

BOEING PROPRIETARY - Copyright © Unpublished Work - See title page for details



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

AKS 001-022 (Continued)

TASK 30-41-21-760-801

3. Measure the Resistance of the Window Temperature Sensors

(Figure 502, Figure 503)

A. General

- (1) The number 1 and number 2 windows have sensors which measure the temperature of the windows. This test checks the electrical resistance of the window temperature sensors.

B. References

Reference	Title
30-41-11-000-801	Window Heat Control Unit (WHCU) Removal (P/B 401)
30-41-11-400-801	Window Heat Control Unit (WHCU) Installation (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1572	Thermometer - Infrared, Intrinsically Safe Part #: EX-MP4 A Supplier: 3GT36 Opt Part #: DHS24XC-FM Supplier: 08086 Opt Part #: DHS24XF-FM Supplier: 08086 Opt Part #: IR-16L3 IS Supplier: 75037
STD-1179	Tester - Pyrometer

D. Consumable Materials

Reference	Description	Specification
D50244	Compound - Dow Corning 340 Heat Sink Compound	
G01659	Swab - Cotton Or Rayon, (Disposable)	

E. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right

F. Prepare for the Procedure

SUBTASK 30-41-21-860-002

- (1) Do these steps to heat the windows if the temperature is too cold:

NOTE: These steps can be used if the ambient temperature is significantly less the specified test temperature range of 68 to 108 degrees F (20 to 42 degrees C).

- (a) One switch at a time, put the WINDOW HEAT switches on the Window and Pitot Heat Module to the on position.

- 1) Make sure the corresponding ON light on the window and pitot heat module comes on.

NOTE: It can take up to 15 seconds for the light to come on.

- 2) Make sure both master caution lights are off.

EFFECTIVITY
AKS ALL

30-41-21



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

AKS 001-022 (Continued)

- (b) Wait for the windows to heat up.
- 1) Use a Infrared Thermometer, COM-1572 (including pyrometer, STD-1179) or other temperature indicating device near each window temperature sensor to measure the window temperature.
 - 2) Make sure the front and side windows stabilize at 90 to 120 degrees F (32 to 49 degrees C).
NOTE: It can take up to 4 minutes for the window temperatures to stabilize.
- (c) Put the WINDOW HEAT power switches in the off position.
- 1) Make sure the OVERHEAT lights, the MASTER CAUTION lights, and the ANTI-ICE lights are off.

SUBTASK 30-41-21-010-003

- (2) Remove the applicable WHCU for the window (Table 502). To remove the WHCU, do this task: Window Heat Control Unit (WHCU) Removal, TASK 30-41-11-000-801.

SUBTASK 30-41-21-840-002

- (3) Make sure the window temperature is between 68 and 108 degrees F (20 and 42 degrees C).

G. Procedure

SUBTASK 30-41-21-760-002

- (1) Measure the resistance of the applicable window temperature sensor.
 - (a) Make sure the resistance of the sensor is within the limits shown on Window Heat Control Sensor Resistance/Figure 503.

Table 502/30-41-21-993-804

WINDOW TEMP SENSOR	CONNECTOR/PINS	RESISTANCE ^{*[1]}	WHCU	WDM
LEFT FRONT 1	D1044A/ 13 TO 26	304-342 OHMS	M321	30-41-11
RIGHT SIDE 2	D1042A/ 13 TO 26	304-342 OHMS	M320	30-41-11
RIGHT FRONT 1	D1048A/ 13 TO 26	304-342 OHMS	M323	30-41-12
LEFT SIDE 2	D1046A/ 13 TO 26	304-342 OHMS	M322	30-41-12

*[1] Window temperatures of 68°F (20°C) - 108°F (42°C) are expected for this test. If the temperature of any individual window in Table 502 is greater than 108°F (42°C) due to environmental condition(s), then a measured sensor resistance value less than 362 Ohms is acceptable. A measured sensor resistance value above 362 Ohms indicates a failed sensor.

SUBTASK 30-41-21-760-003

- (2) Do this to test the resistance of the spare sensors for the front windows:
 - (a) Put the applicable WNDSHLD SNSR switches in the spare position.
 - (b) Make sure the resistance is within the limits shown on Window Heat Control Sensor Resistance/Figure 503.
 - (c) Put the WNDSHLD SNSR switches back to the original position.

SUBTASK 30-41-21-760-004

- (3) Do this test to measure the resistance of the spare sensors for the side windows.

EFFECTIVITY
AKS ALL

30-41-21

D633A101-AKS



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

AKS 001-022 (Continued)

- (a) Move the rubber terminal boot covers to expose electrical terminals and mounting screws.
NOTE: The terminals are found at the bottom aft corner of the No. 2 Windows.
- (b) Examine the terminals for corrosion and clean if necessary.
- (c) Remove the D terminal lug that is attached to the primary sensor.
- (d) Install the D terminal lug to the spare sensor.
- (e) Make sure that the resistance is within the limits shown on Window Heat Control Sensor Resistance/Figure 503.
- (f) Remove the D terminal lug that is attached to the spare sensor.
- (g) Install the D terminal lug to the primary sensor.
- (h) Apply a layer of Dow Corning 340 heat sink compound, D50244, to the terminals with a swab, G01659.
NOTE: The Dow Corning 340 heat sink compound, D50244, is intended to prevent inadvertent loss of insulation between the sensor terminals and the metal frame of the window, which can cause the window to overheat.
- (i) Install the rubber terminal boot covers over the terminals as required.

H. Put the Airplane Back to Its Usual Condition

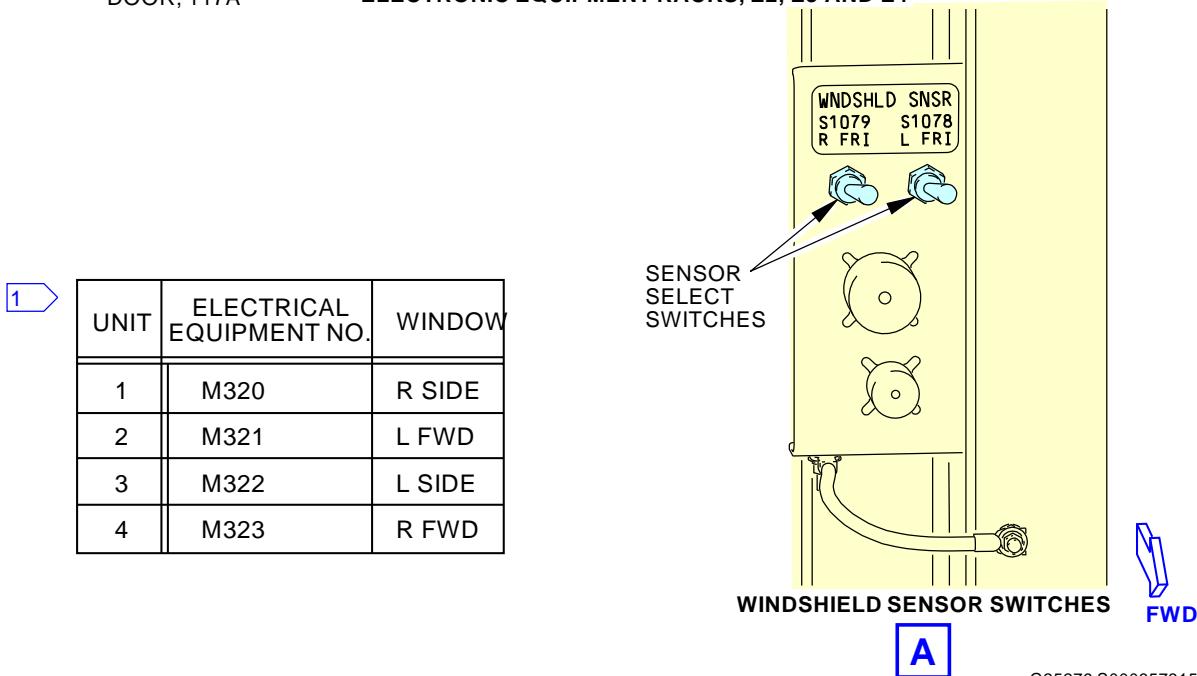
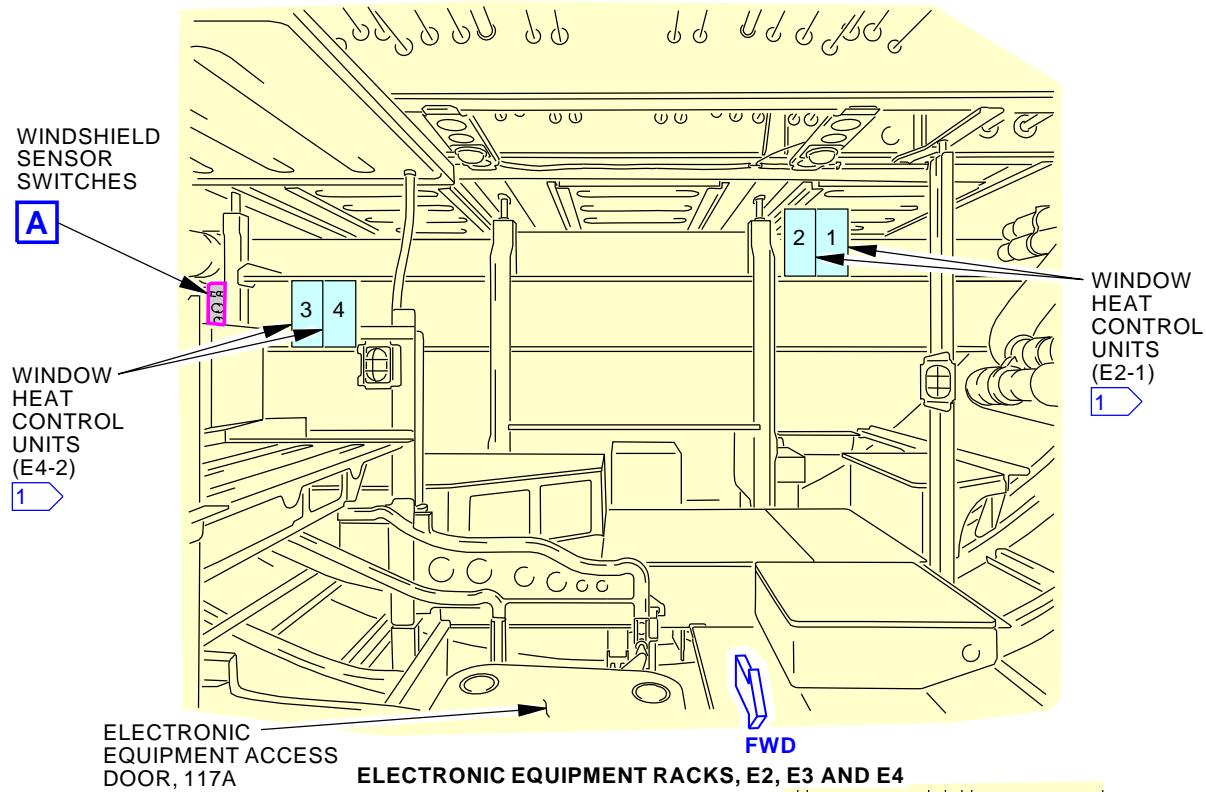
SUBTASK 30-41-21-420-002

- (1) Re-install the WHCU (TASK 30-41-11-400-801).

———— END OF TASK ————



30-41-21



G25279 S0006573159_V2

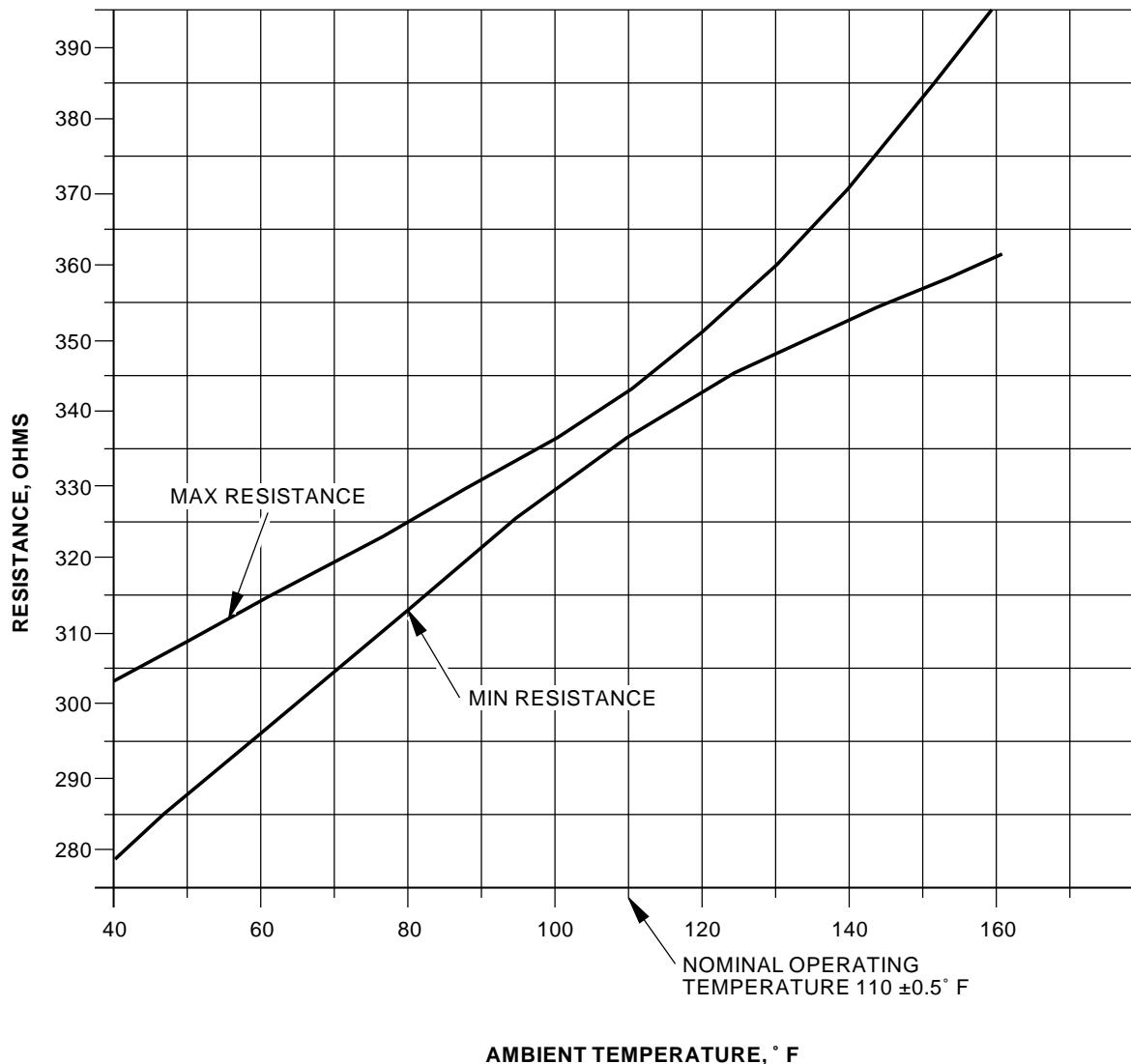
Window Temperature Sensor Test
Figure 502/30-41-21-990-802

 EFFECTIVITY
AKS 001-022
30-41-21

D633A101-AKS



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL



2433813 S0000563187_V1

Window Heat Control Sensor Resistance
Figure 503/30-41-21-990-804

EFFECTIVITY
AKS 001-022

30-41-21

D633A101-AKS

BOEING PROPRIETARY - Copyright © Unpublished Work - See title page for details

Page 510
Feb 15/2016



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

AKS 023-999

TASK 30-41-21-760-802

4. Check the Electrical Resistance of the Window Heat Film

A. General

- (1) The number 1 and number 2 windows have a layer of material which heat the windows when electricity is applied. The window heat control units (WHCUs) provide power to heat the windows. The WHCUs have various output connections which should be matched to each window resistance. This test checks the electrical resistance of the window heaters and makes sure the heaters are matched to the WHCU.

B. References

Reference	Title
30-41-11-000-803	Window Heat Control Unit (WHCU) Removal (P/B 401)
30-41-11-400-803	Window Heat Control Unit (WHCU) Installation (P/B 401)

C. Consumable Materials

Reference	Description	Specification
D50244	Compound - Dow Corning 340 Heat Sink Compound	
G01659	Swab - Cotton Or Rayon, (Disposable)	

D. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right
121	Forward Cargo Compartment - Left
122	Forward Cargo Compartment - Right

E. Prepare for the Procedure

SUBTASK 30-41-21-880-001

- (1) Do these steps to heat the windows if the temperature is too cold:

NOTE: These steps can be used if the ambient temperature is significantly less than the specified test temperature range of 68 to 108 degrees F (20 to 42 degrees C).

- (a) One switch at a time, put the WINDOW HEAT switches on the Window and Pitot Heat Module to the on position.

- 1) Make sure the corresponding ON light on the window and pitot heat module comes on.

NOTE: It can take up to 15 seconds for the light to come on.

- 2) Make sure both master caution lights are off.

- (b) Wait for the windows to heat up.

- 1) Make sure the front and side windows stabilize at 90 to 120 degrees F (32 to 49 degrees C).

NOTE: It can take up to 4 minutes for the window temperatures to stabilize.

- (c) Put the WINDOW HEAT power switches in the off position.

- 1) Push either MASTER CAUTION light.

- 2) Make sure the OVERHEAT lights, the MASTER CAUTION lights, and the ANTI-ICE lights are off.

EFFECTIVITY
AKS ALL

30-41-21



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

AKS 023-999 (Continued)

SUBTASK 30-41-21-010-004

- (2) Remove the applicable WHCU for the window. To remove the WHCU, do this task: Window Heat Control Unit (WHCU) Removal, TASK 30-41-11-000-803.

SUBTASK 30-41-21-970-001

- (3) Make sure the window temperature is between 68 and 108 degrees F (20 and 42 degrees C).

SUBTASK 30-41-21-010-005

- (4) Remove the panels on the forward end of the forward cargo compartment to access the window heat terminal connections. Figure 504.

F. Procedure

SUBTASK 30-41-21-020-002

- (1) Remove the window connector terminals D40070P and D40068P from the terminal blocks.

SUBTASK 30-41-21-970-002

- (2) Measure the resistance at pins A3 and F of each connector to ground.

- (a) Apply a layer of Dow Corning 340 heat sink compound, D50244, to the terminals with a swab, G01659.

NOTE: The Dow Corning 340 heat sink compound, D50244, is intended to prevent inadvertent loss of insulation between the sensor terminals and the metal frame of the window, which can cause the window to overheat.

SUBTASK 30-41-21-970-003

- (3) Make sure that the window resistance is within the range of 30 to 50 ohms for the front windows (No. 1), and 50 to 80 ohms for the side windows (No. 2).

G. Return the airplane to its usual condition

SUBTASK 30-41-21-410-002

- (1) Replace the forward cargo compartment access panels.

SUBTASK 30-41-21-410-003

- (2) Re-install the WHCU. To install the WHCU, do this task: Window Heat Control Unit (WHCU) Installation, TASK 30-41-11-400-803.

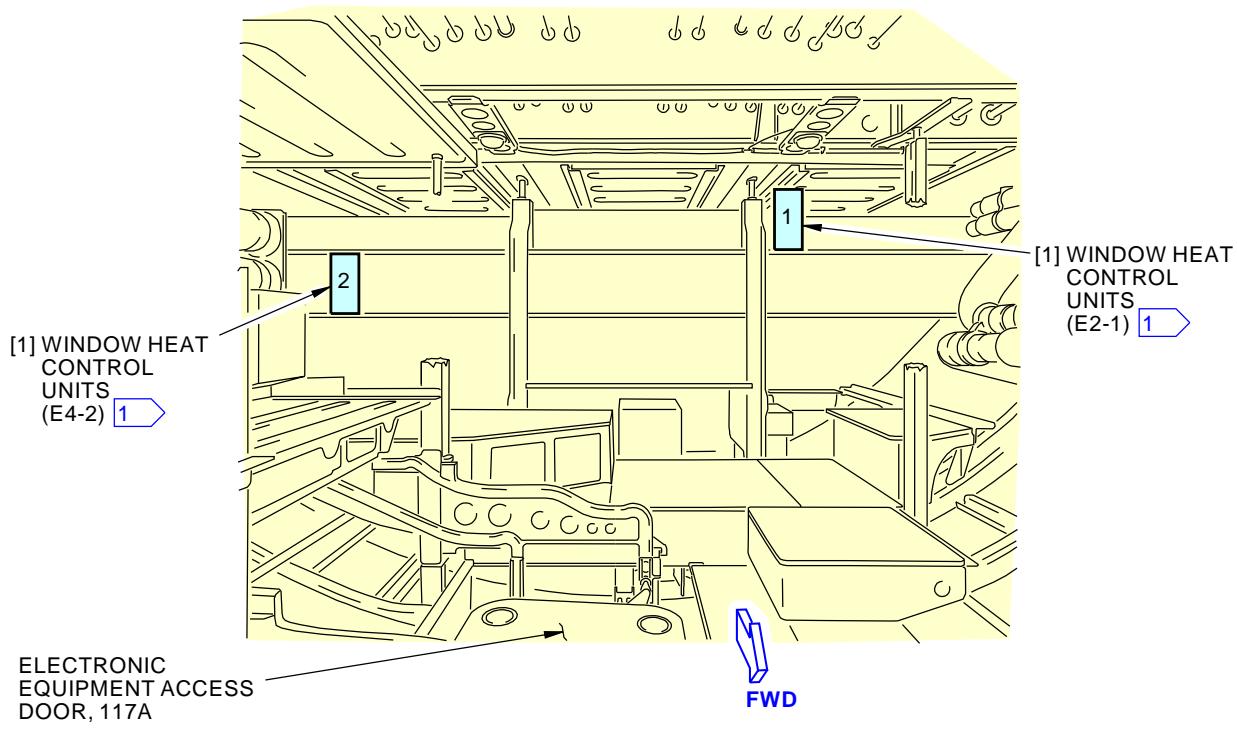
———— END OF TASK ————

EFFECTIVITY
AKS ALL

30-41-21



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL



ELECTRONIC EQUIPMENT RACKS, E2, E3 AND E4

1 ➤

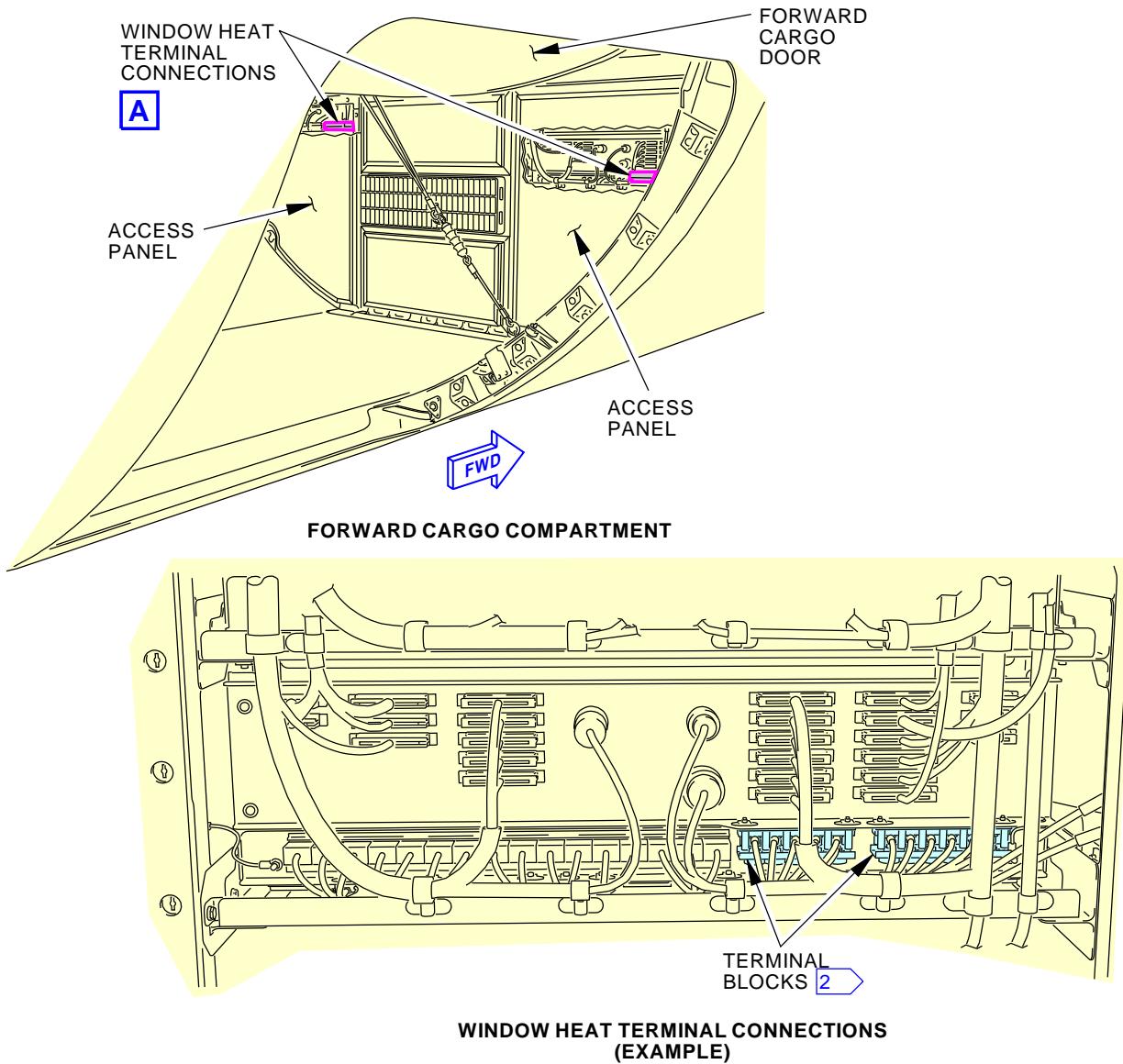
UNIT	ELECTRICAL EQUIPMENT NO.	WINDOW
1	M321	L FWD AND R SIDE
2	M323	R FWD AND L SIDE

2430830 S0000562454_V1

Window Heat Conductive Coating Test
Figure 504/30-41-21-990-803 (Sheet 1 of 2)

EFFECTIVITY
AKS 023-999

30-41-21

**737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL**


2 →

WINDOW	WHCU	SHELF	TERMINAL BOARD
R SIDE L FWD	M321	E2-1	TB5010
L SIDE R FWD	M323	E4-2	TB5012

A →

2430787 S0000562455_V1

**Window Heat Conductive Coating Test
Figure 504/30-41-21-990-803 (Sheet 2 of 2)**

 EFFECTIVITY
 AKS 023-999

30-41-21



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

AKS 023-999 (Continued)

TASK 30-41-21-760-803

5. Measure the Resistance of the Window Temperature Sensors

(Figure 505)

A. General

- (1) The number 1 and number 2 windows have sensors which measure the temperature of the windows. This test checks the electrical resistance of the window temperature sensors.

B. References

Reference	Title
30-41-11-000-803	Window Heat Control Unit (WHCU) Removal (P/B 401)
30-41-11-400-803	Window Heat Control Unit (WHCU) Installation (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1572	Thermometer - Infrared, Intrinsically Safe Part #: EX-MP4 A Supplier: 3GT36 Opt Part #: DHS24XC-FM Supplier: 08086 Opt Part #: DHS24XF-FM Supplier: 08086 Opt Part #: IR-16L3 IS Supplier: 75037
STD-1179	Tester - Pyrometer

D. Location Zones

Zone	Area
117	Electrical and Electronics Compartment - Left
118	Electrical and Electronics Compartment - Right

E. Prepare for the Procedure

SUBTASK 30-41-21-860-003

- (1) Do these steps to heat the windows if the temperature is too cold:

NOTE: These steps can be used if the ambient temperature is significantly less the specified test temperature range of 68 to 108 degrees F (20 to 42 degrees C).

- (a) One switch at a time, put the WINDOW HEAT switches on the Window and Pitot Heat Module to the on position.
- 1) Make sure the corresponding ON light on the window and pitot heat module comes on.
NOTE: It can take up to 15 seconds for the light to come on.
 - 2) Make sure both master caution lights are off.
- (b) Wait for the windows to heat up.
- 1) Use a Infrared Thermometer, COM-1572 (including pyrometer, STD-1179) or other temperature indicating device near each window temperature sensor to measure the window temperature.

EFFECTIVITY
AKS ALL

30-41-21



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

AKS 023-999 (Continued)

- 2) Make sure the front and side windows stabilize at 90 to 120 degrees F (32 to 49 degrees C).

NOTE: It can take up to 4 minutes for the window temperatures to stabilize.

- (c) Put the WINDOW HEAT power switches in the off position.

- 1) Make sure the OVERHEAT lights, the MASTER CAUTION lights, and the ANTI-ICE lights are off.

SUBTASK 30-41-21-010-006

- (2) Remove the applicable WHCU for the window (Table 503). To remove the WHCU, do this task:
Window Heat Control Unit (WHCU) Removal, TASK 30-41-11-000-803.

SUBTASK 30-41-21-840-003

- (3) Make sure the window temperature is between 68 and 108 degrees F (20 and 42 degrees C).

F. Procedure

SUBTASK 30-41-21-760-005

- (1) Measure the resistance of the applicable window temperature sensor.

- (a) Make sure the resistance of the sensor is within the limits shown on Window Heat Control Sensor Resistance/Figure 505.

Table 503/30-41-21-993-805

WINDOW TEMP SENSOR	CONNECTOR/PINS	RESISTANCE *[1]	WHCU	WDM
LEFT FRONT 1 (Primary)	D16230/ 19 TO 25	304-342 OHMS	M321	30-41-11
LEFT FRONT 1 (Spare)	D16230/ 26 TO 27	304-342 OHMS	M321	30-41-11
RIGHT SIDE 2 (Primary)	D16230/ 17 TO 18	304-342 OHMS	M321	30-41-11
RIGHT SIDE 2 (Spare)	D16230/ 16 TO 17	304-342 OHMS	M321	30-41-11
RIGHT FRONT 1 (Primary)	D16232/ 19 TO 25	304-342 OHMS	M323	30-41-12
RIGHT FRONT 1 (Spare)	D16232/ 26 TO 27	304-342 OHMS	M323	30-41-12
LEFT SIDE 2 (Primary)	D16232/ 17 TO 18	304-342 OHMS	M323	30-41-12
LEFT SIDE 2 (Spare)	D16232/ 16 TO 17	304-342 OHMS	M323	30-41-12

*[1] Window temperatures of 68°F (20°C) - 108°F (42°C) is expected for this test. If the temperature of any individual window in Table 503 is greater than 108°F (42°C) due to environmental condition(s), then a measured sensor resistance value less than 362 Ohms is acceptable. A measured sensor resistance value above 362 Ohms indicates a failed sensor.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 30-41-21-420-003

- (1) Re-install the WHCU (TASK 30-41-11-400-803).

———— END OF TASK ————

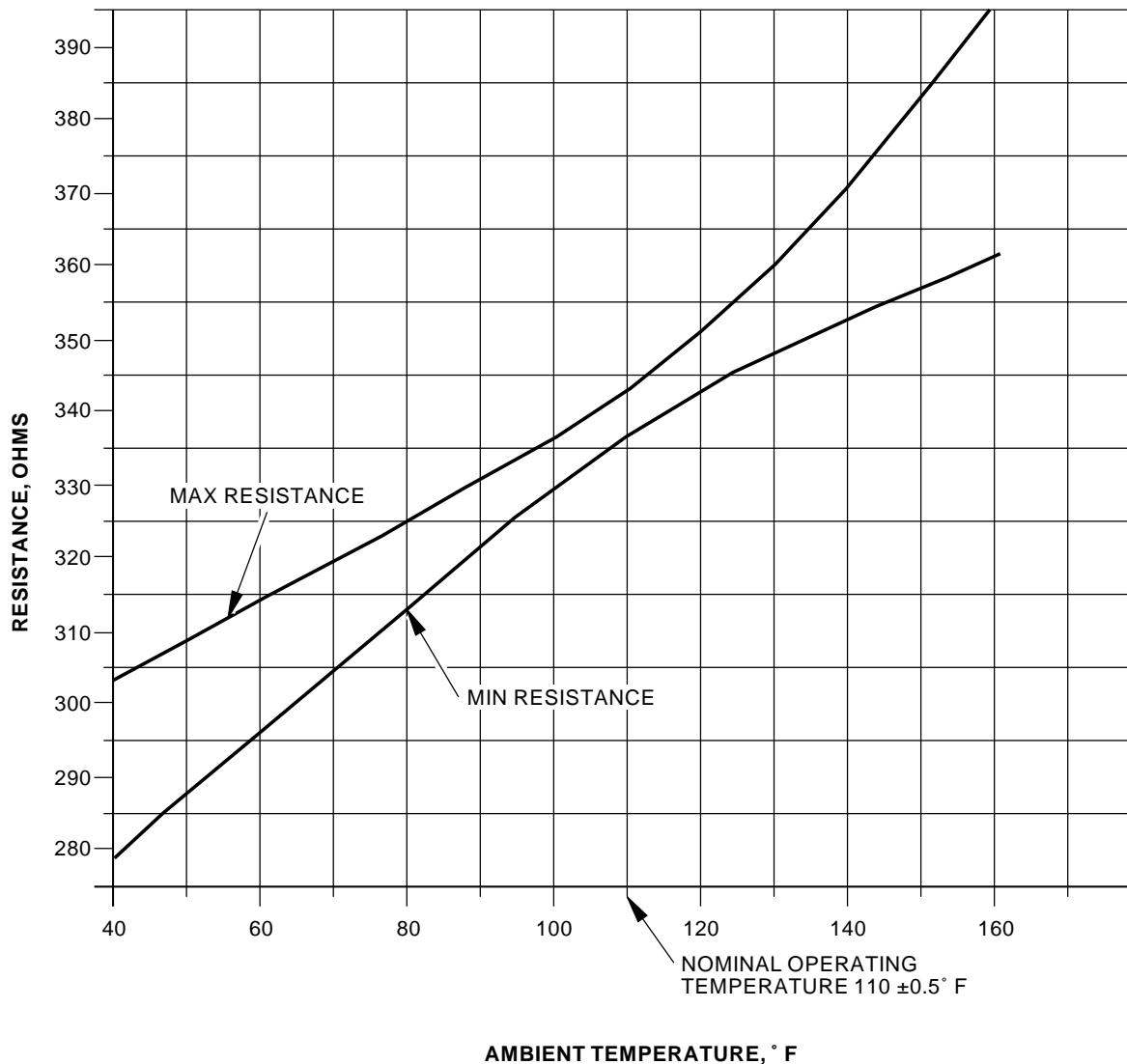
EFFECTIVITY
AKS ALL

30-41-21

D633A101-AKS



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL



2433813 S0000563187_V1

Window Heat Control Sensor Resistance
Figure 505/30-41-21-990-805

EFFECTIVITY
AKS 023-999

30-41-21

D633A101-AKS

BOEING PROPRIETARY - Copyright © Unpublished Work - See title page for details

Page 517
Feb 15/2016



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

WINDOW/PITOT HEAT MODULE (P5-9) - REMOVAL/INSTALLATION

1. General

- A. The window/pitot heat module is on the flight crew's overhead panel. The module contains lights and switches used for the Window anti-icing and air data sensor anti-icing system.
- B. This procedure has these tasks:
 - (1) Removal of the window/pitot heat module (P5-9).
 - (2) Installation of the window/pitot heat module (P5-9).

