Commercial
Airplanes

737
Service Bulletin

SPECIAL ATTENTION

Number: **737-27-1282**
Original Issue: March 15, 2007
Revision 2: September 04, 2015
ATA System: 2721

SUBJECT: FLIGHT CONTROLS - Rudder and Rudder Trim Control System - Wire Bundle W443 and Left Forward Rudder Quadrant Clearance Inspection

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SPECIAL ATTENTION

Number: **737-27-1282**
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Revision Transmittal Sheet

SUBJECT: FLIGHT CONTROLS - Rudder and Rudder Trim Control System - Wire Bundle W443 and Left Forward Rudder Quadrant Clearance Inspection

This revision includes all pages of the service bulletin.

COMPLIANCE INFORMATION RELATED TO THIS REVISION

Federal Aviation Administration (FAA) Airworthiness Directive (AD) AD 2011-20-10 is related to this service bulletin.

Effects of this Revision on airplanes on which the Original Issue or Revision 1 was previously done:

None.

REASON FOR REVISION

This service bulletin is sent to correct the group/configuration table data because of a mismatch between the line numbers and the related variable numbers listed in the effectivity. In addition, references to the Federal Aviation Administration (FAA) Airworthiness Directive AD 2011-20-10 have been added and typographical errors corrected.

These sections were changed:

1. Summary, Background: Summary Evaluation table added.

2. Summary, Compliance: Federal Aviation Administration (FAA) Airworthiness Directive AD 2011-20-10 added and compliance statement changed to relate it to the effective date of the AD.

3. Summary, Industry Support Information: Date changed.

4. Paragraph 1.A.,Effectivity: Group configuration table has been changed to remove airplane line numbers from the table.

5. Paragraph 1.E., Compliance: Federal Aviation Administration (FAA) Airworthiness Directive AD 2011-20-10 added and compliance changed to relate it to the effective date of the AD.

6. Paragraph 1.F., Approval: Alternative Method of Compliance (AMOC) for AD 2011-20-10 added.

7. Paragraph 1.J.1., Existing Data: List changed.

8. Paragraph 1.K., Publications Affected: Paragraph 2. added.

9. Paragraph 2.B., Industry Support Information: Date changed.

10. Paragraph 3.B., Work Instructions: Steps 5.b. and 6.b. clarified.

11. Figure 1: Step 1 and footnote clarified.

12. Figure 2: Added circle note 3 to illustration.

The intent of Information Notice 737-27-1282 IN01 is included in this revision.

Vertical lines are put on the left edge of each page, except in Paragraph 1.A., Effectivity and format changes, to show the location of all content changes.

Pages with no vertical lines have no changes.

REVISION HISTORY

Original Issue:	March 15, 2007
Revision 1:	June 14, 2010
Revision 2:	September 04, 2015

SPECIAL ATTENTION

Number: **737-27-1282**
Original Issue: March 15, 2007
Revision 2: September 04, 2015
ATA System: 2721

Summary

SUBJECT: FLIGHT CONTROLS - Rudder and Rudder Trim Control System - Wire Bundle W443 and Left Forward Rudder Quadrant Clearance Inspection

BOEING RECOMMENDS THAT EACH OPERATOR EXAMINE THIS SERVICE BULLETIN IMMEDIATELY.

CONCURRENT REQUIREMENTS

None.

BACKGROUND

This service bulletin is sent to tell operators that on some airplanes an interference (riding) condition may exist between wire bundle W443 and the Left Forward rudder quadrant. The interference can occur during full Right Rudder travel. Restricted control surface movement and wire bundle damage can occur when there is not sufficient clearance between wire bundle W443 and the left forward rudder quadrant. If this Service Bulletin is not done, the wire bundle could restrict the free movement of the rudder quadrant. If the wire bundle is damaged, uncommanded stabilizer trim or autopilot disconnects could occur.

This condition was found on airplane YK904 during pre-flight checks at Boeing's Renton Field facility. A pilot reported light interference during full right travel. The problem was identified as contact between the left forward rudder quadrant and wire bundle W443. On investigation it was found that the wire bundle was installed with too much slack between clamps. A Non-Conformance Record (NCR) was created to inspect all airplanes prior to delivery and to rework the wire bundle installation. 32 airplanes were inspected, of which 20 were found to have contact between the left forward quadrant and the wire bundle. Boeing has revised the installation drawing to add clarification to the wire bundle routing.

Accomplishment of this service bulletin inspects the left forward rudder quadrant for sufficient clearance with wire bundle W443. Instructions are also given to adjust the routing of the wire bundle W443 and repair, if necessary.

Boeing Service Related Problem (SRP) 737NG-SRP-27-0190 is related to this service bulletin.

This table is provided to operators for planning purposes only. Refer to the applicable sections for more information.

Planning Data	Affected	Reference
Spares Affected	No	Paragraph 1.A.2., Spares Affected
AD Related	Yes	Paragraph 1.E., Compliance and Paragraph 1.F., Approval
Weight and Balance Change	No	Paragraph 1.H., Weight and Balance Changes
Electrical Load Changed	No	Paragraph 1.I., Electrical Load Data
Publications Affected	No	Paragraph 1.K., Publications Affected
Airplane Flight Operations Affected (Flight Crew Operations Manual and/or FAA Approved Airplane Flight Manual)	No	Paragraph 1.K., Publications Affected
Kits/Parts Required	No	Paragraph 2.C.1., Kits/Parts
Operator Supplied Parts/Material	Yes	Paragraph 2.C.2., Parts and Materials Supplied by the Operator
Special Tooling Required	No	Paragraph 2.F., Special Tooling Necessary to do this Service Bulletin

ACTION

Get access to the airplane flight compartment and left forward rudder quadrant through the forward access door 112A.

Part 1: Wire Bundle W443 Inspection for damage.

— Do a detail inspection and measure the minimum clearance between the wire bundle W443 and the left forward rudder quadrant.

Part 2: Wire Bundle W443 Clearance Adjustment.

— Adjust the wire bundle W443 routing to obtain a sufficient clearance between wire bundle and rudder quadrant.
— Do an operational test of the rudder control system.

Part 3: Wire Bundle W443 Repair and Adjustment.

— Repair damaged wire bundle W443.
— Measure the minimum clearance between the wire bundle W443 and the left forward rudder quadrant.
— Do an operational test of the rudder control system as given in Part 2.
— Test applicable systems affected by wire bundle damage.

