

### Purpose

To provide product information for the Boeing version of the Harrington LB Lever Hoist.

### Background

Boeing transmittal M-7360-99-2574, dated August 4, 1999 (pages 3, 4, and 5) gives notice of a change to Boeing's requirement for Manually Operated Lever Hoists called out on Boeing GSE drawings. The transmittal includes the following text regarding the new requirement:

"Manually operated lever hoist in accordance with MIL-H-904J *OR* ASME B30.21-1994. Hoist mechanism shall be closed or shielded to minimize possible operator injury and shall be designed to prevent free chain condition from occurring while under any load up to its rated capacity. Alternately, the free chain capability to be disabled by the manufacturer or their agent."

Subsequent clarification of the requirement via Boeing transmittal M-7200-00-00680, dated March 8, 2000 (pages 6 & 7) indicates that a hoist complies with the requirement if it "will not free chain in the lowering mode in any configuration and will not free chain in the lifting mode when a load is applied".

Boeing transmittal M-7360-99-2711, dated August 16, 1999 (page 8) states "... JAL can use Kito to perform the modifications cited ...".

### Harrington's "B" Series LB Lever Hoist

Harrington developed a modification to the current LB Lever Hoist (L4 & L5LB model) to meet the Boeing requirement. The resulting hoist is called the "B" Series LB Lever Hoist. It is also known as the "Boeing Version L4 or L5LB". It has the following features and benefits:

- The freewheel mechanism is disabled in accordance with Boeing's requirement.
- Meets ASME B30.21-1994
- Hoist mechanism (gears and brake assembly) is closed/shielded to minimize the possibility of operator injury.
- Identification – the nameplate is blue and silver in color to distinguish it from the standard LB, which has a black and orange nameplate. Additionally, the nameplate is marked with the letter "B" to further assist with identification.
- Carries all the features and benefits of the standard LB except for the freewheel feature. Weights and dimensions are identical to the standard LB.
- Can be used with all standard LB options, including:
  - Point Load Hook
  - Top Hook Extender
  - Load Limit Warning Handle
  - Inspection Hook
  - Corrosion-resistant Chain
  - Bullard/Shur-loc hooks

**Retrofits**

Harrington has developed retrofit kits to support the conversion of product. These retrofit kits are for the L4 & L5LB models. Each kit includes a Collar, Name Plate B with rivets, Name Plate U-B, Split Pin, Owner’s Manual insert and installation instructions. The table below lists the kit part numbers.

Series	Capacity (Tons)	B Series Hoist Product Code	Retrofit Kit Part Number
L4	3/4	LB008-B	K00040
	1	LB010-B	K00041
	1 1/2	LB015-B	K00042
	2	LB020-B	K00043
	3	LB030-B	K00044
	6	LB060-B	K00045
	9	LB090-B	K00046
L5	3/4	L5LB008-B	K00047
	1	L5LB010-B	K00048
	1 1/2	L5LB015-B	K00049
	2	L5LB020-B	K00050
	2 3/4	L5LB028-B	K00051
	3	L5LB030-B	K00052
	6	L5LB060-B	K00053
	9	L5LB090-B	K00054

**References**

- EDOC0161, “L4LB Lever Hoist – Boeing Version – Owner’s Manual Insert”
- EDOC0162, “L4LB Lever Hoist – Boeing Version – Retrofit Kit Installation Instructions”
- EDOC0163, “LB Lever Hoist - Boeing Version - Kits - Models L4 and L5”
- EDOC0257, “L5LB Lever Hoist – Boeing Version – Owner’s Manual Insert”
- EDOC0258, “L5LB Lever Hoist – Boeing Version – Retrofit Kit Installation Instructions”

APR 18 '99 13:41 FR UPS STORES KONT  
MFR 18 2000 13:41 FR 10001190

909 974 7353 TO 917176652861  
JUL 07 1999 10 01

P.02  
P.02/02

**PRE-ALERT**

**BOEING**

**BOEING Field Services - SDF**

FROM: 206-544-9077 (FAX)  
32-9430 (TELEX)  
LKEBO7X (SITA)  
CSD (DIR CODE)

ATTN: L. RICHARDSON - FIELD SERVICE REP

M-7360-99-2574 04 AUG 99  
ATA 0310-00 MODEL ALL  
LEVER HOIST CALLOUTS ON GSE DRAWINGS

*Handwritten routing slip:*  
 All UTILITIES  
 MS MY  
 TF  
 GP  
 MK MK  
 ED  
 GO  
 MC

**R E S E N D** TO CORRECT MESSAGE NUMBER. PLEASE DISREGARD  
EARLIER MESSAGE NUMBERED M-MEAP-99-00008.

THE FOLLOWING MESSAGE WAS SENT TO ALL OPERATORS, APPLICABLE FIELD SERVICE REPRESENTATIVES AND REGIONAL DIRECTORS. A COPY HAS BEEN PROVIDED TO RESIDENT REPRESENTATIVES IN EVERETT AND RENTON.