TASK 30-41-41-000-801

2. Window/Pitot Heat Module (P5-9) Removal

(Figure 401)

A. General

- (1) This task gives instructions to remove the Window/Pitot Heat Module (P5-9).
- (2) The window/pitot heat module is on the flight crew's overhead panel. The module contains lights and switches used for the window anti-icing and air data sensor anti-icing system.

B. Location Zones

Zone	Area
212	Flight Compartment - Right

C. Prepare for the Removal

SUBTASK 30-41-41-860-001

- (1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
C	1	C00523	HEATERS CAPT PITOT
C	2	C00238	HEATERS TEMP PROBE
C	3	C01072	HEATERS ALPHA VANE LEFT
C	4	C00236	HEATERS ELEV PITOT LEFT

AKS 001-022

D	1	C00226	WINDOW HEAT CONTROL RIGHT FRONT AC
D	2	C00225	WINDOW HEAT CONTROL LEFT SIDE AC

AKS ALL

D	3	C01071	HEATERS ALPHA VANE RIGHT
D	4	C00237	HEATERS ELEV PITOT RIGHT
D	5	C00525	HEATERS F/O PITOT
D	6	C00524	HEATERS AUX PITOT

AKS 001-022

E	1	C00224	WINDOW HEAT CONTROL LEFT FRONT AC
E	2	C00227	WINDOW HEAT CONTROL RIGHT SIDE AC

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
AKS ALL			
F	16	C00570	PROBE INDICATION F/O
F	18	C00569	PROBE INDICATION CAPT

EFFECTIVITY	AKS ALL
-------------	---------

30-41-41



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

SUBTASK 30-41-41-010-001

- (2) Open the P5 overhead panel assembly.
 - (a) Loosen the quarter turn fasteners on the bottom corners of the P5 panel.

CAUTION: THE P5 PANEL IS VERY HEAVY AND WILL SWING FREELY WHEN THE LATCHES ARE RELEASED. SUPPORT THE P5 PANEL BEFORE YOU RELEASE THE SAFETY LATCHES.

- (b) Release the panel safety latches.

D. Window/Pitot Heat Module (P5-9) Removal

SUBTASK 30-41-41-020-001

WARNING: THERE ARE HIGH VOLTAGES IN THE P5 OVERHEAD PANEL. MAKE SURE THAT YOU DO NOT TOUCH OR SHORT EXPOSED TERMINALS. INJURY TO PERSONNEL OR DAMAGE TO EQUIPMENT CAN OCCUR.

- (1) Remove the connectors from the window/pitot heat module [1].

SUBTASK 30-41-41-020-002

- (2) Loosen the quarter turn fasteners which hold the window/pitot heat module [1] in place.

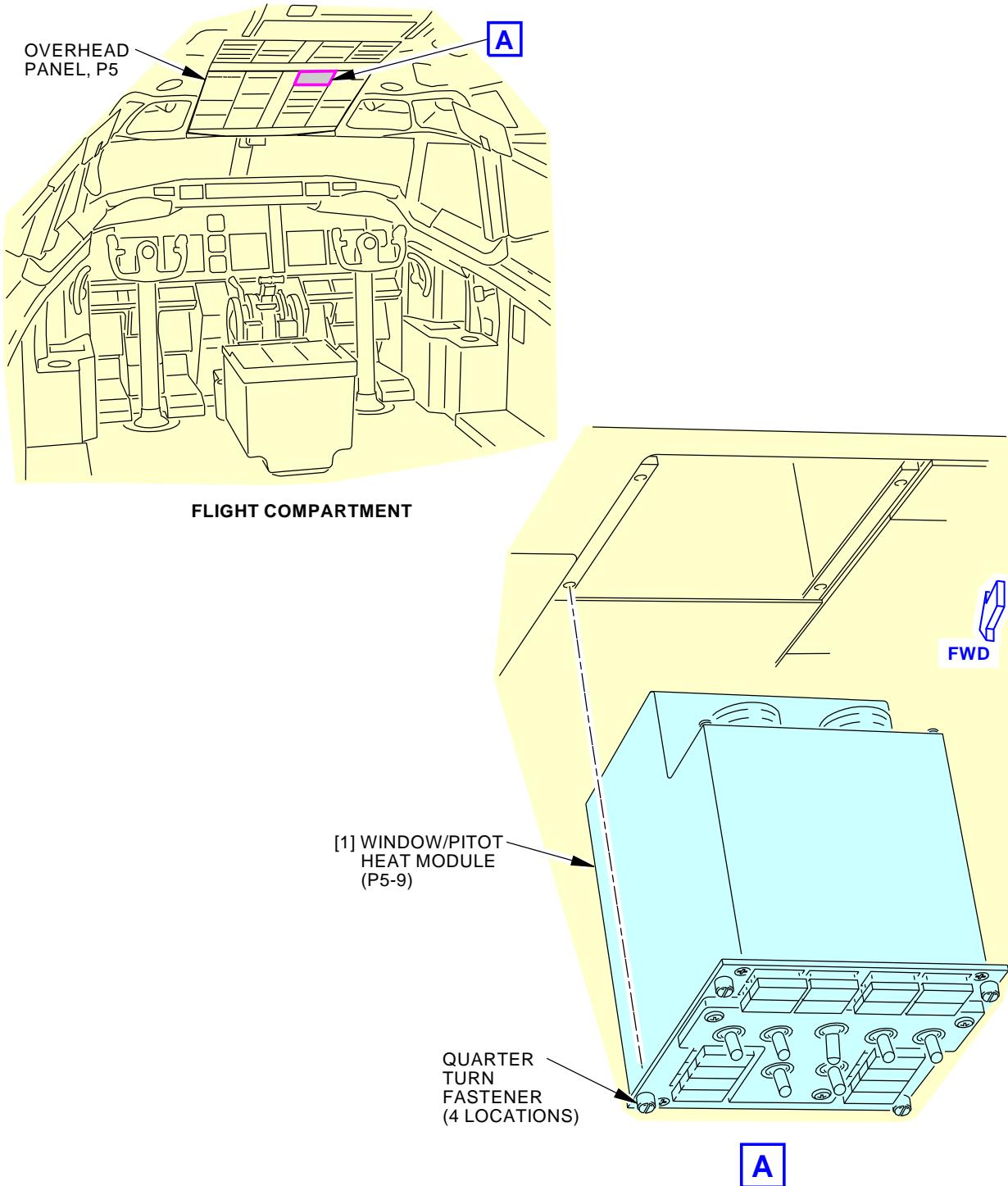
SUBTASK 30-41-41-020-003

- (3) Remove the window/pitot heat module [1] from the P5 overhead panel.

———— END OF TASK ————

EFFECTIVITY
AKS ALL

30-41-41



F93833 S0006573171_V2

Window/Pitot Heat Module Installation
Figure 401/30-41-41-990-801EFFECTIVITY
AKS ALL**30-41-41**

D633A101-AKS

Page 403
Oct 15/2015



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

TASK 30-41-41-400-801

3. Window/Pitot Heat Module (P5-9) Installation

A. General

- (1) This task gives instructions to install the Window/Pitot Heat Module (P5-9).

B. References

Reference	Title
30-31-00-730-801	Pitot Probe, AOA Sensor, and TAT Probe Heater - System Test (P/B 501)

C. Location Zones

Zone Area

212	Flight Compartment - Right
-----	----------------------------

D. Window/Pitot Heat Module (P5-9) Installation

SUBTASK 30-41-41-420-001

- (1) Install the window/pitot heat module [1] in the overhead panel (P5).

SUBTASK 30-41-41-420-002

- (2) Tighten the quarter turn fasteners.

SUBTASK 30-41-41-420-003

WARNING: THERE ARE HIGH VOLTAGES IN THE P5 OVERHEAD PANEL. MAKE SURE YOU DO NOT TOUCH OR SHORT EXPOSED TERMINALS. INJURY TO PERSONNEL OR DAMAGE TO EQUIPMENT CAN OCCUR.

- (3) Attach the connectors to the window/pitot heat module [1].

SUBTASK 30-41-41-410-001

CAUTION: TO PREVENT CHAFING OR DAMAGE TO WIRE HARNESSES, MAKE CERTAIN THAT WIRING IS ROUTED PROPERLY DURING INSTALLATION OF GLARESHIELD.

- (4) Do these steps to close the P5 overhead panel assembly:

- Make sure the safety latches are in the proper position to enable the P5 panel to be closed.
- Raise the P5 overhead panel assembly.
- Tighten the quarter turn fasteners on the bottom corners of the P5 panel.

E. Window/Pitot Heat Module (P5-9) Installation Test.

SUBTASK 30-41-41-860-002

- (1) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
C	1	C00523	HEATERS CAPT PITOT
C	2	C00238	HEATERS TEMP PROBE
C	3	C01072	HEATERS ALPHA VANE LEFT
C	4	C00236	HEATERS ELEV PITOT LEFT

AKS 001-022

D	1	C00226	WINDOW HEAT CONTROL RIGHT FRONT AC
D	2	C00225	WINDOW HEAT CONTROL LEFT SIDE AC

EFFECTIVITY
AKS ALL

30-41-41



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

AKS 001-022 (Continued)

(Continued)

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
------------	------------	---------------	-------------

AKS ALL

D	3	C01071	HEATERS ALPHA VANE RIGHT
D	4	C00237	HEATERS ELEV PITOT RIGHT
D	5	C00525	HEATERS F/O PITOT
D	6	C00524	HEATERS AUX PITOT

AKS 001-022

E	1	C00224	WINDOW HEAT CONTROL LEFT FRONT AC
E	2	C00227	WINDOW HEAT CONTROL RIGHT SIDE AC

F/O Electrical System Panel, P6-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
------------	------------	---------------	-------------

AKS ALL

F	16	C00570	PROBE INDICATION F/O
F	18	C00569	PROBE INDICATION CAPT

SUBTASK 30-41-41-760-001

- (2) Press the MASTER DIM AND TEST switch.
 - (a) Make sure all the lights on the window/pitot heat module [1] come on.

SUBTASK 30-41-41-710-001

- (3) Put the PITOT & PROBE HEAT switches to the ON position.
 - (a) Make sure the pitot heat indications on the module go off.

WARNING: DO NOT TOUCH THE PROBES WHEN YOU CHECK FOR HEAT. THE PROBE TEMPERATURES CAN REACH 800 DEGREES F (427 DEGREES C) IN STILL AIR.

- (b) Make sure the pitot probes get hot.

NOTE: You can check for heat by spraying the probe with water and watching for steam.

SUBTASK 30-41-41-860-006

- (4) Put the PITOT & PROBE HEAT switches to the AUTO position.

SUBTASK 30-41-41-860-007

- (5) Make sure the pitot heat indications on the module come on.

SUBTASK 30-41-41-860-004

- (6) Put the WINDOW HEAT switches to the ON position.

NOTE: Do not power test when all ON lights are illuminated

SUBTASK 30-41-41-710-002

- (7) Select the OVERHEAT position on the POWER AND OVERHEAT TEST switch, S7.

- (a) Make sure the OVERHEAT lights come on.

SUBTASK 30-41-41-860-005

- (8) Set the WINDOW HEAT and POWER AND OVERHEAT TEST switches to the off position.

EFFECTIVITY
AKS ALL

30-41-41



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

SUBTASK 30-41-41-710-004

- (9) Do this task: Pitot Probe, AOA Sensor, and TAT Probe Heater - System Test,
TASK 30-31-00-730-801.

———— END OF TASK ————

EFFECTIVITY
AKS ALL

30-41-41



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

WINDSHIELD WIPER SYSTEM - MAINTENANCE PRACTICES

1. General

- A. This procedure has these tasks:
- (1) Windshield wiper system - deactivation.
 - (2) Windshield wiper system - activation.

TASK 30-42-00-040-801

2. Windshield Wiper System - Deactivation

A. General

- (1) This task will deactivate the power to the windshield wiper system.

B. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Procedure

SUBTASK 30-42-00-020-001

- (1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
B	1	C00055	ANTI-ICE & RAIN WSHLD WIPER RIGHT
B	3	C00054	ANTI-ICE & RAIN WSHLD WIPER LEFT
AKS 001-022			
D	1	C00226	WINDOW HEAT CONTROL RIGHT FRONT AC
E	1	C00224	WINDOW HEAT CONTROL LEFT FRONT AC

F/O Electrical System Panel, P6-11

Row	Col	Number	Name
AKS ALL			
B	9	C00228	WINDOW HEAT POWER LEFT FRONT

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
B	8	C00394	WINDOW HEAT POWER RIGHT FRONT

D. Windshield Wiper System - Tryout

NOTE: This tryout is to make sure that the power to the windshield wiper system is in a zero energy state.

SUBTASK 30-42-00-210-002

CAUTION: DO NOT OPERATE THE WINDSHIELD WIPERS ON DRY GLASS. ALWAYS SUPPLY WATER TO THE WINDSHIELDS BEFORE YOU OPERATE THE WIPER. THE WIPER WILL CAUSE DAMAGE TO A DRY WINDSHIELD.

- (1) Supply a continuous spray of clean water to the windshield.

SUBTASK 30-42-00-210-003

- (2) Set the right windshield wiper switch to the INT, LOW, or HIGH position.

EFFECTIVITY	AKS ALL
-------------	---------

30-42-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

- (a) Make sure that the right wiper does not come on.

SUBTASK 30-42-00-020-003

- (3) Set the right windshield wiper switch to the PARK position.

SUBTASK 30-42-00-210-005

- (4) Set the left windshield wiper switch to the INT, LOW, or HIGH position.

- (a) Make sure that the left wiper does not come on.

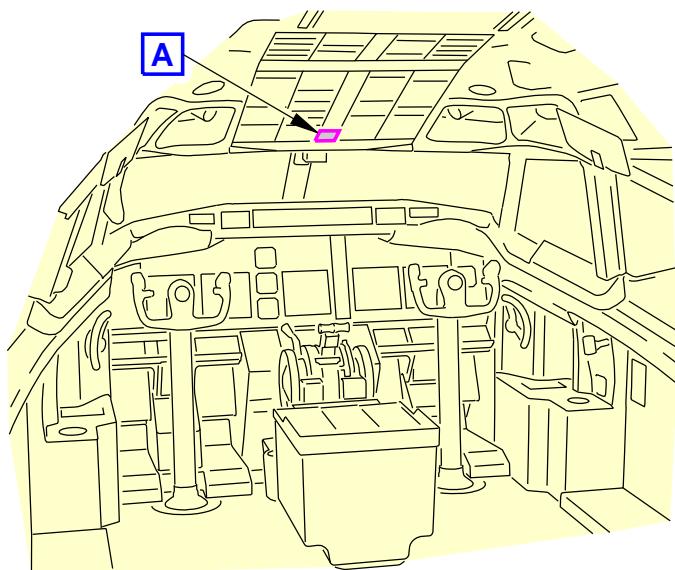
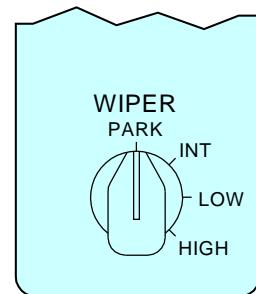
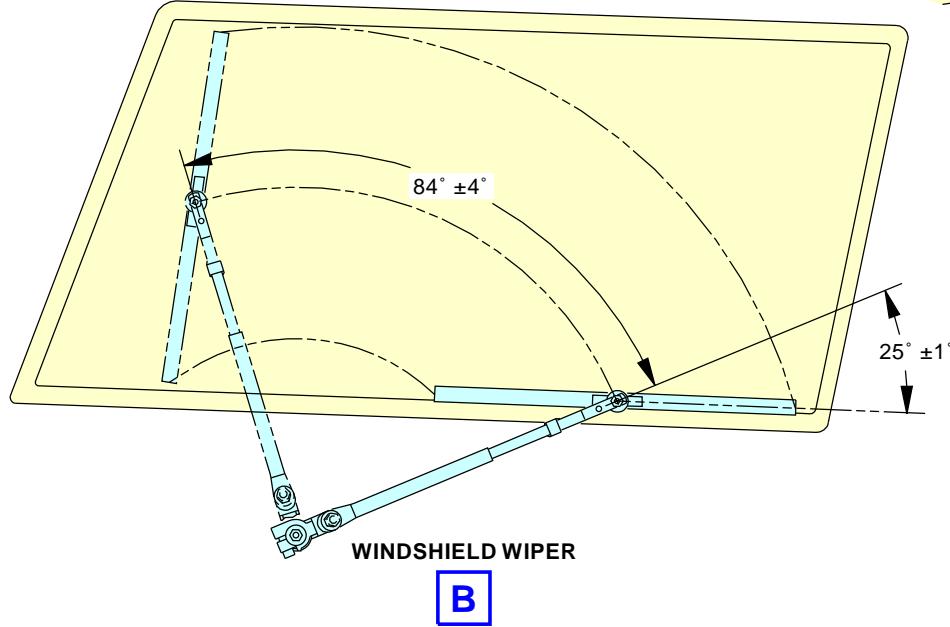
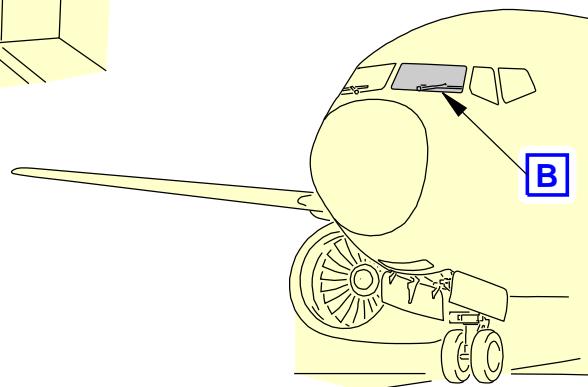
SUBTASK 30-42-00-020-004

- (5) Set the left windshield wiper switch to the PARK position.

———— END OF TASK ————

EFFECTIVITY
AKS ALL

30-42-00


FLIGHT COMPARTMENT

WINDSHIELD WIPER SWITCH
A


G14428 S0006573177_V2

Windshield Wiper System
Figure 201/30-42-00-990-802

EFFECTIVITY
AKS ALL

30-42-00

D633A101-AKS

Page 203
Oct 15/2015



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

TASK 30-42-00-440-801

3. Windshield Wiper System - Activation

(Figure 201)

A. General

- (1) This task will activate the power to the windshield wiper system.

B. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Procedure

SUBTASK 30-42-00-420-001

- (1) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	1	C00055	ANTI-ICE & RAIN WSHLD WIPER RIGHT
B	3	C00054	ANTI-ICE & RAIN WSHLD WIPER LEFT
AKS 001-022			
D	1	C00226	WINDOW HEAT CONTROL RIGHT FRONT AC
E	1	C00224	WINDOW HEAT CONTROL LEFT FRONT AC

F/O Electrical System Panel, P6-11

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
AKS ALL			
B	9	C00228	WINDOW HEAT POWER LEFT FRONT

F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	8	C00394	WINDOW HEAT POWER RIGHT FRONT

———— END OF TASK ————

EFFECTIVITY
AKS ALL

30-42-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

WINDSHIELD WIPER SYSTEM - ADJUSTMENT/TEST

1. General

- A. This procedure has a task to do an operational test of the windshield wiper system.

TASK 30-42-00-700-801

2. Windshield Wiper System - Operational Test

(Figure 501)

A. References

Reference	Title
24-22-00-860-813	Supply External Power (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1523	Stand and Personnel Lifting Equipment - General Purpose
	Part #: B-14 Supplier: 05060
	Part #: B-9 Supplier: 05060
	Part #: Z-45-25J Supplier: 59497

C. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

D. Windshield Wiper System - Operational Test

SUBTASK 30-42-00-860-001

- (1) Do this task: Supply External Power, TASK 24-22-00-860-813.

SUBTASK 30-42-00-860-002

WARNING: BEFORE YOU DO MAINTENANCE ON THE WINDSHIELD WIPER SYSTEM, OPEN THE CIRCUIT BREAKERS FOR THE WINDOW HEAT SYSTEM. IF THESE CIRCUIT BREAKERS ARE NOT OPEN DURING MAINTENANCE, PERSONS CAN GET AN ELECTRICAL SHOCK WHEN THEY TOUCH THE WINDOW.

- (2) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
C	1	C00523	HEATERS CAPT PITOT
AKS 001-022			
D	1	C00226	WINDOW HEAT CONTROL RIGHT FRONT AC
D	2	C00225	WINDOW HEAT CONTROL LEFT SIDE AC
AKS ALL			
D	5	C00525	HEATERS F/O PITOT
D	6	C00524	HEATERS AUX PITOT
AKS 001-022			
E	1	C00224	WINDOW HEAT CONTROL LEFT FRONT AC
E	2	C00227	WINDOW HEAT CONTROL RIGHT SIDE AC

EFFECTIVITY
AKS ALL

30-42-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

AKS 001-022 (Continued)

F/O Electrical System Panel, P6-11

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
------------	------------	---------------	-------------

AKS ALL

B	8	C00393	WINDOW HEAT POWER RIGHT SIDE
B	9	C00228	WINDOW HEAT POWER LEFT FRONT

F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
------------	------------	---------------	-------------

B	8	C00394	WINDOW HEAT POWER RIGHT FRONT
B	9	C00392	WINDOW HEAT POWER LEFT SIDE

SUBTASK 30-42-00-010-001

- (3) Use a work platform, COM-1523 to get access to the windshield wiper.

SUBTASK 30-42-00-710-001

- (4) Do these steps to make sure the windshield wiper system operates correctly:

CAUTION: DO NOT OPERATE THE WIPER ON A DRY WINDSHIELD. THE WIPER WILL CAUSE DAMAGE TO A DRY WINDSHIELD. ALWAYS SUPPLY WATER TO THE WINDSHIELD BEFORE YOU OPERATE THE WIPER.

- (a) Supply a continuous spray of clean water to the windshield.

NOTE: For windshields with a hydrophobic coating, deionized or distilled water is recommended during the wiper test. Water with a high mineral content can cause marks on the coated glass surface that are difficult to remove. If water with a high mineral content is used on a windshield with a hydrophobic coating, flush the windshield surface after the wiper test with deionized or distilled water, or remove the remaining water on the windshield with a cotton cloth.

- (b) Do these steps to test the intermittent speed operation of the wiper:

- 1) Set the windshield wiper switch to INT (P5 overhead panel flight compartment).

NOTE: The test for the pilot's and first officer's wipers are the same. Use the applicable wiper switch to operate the wiper.

- 2) Make sure the wiper blade parks near the lower edge of the window during the off time of the intermittent cycle.

- 3) Make sure the wiper blades have a minimum overlap of the windshield seal and do not contact metal structure.

- 4) Make sure the operation of the wiper is smooth and it clears the water from the windshield.

- 5) Make sure the wipers make two complete strokes every 6 to 8 seconds.

NOTE: One Stroke = One Wipe

- (c) Do these steps to test the low speed operation of the wiper:

- 1) Set the windshield wiper switch to LOW.

NOTE: In the LOW position, the wiper blade moves at approximately 160 strokes per minute.

EFFECTIVITY
AKS ALL

30-42-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

- 2) Make sure the operation of the wiper is smooth and it clears the water from the windshield.

NOTE: One Stroke = One Wipe

- (d) Do these steps to test the high speed operation of the wiper:

- 1) Set the windshield wiper switch to HIGH.

NOTE: In the HIGH position, the wiper blade moves at approximately 250 strokes per minute.

- 2) Make sure the operation of the wiper is smooth and it clears the water from the windshield.

NOTE: One Stroke = One Wipe

- (e) Set the windshield wiper switch to LOW.

- 1) Make sure the wipers go to low speed operation.

- (f) Set the windshield wiper switch to INT.

- 1) Make sure the wipers go to intermittent operation.

- (g) Set the windshield wiper switch to PARK.

- 1) Make sure the wiper blades park near the lower edge of the glass.

- (h) Stop the water spray to the window.

E. Put the Airplane Back to Its Usual Condition

SUBTASK 30-42-00-860-003

- (1) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	1	C00523	HEATERS CAPT PITOT
AKS 001-022			
D	1	C00226	WINDOW HEAT CONTROL RIGHT FRONT AC
D	2	C00225	WINDOW HEAT CONTROL LEFT SIDE AC
AKS ALL			
D	5	C00525	HEATERS F/O PITOT
D	6	C00524	HEATERS AUX PITOT
AKS 001-022			
E	1	C00224	WINDOW HEAT CONTROL LEFT FRONT AC
E	2	C00227	WINDOW HEAT CONTROL RIGHT SIDE AC

F/O Electrical System Panel, P6-11

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
AKS ALL			
B	8	C00393	WINDOW HEAT POWER RIGHT SIDE
B	9	C00228	WINDOW HEAT POWER LEFT FRONT

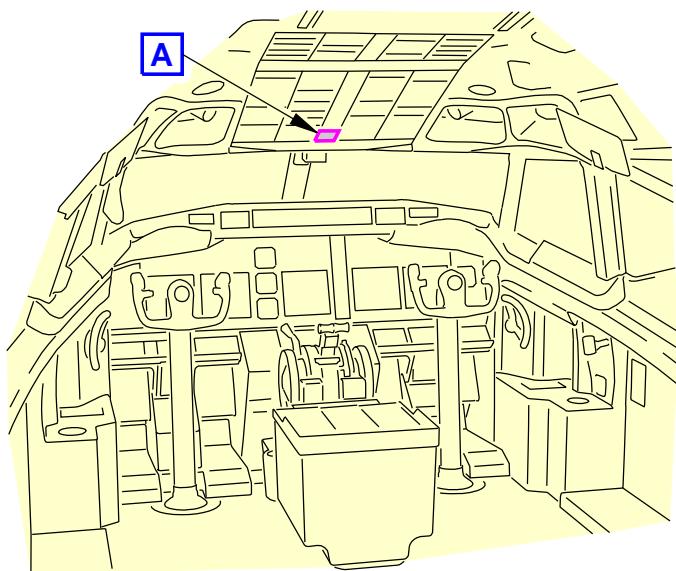
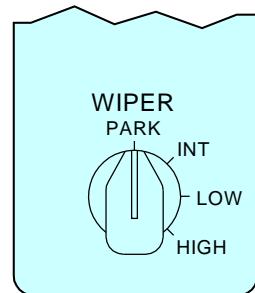
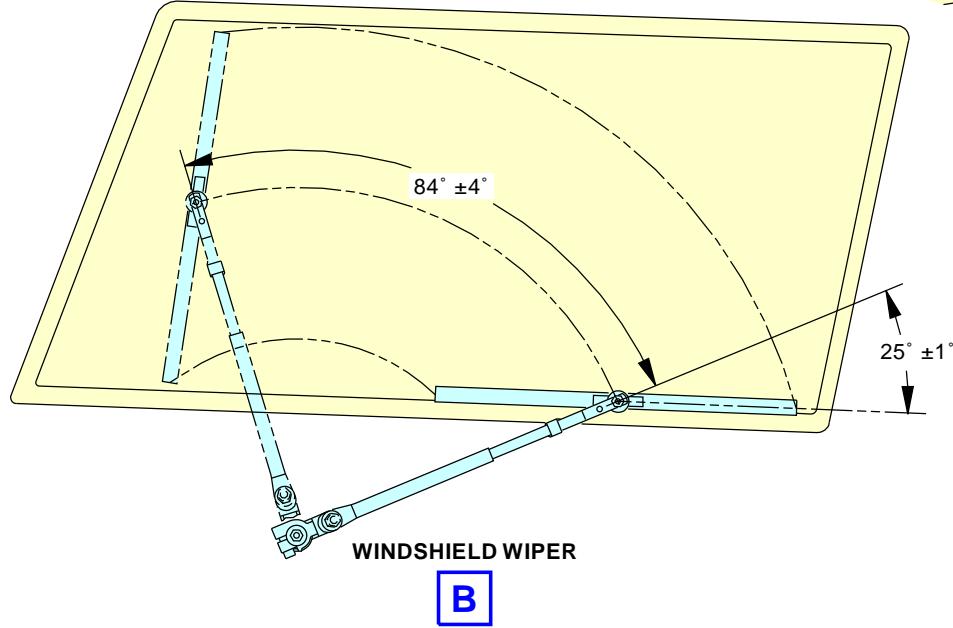
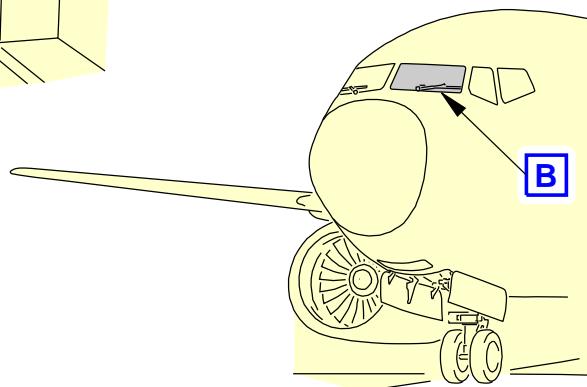
F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	8	C00394	WINDOW HEAT POWER RIGHT FRONT
B	9	C00392	WINDOW HEAT POWER LEFT SIDE

———— END OF TASK ————

EFFECTIVITY	AKS ALL
-------------	---------

30-42-00


FLIGHT COMPARTMENT

WINDSHIELD WIPER SWITCH
A


G14428 S0006573177_V2

Windshield Wipers Operational Test
Figure 501/30-42-00-990-801
EFFECTIVITY
AKS ALL
30-42-00

D633A101-AKS



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

WINDSHIELD WIPER BLADE - REMOVAL/INSTALLATION

1. General

- A. This procedure has these tasks:
- (1) Windshield Wiper Blade Removal
 - (2) Windshield Wiper Blade Installation

TASK 30-42-11-020-801

2. Windshield Wiper Blade Removal

(Figure 401)

A. General

- (1) This task gives instructions to remove the Windshield Wiper Blade.

B. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Prepare for the Removal

SUBTASK 30-42-11-010-001

- (1) Use a stand to reach the wiper blade.

SUBTASK 30-42-11-860-001

- (2) Make sure that the windshield wiper is in the parked position.

SUBTASK 30-42-11-860-002

WARNING: BEFORE YOU DO MAINTENANCE ON THE WINDSHIELD WIPER SYSTEM, OPEN THE WINDOW HEAT, WINDSHIELD WIPER CIRCUIT BREAKERS. IF YOU DO NOT OPEN THE WINDOW HEAT CIRCUIT BREAKERS YOU CAN GET AN ELECTRICAL SHOCK WHEN YOU TOUCH THE WINDOW.

- (3) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
B	1	C00055	ANTI-ICE & RAIN WSHLD WIPER RIGHT
B	3	C00054	ANTI-ICE & RAIN WSHLD WIPER LEFT
C	1	C00523	HEATERS CAPT PITOT
D	5	C00525	HEATERS F/O PITOT
D	6	C00524	HEATERS AUX PITOT

F/O Electrical System Panel, P6-11

Row	Col	Number	Name
B	8	C00393	WINDOW HEAT POWER RIGHT SIDE
B	9	C00228	WINDOW HEAT POWER LEFT FRONT

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
B	8	C00394	WINDOW HEAT POWER RIGHT FRONT
B	9	C00392	WINDOW HEAT POWER LEFT SIDE

EFFECTIVITY	AKS ALL
-------------	---------

30-42-11



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

D. Windshield Wiper Blade Removal

SUBTASK 30-42-11-800-001

CAUTION: DO NOT LIFT THE ARM ASSEMBLY MORE THAN NECESSARY TO LIFT THE WIPER BLADE OFF THE WINDSHIELD. YOU CAN CAUSE DAMAGE TO THE ARM ASSEMBLY AND MAKE IT UNSERVICEABLE.