EFFECTIVITY

737-600/-700/-700C/-800/-900/-900ER Airplanes. Refer to Paragraph 1.A.1., Airplanes for the list of affected airplanes.

COMPLIANCE

Federal Aviation Administration (FAA) Airworthiness Directive AD 2011-20-10 is related to this service bulletin. The effective date of AD 2011-20-10 is November 09, 2011.

Boeing recommends that the inspection and the corrective action(s) given in this service bulletin be done within 60 months after the effective date of AD 2011-20-10.

INDUSTRY SUPPORT INFORMATION

Boeing warranty remedies are available for airplanes in warranty as of March 24, 2006. Please refer to Paragraph 2.B., Industry Support Information.

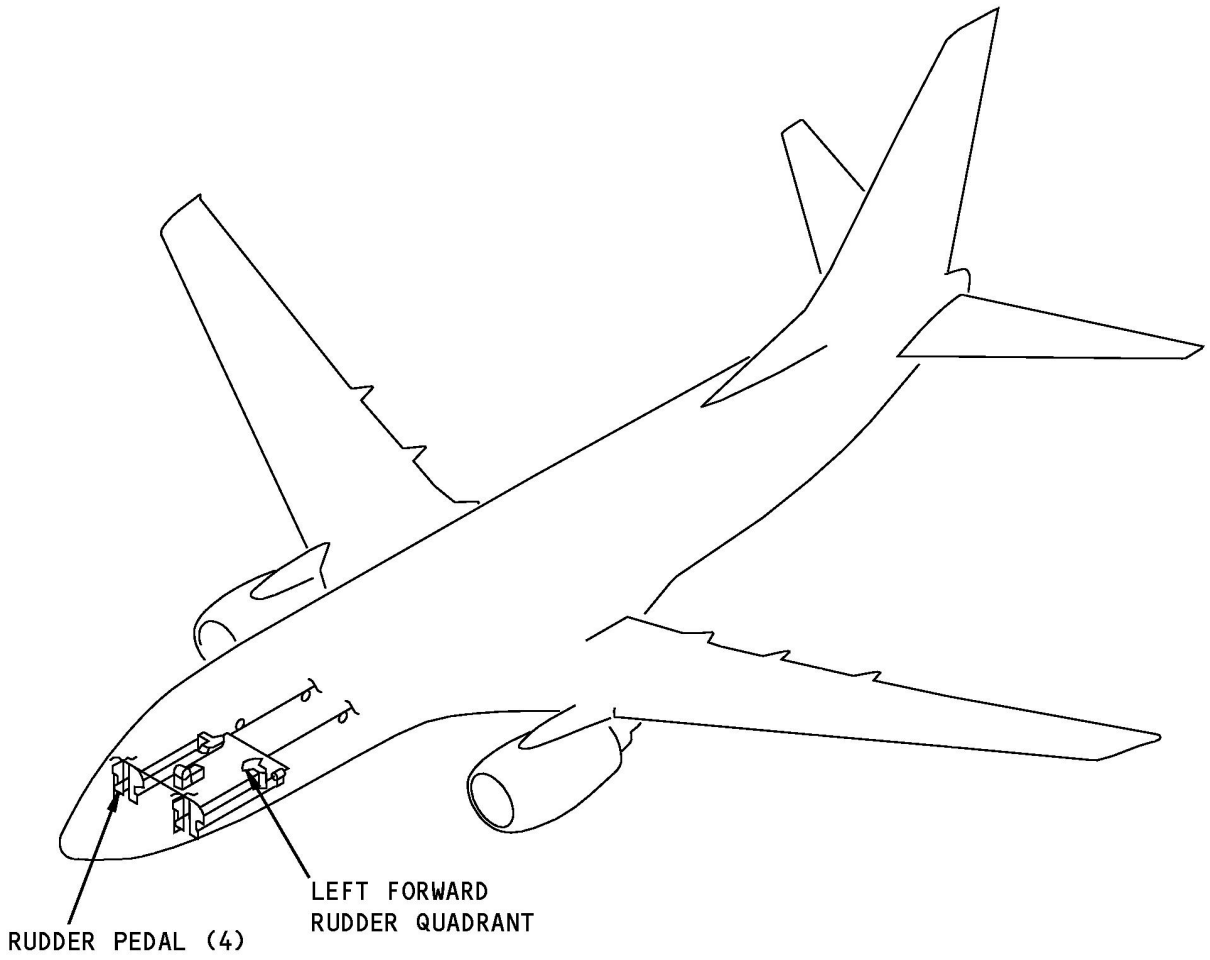
MANPOWER

Refer to Paragraph 1.G., Manpower.

MATERIAL INFORMATION

Operator Supplied Parts/Materials.

Refer to Paragraph 2.A., Material - Price and Availability.



DO AN INSPECTION OF WIRE BUNDLE W443 AT THE LEFT FORWARD RUDDER QUADRANT TO CHECK FOR DAMAGE, MEASURE THE CLEARANCE BETWEEN THE QUADRANT AND WIRE BUNDLE. REPAIR ANY DAMAGE FOUND, ADJUST WIRE BUNDLE ROUTING AS NECESSARY TO OBTAIN THE MINIMUM PERMITTED CLEARANCE OF 0.5 INCH.

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SPECIAL ATTENTION

Number: **737-27-1282**
Original Issue: March 15, 2007
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ATA System: 2721

SUBJECT: FLIGHT CONTROLS - Rudder and Rudder Trim Control System - Wire Bundle W443 and Left Forward Rudder Quadrant Clearance Inspection

BOEING RECOMMENDS THAT EACH OPERATOR EXAMINE THIS SERVICE BULLETIN IMMEDIATELY.

1. PLANNING INFORMATION

A. Effectivity

1. Airplanes

Refer to Service Bulletin Index Document D6-19567 Part 3 for Airplane Variable Number, Line Number, and Serial Number data.

This service bulletin is for the airplanes shown below.

GROUP	CONFIGURATION	DESCRIPTION
1	-	737-600/ -700/ -700C/ -800/ -900/ -900ER airplanes with possible interference (riding) condition between wire bundle W443 and Left Forward Rudder Quadrant.

