

KOKU-KU-KI-307

No. TCD-7705-2010

Date of Issue: July 15, 2010

Japan Civil Aviation Bureau

TAIKUSEI-KAIZEN-TSUHO

Airworthiness Directive

The undermentioned examinations or modifications are mandatory.

1. Applies to: Kawasaki BK117B-2 helicopters

2. Compliance is required as indicated, unless already accomplished. To prevent the operation based on incorrect operational procedures in the Aircraft Flight Manual, accomplish the following.

2.1 Before next flight after the effective date of this AD, confirm the contents of the attached sheet No.1 to 5 (temporary revision), and insert the applicable page before the corresponding page of basic flight manual. Flight crews should observe these attached pages.

2.2 An alternative means of compliance with this AD may be used, if approved by the Director-General of JCAB.

3. Remarks

3.1 This AD becomes effective on July 20, 2010.

3.2 Kawasaki Service News No. KSN-117-129 dated 30, June, 2010 pertain to this subject.

This is the English translation. In case of any difficulty, refer to the Japanese original text.

EFFECTIVITY : KAWASAKI BK117B-2 up to S/N 1008, and from 1010 to 1024

This page shows the description of flight manual temporary revision. Do not remove the corresponding page of flight manual, and insert this page in the front of the corresponding page.

故障状態	修正操作												
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 5px; text-align: center;">GEN I (琥珀色)</div> <div style="text-align: center;">及び</div> <div style="border: 1px solid black; padding: 5px; text-align: center;">GEN II (琥珀色)</div> </div> <p>両ジェネレータからの電力供給がない</p>													
<p>● 両ジェネレータの故障または両電気系統の短絡</p>	<p>(1) 電流計の指示値 — 確認</p> <p>(2) “GENERATOR” スイッチ (両方共) — RESET次にON 両GEN 注意灯が点灯したままで、電流計の指示がゼロのままなら；</p> <p>(3) “GEN TRIP” スイッチ — I及びII</p> <p>(4) “PWR SEL” スイッチ — OFF</p> <p>(5) 両 “GENERATOR” スイッチ — OFF</p> <p>(6) “AMM SEL” スイッチ — BAT/EXT PWR</p> <p>(7) 電流計 — 確認</p> <p>(8) 電気負荷 — 減少</p> <p>(9) 電流計/電圧計 — 監視</p> <p>(10) <u>近くのヘリポートに着陸</u></p> <p>注： バッテリーの電力は “PWR SEL” スイッチをOFF位置にしたときは、両フライト・エッセンシャル・バスのみへ供給される。両メイン・バスに接続した電気負荷は、必要に応じ次のように操作すると使用することができる。しかし、この場合、バッテリーの容量は急速に低下する。</p> <p>(a) “PWR SEL” スイッチ — BAT</p> <p>(b) “BUS-TIE” スイッチ — NORM</p> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse; text-align: center;"> <caption>バッテリーの持続時間</caption> <tr> <td>使用負荷 (A)</td> <td>15</td> <td>20</td> <td>25</td> <td>30</td> <td>40</td> </tr> <tr> <td>持続時間 (分)</td> <td>60</td> <td>45</td> <td>35</td> <td>30</td> <td>22</td> </tr> </table> <p>注： 上記の計算は最小バッテリーの容量15Ahを想定し、着陸灯10分及び無線機送信10分の使用を含む。</p>	使用負荷 (A)	15	20	25	30	40	持続時間 (分)	60	45	35	30	22
使用負荷 (A)	15	20	25	30	40								
持続時間 (分)	60	45	35	30	22								
<div style="border: 1px solid black; padding: 2px; display: inline-block;">適用</div>	機体製造番号 1008迄、及び1010以降1024迄												