- (1) Put a pad between the arm assembly [5] and the windshield to prevent damage to the windshield surface.

NOTE: Make sure that the pad is of sufficient size to cover the windshield surface below the wiper blade.

SUBTASK 30-42-11-020-001

- (2) Remove the nut [1] and washer [2].
 - (a) Discard the nut [1].

SUBTASK 30-42-11-020-002

- (3) Remove the blade assembly [4].

SUBTASK 30-42-11-860-003

- (4) Lower the wiper arm assembly [5] onto the pad.

———— END OF TASK ————

EFFECTIVITY

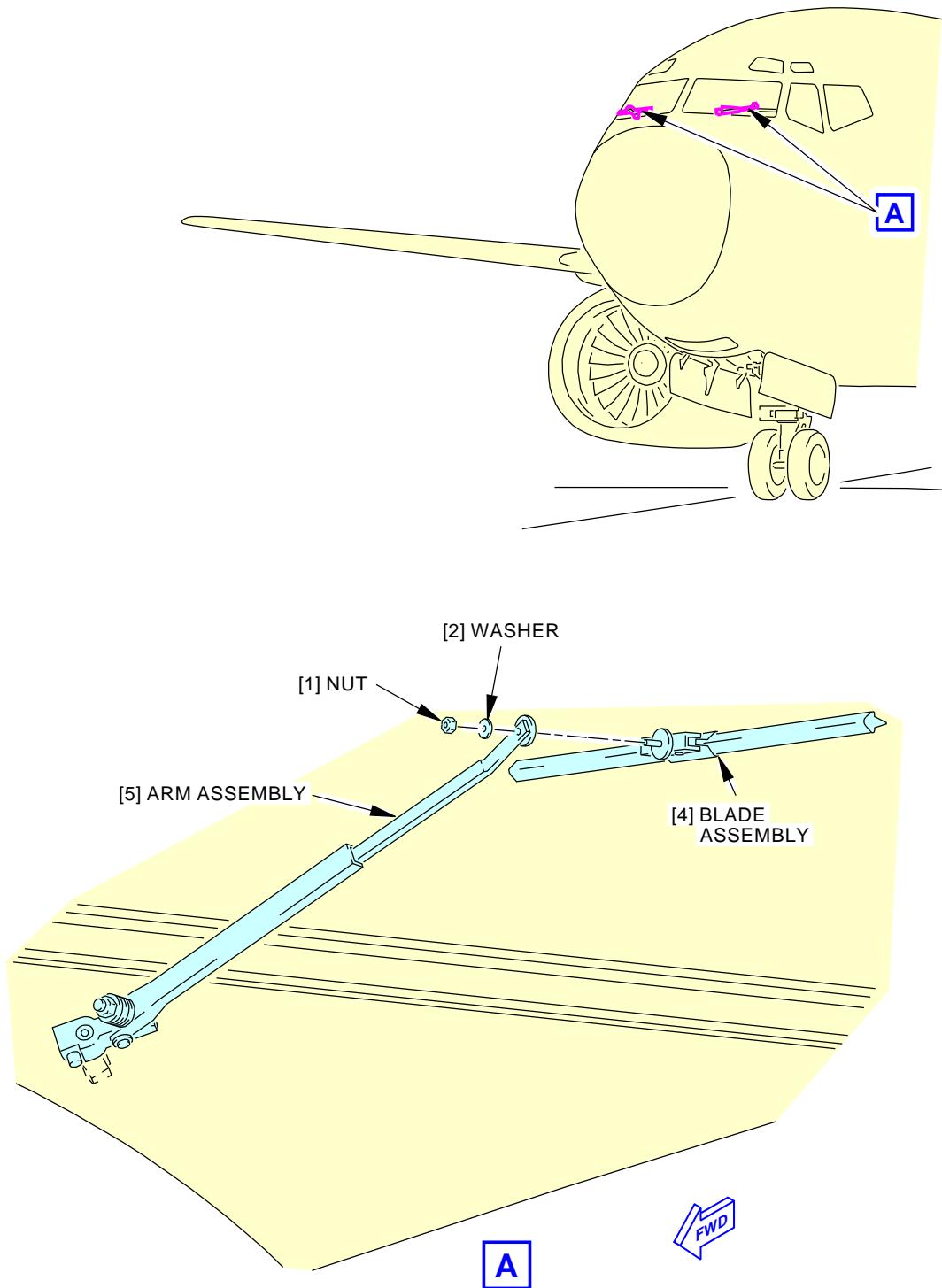
AKS ALL

30-42-11

D633A101-AKS



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL



F39848 S0006573181_V3

Windshield Wiper Blade Assembly Installation
Figure 401/30-42-11-990-801

EFFECTIVITY
AKS ALL

30-42-11

D633A101-AKS

BOEING PROPRIETARY - Copyright © Unpublished Work - See title page for details



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

TASK 30-42-11-400-801

3. Windshield Wiper Blade Installation

(Figure 401)

A. General

- (1) This task gives instructions to install the Windshield Wiper Blade.

B. References

Reference	Title
24-22-00-860-811	Supply Electrical Power (P/B 201)
30-42-31-820-801	Windshield Wiper Arm Force Check/Adjustment (P/B 201)

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
4	Blade assembly	30-42-11-01-010	AKS ALL

D. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

E. Windshield Wiper Blade Installation

SUBTASK 30-42-11-420-002

- (1) Set the blade assembly [4] on the arm assembly [5].
(a) Put the blade assembly [4] on the arm assembly [5] so that the blade assembly [4] is parallel to the lower edge of the windshield.

SUBTASK 30-42-11-420-003

- (2) Install the washer [2] and a new nut [1].

SUBTASK 30-42-11-420-004

- (3) Tighten the nut [1] to 16 ± 2 in-lb (2 ± 0 N·m).

SUBTASK 30-42-11-420-006

- (4) Remove the pad from the windshield.

SUBTASK 30-42-11-860-005

- (5) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
B	1	C00055	ANTI-ICE & RAIN WSHLD WIPER RIGHT
B	3	C00054	ANTI-ICE & RAIN WSHLD WIPER LEFT
C	1	C00523	HEATERS CAPT PITOT
D	5	C00525	HEATERS F/O PITOT
D	6	C00524	HEATERS AUX PITOT

F. Windshield Wiper Blade Installation Test

SUBTASK 30-42-11-720-001

- (1) Do a test of the blade assembly [4]:
(a) Do this task: Supply Electrical Power, TASK 24-22-00-860-811.



30-42-11



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

CAUTION: DO NOT OPERATE THE WIPER ON A DRY WINDSHIELD. YOU CAN DAMAGE THE WINDSHIELD.

- (b) Supply a continuous spray of clean water to the windshield.

NOTE: For windshields with a hydrophobic coating, deionized or distilled water is recommended during the wiper test. Water with a high mineral content can cause marks on the coated glass surface that are difficult to remove. If water with a high mineral content is used on a windshield with a hydrophobic coating, flush the windshield surface after the wiper test with deionized or distilled water, or remove the remaining water on the windshield with a cotton cloth.

- (c) Turn the windshield wiper switch to LOW.
(d) Make sure that the operation of the blade assembly [4] is smooth and effective.
(e) Turn the switch to PARK.

SUBTASK 30-42-11-720-002

- (2) Do this task: Windshield Wiper Arm Force Check/Adjustment, TASK 30-42-31-820-801.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 30-42-11-860-006

- (1) Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-11

Row	Col	Number	Name
B	8	C00393	WINDOW HEAT POWER RIGHT SIDE
B	9	C00228	WINDOW HEAT POWER LEFT FRONT

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
B	8	C00394	WINDOW HEAT POWER RIGHT FRONT
B	9	C00392	WINDOW HEAT POWER LEFT SIDE

———— END OF TASK ————



30-42-11



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

WINDSHIELD WIPER MOTOR/CONVERTER - REMOVAL/INSTALLATION

1. General

- A. This procedure has these tasks:
- (1) Wiper Motor/Converter Removal
 - (2) Wiper Motor/Converter Installation.

TASK 30-42-21-000-801

2. Wiper Motor/Converter Removal

(Figure 401)

A. General

- (1) This task gives instructions to remove the Wiper Motor/Converter
- (2) You must do the wiper arm removal (TASK 30-42-31-000-801) before you do this task.

B. References

Reference	Title
30-42-31-000-801	Windshield Wiper Arm Removal (P/B 201)
31-62-11-000-801	Display Unit Removal (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-2481	Tool - Sealant Removal, BAC5000, PSD 6-184 Approved Part #: 1-6390-A Supplier: 63318 Part #: 10810 Supplier: \$0855 Part #: 234350 Supplier: \$0857 Part #: 235072 Supplier: \$0857 Part #: 235073 Supplier: \$0857 Part #: 235074 Supplier: \$0857 Part #: 235075 Supplier: \$0857 Part #: 235076 Supplier: \$0857 Part #: 235077 Supplier: \$0857 Part #: 235078 Supplier: \$0857 Part #: 235079 Supplier: \$0857 Part #: 235080 Supplier: \$0857 Part #: 235081 Supplier: \$0857 Part #: 311 Supplier: KA861 Part #: 411B60 Supplier: 3DN12 Part #: 411B90 Supplier: 3DN12 Part #: DAD5013 Supplier: \$0856 Part #: DFD5019 Supplier: \$0856 Part #: J5-0275-2010 Supplier: 435R8 Part #: SCD5019 Supplier: \$0856 Part #: ST982LF-9 Supplier: 3Z323 Part #: TS1275-4 Supplier: 1DWR5

D. Location Zones

Zone	Area
211	Flight Compartment - Left



30-42-21



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

(Continued)

Zone Area

212	Flight Compartment - Right
-----	----------------------------

E. Prepare for the Removal

SUBTASK 30-42-21-860-001

WARNING: BEFORE YOU DO MAINTENANCE ON THE WINDSHIELD WIPER SYSTEM, OPEN THE WINDOW HEAT CIRCUIT BREAKERS. IF YOU DO NOT OPEN THESE CIRCUIT BREAKERS DURING MAINTENANCE, YOU CAN GET AN ELECTRICAL SHOCK WHEN YOU TOUCH THE WINDOW.

- (1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	1	C00523	HEATERS CAPT PITOT
AKS 001-022			
D	1	C00226	WINDOW HEAT CONTROL RIGHT FRONT AC
D	2	C00225	WINDOW HEAT CONTROL LEFT SIDE AC
AKS ALL			
D	5	C00525	HEATERS F/O PITOT
D	6	C00524	HEATERS AUX PITOT
AKS 001-022			
E	1	C00224	WINDOW HEAT CONTROL LEFT FRONT AC
E	2	C00227	WINDOW HEAT CONTROL RIGHT SIDE AC

F/O Electrical System Panel, P6-11

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
AKS ALL			
B	8	C00393	WINDOW HEAT POWER RIGHT SIDE
B	9	C00228	WINDOW HEAT POWER LEFT FRONT

F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	8	C00394	WINDOW HEAT POWER RIGHT FRONT
B	9	C00392	WINDOW HEAT POWER LEFT SIDE

SUBTASK 30-42-21-860-002

- (2) For the left windshield wiper motor/convertor:

Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	3	C00054	ANTI-ICE & RAIN WSHLD WIPER LEFT

SUBTASK 30-42-21-860-003

- (3) For the right windshield wiper motor/convertor:



30-42-21



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-3

Row Col Number Name

B	1	C00055	ANTI-ICE & RAIN WSHLD WIPER RIGHT
---	---	--------	-----------------------------------

SUBTASK 30-42-21-020-001

- (4) Remove the windshield wiper arm. To remove the wiper arm, do this task: Windshield Wiper Arm Removal, TASK 30-42-31-000-801.

SUBTASK 30-42-21-010-001

- (5) Remove the display unit. To remove the unit, do this task: Display Unit Removal, TASK 31-62-11-000-801.

SUBTASK 30-42-21-020-006

- (6) Remove the P1-3 panel for Captain side and P3-1 panel for F/O side.

F. Wiper Motor/Converter Removal

SUBTASK 30-42-21-150-001

CAUTION: BE CAREFUL WHEN YOU REMOVE THE SEAL WITH THE SEALANT REMOVAL TOOL. DAMAGE TO THE AIRPLANE SKIN CAN OCCUR.

- (1) Remove the sealant, with a sealant removal tool, COM-2481, from the area around the wiper motor shaft on the outside of the airplane.

SUBTASK 30-42-21-020-002

- (2) Remove the ground wire from the wiper motor.
 - (a) Remove the nut [4] and washer [5].

SUBTASK 30-42-21-020-003

- (3) Remove the electrical connector [6].

SUBTASK 30-42-21-020-004

- (4) Remove the screws [2] and washers [3].

SUBTASK 30-42-21-020-005

CAUTION: YOU MUST BE CAREFUL WHEN YOU REMOVE THE WIPER MOTOR/CONVERTER. THE WIPER SHAFT MAY TEAR THE RUBBER SEAL WHERE THE SHAFT PIERCES THE AIRPLANE SKIN.

- (5) Remove the wiper motor converter [1].

———— END OF TASK ————

EFFECTIVITY
AKS ALL

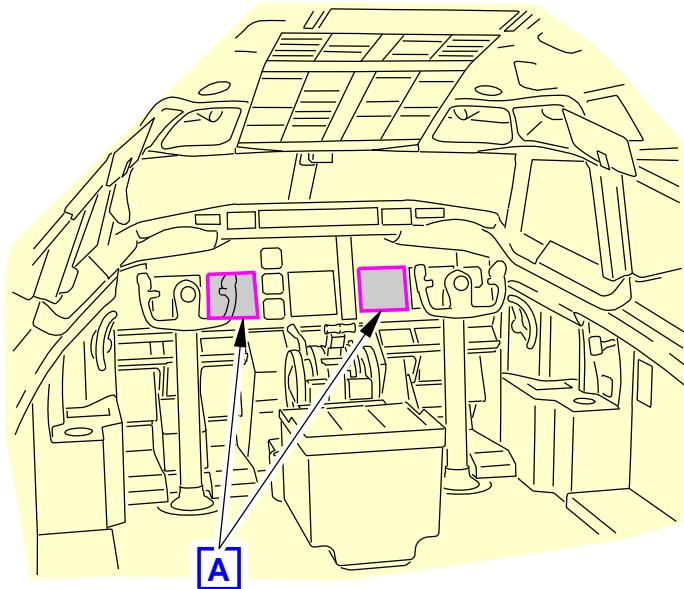
BOEING PROPRIETARY - Copyright © Unpublished Work - See title page for details

30-42-21

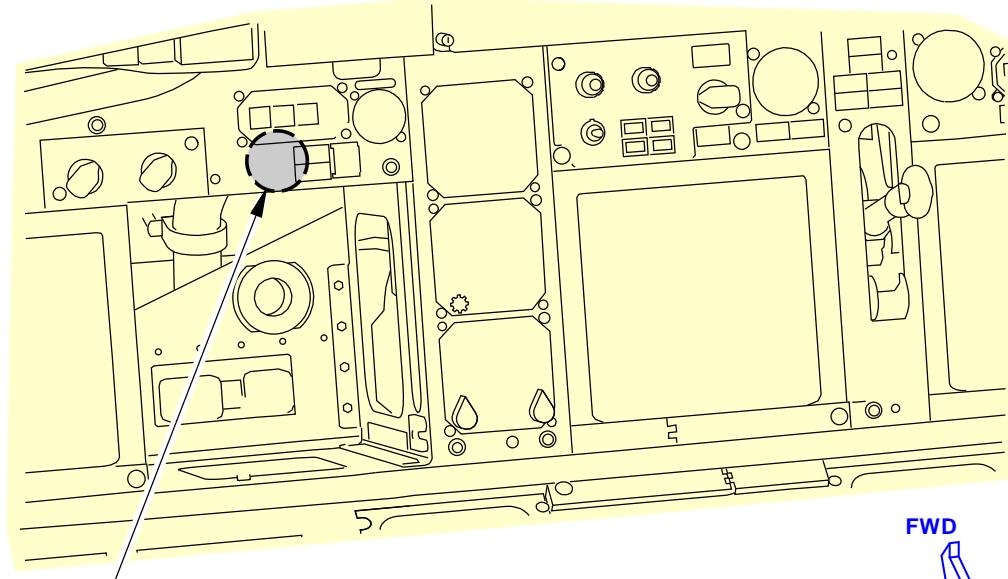
Page 403
Feb 15/2016



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL



FLIGHT COMPARTMENT



MOTOR
CONVERTER

B

FWD

(LEFT SIDE IS SHOWN, RIGHT SIDE IS OPPOSITE)

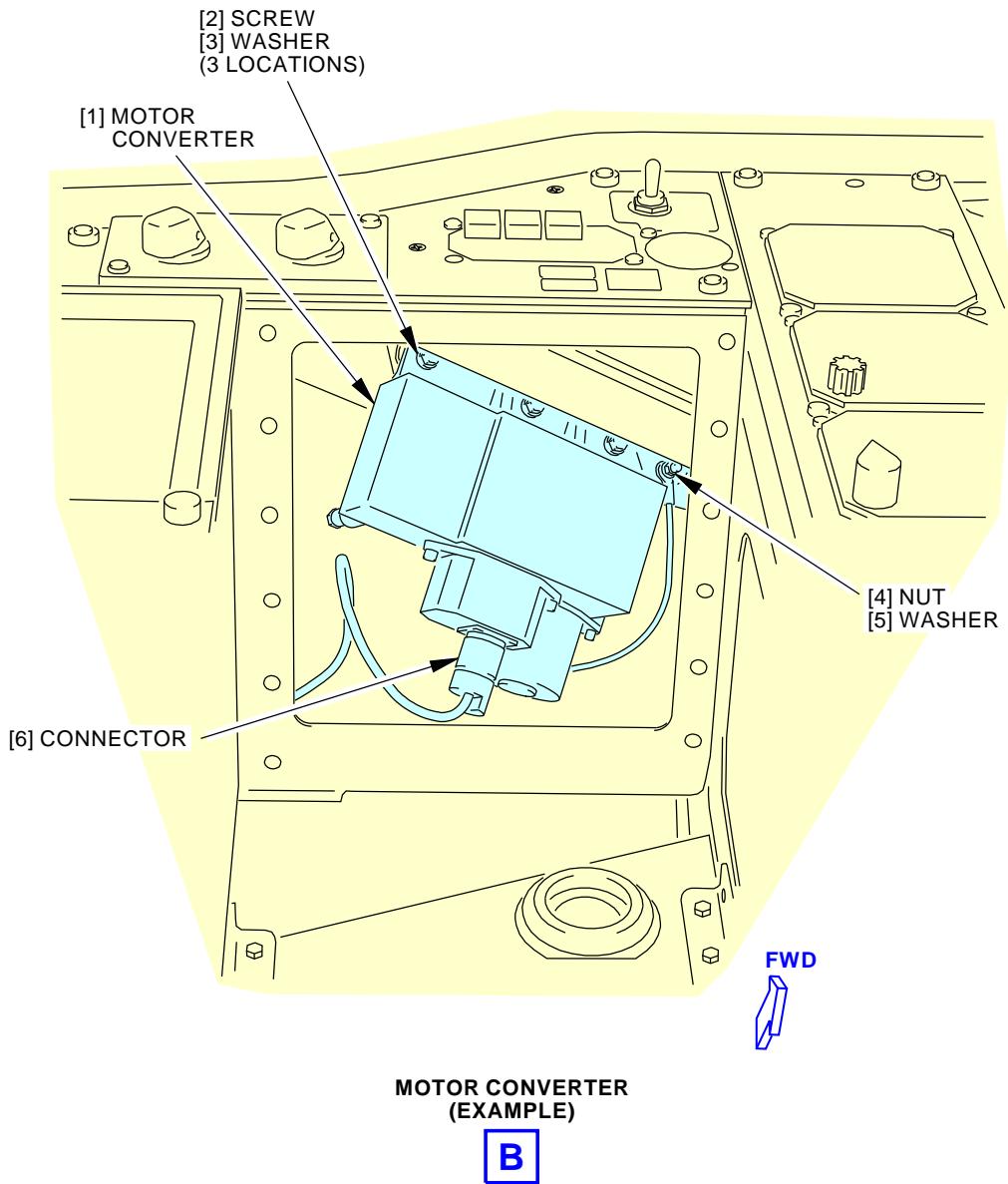
A

F39835 S0006573186_V2

Windshield Wiper Motor/Converter Installation
Figure 401/30-42-21-990-801 (Sheet 1 of 2)

EFFECTIVITY
AKS ALL

30-42-21



F91042 S0006573187_V2

Windshield Wiper Motor/Converter Installation
Figure 401/30-42-21-990-801 (Sheet 2 of 2)

EFFECTIVITY
AKS ALL

30-42-21



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

TASK 30-42-21-400-801

3. Wiper Motor/Converter Installation

(Figure 401)

A. General

- (1) This task gives instructions to install the Wiper Motor/Converter

B. References

Reference	Title
20-30-92-910-801	Final Cleaning Prior to General Sealing (Series 92) (P/B 201)
24-22-00-860-813	Supply External Power (P/B 201)
30-42-31-400-801	Windshield Wiper Arm Installation (P/B 201)
31-62-11-400-801	Display Unit Installation (P/B 401)
51-31-00-160-801	Prepare For Sealing (P/B 201)
SWPM 20-20-00	Electrical Bonding Processes

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1550	Bonding Meters - Approved, Intrinsically Safe (Approved for use in Class I, Divisions I & II hazardous (classified) locations. Outside these hazardous locations, COM-614 can be used in lieu of COM-1550). Part #: C15292 (MODEL T477W) Supplier: 01014 Part #: M1 Supplier: 3AD17 Opt Part #: M1B Supplier: 3AD17
STD-810	Spatula - Fillet Smoothing, Hardwood or Plastic
STD-7413	Sealing gun - 6-inch length cartridge, Semco Research or equivalent

D. Consumable Materials

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS5-95
B00130	Alcohol - Isopropyl	TT-I-735
B01012	Solvent - Final Cleaning Prior To General Sealing (AMM 20-30-92/201) - Series 92	
G00034	Cotton Wiper - Process Cleaning Absorbent Wiper (Cheesecloth, Gauze)	BMS15-5 Class A

E. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Wiper motor converter	30-42-21-01-075	AKS ALL
		30-42-21-01-080	AKS ALL

F. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

EFFECTIVITY	AKS ALL
-------------	---------

30-42-21



737-600/700/800/900 AIRCRAFT MAINTENANCE MANUAL

G. Wiper Motor/Converter Installation

SUBTASK 30-42-21-100-001

CAUTION: YOU MUST BE CAREFUL WHEN YOU INSTALL THE WIPER MOTOR/CONVERTER.
THE WIPER SHAFT MAY TEAR THE RUBBER SEAL WHERE THE SHAFT PIERCES
THE AIRPLANE SKIN.

- (1) Put the wiper motor converter [1] into position.

SUBTASK 30-42-21-400-001

- (2) Install the screws [2] and washers [3].

SUBTASK 30-42-21-100-002

- (3) Clean the ground wire terminal mating surface and the ground stud on the airplane structure (SWPM 20-20-00).
 - (a) Use a cotton wiper, G00034, made moist with alcohol, B00130.
 - (b) Immediately dry the surfaces with a new cotton wiper.

SUBTASK 30-42-21-420-001

- (4) Connect the ground wire to the wiper motor/convertor.
 - (a) Attach the ground wire with the nut [4] and washer [5].

SUBTASK 30-42-21-760-001

- (5) Use an intrinsically safe approved bonding meter, COM-1550, to make sure the resistance between the wiper motor/converter and the airplane structure is 0.001 ohm (1.0 milliohm), or less.

SUBTASK 30-42-21-420-002

- (6) Connect the electrical connector [6] to the wiper motor converter [1].

H. Wiper Motor/Converter Installation Test

SUBTASK 30-42-21-710-001

- (1) Do these steps to make sure the wiper motor/converter operates:
 - (a) Do this task: Supply External Power, TASK 24-22-00-860-813.
 - (b) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
B	1	C00055	ANTI-ICE & RAIN WSHLD WIPER RIGHT
B	3	C00054	ANTI-ICE & RAIN WSHLD WIPER LEFT

- (c) Set the windshield wiper switch to LOW.
- (d) Make sure the wiper motor/convertor operates.
- (e) Turn the windshield wiper switch to OFF.

SUBTASK 30-42-21-410-002

- (2) Re-install the P1-3 panel for Captain side and P3-1 panel for F/O side.

SUBTASK 30-42-21-410-001

- (3) Re-install the display unit (TASK 31-62-11-400-801).

SUBTASK 30-42-21-390-001

- (4) Apply sealant, A00247, to the wiper motor shaft.
 - (a) Make sure the area around the wiper motor shaft is clean (TASK 51-31-00-160-801).

EFFECTIVITY	AKS ALL
-------------	---------

30-42-21



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

- (b) Use a sealant gun, STD-7413, to fill the gap between the wiper motor shaft and the airplane skin with sealant, A00247.
- (c) Use a hardwood or plastic fillet smoothing spatula, STD-810, to make a smooth surface on the sealant.
- (d) Remove all excess sealant with clean cotton wiper, G00034, that is wet with Series 92 solvent, B01012 (TASK 20-30-92-910-801).

SUBTASK 30-42-21-420-003

- (5) Re-install the windshield wiper arm (TASK 30-42-31-400-801).

I. Put the Airplane Back to its Usual Condition

SUBTASK 30-42-21-860-004

- (1) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	1	C00523	HEATERS CAPT PITOT
AKS 001-022			
D	1	C00226	WINDOW HEAT CONTROL RIGHT FRONT AC
D	2	C00225	WINDOW HEAT CONTROL LEFT SIDE AC
AKS ALL			
D	5	C00525	HEATERS F/O PITOT
D	6	C00524	HEATERS AUX PITOT
AKS 001-022			
E	1	C00224	WINDOW HEAT CONTROL LEFT FRONT AC
E	2	C00227	WINDOW HEAT CONTROL RIGHT SIDE AC

F/O Electrical System Panel, P6-11

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
AKS ALL			
B	8	C00393	WINDOW HEAT POWER RIGHT SIDE
B	9	C00228	WINDOW HEAT POWER LEFT FRONT

F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	8	C00394	WINDOW HEAT POWER RIGHT FRONT
B	9	C00392	WINDOW HEAT POWER LEFT SIDE

———— END OF TASK ————

EFFECTIVITY	AKS ALL
-------------	---------

30-42-21



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

WINDSHIELD WIPER ARM - MAINTENANCE PRACTICES

1. General

- A. This procedure has these tasks:
- (1) Windshield Wiper Arm Removal
 - (2) Windshield Wiper Arm Installation
 - (3) Windshield Wiper Arm Force Check/Adjustment
 - (4) Windshield Wiper Arm Position Adjustment

TASK 30-42-31-000-801

2. Windshield Wiper Arm Removal

(Figure 201)

A. Location Zones

<u>Zone</u>	<u>Area</u>
211	Flight Compartment - Left
212	Flight Compartment - Right

B. Procedure

SUBTASK 30-42-31-860-001

WARNING: BEFORE YOU DO MAINTENANCE ON THE WINDSHIELD WIPER SYSTEM, OPEN THE WINDOW HEAT CIRCUIT BREAKERS. IF THESE CIRCUIT BREAKERS ARE NOT OPEN DURING MAINTENANCE, YOU CAN GET AN ELECTRICAL SHOCK WHEN YOU TOUCH THE WINDOW.

- (1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	1	C00523	HEATERS CAPT PITOT
AKS 001-022			
D	1	C00226	WINDOW HEAT CONTROL RIGHT FRONT AC
D	2	C00225	WINDOW HEAT CONTROL LEFT SIDE AC
AKS ALL			
D	5	C00525	HEATERS F/O PITOT
D	6	C00524	HEATERS AUX PITOT
AKS 001-022			
E	1	C00224	WINDOW HEAT CONTROL LEFT FRONT AC
E	2	C00227	WINDOW HEAT CONTROL RIGHT SIDE AC

F/O Electrical System Panel, P6-11

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
AKS ALL			
B	8	C00393	WINDOW HEAT POWER RIGHT SIDE
B	9	C00228	WINDOW HEAT POWER LEFT FRONT

F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	8	C00394	WINDOW HEAT POWER RIGHT FRONT

EFFECTIVITY	AKS ALL
-------------	---------

30-42-31



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

(Continued)

F/O Electrical System Panel, P6-12

Row Col Number Name

B	9	C00392	WINDOW HEAT POWER LEFT SIDE
---	---	--------	-----------------------------

SUBTASK 30-42-31-860-002

- (2) For the left windshield wiper,

Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-3

Row Col Number Name

B	3	C00054	ANTI-ICE & RAIN WSHLD WIPER LEFT
---	---	--------	----------------------------------

SUBTASK 30-42-31-860-003

- (3) For the right windshield wiper,

Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-3

Row Col Number Name

B	1	C00055	ANTI-ICE & RAIN WSHLD WIPER RIGHT
---	---	--------	-----------------------------------

SUBTASK 30-42-31-010-001

- (4) Use a stand to reach the windshield wipers.

SUBTASK 30-42-31-800-001

CAUTION: DO NOT LIFT THE ARM ASSEMBLY MORE THAN NECESSARY TO LIFT THE ARM OFF THE WINDSHIELD. YOU CAN CAUSE DAMAGE TO THE ARM ASSEMBLY AND MAKE IT UNSERVICEABLE.

- (5) Put a pad between the arm assembly and the windshield to prevent damage to the windshield surface.

SUBTASK 30-42-31-020-001

- (6) Loosen the adjustment screw [4] to remove the force on the wiper arm.

SUBTASK 30-42-31-020-002

- (7) Remove the lockwire [6] from the clamping and hub holddown bolts.

SUBTASK 30-42-31-020-003

- (8) Loosen the bolt [5].

SUBTASK 30-42-31-020-004

- (9) Remove the bolt [7] and washer [8] from the shaft.

NOTE: Hold the arm assembly in position while you remove the bolt [8]. This will make sure you do not turn the wiper motor shaft.

NOTE: Keep the bolt [7] and washer [8] for the windshield wiper arm installation.

SUBTASK 30-42-31-020-005

- (10) Remove the arm [3] from the shaft.

SUBTASK 30-42-31-020-006

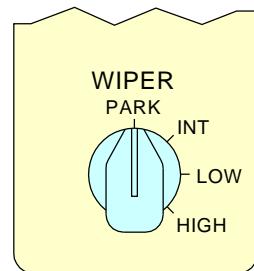
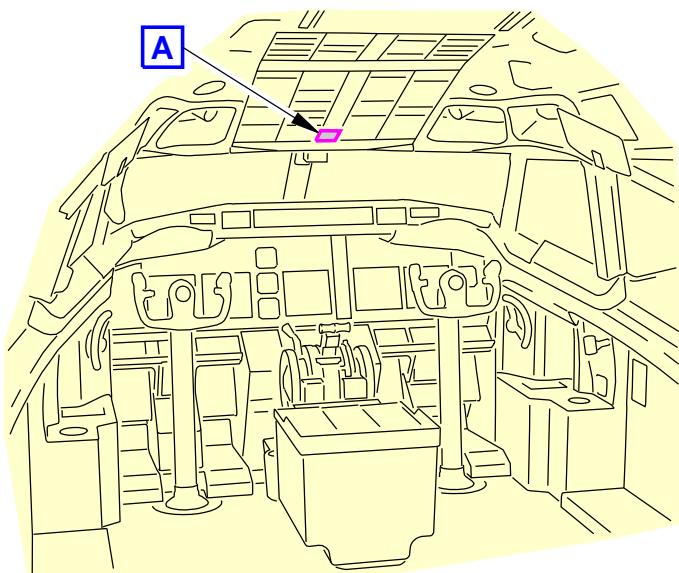
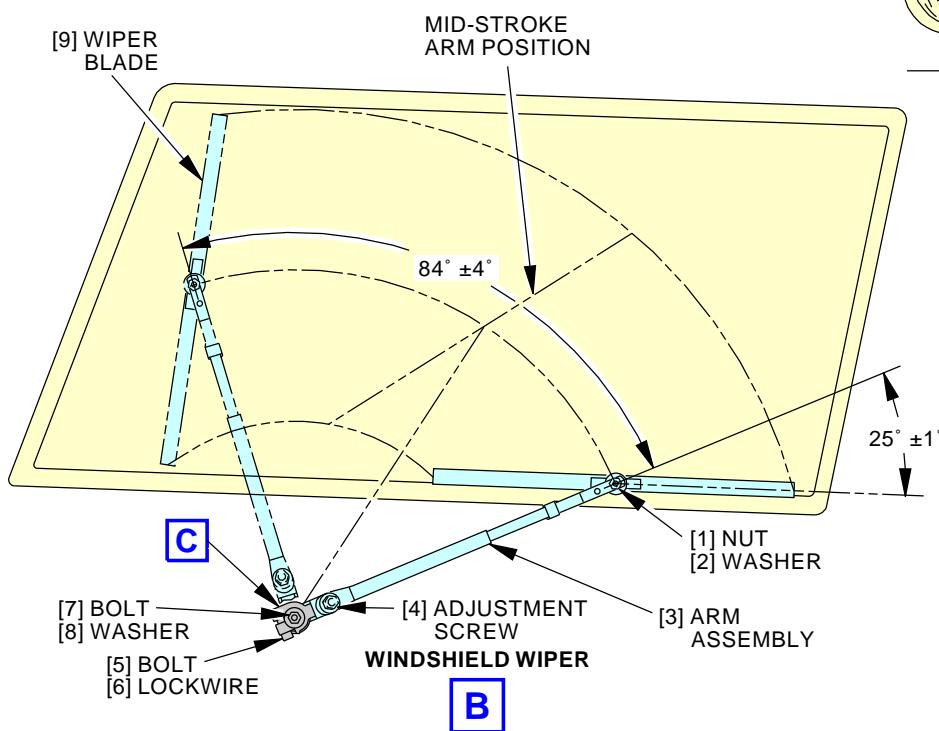
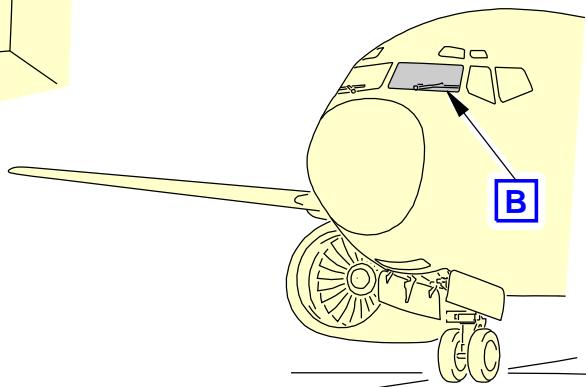
- (11) If necessary, remove the adjustment sleeve [10] from the shaft.