Airplane Models:

737-600, 737-700, 737-700C, 737-800, 737-900, 737-900ER

Variable Number	Group
YA001 - YA099	1
YA101 - YA199	1
YA201 - YA211	1
YA221	1
YA231 - YA242	1
YA251 - YA256	1
YA271 - YA272	1

Variable Number	Group
YA291	1
YA301 - YA302	1
YA311 - YA314	1
YA321 - YA323	1
YA336 - YA345	1
YA351	1
YA356 - YA357	1
YA366 - YA367	1
YA371 - YA377	1
YA501 - YA536	1
YA541 - YA552	1
YA571 - YA578	1
YA601 - YA615	1
YA621 - YA622	1
YA626 - YA631	1
YA635 - YA636	1
YA641 - YA642	1
YA645 - YA650	1
YA656 - YA659	1
YA666 - YA667	1
YA671 - YA672	1
YA681 - YA691	1
YA701 - YA710	1
YA721 - YA722	1
YA731 - YA734	1
YA751 - YA756	1
YA801 - YA803	1
YA809	1
YA811 - YA814	1
YA831 - YA835	1
YA841 - YA862	1
YA881 - YA882	1
YA891 - YA892	1

Variable Number	Group
YA961 - YA976	1
YB001 - YB006	1
YB101 - YB132	1
YB151 - YB153	1
YB156 - YB158	1
YB161 - YB164	1
YB171 - YB172	1
YB181 - YB184	1
YB201 - YB208	1
YB271	1
YB276	1
YB301 - YB310	1
YB371 - YB387	1
YB392	1
YB501 - YB502	1
YB521 - YB526	1
YB541 - YB544	1
YB551	1
YB561 - YB579	1
YB581 - YB595	1
YB601 - YB632	1
YB651	1
YB656	1
YB671 - YB672	1
YB851 - YB863	1
YB871 - YB874	1
YB881 - YB893	1
YB901 - YB903	1
YB911	1
YB961 - YB974	1
YB986	1
YC001 - YC030	1
YC051 - YC084	1

Variable Number	Group
YC091 - YC094	1
YC101 - YC104	1
YC111 - YC113	1
YC121	1
YC126 - YC127	1
YC136 - YC141	1
YC146 - YC147	1
YC151 - YC156	1
YC166 - YC171	1
YC176 - YC179	1
YC186 - YC190	1
YC201 - YC203	1
YC206 - YC207	1
YC301 - YC305	1
YC321 - YC386	1
YC391 - YC394	1
YC396	1
YC401 - YC417	1
YC421 - YC422	1
YC426 - YC428	1
YC436 - YC439	1
YC441 - YC448	1
YC451 - YC455	1
YC459	1
YC461 - YC467	1
YC471 - YC499	1
YC501 - YC526	1
YC571 - YC583	1
YC587 - YC589	1
YC591 - YC593	1
YC601 - YC655	1
YC681 - YC696	1
YC701 - YC715	1

Variable Number	Group
YC720 - YC725	1
YC727 - YC741	1
YC744 - YC752	1
YC761 - YC770	1
YC781 - YC793	1
YC801 - YC892	1
YC901 - YC907	1
YC921 - YC922	1
YC931 - YC932	1
YC941 - YC951	1
YC971 - YC978	1
YC981 - YC983	1
YD001 - YD007	1
YD021 - YD025	1
YD041 - YD057	1
YD081 - YD084	1
YD101 - YD110	1
YD121 - YD126	1
YD151 - YD159	1
YD171 - YD172	1
YD201 - YD203	1
YD206 - YD209	1
YD216 - YD219	1
YD251 - YD254	1
YD256 - YD257	1
YD261	1
YD301 - YD334	1
YD391	1
YD401 - YD410	1
YD412 - YD413	1
YD415	1
YD481 - YD485	1
YD491 - YD492	1

Variable Number	Group
YD496 - YD499	1
YD501 - YD512	1
YD531 - YD535	1
YD541 - YD547	1
YD561 - YD564	1
YD571 - YD572	1
YD591 - YD595	1
YD601 - YD612	1
YD651 - YD655	1
YE001 - YE020	1
YE051	1
YE101 - YE109	1
YE151 - YE157	1
YE171 - YE172	1
YE201 - YE206	1
YE301 - YE305	1
YE321 - YE326	1
YE371 - YE375	1
YE381 - YE383	1
YF001 - YF002	1
YF021	1
YF023 - YF027	1
YF052 - YF053	1
YF106 - YF107	1
YF111	1
YF176 - YF177	1
YF501 - YF508	1
YG001 - YG044	1
YG061 - YG064	1
YG066 - YG089	1
YG091 - YG099	1
YG103	1
YG111 - YG114	1

Variable Number	Group
YG116 - YG121	1
YG201 - YG203	1
YG211 - YG212	1
YG214	1
YG251 - YG252	1
YG501 - YG509	1
YG601 - YG602	1
YG701	1
YG711	1
YH002 - YH012	1
YH031 - YH032	1
YH051 - YH052	1
YH055	1
YH101 - YH109	1
YH111 - YH119	1
YH201 - YH202	1
YH206	1
YH301 - YH302	1
YJ001 - YJ008	1
YJ010 - YJ013	1
YJ021	1
YJ471 - YJ480	1
YJ501 - YJ517	1
YJ531 - YJ552	1
YJ555 - YJ562	1
YJ564 - YJ570	1
YJ591 - YJ596	1
YJ598	1
YJ631 - YJ632	1
YJ671 - YJ689	1
YJ694	1
YJ801 - YJ867	1
YJ871 - YJ873	1

Variable Number	Group
YJ875 - YJ876	1
YJ901 - YJ904	1
YJ908 - YJ909	1
YJ911 - YJ929	1
YJ931 - YJ937	1
YJ941 - YJ943	1
YJ948 - YJ956	1
YJ976 - YJ977	1
YK001 - YK007	1
YK101 - YK104	1
YK111 - YK112	1
YK121 - YK122	1
YK131 - YK132	1
YK136 - YK139	1
YK141 - YK142	1
YK148	1
YK151	1
YK163 - YK166	1
YK171	1
YK177	1
YK186	1
YK301 - YK304	1
YK306 - YK310	1
YK321 - YK330	1
YK334 - YK339	1
YK361 - YK367	1
YK370 - YK373	1
YK375	1
YK401 - YK406	1
YK426 - YK427	1
YK431 - YK434	1
YK438 - YK450	1
YK456 - YK461	1