THIS SAFETY MESSAGE IS PROVIDED AS ADVANCE NOTICE OF A CHANGE TO THE WAY MANUALLY OPERATED LEVER HOISTS ARE CALLED OUT ON BOEING DESIGNED GROUND SUPPORT EQUIPMENT (GSE) DRAWINGS. THIS CHANGE WILL AFFECT MOST IF NOT ALL OVERHEAD SLINGS AND BOOTSTRAPS - GSE WHICH ARE ESSENTIAL TO OUR CUSTOMERS DAILY MAINTENANCE OPERATIONS. THUS, WE HOPE THAT THIS ADVANCE NOTICE WILL HELP REDUCE THE IMPACT TO YOUR OPERATIONS AND HELP FACILITATE THE DECISIONS ON HOW BEST TO HANDLE YOUR CURRENT LEVER HOIST INVENTORY UNTIL THE DRAWINGS ARE RELEASED WITH THE FINAL CHANGES.

THE SUPPORT EQUIPMENT DESIGN (SED) GROUP OF BOEING HAS DETERMINED THAT THERE IS A POTENTIAL SAFETY CONCERN ASSOCIATED WITH THE LEVER HOISTS LISTED IN GSE DRAWINGS. IF THE LEVER HOISTS ARE NOT USED PROPERLY, THERE IS A POTENTIAL FOR INJURY TO PERSONNEL AND/OR DAMAGE TO THE AIRPLANE. DEPENDING ON THE TYPE OF LEVER HOIST INVOLVED, ACTIVATION OF THE FREE CHAIN HANDWHEEL OR KNOB ON THE HOIST CAN CREATE AN INADVERTENT FREE CHAIN CONDITION WITH A LOAD. THE FREE CHAIN CONDITION MEANS THAT THE CHAIN IS ALLOWED TO LEAVE THE HOIST WITHOUT ANY MECHANICAL CONTROL. THE INTENT OF THIS MODE IS TO ALLOW A MEANS OF FEEDING OUT THE CHAIN FOR THE INITIAL SET UP. NOT ONLY CAN THIS CAUSE THE LOAD TO BE DROPPED AND CAUSE INJURY OR DAMAGE, BUT THE HANDLE CAN ROTATE OR THE FREE CHAIN CAN WHIP ABOUT, STRIKING PERSONNEL AND/OR THE AIRPLANE.

THEREFORE, THE DECISION HAS BEEN MADE TO REQUIRE THE SHIELDING OR REMOVAL OF THE FREE-CHAIN FEATURE FROM ALL LEVER HOISTS AS PART

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APR 18 '00 13:42 FR UPS STORES KONT  
FR 18 2000 13:42 FR TULLING

909 974 7353 TO 917176652861  
002 339 7044 TO LNT

P.03  
P.03/05



### BOEING Field Services - SDF

OF A GENERAL HOIST DESIGN SPECIFICATION THAT WILL BECOME PART OF BOEING DESIGNED GSE. THIS WILL BE DONE BY ADDING A STATEMENT SIMILAR TO THE FOLLOWING, DEPENDENT ON THE TYPE OF HOIST, TO THE GSE DRAWING AS A FLAGNOTE.

MANUALLY OPERATED LEVER HOIST IN ACCORDANCE WITH MIL-H-904J OR ASME B30.21-1994. HOIST MECHANISM SHALL BE CLOSED OR SHIELDED TO MINIMIZE POSSIBLE OPERATOR INJURY AND SHALL BE DESIGNED TO PREVENT FREE CHAIN CONDITION FROM OCCURRING WHILE UNDER ANY LOAD UP TO ITS RATED CAPACITY.

ALTERNATELY, THE FREE CHAIN CAPABILITY TO BE DISABLED BY THE MANUFACTURER OR THEIR AGENT.  
MIN. CAPACITY = XXXX LBS MIN. VERTICAL LIFT = XX FEET  
MAX. HEADROOM (CLOSED HEIGHT) = XX.X INCHES  
PROOFLOAD LEVER HOISTS TO 1.25 TIMES RATED CAPACITY

SUGGESTED MIL-H-904J SOURCE: MORGAN AERO PRODUCTS,  
2719 PACIFIC AVE.,  
EVERETT, WA 98201-4527

SUGGESTED ASME B30.21-1994 SOURCES: INGERSOLL-RAND MATERIAL  
HANDLING  
SIXTH AVE. SOUTH,  
SEATTLE, WA 98124

HARRINGTON HOISTS INC.  
BLECHER & ASSOCIATES  
1521 WOODLAND TERRACE  
LAKE OSWEGO, OR 97034

THE FOLLOWING IS A LIST OF DRAWINGS THAT BOEING IS CURRENTLY SCHEDULING TO RELEASE WITH THE DISCUSSED CHANGES. BE AWARE THAT THIS LIST MAY NOT BE COMPLETE AND BY THE TIME WE HAVE COMPLETED OUR RESEARCH THERE COULD BE ADDITIONAL DRAWINGS.