EFFECTIVITY : KAWASAKI BK117B-2 S/N 1009

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BAT 70 (赤色)	
バッテリー温度が 70℃以上	
故 障 状 態	修 正 操 作
<ul style="list-style-type: none"> ● バッテリー温度が過度に高い 	<p><u>地 上</u></p> <p><u>エンジン始動前</u>；</p> <p>(1) “PWR SELECT” スイッチ — OFF</p> <p><u>エンジン運転中</u>；</p> <p>(1) “PWR SELECT” スイッチ — OFF</p> <p>(2) エンジン — 停止</p> <p><u>飛行中</u></p> <p>(1) “PWR SELECT” スイッチ — OFF</p> <p><u>発煙又はにおいが認められるなら</u>；</p> <p>(2) <u>できる限り速やかに着陸</u></p> <p><u>発煙又はにおいが無いなら</u>；</p> <p>(2) <u>近くのヘリポートに着陸</u></p>
<div style="border: 1px solid black; display: inline-block; padding: 2px 10px;">注 意</div>	
<p>BAT 70 警報灯が点灯したら、次回の飛行までにバッテリーを点検すること。</p>	
<div style="border: 1px solid black; display: inline-block; padding: 2px 10px;">適用</div> 機体製造番号 1009 及び 1025 以降	

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3.2.3 アナンシェータ・パネル注意灯（琥珀色）

BAT 60

（琥珀色）

バッテリー温度が60℃以上

故障状態	修正操作
<ul style="list-style-type: none"> • バッテリー温度が高い 	<p><u>地上</u></p> <p>エンジン始動前；</p> <p>(1) “PWR SELECT” スイッチ - OFF</p> <p>エンジン運転中；</p> <p>(1) “PWR SELECT” スイッチ - OFF</p> <p>(2) エンジン - 停止</p> <p><u>飛行中</u></p> <p>(1) “PWR SELECT” スイッチ - OFF</p> <p>(2) <u>近くのヘリポートに着陸</u></p>

注意

BAT 60 注意灯が点灯したら、次回の飛行までにバッテリーを点検すること。

適用 機体製造番号 1009 及び 1025 以降

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<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 5px; text-align: center;">GEN I</div> 又は <div style="border: 1px solid black; padding: 5px; text-align: center;">GEN II</div> </div> (琥珀色) (琥珀色)	
該当するジェネレータからの電力供給がない	
故障状態	修正操作
<ul style="list-style-type: none"> ・ 電気系統の短絡 両“BUS-TIE”スイッチが OFF 位置にあり、短絡側の電流計の指示がゼロにある。 ・ ジェネレータの故障 両“BUS-TIE”スイッチが ON 位置にある。 	<ol style="list-style-type: none"> (1) 両“BUS-TIE”スイッチの位置 — 確認 (2) 電流計 — ゼロを指示してしる短絡側を確認 (3) “GEN TRIP”スイッチ — 短絡したジェネレータ側に倒す (4) 短絡側“GENERATOR”スイッチ — OFF (5) 電気負荷 — 減少 (6) <u>近くのヘリポートに着陸</u> <p>(3) 故障側“GENERATOR”スイッチ — RESET 次に ON</p> <p>もし GEN 注意灯が点灯したままで不具合側の電流計の指示がゼロの場合；</p> <ol style="list-style-type: none"> (4) “GEN TRIP”スイッチ — 故障したジェネレータ側に倒す (5) 故障側“GENERATOR”スイッチ — OFF (6) もしジェネレータの負荷が 150A を超えるときは不必要な負荷を切ること。 (7) <u>近くのヘリポートに着陸</u>
<div style="border: 1px solid black; padding: 2px; display: inline-block;">適用</div> 機体製造番号 1009 及び 1025 以降	3 - 25