Variable Number	Group
YK480 - YK486	1
YK495	1
YK511 - YK516	1
YK521 - YK523	1
YK551 - YK554	1
YK565	1
YK567 - YK571	1
YK576 - YK577	1
YK580 - YK585	1
YK601 - YK602	1
YK606 - YK607	1
YK611 - YK612	1
YK614	1
YK616	1
YK621	1
YK624 - YK634	1
YK643 - YK644	1
YK651 - YK661	1
YK671 - YK672	1
YK676	1
YK681	1
YK701 - YK706	1
YK708 - YK711	1
YK713	1
YK716 - YK719	1
YK722 - YK741	1
YK751 - YK763	1
YK791 - YK792	1
YK796 - YK797	1
YK801 - YK814	1
YK819 - YK884	1
YK888 - YK899	1
YK901 - YK902	1

Variable Number	Group
YK904	1
YK907 - YK912	1
YK918	1
YK921 - YK926	1
YK941 - YK955	1
YK961 - YK971	1
YK981 - YK986	1
YL001	1
YL012 - YL016	1
YL021 - YL024	1
YL051 - YL052	1
YL056 - YL057	1
YL061	1
YL066 - YL069	1
YL076 - YL077	1
YL101 - YL114	1
YL116 - YL124	1
YL201 - YL207	1
YL209 - YL210	1
YL271 - YL272	1
YL281 - YL282	1
YL301 - YL303	1
YL311 - YL312	1
YL316 - YL318	1
YL320	1
YL351 - YL353	1
YL371 - YL373	1
YL401	1
YL421 - YL426	1
YL431 - YL437	1
YL461 - YL471	1
YL473 - YL474	1
YL501 - YL506	1

Variable Number	Group
YL531 - YL534	1
YL541	1
YL561	1
YL563 - YL565	1
YL591	1
YL601 - YL606	1
YL611	1
YL616 - YL617	1
YL621	1
YL663 - YL664	1
YL676	1
YL901 - YL903	1
YL905 - YL909	1
YL931 - YL934	1
YL952 - YL953	1
YM101 - YM103	1
YM201 - YM208	1
YM212 - YM236	1
YM238	1
YM251 - YM282	1
YM298 - YM299	1
YM301 - YM366	1
YM369 - YM376	1
YM471	1
YM481 - YM484	1
YM501 - YM507	1
YM509 - YM515	1
YM521 - YM522	1
YM541	1
YM551 - YM553	1
YM571 - YM572	1
YM581 - YM582	1
YM632 - YM634	1

Variable Number	Group
YM641 - YM648	1
YM651	1
YM671 - YM672	1
YM691 - YM693	1
YM701 - YM707	1
YN001 - YN004	1
YN007 - YN016	1
YN021 - YN024	1
YN061	1
YN071 - YN079	1
YN091 - YN092	1
YN101	1
YN106 - YN112	1
YN121	1
YN201 - YN202	1
YN211 - YN216	1
YN231 - YN234	1

2. Spares Affected

None.

B. Concurrent Requirements

None.

C. Reason

This service bulletin is sent to tell operators that on some airplanes an interference (riding) condition may exist between wire bundle W443 and the Left Forward rudder quadrant. The interference can occur during full Right Rudder travel. Restricted control surface movement and wire bundle damage can occur when there is not sufficient clearance between wire bundle W443 and the left forward rudder quadrant. If this Service Bulletin is not done, the wire bundle could restrict the free movement of the rudder quadrant. If the wire bundle is damaged, uncommanded stabilizer trim or autopilot disconnects could occur.

This condition was found on airplane YK904 during pre-flight checks at Boeing's Renton Field facility. A pilot reported light interference during full right travel. The problem was identified as contact between the left forward rudder quadrant and wire bundle W443. On investigation it was found that the wire bundle was installed with too much slack between clamps. A Non-Conformance Record (NCR) was created to inspect all airplanes prior to delivery and to rework the wire bundle installation. 32 airplanes were inspected, of which 20 were found to have contact between the left forward quadrant and the wire bundle. Boeing has revised the installation drawing to add clarification to the wire bundle routing.

Accomplishment of this service bulletin inspects the left forward rudder quadrant for sufficient clearance with wire bundle W443. Instructions are also given to adjust the routing of the wire bundle W443 and repair, if necessary.

Boeing Service Related Problem (SRP) 737NG-SRP-27-0190 is related to this service bulletin

Revision 1 is sent to tell operators that additional airplanes have been added to this service bulletin effectivity. The airplanes added may have been delivered with no inspection of the wire bundle W443 done in production.

Revision 1; The following Paragraphs are changed:

- Paragraph 1.A., Effectivity is revised to add airplanes.
- Paragraph 1.C., Reason is revised to add reason for revision 1.
- Paragraph 1.D., Description is revised to add "No more work required" and maintenance zones.

Revision 2 is sent to correct the group/configuration table data because of a mismatch between line numbers and the related variable numbers listed in the effectivity. In addition, references to the Federal Aviation Administration (FAA) Airworthiness Directive AD 2011-20-10 have been added and typographical errors corrected..

D. Description

Get access to the airplane flight compartment and left forward rudder quadrant through the forward access door 112A.

Part 1: Wire Bundle W443 Inspection for damage.

— Do a detail inspection and measure the minimum clearance between the wire bundle W443 and the left forward rudder quadrant.

Part 2: Wire Bundle W443 Clearance Adjustment.

— Adjust the wire bundle W443 routing to obtain a sufficient clearance between wire bundle and rudder quadrant.
— Do an operational test of the rudder control system.

Part 3: Wire Bundle W443 Repair and Clearance Adjustment.

— Repair damaged wire bundle W443.
— Measure the minimum clearance between the wire bundle W443 and the left forward rudder quadrant.
— Do an operational test of the rudder control system as given in Part 2.
— Test applicable systems affected by wire bundle damage.

Effects of this Revision on airplanes on which Revision 1 was previously done:

None.

The work in this service bulletin is done in the maintenance zone(s) given below.

Affected Maintenance Zones	
Model	**Zone**
737-600, 737-700, 737-700C, 737-800, 737-900, 737-900ER	114, 115

E. Compliance

Federal Aviation Administration (FAA) Airworthiness Directive AD 2011-20-10 is related to this service bulletin. The effective date of AD 2011-20-10 is November 09, 2011.

Boeing recommends that the inspection and the corrective action(s) given in this service bulletin be done within 60 months after the effective date of AD 2011-20-10.

F. Approval

This service bulletin was examined by the Federal Aviation Administration (FAA). The changes specified in this service bulletin comply with the applicable regulations and are FAA approved, as well as European Aviation Safety Agency (EASA)/Joint Aviation Authorities (JAA) approved for all EASA/JAA approved airplanes listed in the service bulletin effectivity. This service bulletin and its approval were based on the airplane in its original Boeing delivery configuration or as modified by other approved Boeing changes.