NOTE: The adjustment sleeve can stay with the wiper arm when it is removed.

———— END OF TASK ————

EFFECTIVITY
AKS ALL

30-42-31


WINDSHIELD WIPER SWITCH
A


G21461 S0006573192_V2

Windshield Wiper Arm - Maintenance Practices
Figure 201/30-42-31-990-801 (Sheet 1 of 2)

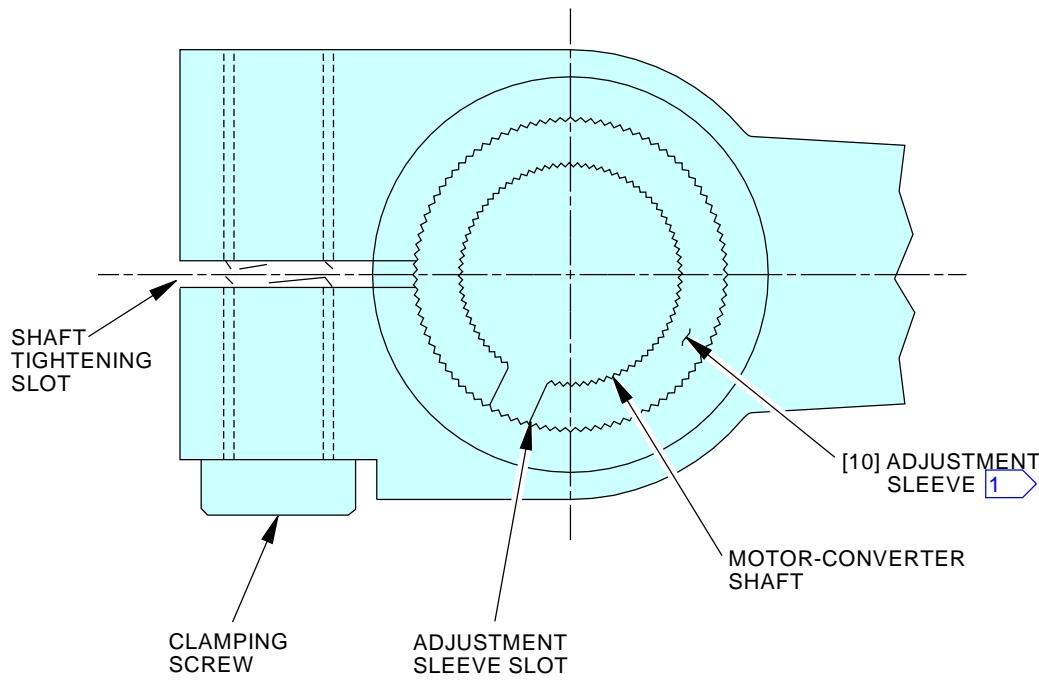
EFFECTIVITY
AKS ALL

30-42-31

D633A101-AKS



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL



- [1]** FOR FINE ADJUSTMENT OF THE ARM ASSEMBLY REMOVE THE ADJUSTMENT SLEEVE FROM THE ARM AND TURN SLEEVE IN THE SAME DIRECTION THAT THE ARM MUST BE MOVED. EACH NOTCH MOVES THE WIPER END ABOUT 0.03 INCH (0.76 mm).

G21473 S0006573193_V2

Windshield Wiper Arm - Maintenance Practices
Figure 201/30-42-31-990-801 (Sheet 2 of 2)

EFFECTIVITY
AKS ALL

30-42-31

D633A101-AKS

BOEING PROPRIETARY - Copyright © Unpublished Work - See title page for details



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

TASK 30-42-31-400-801

3. Windshield Wiper Arm Installation

(Figure 201)

A. Consumable Materials

Reference	Description	Specification
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)

B. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
3	Arm	30-42-11-01-015	AKS ALL

C. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

D. Procedure

SUBTASK 30-42-31-860-004

WARNING: BEFORE YOU DO MAINTENANCE ON THE WINDSHIELD WIPER SYSTEM, OPEN THE WINDOW HEAT CIRCUIT BREAKERS. IF THESE CIRCUIT BREAKERS ARE NOT OPEN DURING MAINTENANCE, YOU CAN GET AN ELECTRICAL SHOCK WHEN YOU TOUCH THE WINDOW.

- (1) Make sure that these circuit breakers are open and have safety tags:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
C	1	C00523	HEATERS CAPT PITOT
AKS 001-022			
D	1	C00226	WINDOW HEAT CONTROL RIGHT FRONT AC
D	2	C00225	WINDOW HEAT CONTROL LEFT SIDE AC
AKS ALL			
D	5	C00525	HEATERS F/O PITOT
D	6	C00524	HEATERS AUX PITOT
AKS 001-022			
E	1	C00224	WINDOW HEAT CONTROL LEFT FRONT AC
E	2	C00227	WINDOW HEAT CONTROL RIGHT SIDE AC

F/O Electrical System Panel, P6-11

Row	Col	Number	Name
AKS ALL			
B	8	C00393	WINDOW HEAT POWER RIGHT SIDE
B	9	C00228	WINDOW HEAT POWER LEFT FRONT

F/O Electrical System Panel, P6-12

Row	Col	Number	Name
B	8	C00394	WINDOW HEAT POWER RIGHT FRONT

EFFECTIVITY	AKS ALL
-------------	---------

30-42-31



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

(Continued)

F/O Electrical System Panel, P6-12

Row Col Number Name

B	9	C00392	WINDOW HEAT POWER LEFT SIDE
---	---	--------	-----------------------------

SUBTASK 30-42-31-860-005

- (2) Make sure the wiper motor is in the park position.

- (a) For the left windshield wiper,

Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-3

Row Col Number Name

B	3	C00054	ANTI-ICE & RAIN WSHLD WIPER LEFT
---	---	--------	----------------------------------

- (b) For the right windshield wiper,

Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-3

Row Col Number Name

B	1	C00055	ANTI-ICE & RAIN WSHLD WIPER RIGHT
---	---	--------	-----------------------------------

- (c) Put the windshield wiper switch to the PARK position.

- (d) For the left windshield wiper,

Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-3

Row Col Number Name

B	3	C00054	ANTI-ICE & RAIN WSHLD WIPER LEFT
---	---	--------	----------------------------------

- (e) For the right windshield wiper,

Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-3

Row Col Number Name

B	1	C00055	ANTI-ICE & RAIN WSHLD WIPER RIGHT
---	---	--------	-----------------------------------

SUBTASK 30-42-31-020-007

- (3) Loosen the adjustment screw [4].

SUBTASK 30-42-31-420-001

- (4) Attach a wiper [9] to the wiper arm assembly [3].

- (a) Attach the wiper [9] to the wiper arm as shown in (Figure 201).

- (b) Secure the wiper to the arm with the nut [1] and washer [2], applying 14-18 inch-pounds (1.6-2.0 Nm) of torque..

SUBTASK 30-42-31-640-001

- (5) Apply grease, D00013 to the serrations on the adjustment sleeve [10] and the shaft.

SUBTASK 30-42-31-420-002

- (6) Install the arm [3] on the windshield wiper shaft.

- (a) Place the wiper arm on the shaft in the parked position as shown in (Figure 201).

NOTE: Use (Figure 201) to determine the position of the wiper arm assembly and for adjustment instructions.

EFFECTIVITY
AKS ALL

30-42-31



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

- 1) For large adjustments, turn the arm assembly and adjustment sleeve together on the wiper motor shaft.
- 2) For small adjustments, turn the adjustment sleeve within the arm assembly.

NOTE: For fine adjustments of the arm assembly, remove the adjustment sleeve from the arm and turn the sleeve in the same direction that the arm must be moved. Each notch moves the wiper end about 0.034 inches (0.86 millimeters).

- (b) Apply 3.5 to 4.5 pounds (1.6 to 2.0 kilograms) downward force at the blade attach point.
 - 1) Make sure the wiper blade stays on the glass.

SUBTASK 30-42-31-420-003

- (7) Install the bolt [5].

SUBTASK 30-42-31-420-004

- (8) Install washer [8] and bolt [7] on the end of the shaft.

SUBTASK 30-42-31-820-001

- (9) Do a check of the wiper arm down force. To do the check, do this task: Windshield Wiper Arm Force Check/Adjustment, TASK 30-42-31-820-801.

SUBTASK 30-42-31-820-002

- (10) Do a check of the wiper arm position. To do the check, do this task: Windshield Wiper Arm Position Check/Adjustment, TASK 30-42-31-820-802.

SUBTASK 30-42-31-420-005

- (11) Secure bolt [5] by applying 20-25 inch-pounds (2.3-2.8 Nm) of torque. Secure bolt [7] by applying 35-40 inch-pounds (4.0-4.5 Nm) of torque. Secure bolts with lockwire [6].

E. Put the Airplane Back to Its Usual Condition

SUBTASK 30-42-31-860-006

- (1) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	1	C00055	ANTI-ICE & RAIN WSHLD WIPER RIGHT
B	3	C00054	ANTI-ICE & RAIN WSHLD WIPER LEFT
C	1	C00523	HEATERS CAPT PITOT

AKS 001-022

D	1	C00226	WINDOW HEAT CONTROL RIGHT FRONT AC
D	2	C00225	WINDOW HEAT CONTROL LEFT SIDE AC

AKS ALL

D	5	C00525	HEATERS F/O PITOT
D	6	C00524	HEATERS AUX PITOT

AKS 001-022

E	1	C00224	WINDOW HEAT CONTROL LEFT FRONT AC
E	2	C00227	WINDOW HEAT CONTROL RIGHT SIDE AC

F/O Electrical System Panel, P6-11

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
AKS ALL			
B	8	C00393	WINDOW HEAT POWER RIGHT SIDE

EFFECTIVITY	_____
AKS ALL	_____

30-42-31



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

(Continued)

F/O Electrical System Panel, P6-11

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	9	C00228	WINDOW HEAT POWER LEFT FRONT

F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	8	C00394	WINDOW HEAT POWER RIGHT FRONT
B	9	C00392	WINDOW HEAT POWER LEFT SIDE

———— END OF TASK ————

TASK 30-42-31-820-801

4. Windshield Wiper Arm Force Check/Adjustment

(Figure 201)

A. General

- (1) This procedure measures the force that the wiper arm applies to the windshield and adjusts the force for correct wiper operation.

B. References

<u>Reference</u>	<u>Title</u>
24-22-00-860-813	Supply External Power (P/B 201)

C. Tools/Equipment

<u>Reference</u>	<u>Description</u>
STD-759	Scale - Spring, 0 to 20 lbs or pound force (0.0 to 89 N)

D. Location Zones

<u>Zone</u>	<u>Area</u>
200	Upper Half of Fuselage
211	Flight Compartment - Left
212	Flight Compartment - Right

E. Procedure

SUBTASK 30-42-31-860-007

WARNING: BEFORE YOU DO MAINTENANCE ON THE WINDSHIELD WIPER SYSTEM, OPEN THE WINDOW HEAT CIRCUIT BREAKERS. IF THESE CIRCUIT BREAKERS ARE NOT OPEN DURING MAINTENANCE, PERSONS CAN GET AN ELECTRICAL SHOCK WHEN THEY TOUCH THE WINDOW.

- (1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	1	C00523	HEATERS CAPT PITOT

AKS 001-022

D	1	C00226	WINDOW HEAT CONTROL RIGHT FRONT AC
D	2	C00225	WINDOW HEAT CONTROL LEFT SIDE AC

AKS ALL

D	5	C00525	HEATERS F/O PITOT
---	---	--------	-------------------

EFFECTIVITY
AKS ALL

30-42-31



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

(Continued)

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	6	C00524	HEATERS AUX PITOT
AKS 001-022			
E	1	C00224	WINDOW HEAT CONTROL LEFT FRONT AC
E	2	C00227	WINDOW HEAT CONTROL RIGHT SIDE AC

F/O Electrical System Panel, P6-11

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
AKS ALL			
B	8	C00393	WINDOW HEAT POWER RIGHT SIDE
B	9	C00228	WINDOW HEAT POWER LEFT FRONT

F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	8	C00394	WINDOW HEAT POWER RIGHT FRONT
B	9	C00392	WINDOW HEAT POWER LEFT SIDE

SUBTASK 30-42-31-800-002

- (2) Do these steps to put the windshield wiper in the testing position:
 - (a) Supply electrical power to the airplane. To do this, do this task: Supply External Power, TASK 24-22-00-860-813.

CAUTION: DO NOT OPERATE THE WIPER ON A DRY WINDSHIELD. THE WIPER WILL CAUSE DAMAGE TO A DRY WINDSHIELD. ALWAYS SUPPLY WATER TO THE WINDSHIELD BEFORE YOU OPERATE THE WIPER.

- (b) Supply a continuous spray of clean water to the windshield.

NOTE: For windshields with a hydrophobic coating, deionized or distilled water is recommended during the wiper test. Water with a high mineral content can cause marks on the coated glass surface that are difficult to remove. If water with a high mineral content is used on a windshield with a hydrophobic coating, flush the windshield surface after the wiper test with deionized or distilled water, or remove the remaining water on the windshield with a cotton cloth.

- (c) Turn the applicable wiper switch to LOW.
- (d) Do this step for the applicable circuit breaker to stop the arm assembly [3] at the mid-stroke position on the windshield:

Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	1	C00055	ANTI-ICE & RAIN WSHLD WIPER RIGHT
B	3	C00054	ANTI-ICE & RAIN WSHLD WIPER LEFT

- (e) Stop the water spray.

SUBTASK 30-42-31-700-001

- (3) Do these steps to measure the force of the wiper arm:
 - (a) Connect the spring scale, 0 to 20 lbs or pound force (0.0 to 89 N), STD-759 at the point where the wiper blade attaches to the wiper arm.

EFFECTIVITY
AKS ALL

30-42-31



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

- (b) Hold the scale perpendicular to the windshield.

CAUTION: DO NOT LIFT THE WIPER ARM MORE THAN NECESSARY TO LIFT THE WIPER BLADE FROM THE WINDSHIELD. YOU CAN CAUSE DAMAGE TO THE WIPER ARM AND MAKE IT UNSERVICEABLE.

- (c) Pull the scale slowly until the wiper blade lifts off the windshield to measure the force.

NOTE: One end of the wiper blade may remain on the windshield during this test. A piece of paper should be able to slide under the blade without binding.

SUBTASK 30-42-31-820-006

- (4) Adjust the force of the wiper arm.

NOTE: The wiper motor has a dimple at the end of the motor/converter shaft.

- (a) If the force is less than 6.5 lbf (28.9 N), tighten the screw [4] to increase the force of the wiper arm.
(b) If the force is larger than 7.5 lbf (33.4 N), loosen the screw [4] to decrease the force of the wiper arm.

NOTE: The wiper motor is to be tensioned to the specified tension above, to be in compliance with AD 2003-20-13.

SUBTASK 30-42-31-700-002

- (5) Measure the force of the wiper arm again.

SUBTASK 30-42-31-860-008

- (6) Put the windshield wiper back to its usual position:

- (a) Turn the applicable wiper switch to PARK.

CAUTION: DO NOT OPERATE THE WINDSHIELD WIPER ON DRY GLASS. THE WIPER WILL CAUSE DAMAGE TO THE WINDSHIELD. ALWAYS SUPPLY WATER TO THE WINDSHIELDS BEFORE YOU OPERATE THE WIPER.

- (b) Supply a continuous spray of clean water to the windshield.

NOTE: For windshields with a hydrophobic coating, deionized or distilled water is recommended during the wiper test. Water with a high mineral content can cause marks on the coated glass surface that are difficult to remove. If water with a high mineral content is used on a windshield with a hydrophobic coating, flush the windshield surface after the wiper test with deionized or distilled water, or remove the remaining water on the windshield with a cotton cloth.

- (c) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	1	C00055	ANTI-ICE & RAIN WSHLD WIPER RIGHT
B	3	C00054	ANTI-ICE & RAIN WSHLD WIPER LEFT

- (d) Make sure the wiper blade stops in the parked position.

- (e) Stop the water spray.



30-42-31



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

F. Put the Airplane Back to Its Usual Condition

SUBTASK 30-42-31-860-009

- (1) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	1	C00523	HEATERS CAPT PITOT
AKS 001-022			
D	1	C00226	WINDOW HEAT CONTROL RIGHT FRONT AC
D	2	C00225	WINDOW HEAT CONTROL LEFT SIDE AC
AKS ALL			
D	5	C00525	HEATERS F/O PITOT
D	6	C00524	HEATERS AUX PITOT
AKS 001-022			
E	1	C00224	WINDOW HEAT CONTROL LEFT FRONT AC
E	2	C00227	WINDOW HEAT CONTROL RIGHT SIDE AC

F/O Electrical System Panel, P6-11

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
AKS ALL			
B	8	C00393	WINDOW HEAT POWER RIGHT SIDE
B	9	C00228	WINDOW HEAT POWER LEFT FRONT

F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	8	C00394	WINDOW HEAT POWER RIGHT FRONT
B	9	C00392	WINDOW HEAT POWER LEFT SIDE

———— END OF TASK ————

TASK 30-42-31-820-802

5. Windshield Wiper Arm Position Check/Adjustment

(Figure 201)

A. General

- (1) This procedure adjusts the position of the wiper arm sweep on the windshield.
- (2) This procedure must be completed after an installation of a wiper arm.

B. References

Reference	Title
24-22-00-860-813	Supply External Power (P/B 201)

C. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

D. Procedure

SUBTASK 30-42-31-860-010

- (1) Do this task: Supply External Power, TASK 24-22-00-860-813.

EFFECTIVITY AKS ALL

30-42-31



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

SUBTASK 30-42-31-860-011

WARNING: BEFORE YOU DO MAINTENANCE ON THE WINDSHIELD WIPER SYSTEM, OPEN THE WINDOW HEAT CIRCUIT BREAKERS. IF THESE CIRCUIT BREAKERS ARE NOT OPEN DURING MAINTENANCE, PERSONS CAN GET AN ELECTRICAL SHOCK WHEN THEY TOUCH THE WINDOW.

- (2) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	1	C00523	HEATERS CAPT PITOT
AKS 001-022			
D	1	C00226	WINDOW HEAT CONTROL RIGHT FRONT AC
D	2	C00225	WINDOW HEAT CONTROL LEFT SIDE AC
AKS ALL			
D	5	C00525	HEATERS F/O PITOT
D	6	C00524	HEATERS AUX PITOT
AKS 001-022			
E	1	C00224	WINDOW HEAT CONTROL LEFT FRONT AC
E	2	C00227	WINDOW HEAT CONTROL RIGHT SIDE AC

F/O Electrical System Panel, P6-11

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
AKS ALL			
B	8	C00393	WINDOW HEAT POWER RIGHT SIDE
B	9	C00228	WINDOW HEAT POWER LEFT FRONT

F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	8	C00394	WINDOW HEAT POWER RIGHT FRONT
B	9	C00392	WINDOW HEAT POWER LEFT SIDE

SUBTASK 30-42-31-210-001

- (3) Do these steps to examine the sweep pattern of the wiper arm [4]:

CAUTION: DO NOT OPERATE THE WINDSHIELD WIPER ON DRY GLASS. THE WIPER WILL CAUSE DAMAGE TO THE WINDSHIELD. ALWAYS SUPPLY WATER TO THE WINDSHIELDS BEFORE YOU OPERATE THE WIPER.

- (a) Supply a continuous spray of clean water to the windshield.

NOTE: For windshields with a hydrophobic coating, deionized or distilled water is recommended during the wiper test. Water with a high mineral content can cause marks on the coated glass surface that are difficult to remove. If water with a high mineral content is used on a windshield with a hydrophobic coating, flush the windshield surface after the wiper test with deionized or distilled water, or remove the remaining water on the windshield with a cotton cloth.

- (b) Turn the wiper switch to LOW and let the wiper operate for one or two cycles.
(c) Turn the wiper switch to PARK.
(d) Stop the water spray.



30-42-31



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

- (e) Make sure the wiper arm goes back to the parked position with the wiper blade near the bottom edge of the windshield.
- (f) Make sure the wiper arm is parallel to the bottom edge of the windshield.
- (g) Compare the sweep pattern to (Figure 201).

SUBTASK 30-42-31-820-005

- (4) If you find a problem with the sweep pattern of the wiper arm, do these steps to adjust the sweep pattern:
 - (a) Measure the distance that the tip of the wiper blade needs to move.
 - (b) Make a mark on the adjustment sleeve and wiper motor shaft to show the current installation.
 - (c) Remove the windshield wiper arm. To remove the arm, do this task: Windshield Wiper Arm Removal, TASK 30-42-31-000-801.
 - (d) Re-install the windshield wiper arm. To install the arm, do this task: Windshield Wiper Arm Installation, TASK 30-42-31-400-801.

NOTE: The arm assembly installation procedure has details on how to adjust the arm assembly.

SUBTASK 30-42-31-860-012

- (5) Put the wiper to its parked position:

CAUTION: DO NOT OPERATE THE WINDSHIELD WIPERS ON DRY GLASS. THE WIPER WILL CAUSE DAMAGE TO THE WINDSHIELD. ALWAYS SUPPLY WATER TO THE WINDSHIELDS BEFORE YOU OPERATE THE WIPER.

- (a) Supply a continuous spray of clean water to the windshield.

NOTE: For windshields with a hydrophobic coating, deionized or distilled water is recommended during the wiper test. Water with a high mineral content can cause marks on the coated glass surface that are difficult to remove. If water with a high mineral content is used on a windshield with a hydrophobic coating, flush the windshield surface after the wiper test with deionized or distilled water, or remove the remaining water on the windshield with a cotton cloth.

- (b) Set the wiper switch to LOW.
- (c) Set the wiper switch to PARK.
- (d) Stop the water spray.

E. Put the Airplane Back to Its Usual Condition

SUBTASK 30-42-31-860-013

- (1) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
C	1	C00523	HEATERS CAPT PITOT

AKS 001-022

D	1	C00226	WINDOW HEAT CONTROL RIGHT FRONT AC
D	2	C00225	WINDOW HEAT CONTROL LEFT SIDE AC

AKS ALL

D	5	C00525	HEATERS F/O PITOT
D	6	C00524	HEATERS AUX PITOT

EFFECTIVITY	AKS ALL
-------------	---------

30-42-31



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

(Continued)

CAPT Electrical System Panel, P18-3

Row Col Number Name

AKS 001-022

E	1	C00224	WINDOW HEAT CONTROL LEFT FRONT AC
E	2	C00227	WINDOW HEAT CONTROL RIGHT SIDE AC

F/O Electrical System Panel, P6-11

Row Col Number Name

AKS ALL

B	8	C00393	WINDOW HEAT POWER RIGHT SIDE
B	9	C00228	WINDOW HEAT POWER LEFT FRONT

F/O Electrical System Panel, P6-12

Row Col Number Name

B	8	C00394	WINDOW HEAT POWER RIGHT FRONT
B	9	C00392	WINDOW HEAT POWER LEFT SIDE

———— END OF TASK ————

EFFECTIVITY
AKS ALL

30-42-31



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

WINDSHIELD HYDROPHOBIC COATING - MAINTENANCE PRACTICES

1. General

- A. This procedure has these tasks:
- (1) Hydrophobic Coating Maintenance Practices

TASK 30-43-00-800-801

2. Hydrophobic Coating Maintenance Practices

A. General

- (1) The maintenance procedures for the hydrophobic coating are in the hydrophobic coating master kit, COM-1806.
- (2) The windshield wipers are the certified rain removal system. The hydrophobic coating is an enhancement and is not required for dispatch. However, Boeing recommends that the coating be maintained.

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

<u>Reference</u>	<u>Description</u>
COM-1806	Master Kit - Hydrophobic Coating
	Part #: 7137D Supplier: U1610
	Part #: DSS1020 Supplier: 53117

C. Prepare for the Procedure

SUBTASK 30-43-00-860-001

WARNING: BEFORE YOU DO MAINTENANCE ON THE WINDSHIELD, OPEN THE WINDOW HEAT CIRCUIT BREAKERS. IF YOU DO NOT OPEN THESE CIRCUIT BREAKERS DURING MAINTENANCE, YOU CAN GET AN ELECTRICAL SHOCK WHEN YOU TOUCH THE WINDOW.

- (1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-3

Row Col Number Name

AKS 001-022

D	1	C00226	WINDOW HEAT CONTROL RIGHT FRONT AC
D	2	C00225	WINDOW HEAT CONTROL LEFT SIDE AC
E	1	C00224	WINDOW HEAT CONTROL LEFT FRONT AC
E	2	C00227	WINDOW HEAT CONTROL RIGHT SIDE AC

F/O Electrical System Panel, P6-11

Row Col Number Name

AKS ALL

B	8	C00393	WINDOW HEAT POWER RIGHT SIDE
B	9	C00228	WINDOW HEAT POWER LEFT FRONT

EFFECTIVITY
AKS ALL

30-43-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

F/O Electrical System Panel, P6-12

Row Col Number Name

B	8	C00394	WINDOW HEAT POWER RIGHT FRONT
B	9	C00392	WINDOW HEAT POWER LEFT SIDE

SUBTASK 30-43-00-010-001

- (2) Use a stand to get access to the windshield.

D. Procedure

SUBTASK 30-43-00-800-001

- (1) Use the procedure in the hydrophobic coating master kit, COM-1806 to do these maintenance tasks:
- Clean the hydrophobic coating.
 - Assess the efficiency of the hydrophobic coating.
 - Re-apply the hydrophobic coating.

E. Put the Airplane Back to Its Usual Condition

SUBTASK 30-43-00-860-002

- (1) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-3

Row Col Number Name

AKS 001-022

D	1	C00226	WINDOW HEAT CONTROL RIGHT FRONT AC
D	2	C00225	WINDOW HEAT CONTROL LEFT SIDE AC
E	1	C00224	WINDOW HEAT CONTROL LEFT FRONT AC
E	2	C00227	WINDOW HEAT CONTROL RIGHT SIDE AC

F/O Electrical System Panel, P6-11

Row Col Number Name

AKS ALL

B	8	C00393	WINDOW HEAT POWER RIGHT SIDE
B	9	C00228	WINDOW HEAT POWER LEFT FRONT

F/O Electrical System Panel, P6-12

Row Col Number Name

B	8	C00394	WINDOW HEAT POWER RIGHT FRONT
B	9	C00392	WINDOW HEAT POWER LEFT SIDE

———— END OF TASK ————

EFFECTIVITY
AKS ALL

30-43-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

WATER AND DRAIN ANTI-ICING SYSTEM - MAINTENANCE PRACTICES

1. General

- A. This procedure has these tasks:
- (1) Anti-ice operation for the drain mast with 115 Volts AC on the Ground.
 - (2) Drain heaters - deactivation.
 - (3) Drain heaters - activation.

TASK 30-71-00-800-801

2. Water and Drain Operation with 115 Volts on the Ground

A. General

- (1) 28 volts AC is normally used to provide protection from icing for the water and drain system while the airplane is on the ground. 115 volt AC is used while the airplane is in the air.
- (2) This task should only be used when the 28 volt operation will not remove ice from the drain masts.
- (3) Refer to Cold Weather Maintenance Procedure, TASK 12-33-01-600-802.

B. References

Reference	Title
12-33-01-600-802	Cold Weather Maintenance Procedure (P/B 301)
32-09-00-840-801	Prepare to Put the Airplane in the Air Mode (P/B 201)
32-09-00-860-801	Put the Airplane in the Air Mode (P/B 201)
32-09-00-860-802	Return the Airplane to the Ground Mode (P/B 201)

C. Location Zones

Zone	Area
100	Lower Half of Fuselage
211	Flight Compartment - Left
212	Flight Compartment - Right

D. Procedure

SUBTASK 30-71-00-020-001

WARNING: OBEY THE PROCEDURE THAT PREPARES TO PUT THE AIRPLANE IN THE AIR MODE. IN THE AIR MODE, MANY OF THE AIRPLANE SYSTEMS CAN OPERATE. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

- (1) Do this task: Prepare to Put the Airplane in the Air Mode, TASK 32-09-00-840-801.

SUBTASK 30-71-00-020-002

- (2) Do this task: Put the Airplane in the Air Mode, TASK 32-09-00-860-801.

SUBTASK 30-71-00-020-003

- (3) Make sure that this circuit breaker is closed:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
E	4	C00700	HEATERS DRAIN MAST AIR

NOTE: This circuit breaker is opened in the Prepare for Air Mode Simulation task. It must be closed for the operation of the drain mast in the air (high heat) mode.

EFFECTIVITY
AKS ALL

30-71-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

E. Put the Airplane back to Normal

NOTE: Do this procedure when 115 Volt operation of the anti-ice system is no longer needed.

SUBTASK 30-71-00-840-001

- (1) Do this task: Return the Airplane to the Ground Mode, TASK 32-09-00-860-802.

————— END OF TASK ————

TASK 30-71-00-040-801

3. Drain Heaters - Deactivation

A. General

- (1) This task will deactivate the power to the drain heaters.

B. References

Reference	Title
25-27-15-000-801	Carpet Removal (P/B 401)
25-27-15-400-801	Carpet - Installation (P/B 401)
25-27-21-000-801	Entry and Service Area Floor Covering - Removal (P/B 401)
25-27-21-400-801	Entry and Service Area Floor Covering - Installation (P/B 401)
25-52-06-000-801	Cargo Compartment Sidewall Lining - Removal (P/B 401)
25-52-06-400-801	Cargo Compartment Sidewall Lining - Installation (P/B 401)
25-52-10-000-801	Cargo Floor Panel Removal (P/B 401)
25-52-10-400-801	Cargo Floor Panel - Installation (P/B 401)
25-52-17-000-801	Forward Cargo Compartment Aft Bulkhead Liner - Removal (P/B 401)
25-52-17-400-801	Forward Cargo Compartment Aft Bulkhead Liner - Installation (P/B 401)
25-52-19-000-801	Aft Cargo Compartment Aft Bulkhead Liner - Removal (P/B 401)
25-52-19-400-801	Aft Cargo Compartment Aft Bulkhead Liner - Installation (P/B 401)
25-52-20-000-801	Waste Tank Enclosure Panel - Removal (P/B 401)
25-52-20-400-801	Waste Tank Enclosure Panel - Installation (P/B 401)
30-71-00-990-801	Figure: Drain and Water Supply Line Heater Access (P/B 501)
38-31-01-000-801	Forward Drain Mast Removal (P/B 401)
SSM 30-71-11	System Schematics Manual

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1572	Thermometer - Infrared, Intrinsically Safe Part #: EX-MP4 A Supplier: 3GT36 Opt Part #: DHS24XC-FM Supplier: 08086 Opt Part #: DHS24XF-FM Supplier: 08086 Opt Part #: IR-16L3 IS Supplier: 75037



30-71-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

(Continued)

Reference	Description
COM-2531	Clamp-On- Current Meter Part #: 324 Supplier: 89536 Part #: I800 Supplier: 89536 Opt Part #: 321 Supplier: 89536 Opt Part #: 322 Supplier: 89536 Opt Part #: 80I-600A Supplier: 89536 Opt Part #: MODEL 33 Supplier: 89536 Opt Part #: MODEL 36 Supplier: 89536

D. Location Zones

Zone	Area
143	Area Below Aft Cargo Compartment - Left
144	Area Below Aft Cargo Compartment - Right

E. Procedure

SUBTASK 30-71-00-020-005

WARNING: BE CAREFUL WHEN YOU DO WORK AROUND ENERGIZED PANELS. HIGH VOLTAGES CAN KILL YOU.

- (1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
D	18	C01463	WASTE/WTR LINE HEATERS
E	3	C00234	HEATERS DRAIN MAST GND
E	4	C00700	HEATERS DRAIN MAST AIR
E	5	C00233	HEATERS DRAIN
E	18	C01473	HOSE HEATERS

F. Drain Heaters - Tryout

NOTE: This tryout is to make sure that the power to the drain heaters is in a zero energy state.