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<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 5px; text-align: center;">GEN I (琥珀色)</div> 及び <div style="border: 1px solid black; padding: 5px; text-align: center;">GEN II (琥珀色)</div> </div>																			
両ジェネレータからの電力供給がない																			
故障状態	修正操作																		
<ul style="list-style-type: none"> ● 両ジェネレータの故障または両電気系統の短絡 	<ol style="list-style-type: none"> (1) 電流計の指示値 — 確認 (2) “GENERATOR” スイッチ (両方共) — RESET次にON <p>両GEN 注意灯が点灯したままで、電流計の指示が<u>ゼロのままなら</u>；</p> <ol style="list-style-type: none"> (3) “GEN TRIP” スイッチ — I 及び II (4) 両 “BUS-TIE” スイッチ — OFF (5) 両 “GENERATOR” スイッチ — OFF (6) “AMM SEL” スイッチ — BAT/EXT PWR (7) 電流計 — 確認 (8) 電気負荷 — 減少 (9) 電流計／電圧計 — 監視 (10) <u>近くのヘリポートに着陸</u> <p>注： バッテリーの電力は “BUS-TIE” スイッチを OFF 位置にしたときは、両フライト・エッセンシャル・バスのみへ供給される。両メイン・バスに接続した電気負荷は、必要に応じて両 “BUS-TIE” スイッチを ON に使用することができる。しかし、この場合、バッテリーの容量は急速に低下する。</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th colspan="6">バッテリーの持続時間</th> </tr> </thead> <tbody> <tr> <td>使用負荷 (A)</td> <td>15</td> <td>20</td> <td>25</td> <td>30</td> <td>40</td> </tr> <tr> <td>持続時間 (分)</td> <td>60</td> <td>45</td> <td>35</td> <td>30</td> <td>22</td> </tr> </tbody> </table> <p>注： 上記の計算は最小バッテリーの容量 15Ah を想定し、着陸灯 10 分及び無線機送信 10 分の使用を含む。</p>	バッテリーの持続時間						使用負荷 (A)	15	20	25	30	40	持続時間 (分)	60	45	35	30	22
バッテリーの持続時間																			
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3.3.15 両エンジン非常停止**【操 作】**地 上

- | | | |
|-----------------------|---|-----|
| (1) 両パワー・レバー | — | OFF |
| (2) 両“FUEL VALVE”スイッチ | — | CL |
| (3) “PWR SELECT”スイッチ | — | OFF |

飛行中

- | | | |
|-----------------------|---|-----|
| (1) 両パワー・レバー | — | OFF |
| (2) 両“FUEL VALVE”スイッチ | — | CL |

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3.3.16 オートローテーション着陸

【操 作】

- (1) コレクティブ・ピッチ・レバー — 直ちに下げる
- (2) N_R — 限界値以内に調整
- (3) 前進速度 — 最適滑空対気速度^注に調整

注：最適滑空対気速度は次の状態で得られる。

- 90 KIAS/85% N_R — 最大滑空距離（降下率：約 1900 ft / min）
- 60 KIAS/85% N_R — 最小降下率（降下率：約 1500 ft / min）
- (4) 両エンジン非常停止(3.3.15 項) — 実施

高度約 150 ft～100 ft；

- (5) 機体姿勢 — フレアして減速

地面近く；

- (6) 着陸姿勢 — スキッド・レベル確立
- (7) スキッド — 着陸方向に合わせる。
- (8) コレクティブ・ピッチ・レバー — 調整(クッション・ランディングするため)

注：接地速度は対地速度で 30kt 以下が望ましい。

接地後：

- (9) "PWR SELECT" スイッチ — OFF

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3.6 電気系統の故障

3.6.1 電気火災

【徴 候】

- 絶縁物などが燃えるにおい又は煙

【操 作】

地 上

- | | |
|-------------------------|-------------|
| (1) 乗客及び乗員 | － 警告し機外へ退去 |
| (2) 両エンジン非常停止(3.3.15 項) | － 実 施 |
| (3) 外部電源 | － 使用していれば外す |
| (4) 火災 | － 可能ならば消火 |

飛行中

- | | |
|---------------------|---------|
| (1) 乗客及び乗員 | － 警 告 |
| (2) “BUS-TIE” スイッチ | － OFF |
| (3) “GEN TRIP” スイッチ | － I次にII |

注： バッテリ電源は“BUS-TIE”スイッチと“GEN TRIP”スイッチを操作したときのみ、両フライト・エッセンシャル・バスに供給される。

- | | |
|--------------------|-----------------|
| (4) 火災 | － 可能ならば消火 |
| (5) “AMM SEL” スイッチ | － BAT / EXT PWR |
| (6) 電気負荷 | － 減 少 |
| (7) 電流計／電圧計 | － 監 視 |