If an airplane has a non-Boeing modification or repair that affects a component or system also affected by this service bulletin, the operator is responsible for obtaining appropriate regulatory agency approval before incorporating this service bulletin.

In addition, the Manager of the FAA Seattle Aircraft Certification Office approves the action (i.e. inspection or modification) defined in this Service Bulletin as an alternative method of compliance to the requirements of paragraphs (g), (h) and (i) of AD 2011-20-10. All provisions of AD 2011-20-10 that are not specifically referenced in the above statement remain fully applicable and must be complied with.

G. Manpower

The tables below show an estimate of the task-hours necessary to do this service bulletin for each airplane. This estimate is for direct labor only, done by an experienced crew. Adjust the estimate with operator task-hour data if necessary. The estimate does not include lost time. These are some examples of lost time:

— Time to adjust to the workplace
— Time to schedule the work
— Time to examine the work
— Time to cure the materials
— Time to make the parts
— Time to find the tools.

The table below shows the time necessary to do Part 1: Wire Bundle W443 Inspection for damage.

Task	Number of Persons	Task-Hours	Elapsed Hours
Open Access	1	0.75	0.75
FIGURE 1	2	0.50	0.25
Close Access	1	0.75	0.75
TOTAL FOR EACH AIRPLANE		2.00	1.75

The table below shows the time necessary to do Part 1: Wire Bundle W443 Inspection for damage and Part 2: Wire Bundle W443 Clearance Adjustment.

Task	Number of Persons	Task-Hours	Elapsed Hours
Open Access	1	0.75	0.75
FIGURE 1	2	0.50	0.25
FIGURE 2	2	1.00	0.50
Close Access	1	0.75	0.75
TOTAL FOR EACH AIRPLANE		3.00	2.25

The table below shows the time necessary to do Part 1: Wire Bundle W443 Inspection for damage and Part 3: Wire Bundle Repair and Clearance Adjustment.

Task	Number of Persons	Task-Hours	Elapsed Hours
Open Access	1	0.75	0.75
FIGURE 1	2	0.50	0.25
FIGURE 2	2	1.00	0.50
Close Access	1	0.75	0.75
Test(s)	1	0.75	0.75
TOTAL FOR EACH AIRPLANE		3.75 (a)	3.00 (a)
(a) This estimate does not include the time necessary to repair wire bundle W443 if damage is found. More time could be necessary to do the repair as the quantity of damage is not known.			

H. Weight and Balance Changes

None.

I. Electrical Load Data

Not applicable.

J. References

1. Existing Data:

   a. Federal Aviation Administration (FAA) Airworthiness Directive (AD) 2011-20-10

   b. Service Related Problem (SRP) 737NG-SRP-27-0190

   c. 737-600/700/800/900 Aircraft Maintenance Manual (AMM) 06-41-00, 24-22-00, 27-21-00, 29-11-00

   d. Standard Wiring Practices Manual (SWPM) 20-10-06, 20-10-11, 20-10-12, 20-10-13, 20-10-19

2. Data Supplied with this Service Bulletin:

   None.

3. Installation Drawings Used in the Preparation of this Service Bulletin:

Drawing Number	Title
288A4140	Wire Bundle Instl - Flight Deck Floor Beams

   This drawing was used to prepare this service bulletin. This drawing is not necessary to make the specified changes, and is not supplied with this service bulletin. This drawing may not be applicable to all airplane configurations or operators.

K. Publications Affected

1. Publications:

   None.

2. Damage Tolerance Based Structural Inspections:

   Boeing has evaluated the repairs and/or changes in this service bulletin for effects on Fatigue Critical Structure (FCS) and for changes to Damage Tolerance Inspections (DTI) required in the Maintenance Program. This service bulletin does not affect FCS, therefore DTIs are not necessary.

L. Interchangeability and Intermixability of Parts

Accomplishment of this service bulletin does not affect interchangeability or intermixability of parts.

M. Software Accomplishment Summary

Not affected.

2. MATERIAL INFORMATION

A. Material - Price and Availability

The operator can supply the parts and materials shown in Paragraph 2.C., Parts Necessary For Each Airplane. As an alternative, operators can purchase the parts from Boeing Spares. This service bulletin does not show the Boeing price and supply data.

B. Industry Support Information

Boeing warranty remedies are available for 737 airplanes in warranty as of March 24, 2006. For inspection task hour reimbursement for airplanes in warranty as of that date, send a claim to Boeing Warranty. If the condition described in this service bulletin is found during the inspection for airplanes in warranty as of that date and additional task hours are required, send a claim to Boeing Warranty. Please refer to this service bulletin number and reference the airplane variable number in your purchase order.

C. Parts Necessary for Each Airplane

1. Kits/Parts:

   None.

2. Parts and Materials Supplied by the Operator:

Part Number / Specification	QTY	Name	Notes
BMS 13-54 Grade D, Type III, Class 1, Finish C	1	Lacing Tape	(a) (c)
BACS38K9	20	Plastic Tie Strap	(a) (b)
(a) Refer to SWPM 20-10-11, as an accepted procedure.			
(b) Use as an approved alternative.			
(c) See the Qualified Products List at the end of the Boeing Material Specification (BMS) for supplier data.			

3. Parts Modified and Reidentified:

   None.

4. Parts Removed and Not Replaced:

   None.

D. Parts Necessary to Change Spares

None.

E. Special Tooling - Price and Availability

None.

F. Special Tooling Necessary to do this Service Bulletin

No special tools or equipment are necessary to do the change in this service bulletin. But, maintenance and overhaul tools in the manuals given in Paragraph 1.J., References, can be necessary. Examine operator tool supply to make sure all necessary tools are available.

3. ACCOMPLISHMENT INSTRUCTIONS

A. GENERAL INFORMATION

CAUTION: KEEP THE WORK AREA, WIRES AND ELECTRICAL BUNDLES CLEAN OF METAL PARTICLES OR CONTAMINATION WHEN YOU USE TOOLS. UNWANTED MATERIAL, METAL PARTICLES OR CONTAMINATION CAUGHT IN WIRE BUNDLES CAN CAUSE DAMAGE TO THE BUNDLES. DAMAGED WIRE BUNDLES CAN CAUSE SPARKS OR OTHER ELECTRICAL DAMAGE.