SUBTASK 30-71-00-020-006

- (1) Get access to the heater and controlling thermostat (if applicable).
 - (a) Use the schematic (SSM 30-71-11) to find the location of the heater and thermostat.
 - (b) Use Figure 30-71-00-990-801 to identify access requirements.
 - (c) Do the necessary tasks to get access to the heater and thermostat.
 - 1) Do this task: Cargo Floor Panel Removal, TASK 25-52-10-000-801.
 - 2) Do this task: Forward Cargo Compartment Aft Bulkhead Liner - Removal, TASK 25-52-17-000-801.
 - 3) Do this task: Aft Cargo Compartment Aft Bulkhead Liner - Removal, TASK 25-52-19-000-801.
 - 4) Do this task: Cargo Compartment Sidewall Lining - Removal, TASK 25-52-06-000-801.
 - 5) Do this task: Waste Tank Enclosure Panel - Removal, TASK 25-52-20-000-801.
 - 6) Do this task: Carpet Removal, TASK 25-27-15-000-801.
 - 7) Do this task: Entry and Service Area Floor Covering - Removal, TASK 25-27-21-000-801.

EFFECTIVITY
AKS ALL

30-71-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

SUBTASK 30-71-00-210-012

WARNING: DO NOT TOUCH THE DRAIN MASTS UNTIL THEY BECOME COOL. DRAIN MASTS BECOME VERY HOT. INJURIES TO PERSONNEL CAN OCCUR.

- (2) Make sure that the applicable drain heater does not become warm.
 - (a) You can use an Infrared Thermometer, COM-1572, or other temperature measuring device, to make sure that the temperature is less than 10 degrees F (6 degrees C) warmer than the ambient air temperature.
 - (b) As an alternative, you can use a clamp-on current meter, COM-2531, or equivalent, to measure the current to the drain heater.
 - 1) Make sure that there is no current to the drain heater.
 - 2) Refer to this task: Forward Drain Mast Removal, TASK 38-31-01-000-801, for details to get access to the heater wiring.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 30-71-00-420-002

- (1) Install the interior furnishings as necessary.

SUBTASK 30-71-00-420-003

- (2) Do this task: Entry and Service Area Floor Covering - Installation, TASK 25-27-21-400-801.

SUBTASK 30-71-00-420-004

- (3) Do this task: Carpet - Installation, TASK 25-27-15-400-801.

SUBTASK 30-71-00-420-005

- (4) Do this task: Waste Tank Enclosure Panel - Installation, TASK 25-52-20-400-801.

SUBTASK 30-71-00-420-006

- (5) Do this task: Cargo Compartment Sidewall Lining - Installation, TASK 25-52-06-400-801.

SUBTASK 30-71-00-420-007

- (6) Do this task: Aft Cargo Compartment Aft Bulkhead Liner - Installation, TASK 25-52-19-400-801.

SUBTASK 30-71-00-420-009

- (7) Do this task: Forward Cargo Compartment Aft Bulkhead Liner - Installation, TASK 25-52-17-400-801.

SUBTASK 30-71-00-420-010

- (8) Do this task: Cargo Floor Panel - Installation, TASK 25-52-10-400-801.

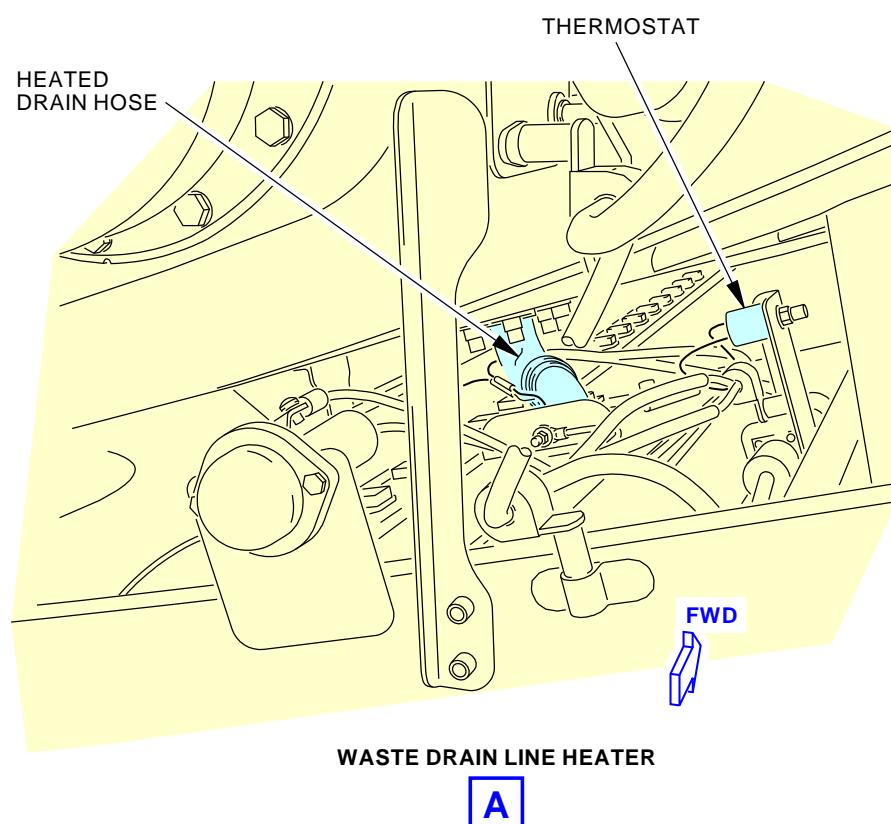
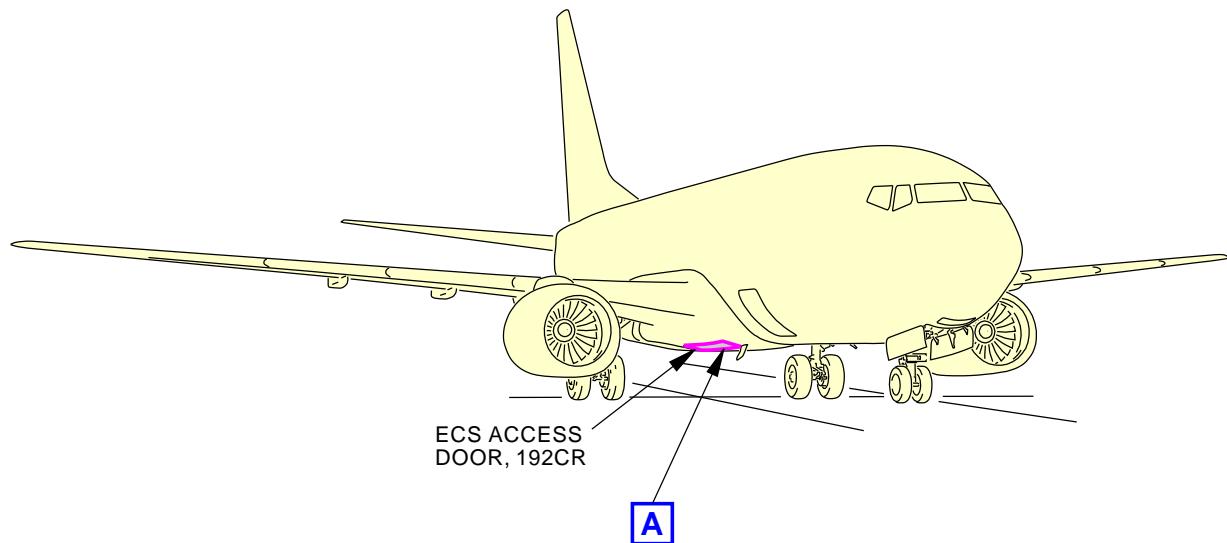
———— END OF TASK ————



30-71-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL



G33932 S0006573208_V2

Drain and Water Supply Line Heater Access
Figure 201/30-71-00-990-802 (Sheet 1 of 3)

EFFECTIVITY	AKS ALL
-------------	---------

D633A101-AKS

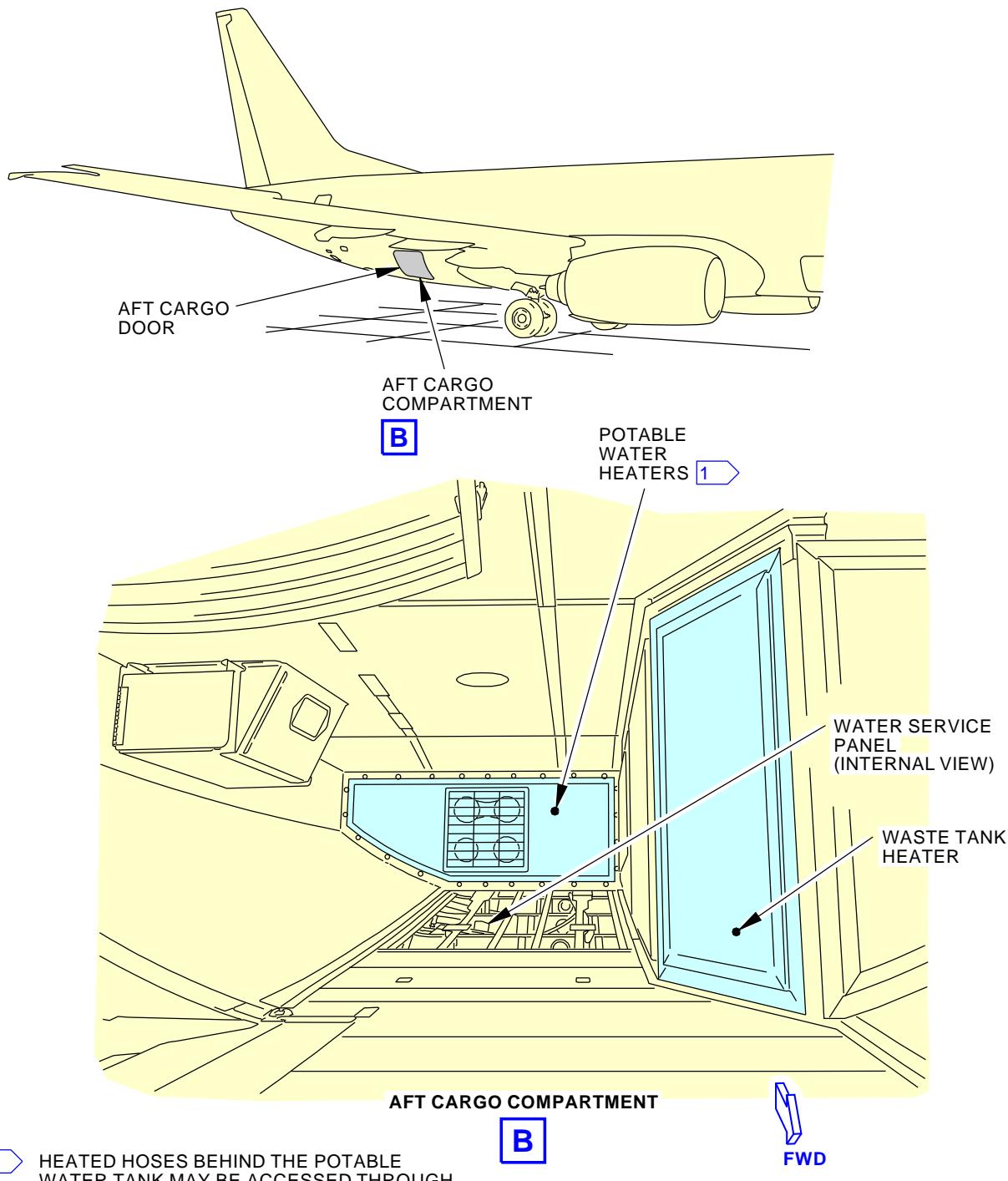
BOEING PROPRIETARY - Copyright © Unpublished Work - See title page for details

30-71-00

Page 205
Oct 15/2015



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL



1 HEATED HOSES BEHIND THE POTABLE
WATER TANK MAY BE ACCESSED THROUGH
THE PASSENGER COMPARTMENT FLOOR

G33939 S0006573209_V2

Drain and Water Supply Line Heater Access
Figure 201/30-71-00-990-802 (Sheet 2 of 3)

EFFECTIVITY
AKS ALL

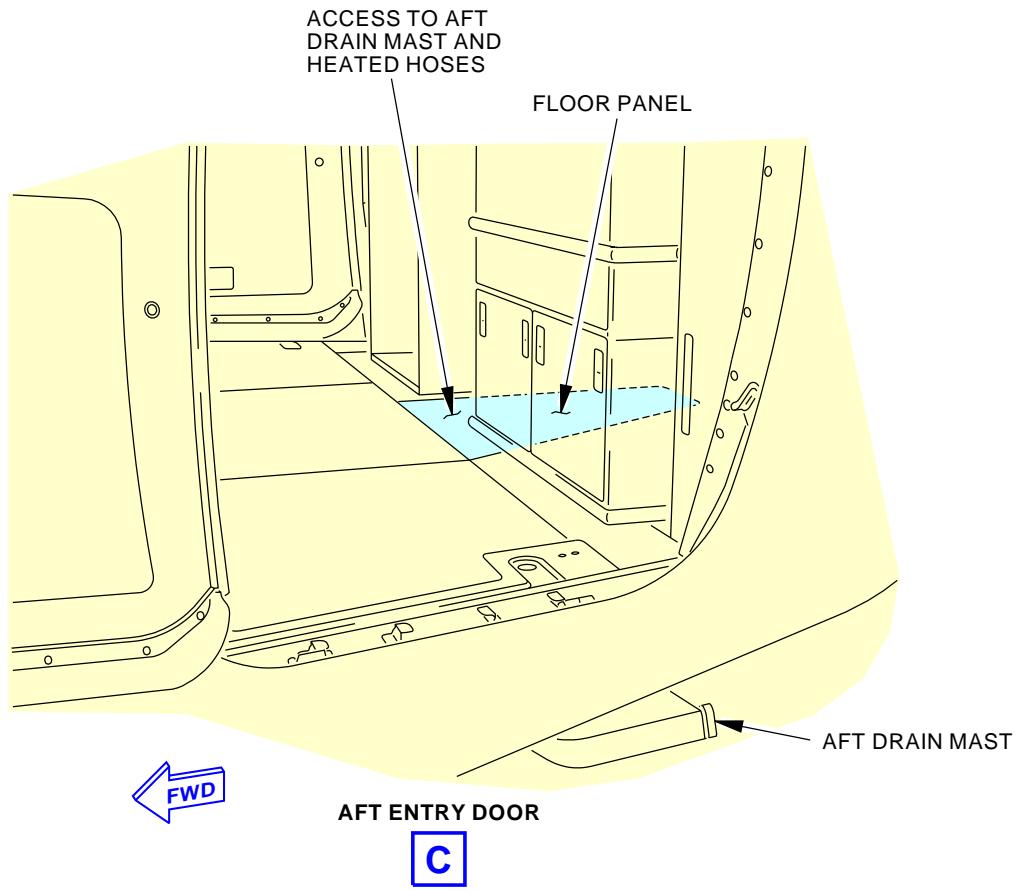
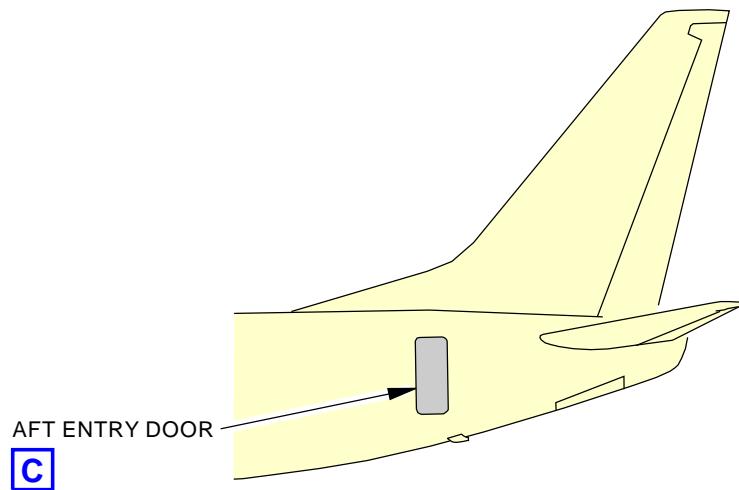
D633A101-AKS

30-71-00

Page 206
Oct 15/2015



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL



G33940 S0006573210_V2

Drain and Water Supply Line Heater Access
Figure 201/30-71-00-990-802 (Sheet 3 of 3)

EFFECTIVITY
AKS ALL

D633A101-AKS

BOEING PROPRIETARY - Copyright © Unpublished Work - See title page for details

30-71-00

Page 207
Oct 15/2015



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

TASK 30-71-00-440-801

4. Drain Heaters - Activation

(Figure 201)

A. General

- (1) This task will activate the power to the drain heaters.

B. Location Zones

Zone	Area
143	Area Below Aft Cargo Compartment - Left
144	Area Below Aft Cargo Compartment - Right

C. Procedure

SUBTASK 30-71-00-420-001

WARNING: BE CAREFUL WHEN YOU DO WORK AROUND ENERGIZED PANELS. HIGH VOLTAGES CAN KILL YOU.

- (1) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
D	18	C01463	WASTE/WTR LINE HEATERS
E	3	C00234	HEATERS DRAIN MAST GND
E	4	C00700	HEATERS DRAIN MAST AIR
E	5	C00233	HEATERS DRAIN
E	18	C01473	HOSE HEATERS

———— END OF TASK ————

EFFECTIVITY
AKS ALL

30-71-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

DRAIN AND WATER SUPPLY LINE HEATING - ADJUSTMENT/TEST

1. General

- A. This procedure has general instructions for testing the water supply, drains, and waste anti-icing system. This procedure includes these tests:
- (1) Drain mast heater ground and air mode tests
 - (2) Heater tests

TASK 30-71-00-720-801

2. Drain Mast Heater Ground and Air Mode Test

A. References

Reference	Title
24-22-00-860-813	Supply External Power (P/B 201)
32-09-00-840-801	Prepare to Put the Airplane in the Air Mode (P/B 201)
32-09-00-860-801	Put the Airplane in the Air Mode (P/B 201)
32-09-00-860-802	Return the Airplane to the Ground Mode (P/B 201)
38-31-01-000-801	Forward Drain Mast Removal (P/B 401)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1572	Thermometer - Infrared, Intrinsically Safe Part #: EX-MP4 A Supplier: 3GT36 Opt Part #: DHS24XC-FM Supplier: 08086 Opt Part #: DHS24XF-FM Supplier: 08086 Opt Part #: IR-16L3 IS Supplier: 75037
COM-2531	Clamp-On- Current Meter Part #: 324 Supplier: 89536 Part #: I800 Supplier: 89536 Opt Part #: 321 Supplier: 89536 Opt Part #: 322 Supplier: 89536 Opt Part #: 80I-600A Supplier: 89536 Opt Part #: MODEL 33 Supplier: 89536 Opt Part #: MODEL 36 Supplier: 89536

C. Location Zones

Zone	Area
143	Area Below Aft Cargo Compartment - Left

D. Prepare for the Procedure

SUBTASK 30-71-00-860-001

- (1) Do this task: Supply External Power, TASK 24-22-00-860-813.

SUBTASK 30-71-00-861-001

- (2) Make sure the CABIN/UTIL switch is set to the ON position.

EFFECTIVITY
AKS ALL

30-71-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

E. Check the Ground Mode Operation of the Drain Mast Heaters

SUBTASK 30-71-00-720-001

WARNING: DO NOT TOUCH THE DRAIN MAST. WHEN THE DRAIN MAST HEATER OPERATES, THE DRAIN MAST IS SUFFICIENTLY HOT TO BURN YOU.

- (1) Make sure that the forward and aft drain masts become warm.
 - (a) You can use an Infrared Thermometer, COM-1572 or other temperature measuring device to make sure the drain mast is at least 10 degrees F (6 degrees C) warmer than the ambient air temperature.
 - (b) As an alternative, you can use a clamp-on current meter, COM-2531 or equivalent to measure the current to the drain mast heater.
 - 1) Current to the drain mast indicates that the heater is operating.
 - 2) Refer to (TASK 38-31-01-000-801) for details to access the heater wiring.

SUBTASK 30-71-00-860-003

WARNING: YOU MUST DO THE STEPS IN THE TASK BELOW TO PREPARE THE SAFETY-SENSITIVE SYSTEMS FOR THE AIR MODE. FAILURE TO DO THE STEPS CORRECTLY WILL CAUSE THE AUTOMATIC OPERATION OF AIRPLANE SYSTEMS. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

- (2) Do this task: Prepare to Put the Airplane in the Air Mode, TASK 32-09-00-840-801.

SUBTASK 30-71-00-860-004

- (3) Put the airplane in the air mode. To put it in the air mode, do this task: Put the Airplane in the Air Mode, TASK 32-09-00-860-801.

SUBTASK 30-71-00-860-005

WARNING: DO NOT TOUCH THE DRAIN MAST. WHEN THE DRAIN MAST HEATER OPERATES, THE DRAIN MAST IS SUFFICIENTLY HOT TO BURN YOU.

CAUTION: DO NOT OPERATE THE DRAIN MAST HEATERS IN THE AIR MODE FOR MORE THAN 5 MINUTES. THE DRAIN MASTS WILL BECOME TOO HOT.

- (4) Make sure that this circuit breaker is closed:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	4	C00700	HEATERS DRAIN MAST AIR

SUBTASK 30-71-00-720-002

- (5) Make sure that the forward and aft drain masts become hot.
 - (a) You can use an Infrared Thermometer, COM-1572 or other temperature measuring device to make sure the drain mast is at least 10 degrees F (6 degrees C) warmer than the ground mode test temperature.
 - (b) As an alternative, you can use a clamp-on current meter, COM-2531 or equivalent to measure the current to the drain mast heater.
 - 1) Make sure there is greater current to the heater than in the ground mode.

SUBTASK 30-71-00-862-001

- (6) Make sure the CAB/UTIL switch is set to the OFF position.



30-71-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

SUBTASK 30-71-00-860-006

- (7) Put the airplane back in the ground mode. To put it in the ground mode, do this task: Return the Airplane to the Ground Mode, TASK 32-09-00-860-802.

———— END OF TASK ————

TASK 30-71-00-720-802

3. Water and Drain Heater Tests

(Figure 501)

A. References

Reference	Title
24-22-00-860-813	Supply External Power (P/B 201)
25-27-15-000-801	Carpet Removal (P/B 401)
25-27-15-400-801	Carpet - Installation (P/B 401)
25-27-21-000-801	Entry and Service Area Floor Covering - Removal (P/B 401)
25-27-21-400-801	Entry and Service Area Floor Covering - Installation (P/B 401)
25-52-06-000-801	Cargo Compartment Sidewall Lining - Removal (P/B 401)
25-52-06-400-801	Cargo Compartment Sidewall Lining - Installation (P/B 401)
25-52-10-000-801	Cargo Floor Panel Removal (P/B 401)
25-52-10-400-801	Cargo Floor Panel - Installation (P/B 401)
25-52-17-000-801	Forward Cargo Compartment Aft Bulkhead Liner - Removal (P/B 401)
25-52-17-400-801	Forward Cargo Compartment Aft Bulkhead Liner - Installation (P/B 401)
25-52-19-000-801	Aft Cargo Compartment Aft Bulkhead Liner - Removal (P/B 401)
25-52-19-400-801	Aft Cargo Compartment Aft Bulkhead Liner - Installation (P/B 401)
25-52-20-000-801	Waste Tank Enclosure Panel - Removal (P/B 401)
25-52-20-400-801	Waste Tank Enclosure Panel - Installation (P/B 401)
SSM 30-71-11	System Schematics Manual
WDM 30-71-11	Wiring Diagram Manual

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1572	Thermometer - Infrared, Intrinsically Safe Part #: EX-MP4 A Supplier: 3GT36 Opt Part #: DHS24XC-FM Supplier: 08086 Opt Part #: DHS24XF-FM Supplier: 08086 Opt Part #: IR-16L3 IS Supplier: 75037



30-71-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

(Continued)

Reference	Description
COM-2531	Clamp-On- Current Meter Part #: 324 Supplier: 89536 Part #: I800 Supplier: 89536 Opt Part #: 321 Supplier: 89536 Opt Part #: 322 Supplier: 89536 Opt Part #: 80I-600A Supplier: 89536 Opt Part #: MODEL 33 Supplier: 89536 Opt Part #: MODEL 36 Supplier: 89536

C. Consumable Materials

Reference	Description	Specification
G02319	Spray - Freeze - Miller-Stephenson MS-242N	
G02320	Ice - Crushed	

D. Location Zones

Zone	Area
143	Area Below Aft Cargo Compartment - Left

E. Prepare for the Procedure

SUBTASK 30-71-00-860-007

- (1) Do this task: Supply External Power, TASK 24-22-00-860-813.

F. Procedure

NOTE: You should not feel the heater as a procedure to measure for heat.

SUBTASK 30-71-00-010-001

- (1) Get access to the heater and controlling thermostat (if applicable).
 - (a) Use the schematic (SSM 30-71-11) to determine the location of the heater and thermostat.
 - (b) Use (Figure 501) to identify access requirements.
 - (c) Do the necessary tasks to access the heater and thermostat.
 - 1) Do this task: Cargo Floor Panel Removal, TASK 25-52-10-000-801.
 - 2) Do this task: Forward Cargo Compartment Aft Bulkhead Liner - Removal, TASK 25-52-17-000-801.
 - 3) Do this task: Aft Cargo Compartment Aft Bulkhead Liner - Removal, TASK 25-52-19-000-801.
 - 4) Do this task: Cargo Compartment Sidewall Lining - Removal, TASK 25-52-06-000-801.
 - 5) Do this task: Waste Tank Enclosure Panel - Removal, TASK 25-52-20-000-801.
 - 6) Do this task: Carpet Removal, TASK 25-27-15-000-801.
 - 7) Do this task: Entry and Service Area Floor Covering - Removal, TASK 25-27-21-000-801.

SUBTASK 30-71-00-720-003

- (2) If the heater is controlled by a thermostat apply the MS-242N spray, G02319, ice, G02320, or dry ice to decrease the temperature of the thermostat, (WDM 30-71-11).

SUBTASK 30-71-00-720-004

- (3) Make sure the heater gets warm.

EFFECTIVITY
AKS ALL

30-71-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

- (a) You can use a Infrared Thermometer, COM-1572 or other temperature measuring device to make sure there is an increase of at least 10 degrees F (6 degrees C) above the ambient air temperature.
- (b) As an alternative, you can use a clamp-on current meter, COM-2531 or equivalent to measure the current to the heater.
- (c) Current to the heater indicates that the heater is operating.

G. Put the Airplane Back to its Usual Condition

SUBTASK 30-71-00-410-002

- (1) Replace or close the panels or doors used to access the heater and thermostat.
 - (a) Do this task: Cargo Floor Panel - Installation, TASK 25-52-10-400-801.
 - (b) Do this task: Forward Cargo Compartment Aft Bulkhead Liner - Installation, TASK 25-52-17-400-801.
 - (c) Do this task: Aft Cargo Compartment Aft Bulkhead Liner - Installation, TASK 25-52-19-400-801.
 - (d) Do this task: Cargo Compartment Sidewall Lining - Installation, TASK 25-52-06-400-801.
 - (e) Do this task: Waste Tank Enclosure Panel - Installation, TASK 25-52-20-400-801.
 - (f) Do this task: Carpet - Installation, TASK 25-27-15-400-801.
 - (g) Do this task: Entry and Service Area Floor Covering - Installation, TASK 25-27-21-400-801

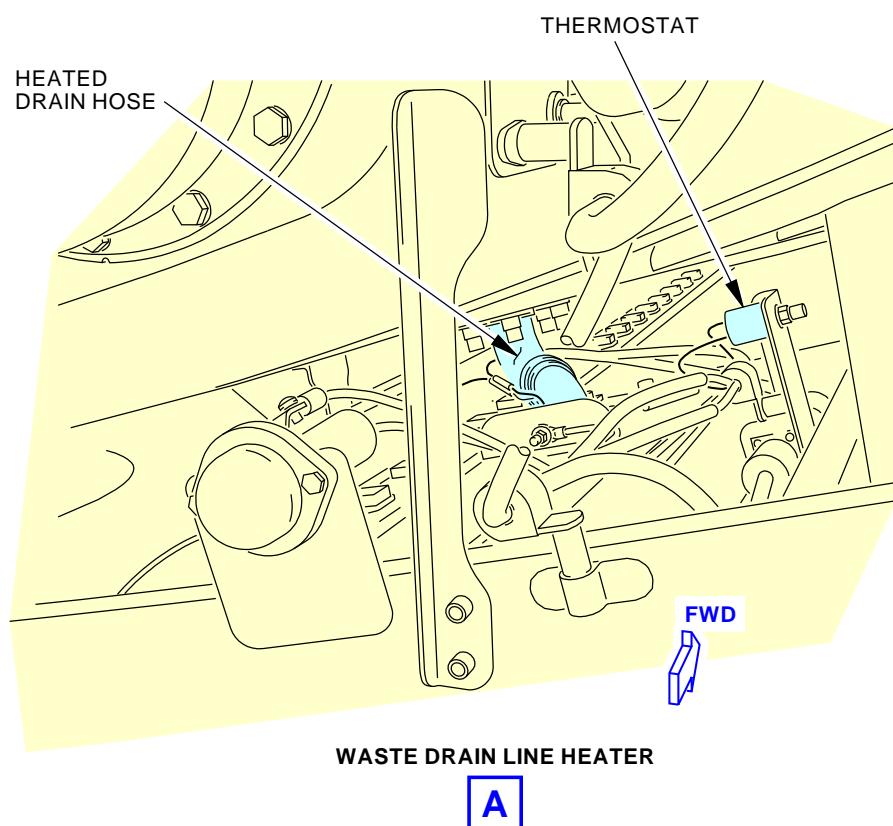
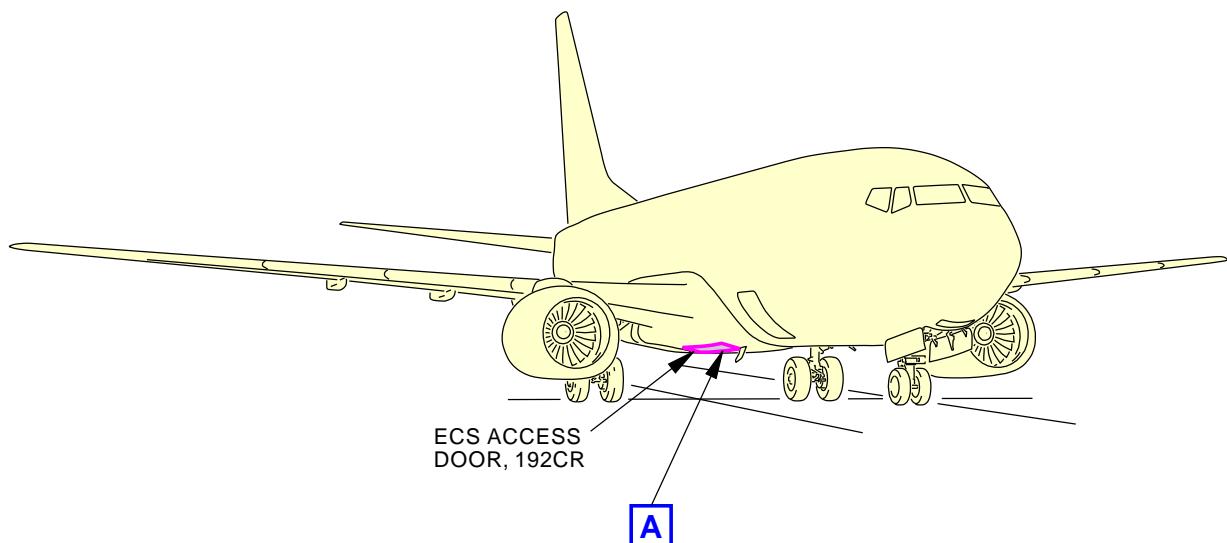
———— END OF TASK ————

EFFECTIVITY
AKS ALL

30-71-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL



G33932 S0006573208_V2

Drain and Water Supply Line Heater Access
Figure 501/30-71-00-990-801 (Sheet 1 of 3)