DRAWING NUMBER	DRAWING TITLE
170HME65B00713	BOOTSTRAP EQUIP - JT9D-3 & -7 ENGINE YES
20HME65B89603	SLING OVERHEAD, RB211
20HME65B94200	SLING ASSY - INLET COWL, CF6-50 & RB211-524 ENGINES
50HME65B94600	BOOTSTRAP EQUIP - CF6-50 ENGINE
5964314	BOOM, V2500-D5 ENGINE PORTABLE HOIST NO
5981307	BOOM, BR715 PORTABLE ENGINE HOIST
A54001	SLING EQPT - STRUT UNLOAD, PIN REMOVAL/INSTL
A54007	SLING - DIAGONAL BRACE, UNLOAD/ RB211-524 ENGINE

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APR 18 '00 13:42 FR UPS STORES KONT 989 974 7353 TO 917176652861 P.04  
FRN 12 2000 15-42 FR 1001190



### BOEING Field Services - SDF

A71001	BOOTSTRAP EQUIPMENT - P&W ENGINES
A71011	BOOTSTRAP EQUIPMENT - GE ENGINES
A71047	BOOTSTRAP EQPT - RB211-524H
B54017	SLING EQPT - FUSE PIN REMOVAL/ INSTALLATION RB211-535 ENGINE
B71001	ENGINE HANDLING EQUIPMENT - RB211-535
B71022	ENGINE HANDLING EQUIPMENT - P&W 2000 SERIES
B71040	SLING EQPT - INLET COWL
DZZ7108	HOIST, MLG INSTALLATION
DZZ7175	HOIST, MLG PISTON
G54007	STRUT SLING - PRELOAD/UNLOAD, DIAGONAL BRACE
G71001	BOOTSTRAP EQPT - CF6-80C2B ENGINE
G71003	BOOTSTRAP EQUIPMENT - PW4000 ENGINES
G71025	SLING EQPT - RB211-524 ENGINE
G71027	SLING EQPT - JT9D, PW4000 & CF6-50 ENGINES
J32073	HOIST EQPT - RMVL/INSTL, INNER CYLINDER, NLG
J54001	STRUT UNLOAD SLING - DIAGONAL BRACE ALIGNMENT
J54002	SLING EQPT - STRUT REMOVAL/INSTL, PW ENGINE
J54003	SLING EQPT - REMOVAL/INSTALLATION, ENGINE STRUTS
J54013	SLING EQUIPMENT - DIAGONAL BRACE UNLOAD, PW ENGINE
OHME65B89603	BOOTSTRAP EQUIPMENT - RB211 ENGINE
OHME65B90100	SLING - JT9D, P&W 4000 & CF6-50 ENGINES

FINALLY, BOEING STRONGLY RECOMMENDS THAT THE OPERATING PERSONNEL AND THEIR SUPERVISORS BE MADE AWARE OF THE POTENTIAL FOR INJURY ACCIDENTS WHEN OPERATORS NOT THOROUGHLY FAMILIAR WITH THE HAZARDS INVOLVED USE THIS EQUIPMENT. PRIOR TO USING ANY EQUIPMENT, PROPER OPERATOR TRAINING AND FAMILIARIZATION IS ESSENTIAL WHERE POTENTIAL FOR PERSONAL INJURY AND/OR EXPENSIVE EQUIPMENT DAMAGE EXISTS.

IF WE CAN BE OF ANY ADDITIONAL HELP, PLEASE DON'T HESITATE TO CALL.

BOB NEUDORFER  
MAINTENANCE AND GROUND OPERATIONS SYSTEMS  
CUSTOMER SUPPORT  
BOEING M-7360 2J-52

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Printed: 05-Aug-1999

\*\* TOTAL PAGE: 04 \*\*

Mar. 08 2000, 10:31 PST MsgNum: M-7200-00-00680 Page 1 of 2

DATE: 03/08/2000 10:31:25

FROM: THE BOEING COMPANY  
SERVICE ENGINEERING  
CUSTOMER SUPPORT  
P. O. BOX 3707 M/C 2L-93  
SEATTLE WA 98124-2207  
206-544-0616 (FAX)  
32-9430 (TELEX)  
LKEBO7X (SITA)  
ESE (DIR CODE)

copy: Kaz

ATTN: Chris Hess - Harrington Manager of Engineering & Quality

M-7200-00-00680 08 MAR 00  
ATA 0000-00 MODEL NONE  
MANUALLY OPERATED LEVER HOISTS  
REF /A/ XXXE000222/2 /C/  
/B/ M-7360-99-2574

The following message sent to Chris Hess (Harrington):

This message is in response to the reference /A/ request for additional information on the manually operated lever hoist as depicted in the reference /B/ safety message.