NOTE:

1. Manual titles are referred to by acronyms. Refer to Paragraph 1.J., References, for definition of the acronyms.

2. Obey all of the warnings and cautions given in the specified manual sections.

3. Refer to the SWPM 20-10-11 and SWPM 20-10-12 for the wire installation procedures.

4. A Detailed Inspection is defined as: An intensive examination of a specific item, installation, or assembly to detect damage, failure, or irregularity. Available lighting is normally supplemented with a direct source of good lighting at an intensity deemed appropriate. Inspection aids such as mirrors magnifying lenses, etc. may be necessary. Surface cleaning and elaborate procedures may be required.

5. These work instructions refer to procedures included on other Boeing documents. When the words "refer to" are used and the operator has an accepted alternative procedure, the accepted alternative procedure can be used. When the words "in accordance with" are included in the instruction, the procedure in the Boeing document must be used.

6. Hydraulic systems A, B, and standby must have pressure removed before maintenance is done on the rudder control system. This is to prevent injury to persons because of accidental operation of the control system while you do maintenance. You must be careful to put maintenance stands and equipment away from control surface travel.

B. WORK INSTRUCTIONS

1. Make sure that the hydraulic systems A, B, and standby have pressure removed. Refer to 737-600/700/800/900 AMM 27-21-00 as an accepted procedure.

2. Make sure that the electrical power is removed from the airplane. Refer to 737-600/700/800/900 AMM 24-22-00, as an accepted procedure. Use an independent power source for lighting.

3. Get access to the left forward rudder quadrant through the forward access door 112A. Refer to 737-600/700/800/900 AMM 06-41-00, as an accepted procedure.

4. Get access to the flight compartment.

5. Part 1: Wire Bundle W443 Inspection for damage.

    a. Push and hold the pilot's right rudder pedal fully to the travel stops.

    b. Do a detailed inspection of the wire bundle W443 for damage and measure for a minimum clearance of 0.5 inch in accordance with FIGURE 1.

        (1) If the wire bundle is not damaged and a minimum 0.5 inch clearance exists between the forward rudder quadrant, then put the airplane back to a serviceable condition.

        (2) If the wire bundle is not damaged and a 0.5 inch clearance does not exist between the forward rudder quadrant, then do Part 2: Wire Bundle W443 Clearance Adjustment.

        (3) If the wire bundle is damaged then repair in accordance with Part 3: Wire Bundle W443 Repair and Clearance Adjustment.

    c. Slowly release the pilot's right rudder pedal fully.

6. Part 2: Wire Bundle W443 Clearance Adjustment.

    a. Adjust the wire bundle clearance in accordance with FIGURE 2.

    b. Push and hold the pilot's right rudder pedal fully to the travel stops. Make sure there is a minimum clearance of 0.5 inch in accordance with FIGURE 2.

    c. Slowly release the pilot's right rudder pedal fully.

    d. Do the operational check that follows of the rudder control system.

        (1) Push the pilot's right rudder pedal fully forward to the travel stops. Make sure the rudder pedal travel is smooth and there is no evidence of interference, slowly release the rudder pedal.

        (2) Push the pilot's left rudder pedal fully forward to the travel stops. Make sure the rudder pedal travel is smooth and there is no evidence of interference, slowly release the rudder pedal.

    e. Put the airplane back to a serviceable condition

7. Part 3: Wire Bundle W443 Repair and Clearance Adjustment.

    a. Repair damaged wire bundle. Refer to SWPM 20-10-13, as an accepted procedure.

    b. Adjust the wire bundle clearance in accordance with Part 2: Wire Bundle W443 Clearance Adjustment.

    c. Supply electrical power to the airplane. Refer to 737-600/700/800/900 AMM 24-22-00, as an accepted procedure.

d. Do a test of the system that was repaired:

Control Column Check

(1) Do a check of the control column:

(a) Move the control column full forward then full aft.

1) Make sure the control column operates correctly and smoothly.

(b) Turn the control wheel through full travel.

1) Make sure the control wheel operates correctly and smoothly.

Stabilizer Trim system test

(1) Make sure the circuit breakers that follow are closed on the P6-2 panel:

Row	Column	Number	Name
B	10	C00207	FLIGHT CONTROL STAB TRIM CONT
D	10	C00840	FLIGHT CONTROL STAB TRIM ACTUATOR

(2) Do a test of the stabilizer trim control switch on the control wheel:

(a) Move the STAB TRIM CUTOUT switch to the NORMAL position.

(b) Move the STAB TRIM switches to APL NOSE UP and then to APL NOSE DOWN.

(c) Make sure the stabilizer moves correctly.

Memory device lighting system test

(1) Make sure the circuit breakers that follow are closed on the P6-3 panel:

Row	Column	Number	Name
B	9	C00331	PANEL & INSTR 28V PRI CAPT & CTR
B	10	C00335	PANEL & INSTR 28V PRI F/O

(2) Do a test of the memory device lighting:

(a) At the P1 panel, set the CAPT'S AND CENTER PANEL LIGHTING CONTROL switch to the dim position and then to the bright position.

1) Make sure the intensity of the light changes from dim to bright.

(b) Set the switch to the off position.

Autopilot disconnect system test

(1) Make sure the circuit breakers that follow are closed on the P18-1 panel:

Row	Column	Number	Name
C	4	C00456	AFCS SYS A MACH TRIM AC
C	5	C01041	AFCS SYS A SNSR EXC AC
D	1	C01049	AFCS SYS A WARN LIGHT (BAT)
D	2	C01045	AFCS SYS A FCC DC
D	3	C01048	AFCS SYS A ENGAGE INTLK
D	4	C00457	AFCS SYS A MACH TRIM DC
D	5	C01044	AFCS MCP DC 1

(2) Make sure the circuit breakers that follow are closed on the P6-2 panel:

Row	Column	Number	Name
B	1	C00374	AFCS SYS B WARN LIGHT (BAT)
B	2	C01064	AFCS SYS B MACH TRIM DC
B	3	C01046	AFCS SYS B FCC DC
B	4	C00716	AFCS SYS B ENGAGE INTLK
C	1	C01037	AFCS SYS B MACH TRIM AC
C	2	C01042	AFCS SYS B SNSR EXC AC
C	3	C01047	AFCS MCP DC 2

(3) Make sure that the autopilot stab trim cutout switch, on the control stand, is in the NORMAL position.

(4) Make sure that the VHF NAV and IRS switches, on the P5 forward overhead panel, are in the NORMAL position.