EFFECTIVITY
AKS ALL

30-71-00

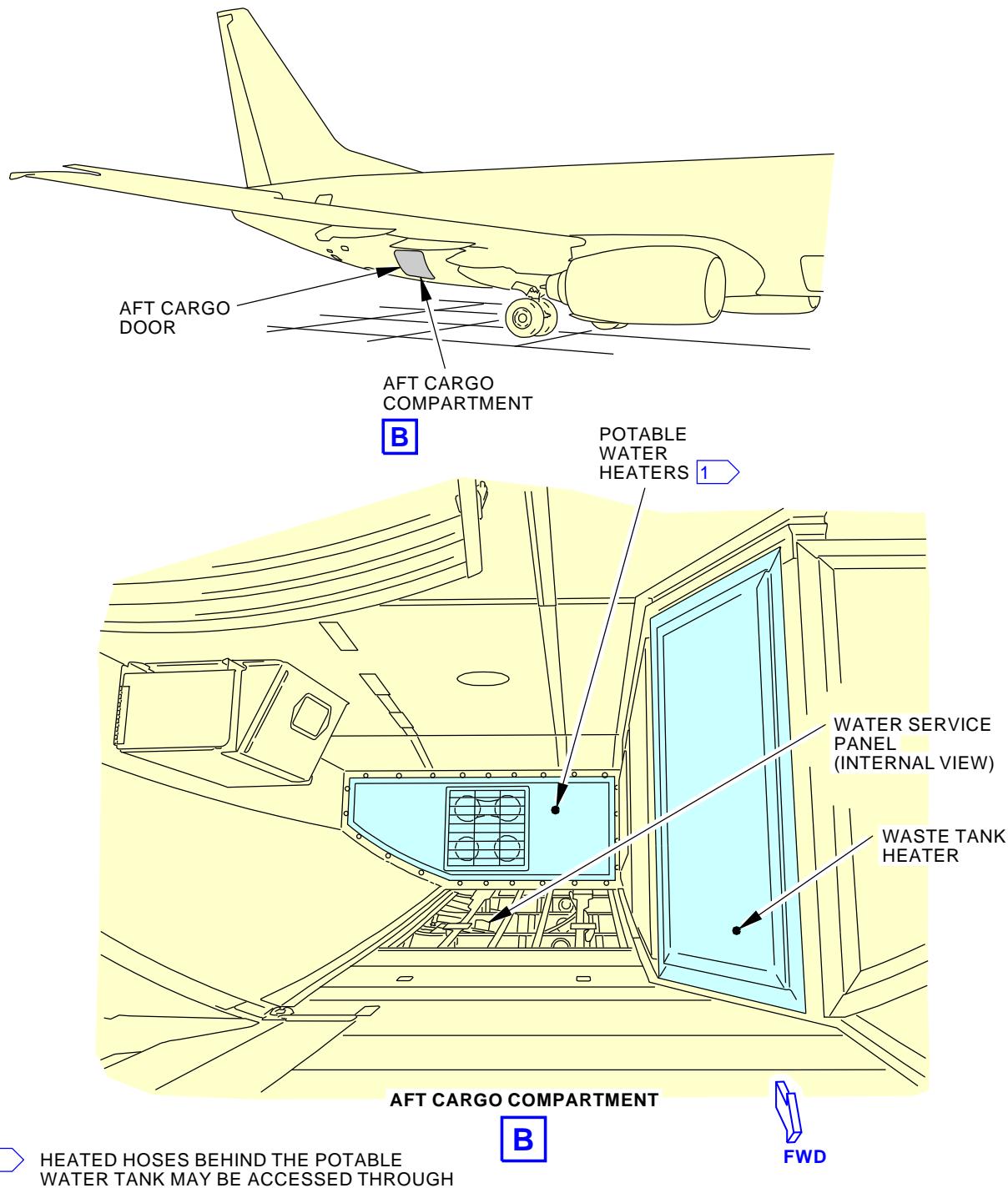
D633A101-AKS

BOEING PROPRIETARY - Copyright © Unpublished Work - See title page for details

Page 506
Oct 15/2015



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL



G33939 S0006573209_V2

Drain and Water Supply Line Heater Access
Figure 501/30-71-00-990-801 (Sheet 2 of 3)

EFFECTIVITY
AKS ALL

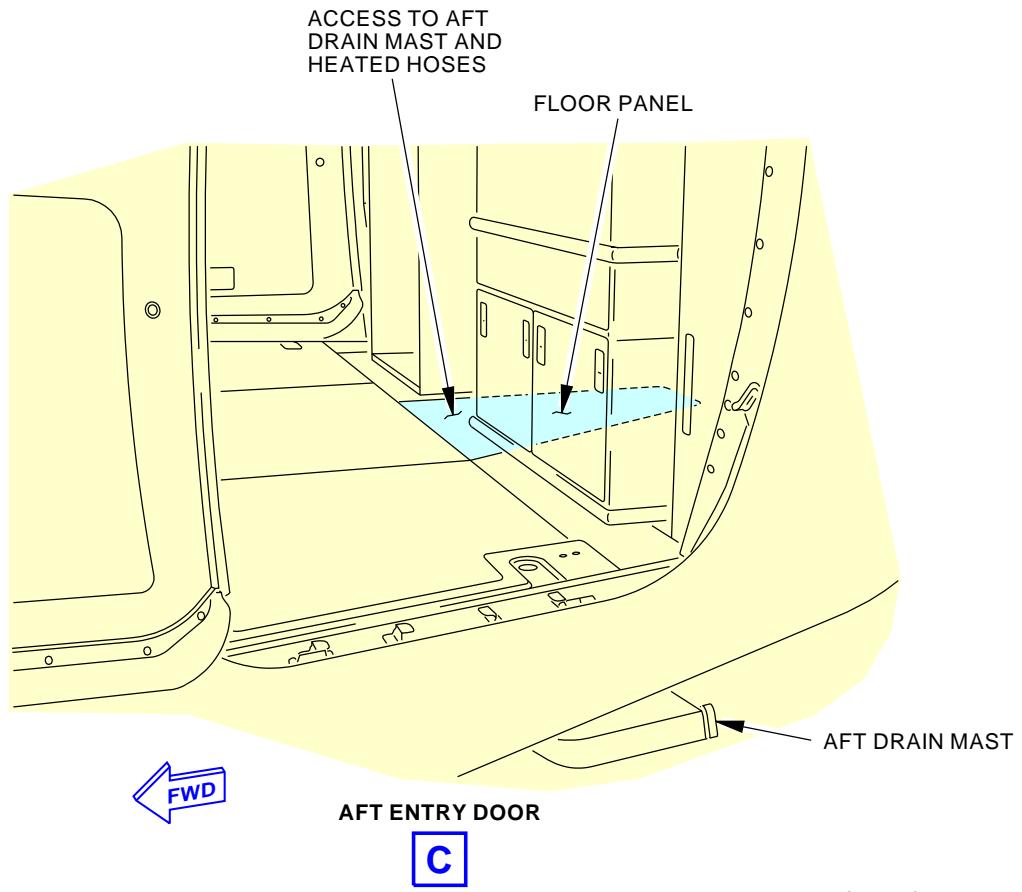
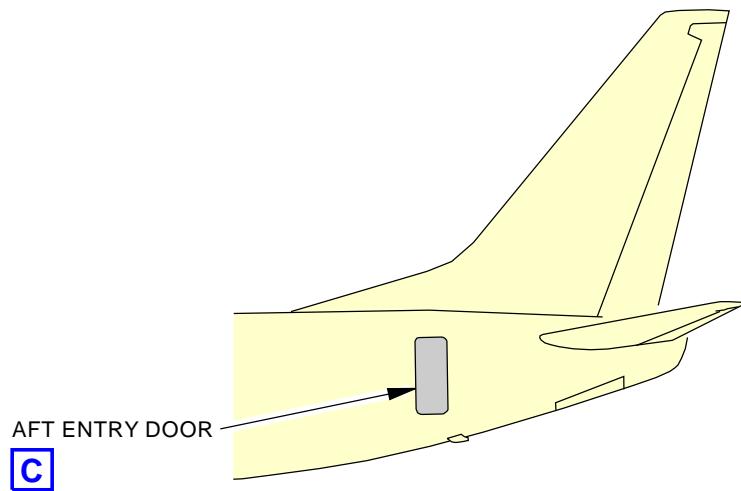
D633A101-AKS

30-71-00

Page 507
Oct 15/2015



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL



G33940 S0006573210_V2

Drain and Water Supply Line Heater Access
Figure 501/30-71-00-990-801 (Sheet 3 of 3)

EFFECTIVITY
AKS ALL

30-71-00

D633A101-AKS

BOEING PROPRIETARY - Copyright © Unpublished Work - See title page for details

Page 508
Oct 15/2015



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

POTABLE WATER FILL FITTING HEATER - REMOVAL/INSTALLATION

1. General

- A. This procedure has these tasks:
- (1) Potable Water Fill Fitting Heater Removal
 - (2) Potable Water Fill Fitting Heater Installation

TASK 30-71-01-000-801

2. Potable Water Fill Fitting Heater Removal

(Figure 401)

A. General

- (1) This task gives instructions to remove the Potable Water Fill Fitting Heater.

B. References

Reference	Title
25-52-10-000-801	Cargo Floor Panel Removal (P/B 401)

C. Location Zones

Zone	Area
142	Aft Cargo Compartment - Right
822	Aft Cargo Door

D. Access Panels

Number	Name/Location
145AL	Waste Service Door
822	Aft Cargo Door

E. Prepare for the Removal

SUBTASK 30-71-01-860-001

- (1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
D	18	C01463	WASTE/WTR LINE HEATERS
E	5	C00233	HEATERS DRAIN

Power Distribution Panel Number 1, P91

Row	Col	Number	Name
D	11	C00873	POT WATER COMPRESSOR

SUBTASK 30-71-01-010-001

- (2) Open this access panel:

Number Name/Location

145AL Waste Service Door

SUBTASK 30-71-01-040-001

- (3) Pull the handle for the potable water fill valve to the OPEN position.

NOTE: This handle is on the water service panel.

EFFECTIVITY
AKS ALL

D633A101-AKS

BOEING PROPRIETARY - Copyright © Unpublished Work - See title page for details

30-71-01

Page 401
Oct 15/2014



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

SUBTASK 30-71-01-010-002

- (4) Open this access panel:

Number Name/Location

822 Aft Cargo Door

SUBTASK 30-71-01-010-003

- (5) To remove the floor panel above the water service panel, do this task: Cargo Floor Panel Removal, TASK 25-52-10-000-801.

F. Potable Water Fill Fitting Heater Removal

SUBTASK 30-71-01-020-001

- (1) Disconnect the heated hose from the fill fitting heater [1].

SUBTASK 30-71-01-020-002

- (2) Remove the bolts [4] that attach the fill fitting and fill fitting heater [1] to the structure.

SUBTASK 30-71-01-020-003

- (3) Remove the thermal spacers [2], O-ring [3], and fill fitting heater [1].

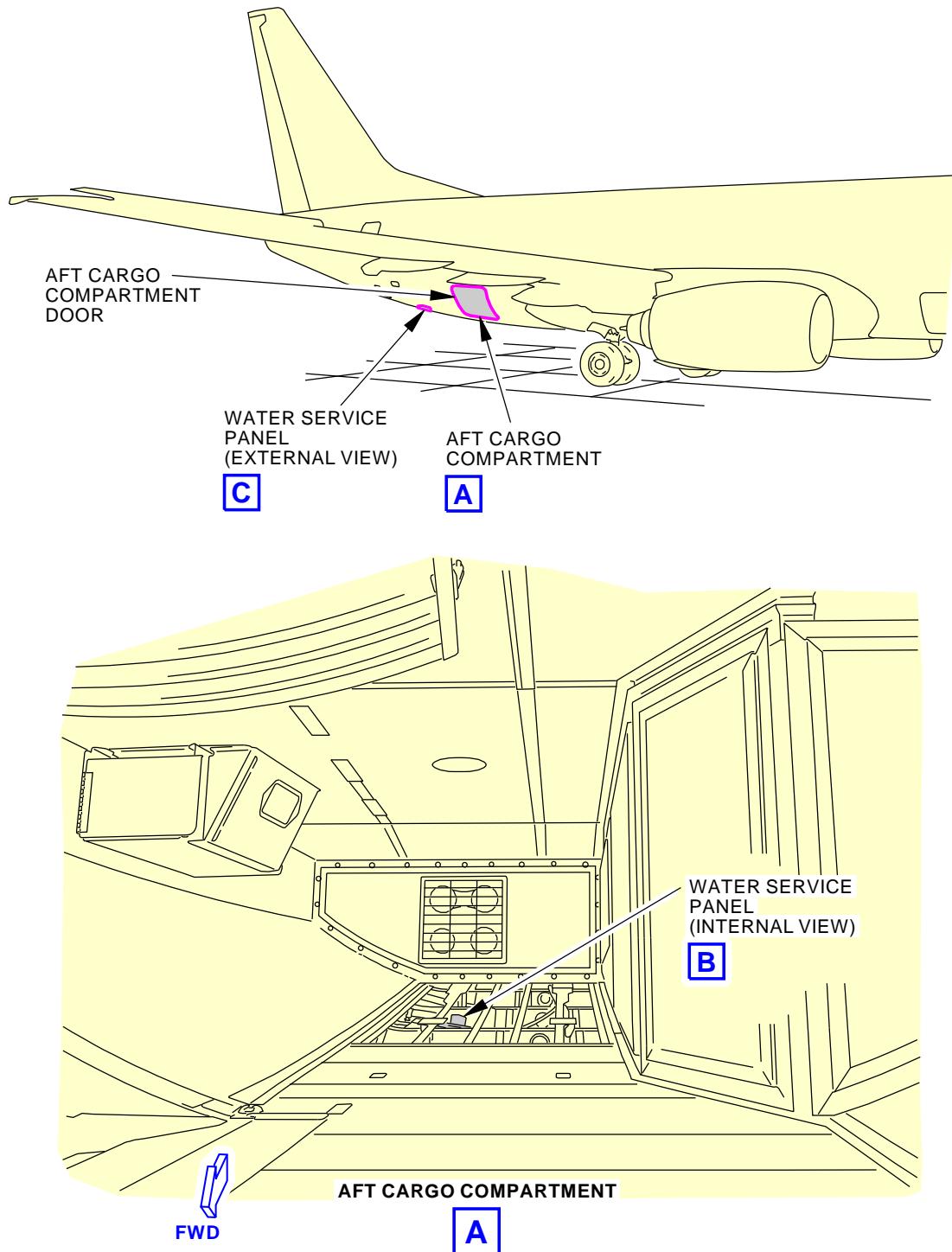
———— END OF TASK ————



30-71-01



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL



G25013 S0006573214_V2

Potable Water Fill Fitting Heater Installation
Figure 401/30-71-01-990-801 (Sheet 1 of 2)

EFFECTIVITY	AKS ALL
-------------	---------

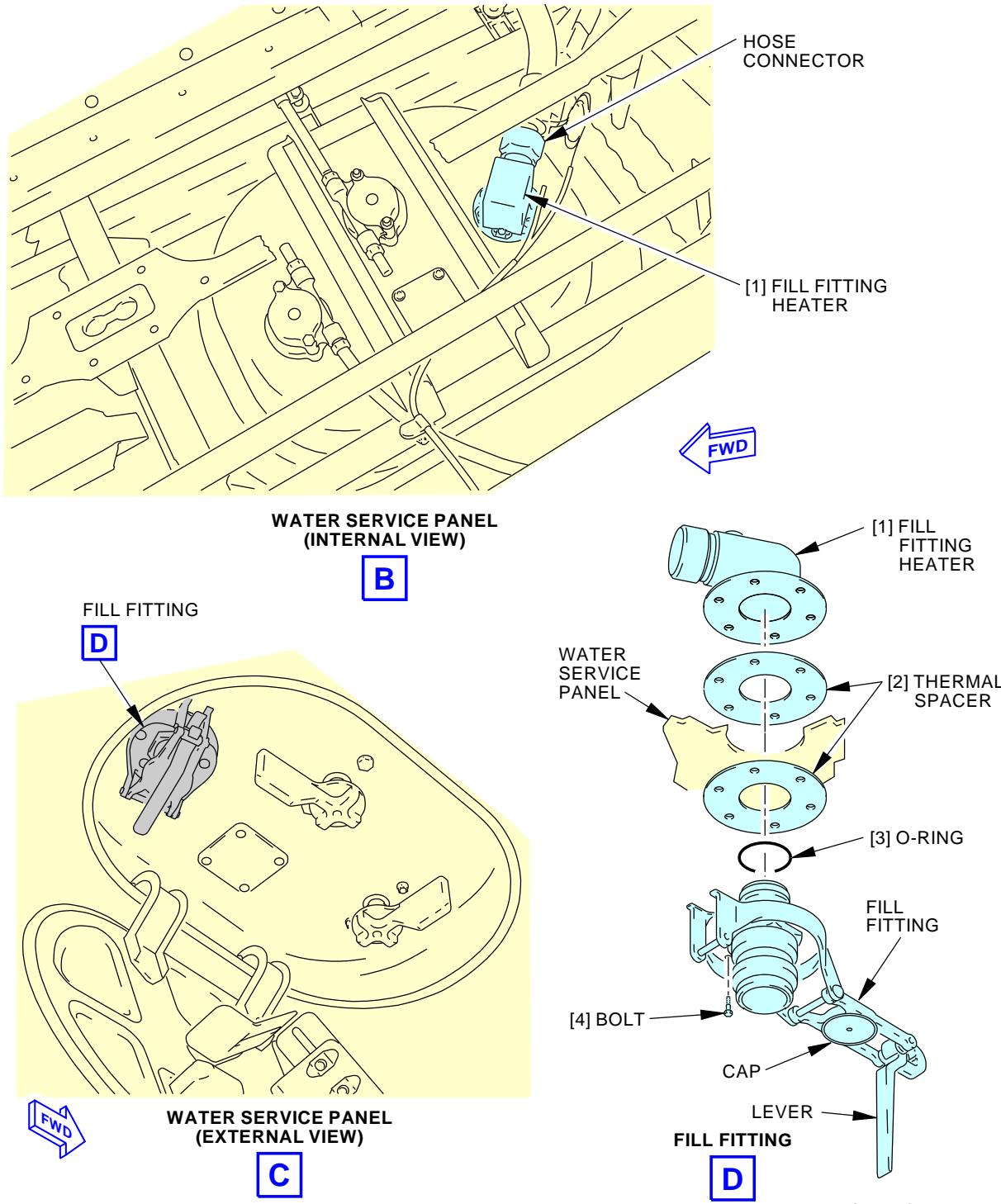
D633A101-AKS

30-71-01

Page 403
Oct 15/2015



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL



G25024 S0006573215_V2

Potable Water Fill Fitting Heater Installation
Figure 401/30-71-01-990-801 (Sheet 2 of 2)

EFFECTIVITY
AKS ALL

30-71-01



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

TASK 30-71-01-400-801

3. Potable Water Fill Fitting Heater Installation

(Figure 401)

A. References

Reference	Title
12-14-01-600-802	Potable Water Tank - Fill (P/B 301)
24-22-00-860-811	Supply Electrical Power (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)
25-52-10-400-801	Cargo Floor Panel - Installation (P/B 401)
38-10-00-600-801	Potable Water System - Disinfectant (P/B 201)

B. Consumable Materials

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS5-95

C. Location Zones

Zone	Area
142	Aft Cargo Compartment - Right
822	Aft Cargo Door

D. Access Panels

Number	Name/Location
145AL	Waste Service Door
822	Aft Cargo Door

E. Potable Water Fill Fitting Heater Installation

SUBTASK 30-71-01-420-001

- (1) Apply the sealant, A00247, to all the mating surfaces of the thermal spacers [2] and fill fitting heater [1].

SUBTASK 30-71-01-420-002

- (2) Put the fill fitting heater [1], thermal spacer [2], and O-ring [3] in position.

SUBTASK 30-71-01-420-005

- (3) Apply sealant, A00247, to the bolts [4] and install the bolts [4].

SUBTASK 30-71-01-420-004

- (4) Connect the heated hose to the fill fitting heater [1].

- (a) Tighten the heated hose to the fill fitting to 620 ± 80 in-lb (70 ± 9 N·m).

SUBTASK 30-71-01-670-001

- (5) Disinfect the potable water system (TASK 38-10-00-600-801).

F. Potable Water Fill Fitting Heater Installation Test

SUBTASK 30-71-01-860-002

- (1) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
D	18	C01463	WASTE/WTR LINE HEATERS
E	5	C00233	HEATERS DRAIN

EFFECTIVITY
AKS ALL

30-71-01



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

Power Distribution Panel Number 1, P91

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	11	C00873	POT WATER COMPRESSOR

SUBTASK 30-71-01-860-003

- (2) Do this task: Supply Electrical Power, TASK 24-22-00-860-811

SUBTASK 30-71-01-720-001

- (3) Make sure that the fill fitting heater [1] becomes warm.

SUBTASK 30-71-01-710-001

- (4) Fill the potable water tank (TASK 12-14-01-600-802).
(a) Make sure that there is no leakage at the water fill fitting.

G. Put Airplane Back to Its Usual Condition

SUBTASK 30-71-01-410-001

WARNING: SEAL THE CARGO COMPARTMENT WITH THE LINING. OBEY THE INSTRUCTIONS IN THE SPECIFIED PROCEDURE WHEN YOU INSTALL THE LINING. IF YOU INSTALL THE LINING INCORRECTLY, THE SMOKE CAN GET INTO THE PASSENGER COMPARTMENT DURING A FIRE.

- (1) Do this task: Cargo Floor Panel - Installation, TASK 25-52-10-400-801.

SUBTASK 30-71-01-410-002

- (2) Close this access door:

<u>Number</u>	<u>Name/Location</u>
822	Aft Cargo Door

SUBTASK 30-71-01-410-003

- (3) Close this access panel:

<u>Number</u>	<u>Name/Location</u>
145AL	Waste Service Door

SUBTASK 30-71-01-860-004

- (4) Do this task: Remove Electrical Power, TASK 24-22-00-860-812.

———— END OF TASK ————

EFFECTIVITY
AKS ALL

30-71-01



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

GRAY WATER DRAIN LINE HEATER - REMOVAL/INSTALLATION

1. General

- A. This procedure has these tasks:
- (1) Gray Water Drain Line Heater Removal
 - (2) Gray Water Drain Line Heater Installation

TASK 30-71-02-000-801

2. Gray Water Drain Line Heater Removal

(Figure 401)

A. General

- (1) This task gives instructions to remove the Gray Water Drain Line Heater.
- (2) A heated drain hose prevents water flowing to the forward drain mast from freezing. The heated hose is under a floor panel in the forward cargo compartment. A thermostat controls the power to the heater and is near the heated drain hose.

B. References

Reference	Title
25-52-17-000-801	Forward Cargo Compartment Aft Bulkhead Liner - Removal (P/B 401)
WDM 30-71-12	Wiring Diagram Manual

C. Location Zones

Zone	Area
122	Forward Cargo Compartment - Right

D. Access Panels

Number	Name/Location
192CR	ECS Access Door
821	Forward Cargo Door

E. Prepare for the Removal

SUBTASK 30-71-02-860-004

- (1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
E	3	C00234	HEATERS DRAIN MAST GND
E	4	C00700	HEATERS DRAIN MAST AIR

SUBTASK 30-71-02-010-003

- (2) Open this access panel:

Number	Name/Location
821	Forward Cargo Door

SUBTASK 30-71-02-010-004

- (3) Remove the aft bulkhead liner from the forward cargo compartment. To remove the liner, do this task: Forward Cargo Compartment Aft Bulkhead Liner - Removal, TASK 25-52-17-000-801.



30-71-02



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

F. Gray Water Drain Line Heater Removal

SUBTASK 30-71-02-020-001

- (1) Disconnect the electrical splices from the gray water drain line [1] (WDM 30-71-12).

SUBTASK 30-71-02-020-002

- (2) Remove the clamp [4] from the gray water drain line [1].

SUBTASK 30-71-02-020-007

- (3) Remove the bolts [5] and washers [6] from the drain line fitting.

SUBTASK 30-71-02-020-008

- (4) Remove the drain line fitting.

SUBTASK 30-71-02-020-003

- (5) Open this access panel:

Number Name/Location

192CR ECS Access Door

SUBTASK 30-71-02-020-004

- (6) Remove the clamp [4] from the gray water drain line [1].

SUBTASK 30-71-02-020-006

- (7) Remove the gray water drain line [1] from the airplane.

———— END OF TASK ————

EFFECTIVITY
AKS ALL

30-71-02

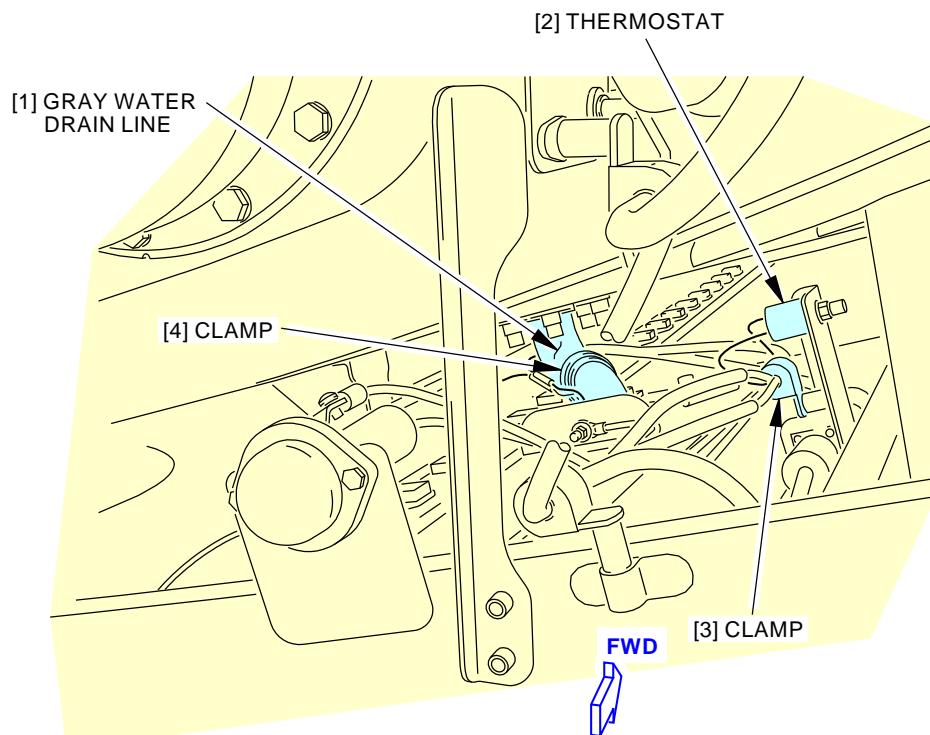
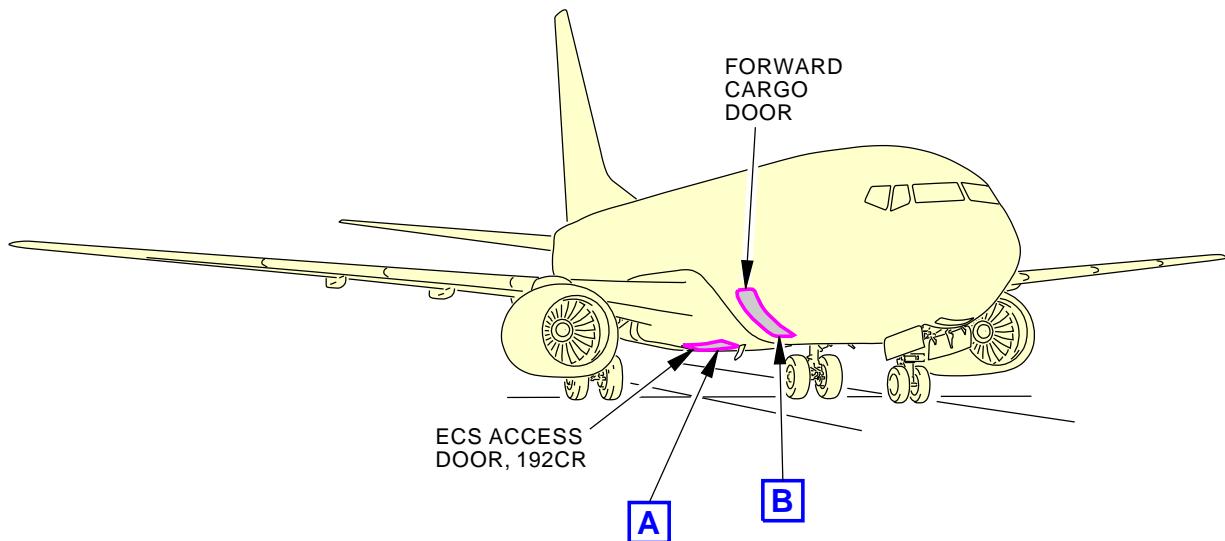
D633A101-AKS

BOEING PROPRIETARY - Copyright © Unpublished Work - See title page for details

Page 402
Oct 15/2014

 BOEING

737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL



G28268 S0006573220_V2

Gray Water Drain Line Installation
Figure 401/30-71-02-990-801 (Sheet 1 of 2)

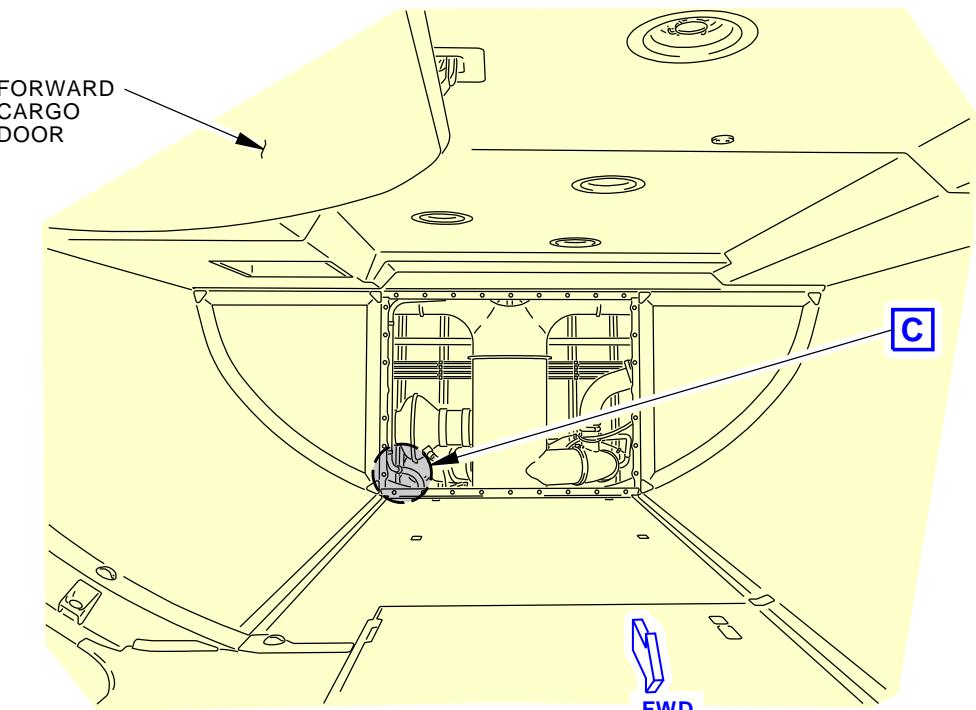
EFFECTIVITY
AKS ALL

30-71-02

D633A101-AKS

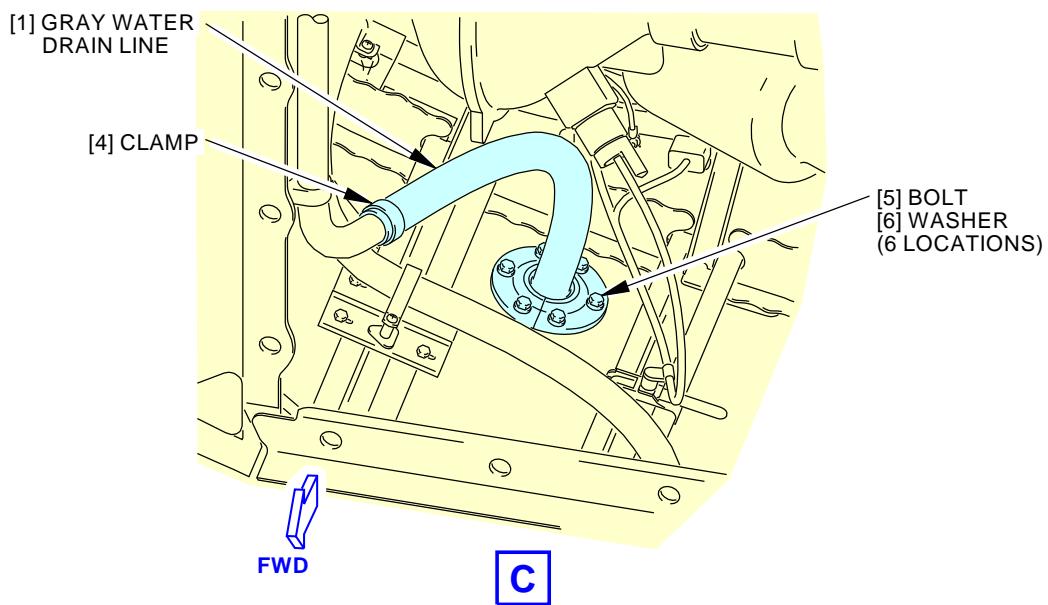
BOEING PROPRIETARY - Copyright © Unpublished Work - See title page for details

BOEING
737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL



FORWARD CARGO COMPARTMENT

B



G28276 S0006573221_V2

Gray Water Drain Line Installation
Figure 401/30-71-02-990-801 (Sheet 2 of 2)

EFFECTIVITY
AKS ALL

30-71-02

D633A101-AKS

BOEING PROPRIETARY - Copyright © Unpublished Work - See title page for details

Page 404
Oct 15/2015



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

TASK 30-71-02-400-801

3. Gray Water Drain Line Heater Installation

(Figure 401)

A. General

- (1) This task gives instructions to install the Gray Water Drain Line Heater.

B. References

Reference	Title
24-22-00-860-811	Supply Electrical Power (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)
25-52-17-400-801	Forward Cargo Compartment Aft Bulkhead Liner - Installation (P/B 401)

C. Consumable Materials

Reference	Description	Specification
G01012	Compound - Carbon Dioxide, Solid (Dry Ice - Any Commercial Grade)	
G02319	Spray - Freeze - Miller-Stephenson MS-242N	
G02320	Ice - Crushed	

D. Location Zones

Zone	Area
122	Forward Cargo Compartment - Right

E. Access Panels

Number	Name/Location
192CR	ECS Access Door
821	Forward Cargo Door

F. Gray Water Drain Line Heater Installation

SUBTASK 30-71-02-420-001

- (1) Put the gray water drain line [1] in position through the cargo compartment floor.