As stated in the reference /B/ safety message, Boeing has made the decision to require the shielding or removal of the free-chain feature from all lever hoists as part of a general hoist design specification that will become part of the boeing designed ground support equipment (GSE).

A statement similar to the following will be added to the GSE drawings as a flagnote.

Manually operated lever hoist in accordance with MIL-H-904J or ASME-B30.21-1994. Hoist mechanism shall be closed or shielded to minimize possible operator injury and shall be designed to prevent free chain condition from occurring while under any load up to its rated capacity.

Also stated in the reference /B/ safety message Morgan Aero Products was referenced as a suggested MIL-H-904J source and Ingersoll-Rand Material Handling as a ASME-B30.21-1994 source.

Action:

Harrington states that they have purchased a Morgan lever hoist and that it does not free chain in the lowering mode but that it does free chain in the lifting mode.

Harrington Hoist has asked if Boeing's intention is that the free chain condition be prevented in both the lifting and lowering mode? Or, is the free chain condition to be prevented in only the lowering mode? If it is the former, how is the Morgan lever hoist considered to be compliant?

M-7200-00-00680 - Pg 1 of 2

Mar 08 2000, 10:31 PST MsgNum: M-7200-00-00680 Page 2 of 2

Response:

As stated previously in the reference /B/ safety message, Boeing has revised the lever hoist design requirements, see the above statement. It is the responsibility of the manufacturer or their agent to incorporate the required modifications to meet the new design requirements.

The key words to note in reference to the revised design requirements are; the mechanism shall be closed or shielded to minimize injury and designed to prevent a free chain condition while under any load.

Our understanding of the Morgan lever hoist is that it will not free chain in the lowering mode in any configuration and will not free chain in the lifting mode when a load is applied.

If we can be of further assistance please advise.

Russell C. Harper Jr. - MGOS - Seattle  
Alberto Salazar/Brian P. Smith - Everett Airline Support Manager  
Boeing Service Engineering  
Orgn M-7250 04-ER

08 Mar 00 1026

08/17/99 05:19 909 279 7500 HARRINGTON HOIST --- DIRECT MANHEIM 002

DATE: 08/16/1999 15:50:12

FROM: 206-544-9077 (FAX)  
32-9430 (TELEX)  
LKEBO7X (SITA)  
CSD (DIR CODE)

ATTN: MR. ROGER BLECHER

M-7360-99-2711 16 AUG 99  
ATA 0000-00 MODEL ALL  
HARRINGTON HOIST QUESTION  
REF /A/ JALM990813 /C/  
/B/ TELECON, R. BLECHER BLECHER & ASSOCIATES, TO R.  
NEUDORFER, BOEING, 10 AUGUST, 1999  
/C/ M-7360-99-2574  
/D/ TELECON, R. NEUDORFER, BOEING, TO R. BLECHER,  
BLECHER & ASSOCIATES, 16 AUGUST, 1999

THIS MESSAGE IS SENT IN RESPONSE TO THE REFERENCE /A/ REQUEST IN  
FOLLOW UP TO THE REFERENCE /B/ TELECON REGARDING THE REFERENCE  
/C/ ALL OPERATORS SAFETY TELEX.

DURING REFERENCE /B/ YOU STATED THAT JAL ASKED IF THEY COULD USE  
A LOCAL JAPANESE VENDOR - KITO - AS A SOURCE TO DO THE  
MODIFICATIONS AS DESCRIBED IN REFERENCE /C/.

AS BOB DISCUSSED WITH YOU, THE SOURCES LISTED IN REFERENCE /C/  
ARE "SUGGESTED SOURCES" THAT CAN BE USED AS AN AGENT OF THE  
MANUFACTURER AND CAN PERFORM THE MODIFICATIONS. THIS ALLOWS THE  
AIRLINES TO CHOOSE A VENDOR THAT IS MOST CONVENIENT TO THEIR  
OPERATIONS.

FURTHER, WE UNDERSTAND FROM THE REFERENCE /D/ DISCUSSIONS THAT  
KITO IS THE ORIGINAL MANUFACTURER OF HARRINGTON HOISTS.

THUS, JAL CAN USE KITO TO PERFORM THE MODIFICATIONS CITED IN  
REFERENCE /C/.

PLEASE LET US KNOW IF WE CAN BE OF ANY ADDITIONAL HELP.

RICHARD SCHWARTZ/BOB NEUDORFER  
MAINTENANCE AND GROUND OPERATIONS SYSTEMS  
CUSTOMER SUPPORT  
BOEING M-7360 2J-52

SDH 16 AUG 99 1549