(5) Set the left and right IRS switches, on the P5 overhead panel, to the ALIGN or NAV position.

WARNING: KEEP PERSONS AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES. THE AILERONS, ELEVATORS, RUDDER, FLAPS, SLATS, SPOILERS, STABILIZER AND NOSE GEAR CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

(6) Supply hydraulic power to hydraulic systems A and B. Refer to 737-600/700/800/900 AMM 29-11-00, as an accepted procedure.

(7) Do a test of the autopilot disengage switch on the control wheel:

(a) Push the CMD A or CMD B autopilot engage switch on the mode control panel to engage the autopilot.

1) Make sure that the CMD A or CMD B autopilot engage switch light comes on.

(b) Push the captain or first officer autopilot disengage switch on the control wheel to disengage the autopilot.

1) Make sure that the A/P warning lights flash.

2) Make sure that the A/P disengage warning sound comes on.

3) Push the captain or first officer autopilot disengage switch again.

a) Make sure that the A/P warning lights go off.

b) Make sure that there is no A/P disengage warning sound.

(8) Set the left and right IRS switches, on the P5 overhead panel, to the OFF position.

(9) Remove hydraulic power from hydraulic systems A and B. Refer to 737-600/700/800/900 AMM 29-11-00, as an accepted procedure.

Push-to-talk switches system test

(1) Make sure the circuit breakers that follow are closed on the P6-2 panel:

Row	Column	Number	Name
C	21	C00560	INTERPHONE POWER F/O DC 2
C	22	C00561	INTERPHONE POWER F/O BAT
C	23	C00239	INTERPHONE POWER CAPT DC 2
C	24	C00240	INTERPHONE POWER CAPT BAT
D	22	C00086	AUDIO F/O
D	23	C00083	AUDIO CAPT

(2) Do an operational test of the PTT switch on the control wheel:

NOTE: The label for the microphone selector switch on the audio control panel (ACP) is FLT INT or INT dependant on the ACP fitted to the airplane.

In the operational test that follows the microphone selector switch is referred to as the INT microphone selector switch for either case.

(a) Push the INT microphone selector switch on the pilot's audio control panel (ACP) to on.

(b) Push the volume control for the INT microphone selector switch.

(c) Turn the volume control for the INT microphone selector switch clockwise to the middle position.

(d) Push the SPKR volume control switch to on.

(e) Turn the SPKR volume control switch clockwise to the middle position or to the volume level you are comfortable with.

(f) Push and hold the PTT switch on the pilot's control wheel to the MIC position.

(g) Speak into the pilot's boom microphone.

1) Make sure you hear the voice clearly on the headsets.

(h) Release the PTT switch.

1) Make sure the switch goes to the center (off) position.

(i) Push and hold the PTT switch on the pilot's control wheel to the INT position.

(j) Speak into the pilot's boom microphone.

1) Make sure you hear the voice clearly on the headsets.

(k) Release the PTT switch.

1) Make sure the switch goes to the center (off) position.

e. Put the airplane back to a serviceable condition.

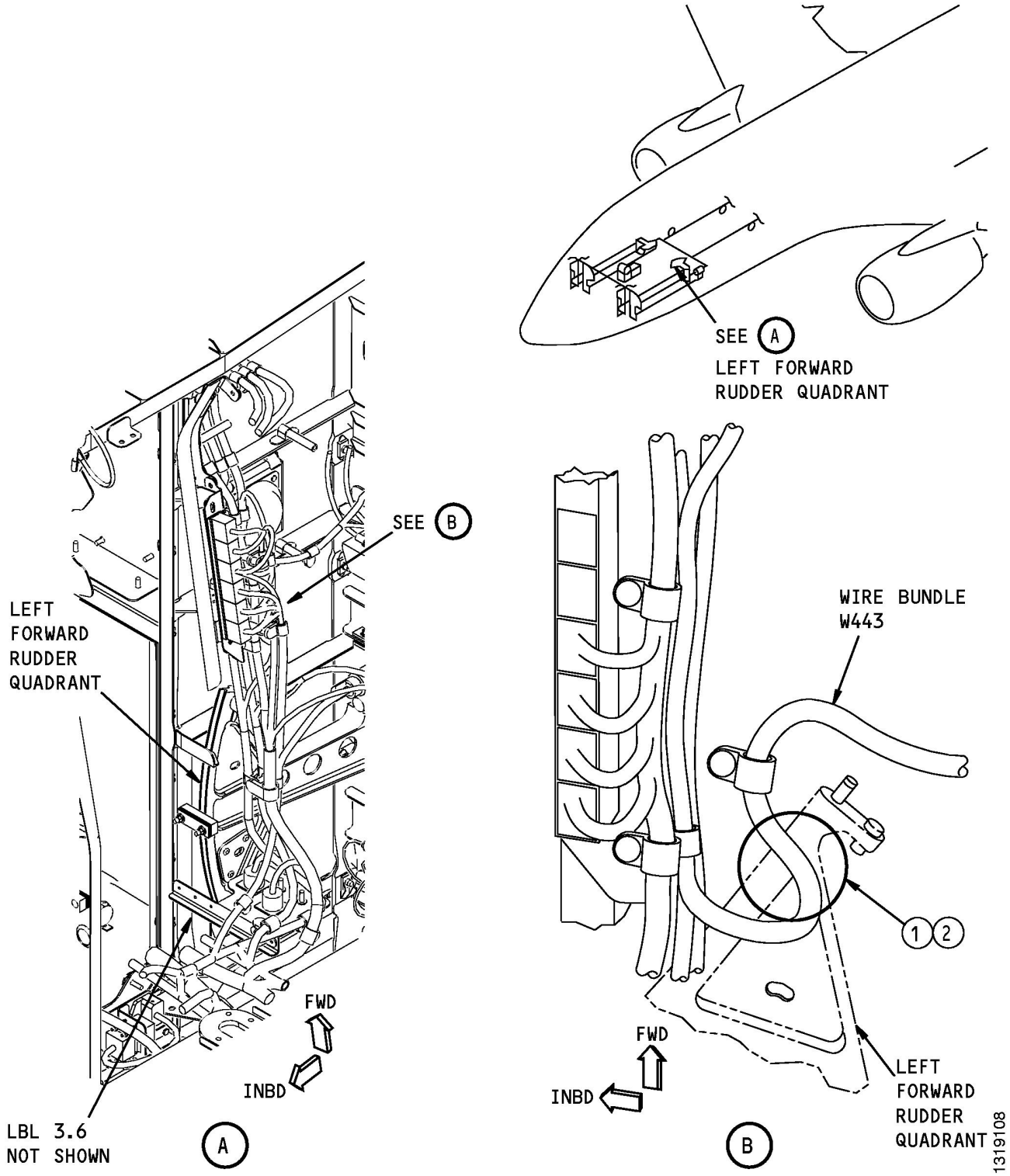

FIGURE 1: WIRE BUNDLE W443 INSPECTION FOR DAMAGE
(SHEET 1 OF 2)

The step numbers shown below agree with the numbers shown in the circle symbols in the figure.