SUBTASK 30-71-02-420-002

- (2) Tighten the clamp [4] on the gray water drain line [1].

SUBTASK 30-71-02-020-005

- (3) Re-install the drain fitting and secure with the bolts [5] and washers [6].

SUBTASK 30-71-02-420-003

- (4) Connect the electrical splices to the gray water drain line [1].

G. Gray Water Drain Line Heater Installation Test

SUBTASK 30-71-02-720-001

- (1) Measure the temperature of the gray water drain line [1].

SUBTASK 30-71-02-860-002

- (2) Do this task: Supply Electrical Power, TASK 24-22-00-860-811.



30-71-02



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

SUBTASK 30-71-02-860-003

- (3) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	3	C00234	HEATERS DRAIN MAST GND
E	4	C00700	HEATERS DRAIN MAST AIR

SUBTASK 30-71-02-720-002

- (4) If the temperature in the area is lower than 45°F (7°C):
(a) Make sure the temperature of the gray water drain line [1] is 5 degrees F (3 degrees C) higher than the first temperature you measured.

SUBTASK 30-71-02-720-003

- (5) If the temperature in the area is higher than 45°F (7°C):
(a) Decrease the temperature of the thermostat [2].

NOTE: You can use MS-242N spray, G02319, ice, G02320, or compound, G01012, to decrease the temperature. Permit 3 to 5 minutes for the temperature of the thermostat to decrease before you check the temperature of the gray water drain line heater [1].

- (b) Make sure the gray water drain line [1] gets warm.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 30-71-02-410-001

WARNING: SEAL THE CARGO COMPARTMENT WITH THE LINING. OBEY THE INSTRUCTIONS IN THE SPECIFIED PROCEDURE WHEN YOU INSTALL THE LINING. IF YOU INSTALL THE LINING INCORRECTLY, SMOKE CAN GET INTO THE PASSENGER COMPARTMENT DURING A FIRE.

- (1) Re-install the bulkhead liner. To install the liner, do this task: Forward Cargo Compartment Aft Bulkhead Liner - Installation, TASK 25-52-17-400-801.

SUBTASK 30-71-02-410-002

- (2) Close this access door:

<u>Number</u>	<u>Name/Location</u>
821	Forward Cargo Door

SUBTASK 30-71-02-410-003

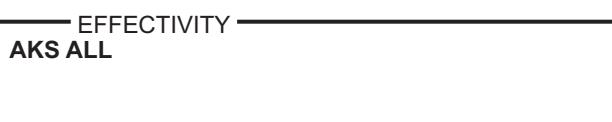
- (3) Close this access door:

<u>Number</u>	<u>Name/Location</u>
192CR	ECS Access Door

SUBTASK 30-71-02-860-005

- (4) Do this task: Remove Electrical Power, TASK 24-22-00-860-812.

———— END OF TASK ————



30-71-02



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

WASTE DRAIN LINE HEATER - REMOVAL/INSTALLATION

1. General

- A. This procedure has these tasks:
- (1) Waste Drain Line Heater Removal
 - (2) Waste Drain Line Heater Installation

TASK 30-71-03-000-801

2. Waste Drain Line Heater Removal

(Figure 401)

A. General

- (1) This task gives instructions to remove the Waste Drain Line Heater.
- (2) The heater blanket covers the ball valve of the waste tank.

B. References

Reference	Title
25-52-20-000-801	Waste Tank Enclosure Panel - Removal (P/B 401)
WDM 30-71-12	Wiring Diagram Manual

C. Location Zones

Zone	Area
141	Aft Cargo Compartment - Left

D. Access Panels

Number	Name/Location
822	Aft Cargo Door

E. Prepare for the Removal

SUBTASK 30-71-03-860-001

- (1) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
E	5	C00233	HEATERS DRAIN

SUBTASK 30-71-03-010-001

- (2) Open this access panel:

Number Name/Location

822 Aft Cargo Door

SUBTASK 30-71-03-010-002

- (3) Do this task: Waste Tank Enclosure Panel - Removal, TASK 25-52-20-000-801.

F. Waste Drain Line Heater Removal

SUBTASK 30-71-03-020-001

- (1) Remove the clamp [2] from the heater blanket [1] wires.

SUBTASK 30-71-03-020-002

- (2) Disconnect the electrical connectors [5] (WDM 30-71-12).



30-71-03



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

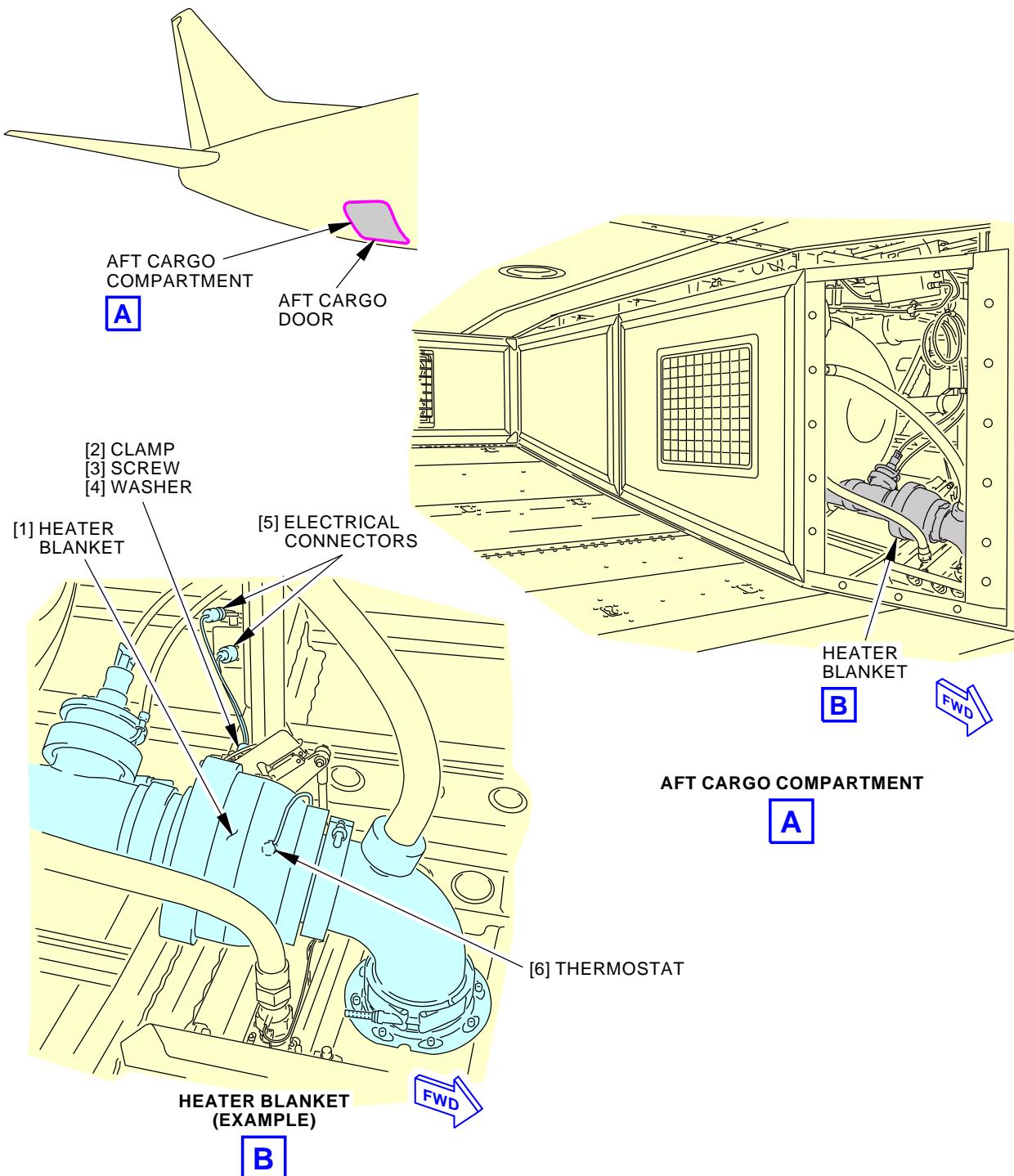
SUBTASK 30-71-03-020-003

- (3) Pull the velcro hook and pile apart to remove the heater blanket [1].

———— END OF TASK ——

— EFFECTIVITY —
AKS ALL

30-71-03



F92151 S0006573226_V2

Waste Drain Line Heater Installation
Figure 401/30-71-03-990-801

EFFECTIVITY
AKS ALL

30-71-03

D633A101-AKS



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

TASK 30-71-03-400-801

3. Waste Drain Line Heater Installation

(Figure 401)

A. General

- (1) This task gives instructions to install the Waste Drain Line Heater.

B. References

Reference	Title
24-22-00-860-811	Supply Electrical Power (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)
25-52-20-400-801	Waste Tank Enclosure Panel - Installation (P/B 401)

C. Consumable Materials

Reference	Description	Specification
G01012	Compound - Carbon Dioxide, Solid (Dry Ice - Any Commercial Grade)	
G02319	Spray - Freeze - Miller-Stephenson MS-242N	
G02320	Ice - Crushed	
G50333	Tape - Hook/Loop Fastener, Flame Propagation Resistant	BMS8-372

D. Location Zones

Zone	Area
141	Aft Cargo Compartment - Left

E. Access Panels

Number	Name/Location
822	Aft Cargo Door

F. Waste Drain Line Heater Installation

SUBTASK 30-71-03-420-001

- (1) Put the heater blanket [1] around the drain line ball valve.

AKS ALL; AIRPLANES WITH FAR 25.856(a) COMPLIANT THERMAL/AcouSTIC INSULATION MATERIALS

SUBTASK 30-71-03-420-004

- (2) Push the hook/loop fastening tape, G50333, and pile together to attach the heater blanket [1].

AKS ALL

SUBTASK 30-71-03-420-003

- (3) Connect the electrical connectors [5].

SUBTASK 30-71-03-020-004

- (4) Replace the clamp [2] which secures the electrical wiring.

G. Waste Drain Line Heater Installation Test

SUBTASK 30-71-03-720-001

- (1) Measure the temperature of the heater blanket [1].

SUBTASK 30-71-03-860-002

- (2) Do this task: Supply Electrical Power, TASK 24-22-00-860-811.

EFFECTIVITY
AKS ALL

D633A101-AKS

30-71-03



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

SUBTASK 30-71-03-860-003

- (3) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	5	C00233	HEATERS DRAIN

SUBTASK 30-71-03-720-002

- (4) If the temperature in the area is lower than 45°F (7°C):
(a) Make sure the temperature of the heater blanket [1] is 5 degrees F (3 degrees C) higher than the first temperature you measured.

SUBTASK 30-71-03-720-003

- (5) If the temperature in the area is higher than 45°F (7°C):
(a) Feel the heater blanket [1] to find the thermostat [6].
NOTE: The thermostat is approximately 1 inch in diameter and is below the skin of the heater blanket.
(b) Decrease the temperature of the thermostat to below 45 degrees (7 degrees C).
NOTE: You can use MS-242N spray, G02319, ice, G02320, or compound, G01012, to decrease the temperature. Permit 3 to 5 minutes for the temperature of the thermostat to decrease before you check the temperature of the heater blanket.
(c) Make sure the heater blanket [1] gets warm.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 30-71-03-410-001

WARNING: SEAL THE CARGO COMPARTMENT WITH THE LINING. OBEY THE INSTRUCTIONS IN THE SPECIFIED PROCEDURE WHEN YOU INSTALL THE LINING. IF YOU INSTALL THE LINING INCORRECTLY, SMOKE CAN GET INTO THE PASSENGER COMPARTMENT DURING A FIRE.

- (1) Do this task: Waste Tank Enclosure Panel - Installation, TASK 25-52-20-400-801.

SUBTASK 30-71-03-410-002

- (2) Close this access door:

<u>Number</u>	<u>Name/Location</u>
822	Aft Cargo Door

SUBTASK 30-71-03-860-004

- (3) Do this task: Remove Electrical Power, TASK 24-22-00-860-812.

———— END OF TASK ————



30-71-03



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

WASTE TANK RINSE FITTING HEATER - REMOVAL/INSTALLATION

1. General

- A. This procedure has these tasks:
- (1) Waste Tank Rinse Fitting Heater Removal
 - (2) Waste Tank Rinse Fitting Heater Installation.

TASK 30-71-04-000-801

2. Waste Tank Rinse Fitting Heater Removal

(Figure 401)

A. General

- (1) This task gives instructions to remove the Waste Tank Rinse Fitting Heater.

B. References

Reference	Title
12-17-01-610-801	Waste Tank Servicing (P/B 301)
25-52-20-000-801	Waste Tank Enclosure Panel - Removal (P/B 401)

C. Location Zones

Zone	Area
143	Area Below Aft Cargo Compartment - Left

D. Access Panels

Number	Name/Location
822	Aft Cargo Door

E. Prepare for the Removal

SUBTASK 30-71-04-610-001

- (1) Do this task: Waste Tank Servicing, TASK 12-17-01-610-801.

NOTE: Do not add the chemical precharge after you do the task to drain and flush the waste tanks.

SUBTASK 30-71-04-010-001

- (2) Open this access door:

Number	Name/Location
822	Aft Cargo Door

SUBTASK 30-71-04-010-002

- (3) Do this task: Waste Tank Enclosure Panel - Removal, TASK 25-52-20-000-801.

SUBTASK 30-71-04-860-002

- (4) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
D	18	C01463	WASTE/WTR LINE HEATERS

F. Waste Tank Rinse Fitting Heater Removal

SUBTASK 30-71-04-020-002

- (1) Remove the splices from the rinse fitting heater [2].

EFFECTIVITY
AKS ALL

30-71-04



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

SUBTASK 30-71-04-020-003

- (2) Remove the rinse hose [1] from the rinse fitting heater [2].

SUBTASK 30-71-04-020-004

- (3) Remove the rinse fitting heater thermostat [3] from the airplane structure.

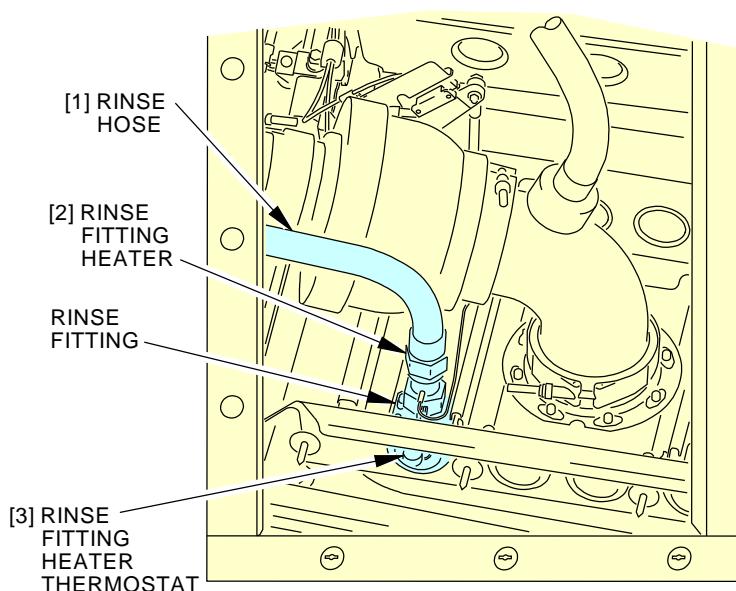
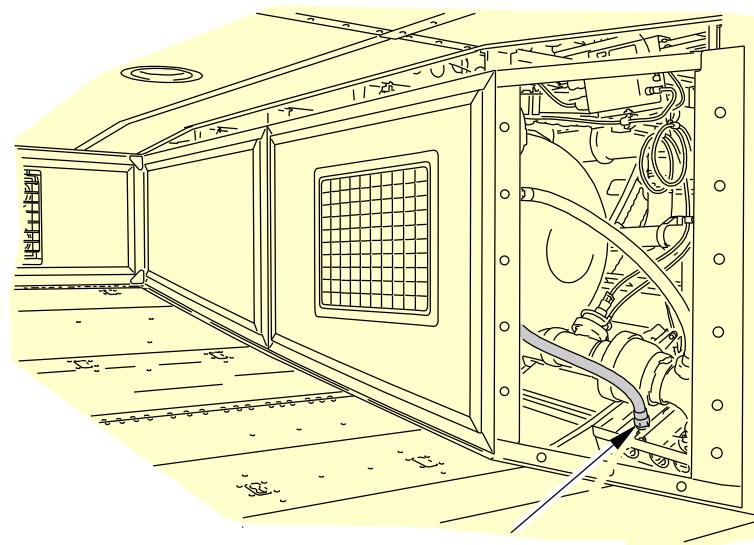
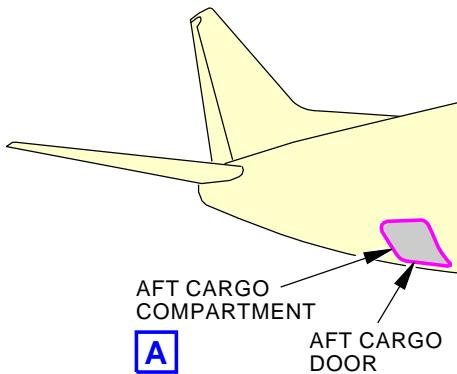
SUBTASK 30-71-04-020-005

- (4) Remove the rinse fitting heater [2] from the rinse fitting.

———— END OF TASK ————

EFFECTIVITY
AKS ALL

30-71-04



G22184 S0006573231_V2

Waste Tank Rinse Fitting Heater Installation Figure 401/30-71-04-990-801

 EFFECTIVITY
AKS ALL

30-71-04

D633A101-AKS



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

TASK 30-71-04-400-801

3. Waste Tank Rinse Fitting Heater Installation

(Figure 401)

A. General

- (1) This task gives instructions to install the Waste Tank Rinse Fitting Heater.

B. References

Reference	Title
12-17-01-610-801	Waste Tank Servicing (P/B 301)
25-52-20-400-801	Waste Tank Enclosure Panel - Installation (P/B 401)

C. Consumable Materials

Reference	Description	Specification
A00870	Adhesive - Urethane Adhesive for Bonding, 2 Part, Room Temp Cure (for automatic blending)	BMS5-105 Type II
B00083	Solvent - VM&P Naphthas	ASTM D-3735 Type III
G01012	Compound - Carbon Dioxide, Solid (Dry Ice - Any Commercial Grade)	
G02319	Spray - Freeze - Miller-Stephenson MS-242N	
G02320	Ice - Crushed	

D. Location Zones

Zone	Area
143	Area Below Aft Cargo Compartment - Left

E. Access Panels

Number	Name/Location
146AR	Water Service Door
822	Aft Cargo Door

F. Waste Tank Rinse Fitting Heater Installation

SUBTASK 30-71-04-420-001

- (1) Install the rinse fitting heater [2] on the service panel rinse fitting.
(a) Torque the rinse fitting heater [2] to 300 in-lb (34 N·m) to 350 in-lb (40 N·m).

SUBTASK 30-71-04-160-001

- (2) Prepare the pan surface for attaching the rinse fitting heater thermostat [3].
(a) Remove all remaining adhesive.
(b) Wipe the pan surface with solvent, B00083.

SUBTASK 30-71-04-390-001

- (3) Install the rinse fitting heater thermostat [3] to the pan surface.

NOTE: Make sure that you do not install the rinse fitting heater thermostat on a rivet or other fastener.

- (a) If the temperature is less than 65°F (18°C), heat the pan surface.

NOTE: At 65°F (18°C), the handling time for the adhesive is 3 hours, full cure time is 24 hours. At 140°F (60°C)(maximum), the handling time is 20 minutes, full cure time is 2 hours.

EFFECTIVITY

AKS ALL

30-71-04



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

- (b) Attach the rinse fitting heater thermostat [3] to the pan surface with adhesive, A00870, any class.

SUBTASK 30-71-04-420-002

- (4) Attach the rinse hose [1] to the rinse fitting heater [2].
(a) Torque the rinse hose connect to 300 in-lb (34 N·m) to 350 in-lb (40 N·m).

SUBTASK 30-71-04-420-003

- (5) Attach splices to the rinse fitting heater [2] wiring.

SUBTASK 30-71-04-860-001

- (6) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	18	C01463	WASTE/WTR LINE HEATERS

G. Waste Tank Rinse Fitting Heater Installation Test

SUBTASK 30-71-04-610-002

- (1) Cool the rinse fitting heater thermostat with ice, G02320, MS-242N spray, G02319, or compound, G01012.

SUBTASK 30-71-04-610-003

- (2) Make sure that the rinse fitting heater [2] becomes warm.

SUBTASK 30-71-04-170-001

- (3) Fill the waste tank with 30 gal (114 l) to 40 gal (151 l) of water.

SUBTASK 30-71-04-790-001

- (4) Examine the rinse fitting assembly and the connections for leakage.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 30-71-04-610-004

- (1) Do this task: Waste Tank Servicing, TASK 12-17-01-610-801.

SUBTASK 30-71-04-410-001

WARNING: SEAL THE CARGO COMPARTMENT WITH THE LINING. OBEY THE INSTRUCTIONS IN THE SPECIFIED PROCEDURE WHEN YOU INSTALL THE LINING. IF YOU INSTALL THE LINING INCORRECTLY, THE SMOKE CAN GET INTO THE PASSENGER COMPARTMENT DURING A FIRE.

- (2) Do this task: Waste Tank Enclosure Panel - Installation, TASK 25-52-20-400-801.

SUBTASK 30-71-04-410-002

- (3) Close this access door:

<u>Number</u>	<u>Name/Location</u>
822	Aft Cargo Door

SUBTASK 30-71-04-410-003

- (4) Close this access door:

<u>Number</u>	<u>Name/Location</u>
146AR	Water Service Door

———— END OF TASK ————

EFFECTIVITY
AKS ALL

30-71-04



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

DRAIN MAST HEATERS - REMOVAL/INSTALLATION

1. General

- A. This procedure consists of task references to remove and install the drain masts.
 - (1) The drain mast heaters are built into the drain masts.
 - (2) If a heater fails the sensor must be replaced.

TASK 30-71-05-900-801

2. Drain Mast Heater Replacement

A. References

Reference	Title
38-31-01-000-801	Forward Drain Mast Removal (P/B 401)
38-31-01-000-802	Aft Drain Mast Removal (P/B 401)
38-31-01-400-801	Forward Drain Mast Installation (P/B 401)
38-31-01-400-802	Aft Drain Mast Installation (P/B 401)

B. Location Zones

Zone	Area
100	Lower Half of Fuselage

C. Drain Mast Heater Replacement

SUBTASK 30-71-05-900-001

- (1) To replace a forward drain mast:

These are the tasks:

Forward Drain Mast Removal, TASK 38-31-01-000-801,

Forward Drain Mast Installation, TASK 38-31-01-400-801.

SUBTASK 30-71-05-900-002

- (2) To replace the aft drain mast:

These are the tasks:

Aft Drain Mast Removal, TASK 38-31-01-000-802,

Aft Drain Mast Installation, TASK 38-31-01-400-802.

———— END OF TASK ————



30-71-05



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

HEATED POTABLE WATER HOSES - REMOVAL/INSTALLATION

1. General

- A. This procedure has these tasks:
- (1) Heated potable water hose removal
 - (2) Heated potable water hose installation.

TASK 30-71-06-000-801

2. Heated Potable Water Hose Removal

(Figure 401)

A. General

- (1) This task gives instructions to remove the Heated Potable Water Hose.
- (2) The procedures to remove the hoses are similar. Access to the hoses is either through the aft cargo compartment or through the floor near the aft lavatory.

B. References

Reference	Title
20-10-52-000-801	Flexible Hose Removal (P/B 401)
25-27-15-000-801	Carpet Removal (P/B 401)
25-27-21-000-801	Entry and Service Area Floor Covering - Removal (P/B 401)
25-52-06-000-801	Cargo Compartment Sidewall Lining - Removal (P/B 401)
25-52-10-000-801	Cargo Floor Panel Removal (P/B 401)
25-52-19-000-801	Aft Cargo Compartment Aft Bulkhead Liner - Removal (P/B 401)
38-42-00-800-801	Potable Water System - Deactivation (P/B 201)
SSM 30-71-11	System Schematics Manual
WDM 30-71-12	Wiring Diagram Manual

C. Location Zones

Zone	Area
141	Aft Cargo Compartment - Left
142	Aft Cargo Compartment - Right
240	Subzone - Passenger Compartment - Body Station 663.75 to Body Station 1016.00

D. Access Panels

Number	Name/Location
822	Aft Cargo Door

E. Prepare for the Removal

SUBTASK 30-71-06-840-001

- (1) Remove pressure from the potable water system. To remove the pressure, do this task:
Potable Water System - Deactivation, TASK 38-42-00-800-801.

SUBTASK 30-71-06-860-001

- (2) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
D	18	C01463	WASTE/WTR LINE HEATERS
E	5	C00233	HEATERS DRAIN

EFFECTIVITY
AKS ALL

30-71-06



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

(Continued)

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	18	C01473	HOSE HEATERS

SUBTASK 30-71-06-010-001

- (3) Open this access panel:

<u>Number</u>	<u>Name/Location</u>
822	Aft Cargo Door

SUBTASK 30-71-06-010-002

- (4) Get access to the applicable heated potable water hose.
- Use the schematic (SSM 30-71-11) to determine the location of the heated water hoses.
 - Use (Figure 401) to identify access requirements.
 - Do the necessary tasks to access the heated water hose.
 - Remove the cargo compartment floor panel. To do this, do this task: Cargo Floor Panel Removal, TASK 25-52-10-000-801.
 - Remove the aft bulkhead liner. To do this, do this task: Aft Cargo Compartment Aft Bulkhead Liner - Removal, TASK 25-52-19-000-801.
 - Remove cargo compartment sidewall lining. To do this, do this task: Cargo Compartment Sidewall Lining - Removal, TASK 25-52-06-000-801.
 - Remove the carpet. To do this, do this task: Carpet Removal, TASK 25-27-15-000-801.
 - Remove the floor covering. To do this, do this task: Entry and Service Area Floor Covering - Removal, TASK 25-27-21-000-801.

F. Heated Potable Water Hose Removal

SUBTASK 30-71-06-020-001

- (1) Disconnect the electrical connectors (WDM 30-71-12) from the heated hose.

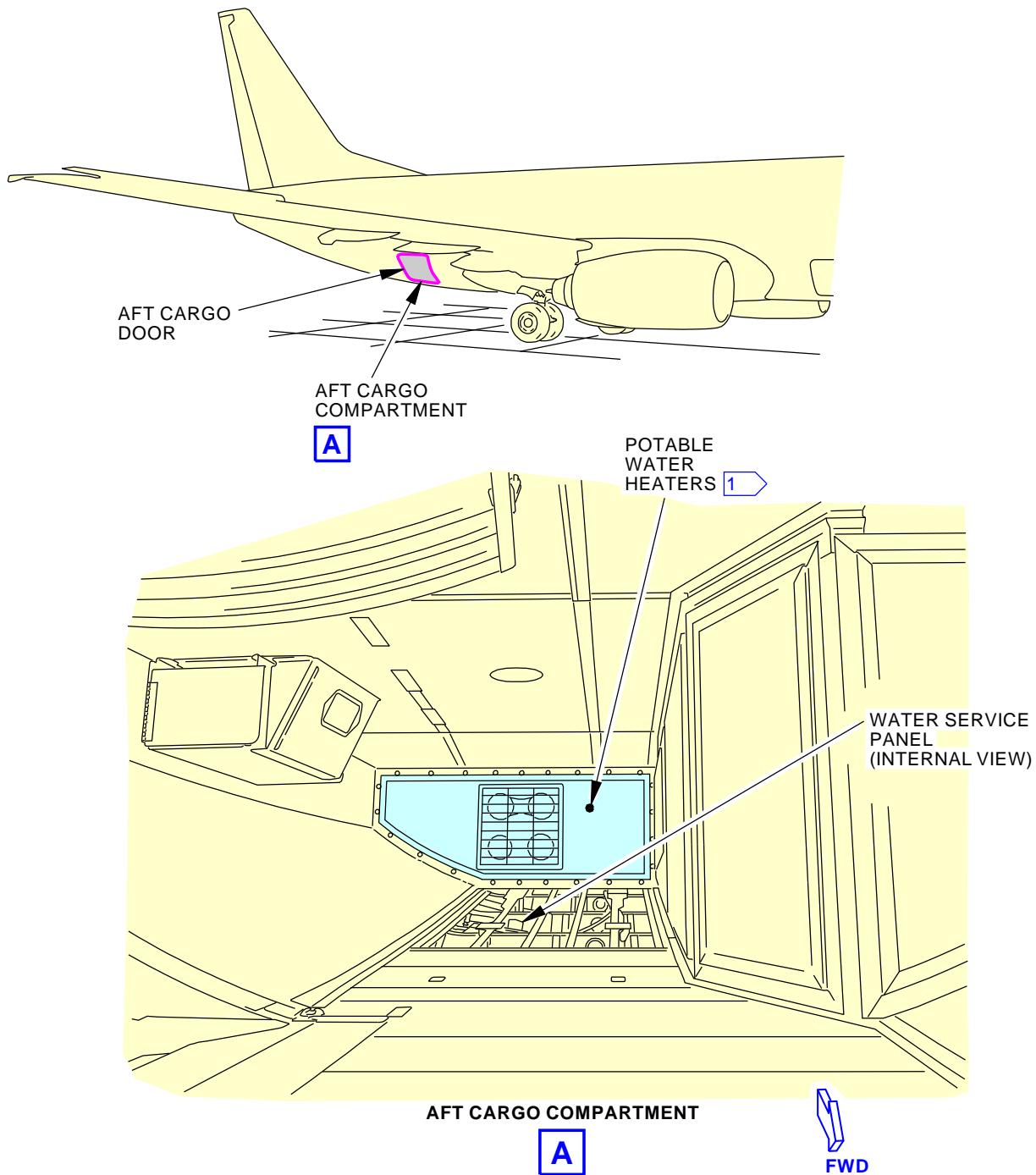
SUBTASK 30-71-06-020-002

- (2) Disconnect the fittings on the heated potable water hose.
- Use a bucket to catch water which may be in the hose.
 - For details to remove flexible hoses refer to: (TASK 20-10-52-000-801).

———— END OF TASK ————



30-71-06



1 HEATED HOSES BEHIND THE POTABLE
WATER TANK MAY BE ACCESSED THROUGH
THE PASSENGER COMPARTMENT FLOOR

W01146 S0006573239_V2

Heated Potable Water Hoses Installation
Figure 401/30-71-06-990-801 (Sheet 1 of 2)

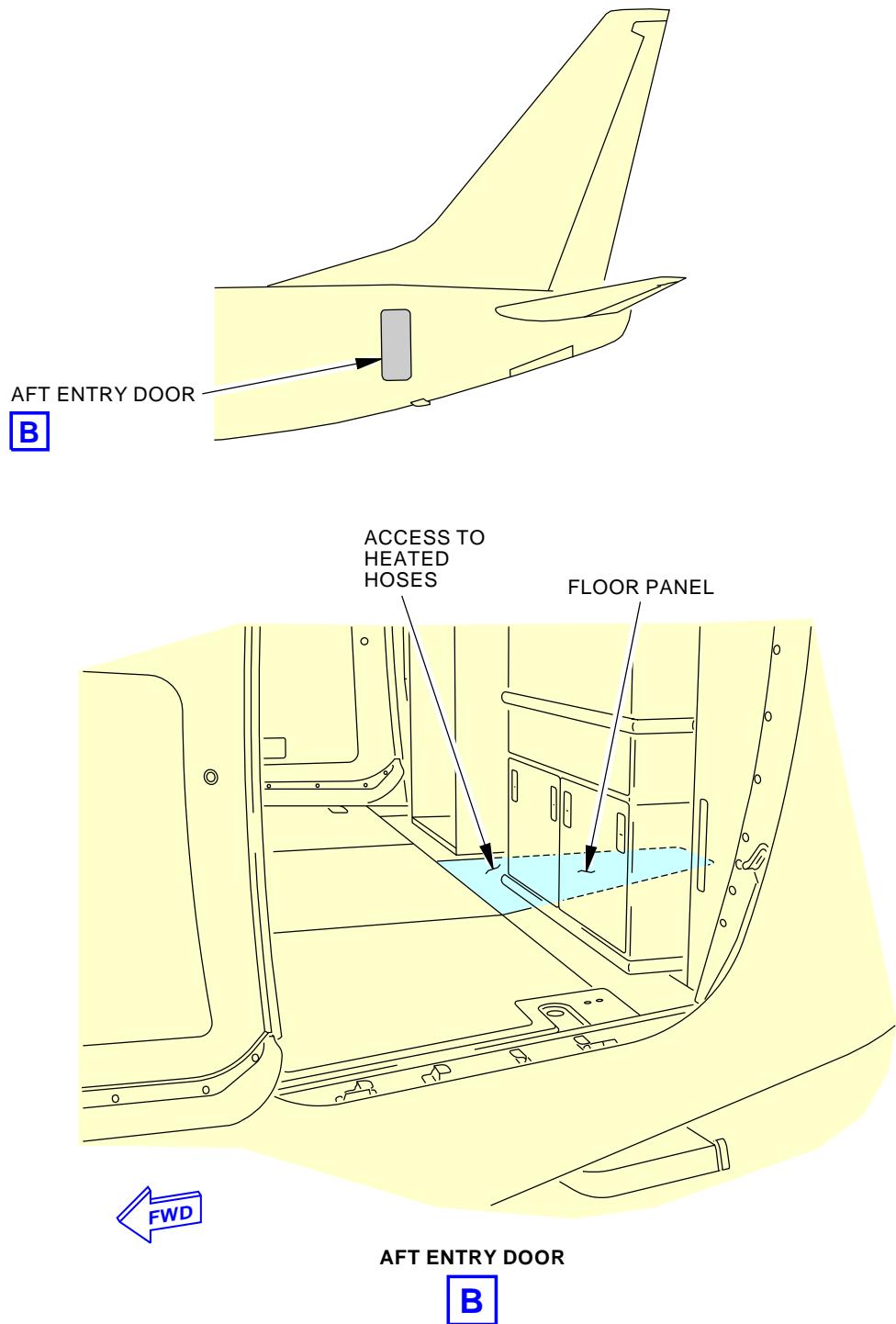
EFFECTIVITY
AKS ALL

30-71-06

D633A101-AKS



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL



W01149 S0006573241_V2

Heated Potable Water Hoses Installation
Figure 401/30-71-06-990-801 (Sheet 2 of 2)

EFFECTIVITY
AKS ALL

30-71-06

D633A101-AKS

BOEING PROPRIETARY - Copyright © Unpublished Work - See title page for details

Page 404
Oct 15/2015



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

TASK 30-71-06-400-801

3. Heated Potable Water Hose Installation

(Figure 401)

A. General

- (1) This task gives instructions to install the Heated Potable Water Hose.
- (2) The installation of each heated potable water hose is similar.

B. References

Reference	Title
20-10-52-400-801	Flexible Hose Installation (P/B 401)
24-22-00-860-811	Supply Electrical Power (P/B 201)
24-22-00-860-812	Remove Electrical Power (P/B 201)
25-27-15-400-801	Carpet - Installation (P/B 401)
25-27-21-400-801	Entry and Service Area Floor Covering - Installation (P/B 401)
25-52-06-400-801	Cargo Compartment Sidewall Lining - Installation (P/B 401)
25-52-10-400-801	Cargo Floor Panel - Installation (P/B 401)
25-52-19-400-801	Aft Cargo Compartment Aft Bulkhead Liner - Installation (P/B 401)
38-10-00-600-801	Potable Water System - Disinfectant (P/B 201)
38-10-00-790-801	Potable Water System - Leak Test (P/B 201)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1572	Thermometer - Infrared, Intrinsically Safe Part #: EX-MP4 A Supplier: 3GT36 Opt Part #: DHS24XC-FM Supplier: 08086 Opt Part #: DHS24XF-FM Supplier: 08086 Opt Part #: IR-16L3 IS Supplier: 75037
COM-2531	Clamp-On- Current Meter Part #: 324 Supplier: 89536 Part #: I800 Supplier: 89536 Opt Part #: 321 Supplier: 89536 Opt Part #: 322 Supplier: 89536 Opt Part #: 80I-600A Supplier: 89536 Opt Part #: MODEL 33 Supplier: 89536 Opt Part #: MODEL 36 Supplier: 89536

D. Consumable Materials

Reference	Description	Specification
G01012	Compound - Carbon Dioxide, Solid (Dry Ice - Any Commercial Grade)	
G02319	Spray - Freeze - Miller-Stephenson MS-242N	
G02320	Ice - Crushed	



30-71-06



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

E. Location Zones

Zone	Area
141	Aft Cargo Compartment - Left
142	Aft Cargo Compartment - Right
240	Subzone - Passenger Compartment - Body Station 663.75 to Body Station 1016.00

F. Access Panels

Number	Name/Location
822	Aft Cargo Door

G. Heated Potable Water Hose Installation

SUBTASK 30-71-06-420-001

- (1) Connect the heated potable water hose fittings.
 - (a) For the fill fitting, tighten the heated hose to 620 ± 80 in-lb (70 ± 9 N·m).
 - (b) For all other fittings, refer to the task: Flexible Hose Installation, TASK 20-10-52-400-801.

SUBTASK 30-71-06-420-002

- (2) Connect the electrical connectors to the heated water hose.

H. Heated Potable Water Hose Installation Test

SUBTASK 30-71-06-790-001

- (1) Do a test for leaks in the potable water hose (TASK 38-10-00-790-801).

SUBTASK 30-71-06-720-001

- (2) Measure the temperature of the hose and surrounding area.

SUBTASK 30-71-06-860-002

- (3) Do this task: Supply Electrical Power, TASK 24-22-00-860-811.

SUBTASK 30-71-06-860-003

- (4) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
D	18	C01463	WASTE/WTR LINE HEATERS
E	5	C00233	HEATERS DRAIN
E	18	C01473	HOSE HEATERS

SUBTASK 30-71-06-720-002

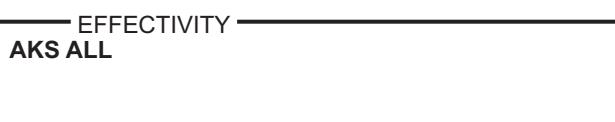
- (5) Do this test of the heated hose:

- (a) If the temperature in the area is higher than 45 degrees F (7 degrees C), then decrease the temperature of the thermostat.

NOTE: You can use MS-242N spray, G02319, ice, G02320, or compound, G01012 to decrease the temperature. Permit 3 to 5 minutes for the temperature of the thermostat to decrease before you check the temperature of the heated hose. The thermostat is in a bulge at the end of the hose.

- (b) Make sure the hose heater is powered by either of these methods:

- 1) Use a Infrared Thermometer, COM-1572, or equivalent, to make sure the hose gets warm.
 - 2) Use a clamp-on current meter, COM-2531,or equivalent, to make sure that the heater is drawing electrical current.



30-71-06



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

I. Put the Airplane Back to Its Usual Condition

SUBTASK 30-71-06-670-001

- (1) Disinfect the potable water system (TASK 38-10-00-600-801).

SUBTASK 30-71-06-410-001

- (2) Replace or close the panels or doors used to access the heated hose.

WARNING: SEAL THE CARGO COMPARTMENT WITH THE LINING. OBEY THE INSTRUCTIONS IN THE SPECIFIED PROCEDURE WHEN YOU INSTALL THE LINING. IF YOU INSTALL THE LINING INCORRECTLY, SMOKE CAN GET INTO THE PASSENGER COMPARTMENT DURING A FIRE.

- (a) Re-install the cargo compartment sidewall lining (TASK 25-52-06-400-801).
- (b) Re-install the cargo compartment floor panel (TASK 25-52-10-400-801).
- (c) Re-install the aft bulkhead liner (TASK 25-52-19-400-801).
- (d) Re-install the floor covering (TASK 25-27-21-400-801).
- (e) Re-install the carpet (TASK 25-27-15-400-801).
- (f) Close this access door:

<u>Number</u>	<u>Name/Location</u>
822	Aft Cargo Door

SUBTASK 30-71-06-860-004

- (3) Do this task: Remove Electrical Power, TASK 24-22-00-860-812.

———— END OF TASK ————

EFFECTIVITY
AKS ALL

30-71-06



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

ICE DETECTION SYSTEM - MAINTENANCE PRACTICES

1. General

- A. This procedure has these tasks:
 - (1) Ice detection system - deactivation.
 - (2) Ice detection system - activation.

TASK 30-81-00-040-801

2. Ice Detection System - Deactivation

A. General

- (1) This task will deactivate the ice detection system.

B. Location Zones

Zone	Area
113	Area Above and Outboard of Nose Landing Gear Wheel Well - Left
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Procedure

SUBTASK 30-81-00-210-001

WARNING: PUT ON A HEAT-RESISTANT GLOVE BEFORE YOU OPERATE THE ICE DETECTOR. THE ICE DETECTOR QUICKLY BECOMES VERY HOT AND CAN BURN YOU.

- (1) Make sure that all protective caps and covers are removed from the ice detector probe.

SUBTASK 30-81-00-020-001

- (2) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
B	5	C01250	ICE DETECTOR POWER

D. Ice Detection System - Tryout

NOTE: This tryout is to make sure that the power to the ice detection system is in zero energy state.

SUBTASK 30-81-00-210-003

- (1) Make sure that the ICE DETECTOR light on the P5-11 panel is on.

———— END OF TASK ————

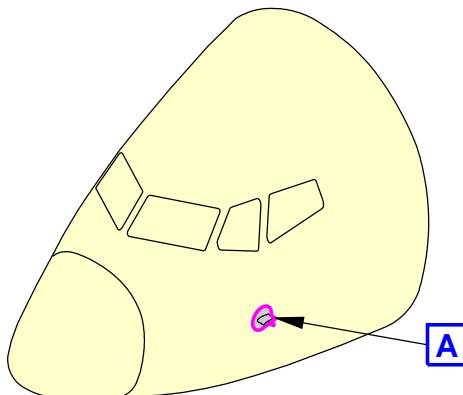


30-81-00

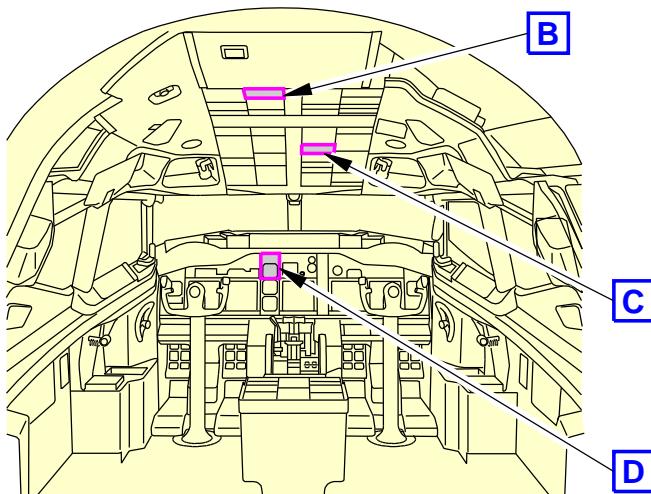
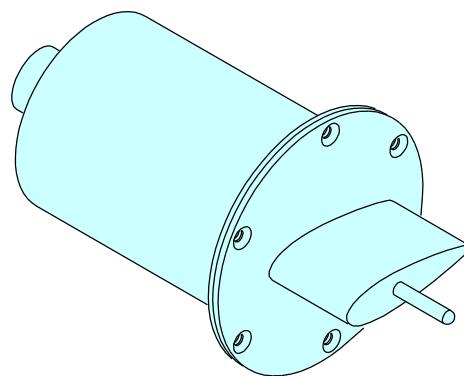


737-600/700/800/900

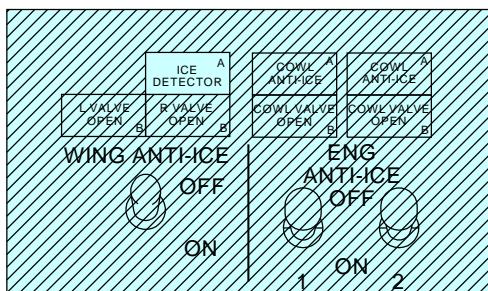
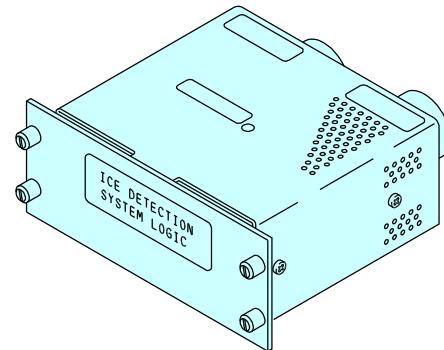
AIRCRAFT MAINTENANCE MANUAL



ICE DETECTOR



FLIGHT COMPARTMENT



ANTI-ICE PANEL (P5)

C

ICE DETECTION MODULE (P5)

B



P1-3 PANEL

ICING A
P-CANCEI

2365740 S0000541523_V2

Ice Detection System
Figure 201/30-81-00-990-801

EFFECTIVITY
AKS ALL

30-81-00

D633A101-AKS



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

TASK 30-81-00-440-801

3. Ice Detection System - Activation

(Figure 201)

A. General

- (1) This task will activate the ice detection system.

B. Location Zones

Zone	Area
113	Area Above and Outboard of Nose Landing Gear Wheel Well - Left
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Procedure

SUBTASK 30-81-00-210-004

WARNING: PUT ON A HEAT-RESISTANT GLOVE BEFORE YOU OPERATE THE ICE DETECTOR. THE ICE DETECTOR QUICKLY BECOMES VERY HOT AND CAN BURN YOU.

- (1) Make sure that all protective caps and covers are removed from the ice detector probe.

SUBTASK 30-81-00-420-001

- (2) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
B	5	C01250	ICE DETECTOR POWER

———— END OF TASK ————

EFFECTIVITY
AKS ALL

30-81-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

ICE DETECTION SYSTEM - ADJUSTMENT/TEST

1. General

- A. This procedure has this task:
 - (1) Ice Detection System - Operational Test

TASK 30-81-00-710-801

2. Ice Detection System - Operational Test

A. General

- (1) This test makes sure that the ice detection system is operating properly.
- (2) In this test, it is necessary to apply a coolant to the sensing element of the ice detector probe.
The sensing element is located at the outer tip of the probe.

B. References

Reference	Title
24-22-00-860-813	Supply External Power (P/B 201)
24-22-00-860-814	Remove External Power (P/B 201)

C. Location Zones

Zone	Area
113	Area Above and Outboard of Nose Landing Gear Wheel Well - Left
211	Flight Compartment - Left
212	Flight Compartment - Right

D. Procedure

SUBTASK 30-81-00-860-001

- (1) Do this task: Supply External Power, TASK 24-22-00-860-813.

SUBTASK 30-81-00-010-001

- (2) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-3

Row	Col	Number	Name
C	16	C01356	LANDING GEAR AIR/GND SYS 1

SUBTASK 30-81-00-710-001

WARNING: DO NOT TOUCH THE ICE DETECTOR PROBE WITH YOUR HAND. THE ICE DETECTOR PROBE QUICKLY BECOMES VERY HOT AND CAN BURN YOU.

- (3) Alternately apply coolant and then water to the sensing element of the ice detector probe until the ICING light (P1-3 panel) comes on.
 - (a) Make sure that the ICING light stays on for approximately 120 seconds and then goes off.
 - (b) Make sure that the NO ICE light (P1-3 panel) comes on when the ICING light goes off.
 - (c) Push the NO ICE light.
 - 1) Make sure the NO ICE light goes off immediately.
- (4) Alternately apply coolant and then water to the sensing element of the ice detector probe until the ICING light (P1-3 panel) comes on.
 - (a) Make sure that the ICING light comes on. Start a stopwatch when the ICING light comes on.

EFFECTIVITY
AKS ALL

30-81-00

D633A101-AKS



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

- (b) Push the ICING light.
 - 1) Make sure that the ICING light goes off immediately.
 - 2) Make sure that the NO ICE light comes on approximately 120 seconds after the ICING light came on in step (a) above.
- (c) Push the NO ICE light.
 - 1) Make sure that the NO ICE light goes off immediately.
 - 2) Make sure that the ICING light is off.
 - 3) Make sure that the MASTER CAUTION and ANTI-ICE lights (P7 lightshield) are off.

SUBTASK 30-81-00-860-002

- (5) Do a check of the AC power failure indication:

- (a) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	5	C01250	ICE DETECTOR POWER

- (b) Make sure that the ICE DETECTOR light (P5-11 module) comes on.
 - (c) Make sure that the MASTER CAUTION and ANTI-ICE lights (P7 Lightshield) come on.
 - (d) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	5	C01250	ICE DETECTOR POWER

- (e) Make sure that the ICE DETECTOR light, goes off.
 - (f) Make sure that the MASTER CAUTION and ANTI-ICE lights (P7 Lightshield) go off.

SUBTASK 30-81-00-710-003

- (6) Do a check of the DC power failure indication:

- (a) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
AKS 001-024, 026, 028-999	A	6	ANTI-ICE & RAIN ENG 1 & WING CONT

AKS 025, 027
A 6 C00148 ANTI-ICE-RAIN ENG 1/WING CONT-ICE DET

AKS 001-024, 026, 028-999
B 6 C00149 ANTI-ICE & RAIN ENGINE 2 CONTROL

AKS 025, 027
B 6 C00149 ANTI-ICE-RAIN ENG 2/CONT & ICE DET

AKS ALL

- (b) Make sure that the ICE DETECTOR light comes on.
 - (c) Make sure that the MASTER CAUTION and the ANTI-ICE lights (P7 Lightshield) come on.



30-81-00

D633A101-AKS



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

- (d) Open this circuit breaker:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	5	C01250	ICE DETECTOR POWER

- (e) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
------------	------------	---------------	-------------

AKS 001-024, 026, 028-999

A	6	C00148	ANTI-ICE & RAIN ENG 1 & WING CONT
---	---	--------	-----------------------------------

AKS 025, 027

A	6	C00148	ANTI-ICE-RAIN ENG 1/WING CONT-ICE DET
---	---	--------	---------------------------------------

AKS 001-024, 026, 028-999

B	6	C00149	ANTI-ICE & RAIN ENGINE 2 CONTROL
---	---	--------	----------------------------------

AKS 025, 027

B	6	C00149	ANTI-ICE-RAIN ENG 2/CONT & ICE DET
---	---	--------	------------------------------------

AKS ALL

Close this circuit breaker:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	5	C01250	ICE DETECTOR POWER

- (f) Make sure that the ICE DETECTOR light, MASTER CAUTION and the ANTI-ICE lights (P7 Lightshield) go off.

SUBTASK 30-81-00-410-001

- (7) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	16	C01356	LANDING GEAR AIR/GND SYS 1

SUBTASK 30-81-00-860-003

- (8) Do this task: Remove External Power, TASK 24-22-00-860-814.

———— END OF TASK ————

EFFECTIVITY
AKS ALL

30-81-00



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

ICE DETECTOR PROBE - REMOVAL/INSTALLATION

1. General

- A. This procedure has these tasks:
- (1) Ice Detector Probe Removal
 - (2) Ice Detector Probe Installation

TASK 30-81-01-000-801

2. Ice Detector Probe Removal

(Figure 401)

A. General

- (1) This task gives instructions to remove the Ice Detector Probe.

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-2481	Tool - Sealant Removal, BAC5000, PSD 6-184 Approved Part #: 1-6390-A Supplier: 63318 Part #: 10810 Supplier: \$0855 Part #: 234350 Supplier: \$0857 Part #: 235072 Supplier: \$0857 Part #: 235073 Supplier: \$0857 Part #: 235074 Supplier: \$0857 Part #: 235075 Supplier: \$0857 Part #: 235076 Supplier: \$0857 Part #: 235077 Supplier: \$0857 Part #: 235078 Supplier: \$0857 Part #: 235079 Supplier: \$0857 Part #: 235080 Supplier: \$0857 Part #: 235081 Supplier: \$0857 Part #: 311 Supplier: KA861 Part #: 411B60 Supplier: 3DN12 Part #: 411B90 Supplier: 3DN12 Part #: DAD5013 Supplier: \$0856 Part #: DFD5019 Supplier: \$0856 Part #: J5-0275-2010 Supplier: 435R8 Part #: SCD5019 Supplier: \$0856 Part #: ST982LF-9 Supplier: 3Z323 Part #: TS1275-4 Supplier: 1DWR5

C. Consumable Materials

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS5-95

D. Location Zones

Zone	Area
113	Area Above and Outboard of Nose Landing Gear Wheel Well - Left
211	Flight Compartment - Left



30-81-01



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

(Continued)

Zone	Area
212	Flight Compartment - Right

E. Prepare for the Removal

SUBTASK 30-81-01-860-001

- (1) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
B	5	C01250	ICE DETECTOR POWER

SUBTASK 30-81-01-020-001

WARNING: BEFORE YOU TOUCH THE ICE DETECTOR PROBE, MAKE SURE THAT IT IS NOT HOT. THE PROBE CAN BURN YOU IF YOU TOUCH IT WHEN IT IS HOT.

- (2) Use a sealant removal tool, COM-2481, to remove the sealant, A00247, from the gap between the airplane skin and the ice detector probe [1].

F. Ice Detector Probe Removal

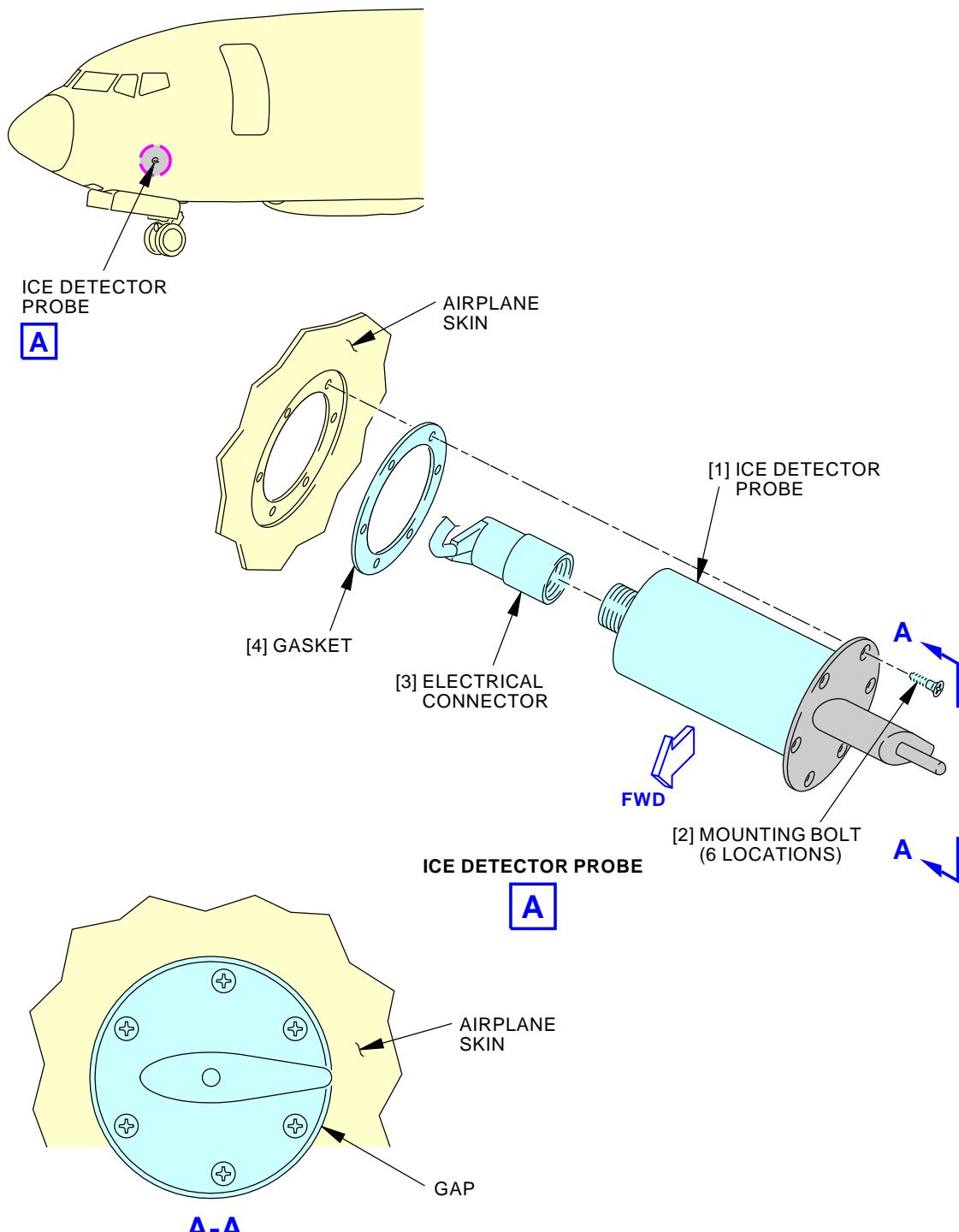
SUBTASK 30-81-01-020-002

- (1) Remove the ice detector probe [1]:
 - (a) Remove the mounting bolts [2].
 - (b) Hold the strut of the ice detector probe [1] and move the ice detector probe [1] from side to side to loosen the gasket [4].
 - (c) Carefully pull the ice detector probe [1] out from the airplane until you can touch the electrical connector [3] on the back of the ice detector probe [1].
 - (d) Remove the ice detector probe [1].
 - (e) Attach the electrical connector [3] on the wire bundle to hold it outside the opening in the airplane skin.
 - (f) Put a protective cap on the electrical connector [3].
 - (g) Remove the gasket [4] and discard it.

———— END OF TASK ————



30-81-01



H82953 S0006573263_V2

Ice Detector Probe Installation

Figure 401/30-81-01-990-801

EFFECTIVITY
AKS ALL

30-81-01



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

TASK 30-81-01-400-801

3. Ice Detector Probe Installation

A. General

- (1) This task gives instructions to install the Ice Detector Probe.

B. References

Reference	Title
30-81-00-710-801	Ice Detection System - Operational Test (P/B 501)

C. Consumable Materials

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS5-95
B00402	Cleaner - Aerospace Equipment	MIL-PRF-87937
G00034	Cotton Wiper - Process Cleaning Absorbent Wiper (Cheesecloth, Gauze)	BMS15-5 Class A

D. Location Zones

Zone	Area
113	Area Above and Outboard of Nose Landing Gear Wheel Well - Left
211	Flight Compartment - Left
212	Flight Compartment - Right

E. Ice Detector Probe Installation

SUBTASK 30-81-01-420-001

- (1) Clean the opening in the airplane skin with cotton wiper, G00034, and cleaner, B00402.

SUBTASK 30-81-01-420-002

- (2) Install the ice detector probe [1]:
- Put the new gasket [4] into the opening.
 - Connect the electrical connector [3] to the ice detector probe [1].
 - Put the ice detector probe [1] into the opening.
 - Install the mounting bolts [2] and tighten them to 18.0 in-lb (2.0 N·m) to 25.0 in-lb (2.8 N·m).

F. Ice Detector Probe Installation Test

SUBTASK 30-81-01-860-002

- (1) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
B	5	C01250	ICE DETECTOR POWER

SUBTASK 30-81-01-710-001

- (2) Do this task: Ice Detection System - Operational Test, TASK 30-81-00-710-801.

SUBTASK 30-81-01-390-001

- (3) Fill all gaps between the ice detector probe [1] and the fuselage with sealant, A00247.
- Make a smooth surface on the sealant, A00247.

———— END OF TASK ————

EFFECTIVITY
AKS ALL

30-81-01



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

ICE DETECTOR SYSTEM LOGIC MODULE - REMOVAL/INSTALLATION

1. General

- A. This procedure has these tasks:
- (1) Ice Detector System Logic Module Removal
 - (2) Ice Detector System Logic Module Installation

TASK 30-81-02-000-801

2. Ice Detector System Logic Module Removal

(Figure 401)

A. General

- (1) This task gives instructions to remove the Ice Detector System Logic Module.

B. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

C. Prepare for the Removal

SUBTASK 30-81-02-860-001

- (1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-3

Row Col Number Name

AKS 001-024, 026, 028-999

A 6 C00148 ANTI-ICE & RAIN ENG 1 & WING CONT

AKS 025, 027

A 6 C00148 ANTI-ICE-RAIN ENG 1/WING CONT-ICE DET

AKS 001-024, 026, 028-999

B 6 C00149 ANTI-ICE & RAIN ENGINE 2 CONTROL

AKS 025, 027

B 6 C00149 ANTI-ICE-RAIN ENG 2/CONT & ICE DET

AKS ALL

D. Ice Detector System Logic Module Removal

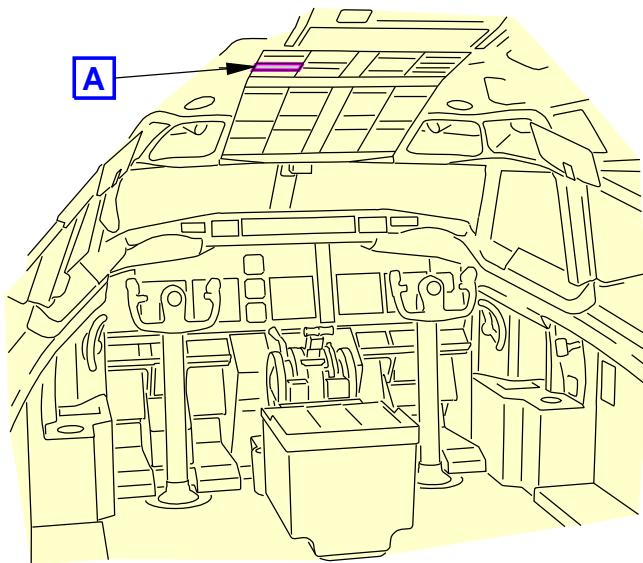
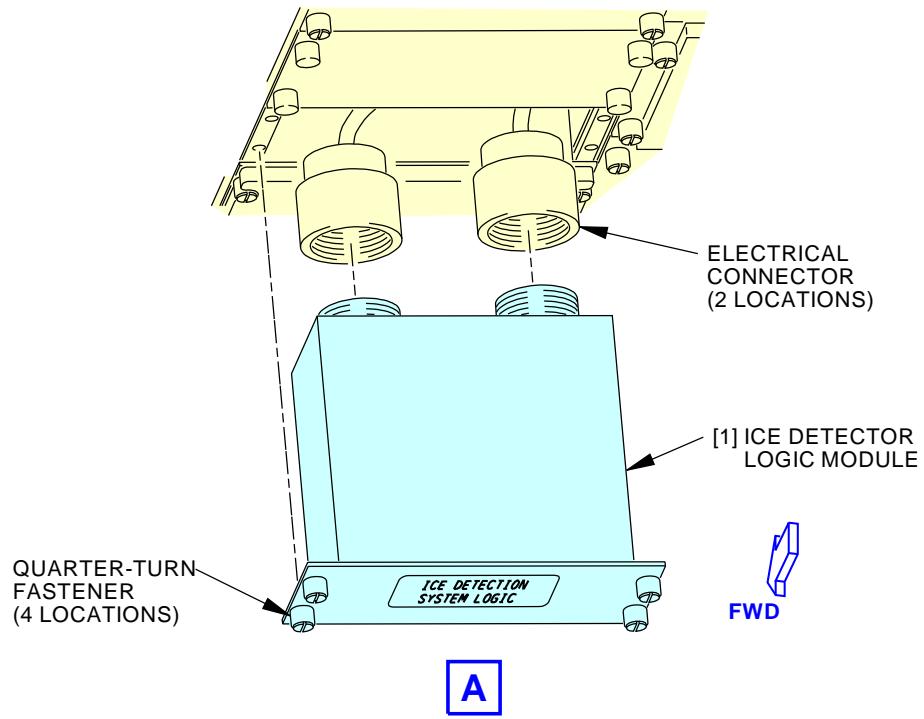
SUBTASK 30-81-02-020-001

- (1) Remove the ice detector logic module.
 - (a) Loosen the 4 fasteners which attach the ice detector logic module [1] to the P5 panel.
 - (b) Pull the ice detector logic module [1] out from the P5 panel.
 - (c) Disconnect the 2 electrical connectors from the ice detector logic module [1].

———— END OF TASK ————

EFFECTIVITY
AKS ALL

30-81-02


FLIGHT COMPARTMENT


H82877 S0006573268_V2

**Ice Detector Logic Module Installation
Figure 401/30-81-02-990-801**

 EFFECTIVITY
AKS ALL

30-81-02



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

TASK 30-81-02-400-801

3. Ice Detector System Logic Module Installation

(Figure 401)

A. General

- (1) This task gives instructions to install the Ice Detector System Logic Module.

B. References

Reference	Title
30-81-00-710-801	Ice Detection System - Operational Test (P/B 501)

C. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right

D. Prepare for the Installation

SUBTASK 30-81-02-860-003

- (1) Make sure that these circuit breakers are open and have safety tags:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
AKS 001-024, 026, 028-999	A	6	C00148 ANTI-ICE & RAIN ENG 1 & WING CONT
AKS 025, 027	A	6	C00148 ANTI-ICE-RAIN ENG 1/WING CONT-ICE DET
AKS 001-024, 026, 028-999	B	6	C00149 ANTI-ICE & RAIN ENGINE 2 CONTROL
AKS 025, 027	B	6	C00149 ANTI-ICE-RAIN ENG 2/CONT & ICE DET
AKS ALL			

E. Procedure

SUBTASK 30-81-02-420-001

- (1) Install the ice detector logic module.
- Connect the 2 electrical connectors to the ice detector logic module [1].
 - Install the ice detector logic module [1] in the P5 panel.
 - Attach the ice detector logic module [1] to the P5 panel with its 4 fasteners.

SUBTASK 30-81-02-860-002

- (2) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
AKS 001-024, 026, 028-999	A	6	C00148 ANTI-ICE & RAIN ENG 1 & WING CONT
AKS 025, 027	A	6	C00148 ANTI-ICE-RAIN ENG 1/WING CONT-ICE DET
AKS 001-024, 026, 028-999	B	6	C00149 ANTI-ICE & RAIN ENGINE 2 CONTROL

EFFECTIVITY	AKS ALL
-------------	---------

30-81-02



737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

AKS 001-024, 026, 028-999 (Continued)

(Continued)

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
------------	------------	---------------	-------------

AKS 025, 027

B	6	C00149	ANTI-ICE-RAIN ENG 2/CONT & ICE DET
---	---	--------	------------------------------------

AKS ALL

SUBTASK 30-81-02-710-001

- (3) Do this task: Ice Detection System - Operational Test, TASK 30-81-00-710-801.

———— END OF TASK ————

EFFECTIVITY
AKS ALL

30-81-02