STEP	TASK	NAME	IDENTIFICATION	QTY	MORE DATA
1	Inspect	Wire Bundle	W443	-	do a detailed inspection for damage to the wire bundle protection sleeve, and/or damage to the wire jacket or insulation. (a)
2	Measure	Wire Bundle Clearance	W443	-	for a minimum clearance of 0.5 inch from left forward rudder quadrant full travel motion.
(a) Refer to SWPM 20-10-13 and SWPM 20-10-06, as accepted procedures.					

FIGURE 1: WIRE BUNDLE W443 INSPECTION FOR DAMAGE
(SHEET 2 OF 2)

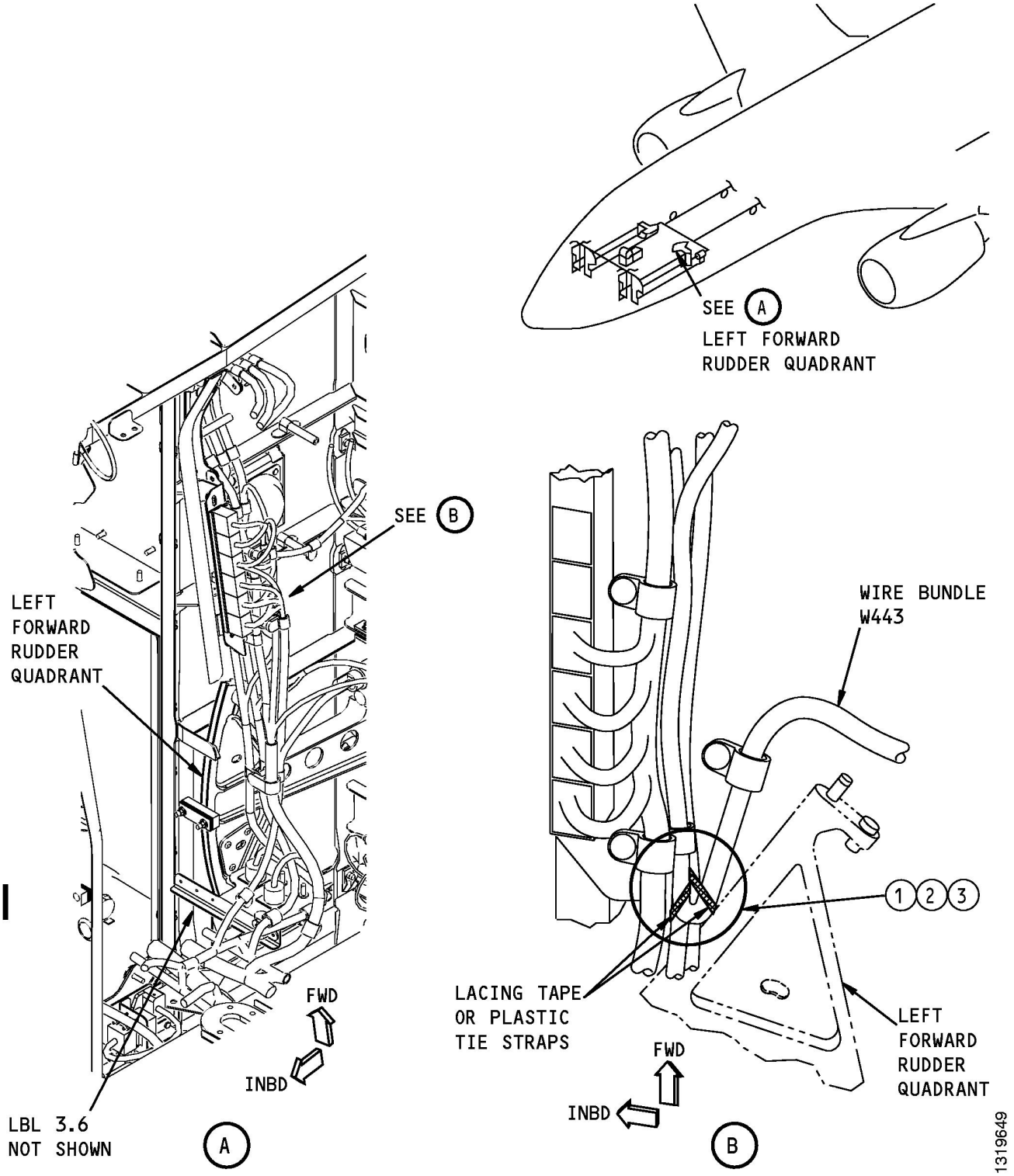

FIGURE 2: WIRE BUNDLE W443 CLEARANCE ADJUSTMENT (SHEET 1 OF 2)

The step numbers shown below agree with the numbers shown in the circle symbols in the figure.

STEP	TASK	NAME	IDENTIFICATION	QTY	MORE DATA
1	Adjust	Wire Bundle	W443	-	route as straight as possible. Refer to SWPM 20-10-11 and SWPM 20-10-12, as accepted procedures. (a) (b) (c) (d)
2	Route / Attach	Wire Bundle	W443	-	to the adjacent wire bundles, as necessary. Refer to SWPM 20-10-11 and SWPM 20-10-19, as accepted procedures. (b) (c) (d)
3	Measure	Wire Bundle Clearance	W443	-	for a minimum clearance of 0.5 inch from left forward rudder quadrant full travel motion.
(a)	Minimize bend radius.				
(b)	Adjust wire bundle to make sure that contact is not made with any part that moves.				
(c)	Adjust wire bundle to increase the minimum clearance to 0.5 inch.				
(d)	Cut and install lacing tape (part number BMS 13-54 Type III) or install plastic tie straps (part number BACS38K9), as an approved alternative, to hold wire bundle in position.				

FIGURE 2: WIRE BUNDLE W443 CLEARANCE ADJUSTMENT
(SHEET 2 OF 2)