消火できないとき；

- (8) できる限り速やかに着陸

消火できたとき；

- (8) 近くのヘリポートに着陸

バッテリー持続時間					
使用負荷 (A)	15	20	25	30	40
持続時間 (分)	60	45	35	30	22
注： 上記の計算は最小バッテリー容量 15Ah を想定し、着陸灯 10 分及び無線機送信 10 分の使用を含む。					

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4.3.4 機内点検

*乗組員及び乗客	-	ブリーフィング
*座席及びベダル	-	調節及び固定
*安全ベルト及びショルダー・ハーネス	-	締める
*イナーシャ・リール	-	ロック機能の点検
*乗客用前部座席の背当て [△]	-	前倒れ及びロック機能の点検
*サーキット・ブレーカ (すべて)	-	IN
*NAV/COMM	-	OFF
*両パワー・レバー	-	OFF
*“COLD START” スイッチ	-	NORM
*“HYD TEST” スイッチ	-	NORM
*携帯用消火器	-	定位置
*防水携帯灯	-	定位置
*“PWR SELECT” スイッチ	-	OFF
*“BUS - TIE” スイッチ (2個)	-	OFF
*“INVERTER” スイッチ (2個)	-	OFF
*“GENERATOR” スイッチ (2個)	-	OFF
*“GEN TRIP” スイッチ	-	NORM
*“DG” コントロール・スイッチ	-	SLAVE
*“FUEL VALVE” スイッチ (2個)	-	OPにガードされているか
*“FUEL PUMP” スイッチ (4個)	-	OFF
*“INSTR LIGHTS” スイッチ (3個)	-	OFF
*“ANTI COL LIGHT” スイッチ	-	OFF
*“POS LIGHTS” スイッチ	-	OFF
*“VENT FAN” スイッチ (2個)	-	OFF
*“STATIC HTR” スイッチ	-	OFF
*“PITOT HTR” スイッチ (2個)	-	OFF
*ICS スイッチ	-	OFF
*ユティリティ・ライト	-	OFF 及び固定

*は各飛行前に点検すること。

適用

機体製造番号 1009 及び 1025 以降 1108 迄で
KSB-117-101 を未実施の機体
[△] ショルダー・ハーネス付 (タイプIIのみ)

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4.3.4 機内点検

*乗組員及び乗客	-	ブリーフィング
*座席及びベダル	-	調節及び固定
*安全ベルト及びショルダー・ハーネス	-	締める
*イナーシャ・リール	-	ロック機能の点検
*乗客用前部座席の背当て [△]	-	前倒れ及びロック機能の点検
*サーキット・ブレーカ (すべて)	-	IN
*NAV/COMM	-	OFF
*両パワー・レバー	-	OFF
*“OVSP TEST” スイッチ	-	中間位置
*“COLD START” スイッチ	-	NORM
*“HYD TEST” スイッチ	-	NORM
*携帯用消火器	-	定位置
*防水携帯灯	-	定位置
*“PWR SELECT” スイッチ	-	OFF
*“BUS - TIE” スイッチ (2個)	-	OFF
*“INVERTER” スイッチ (2個)	-	OFF
*“GENERATOR” スイッチ (2個)	-	OFF
*“GEN TRIP” スイッチ	-	NORM
*“DG” コントロール・スイッチ	-	SLAVE
*“FUEL VALVE” スイッチ (2個)	-	OPにガードされているか
*“FUEL PUMP” スイッチ (4個)	-	OFF
*“INSTR LIGHTS” スイッチ (3個)	-	OFF
*“ANTI COL LIGHT” スイッチ	-	OFF
*“POS LIGHTS” スイッチ	-	OFF
*“VENT FAN” スイッチ (2個)	-	OFF
*“STATIC HTR” スイッチ	-	OFF
*“PITOT HTR” スイッチ (2個)	-	OFF
*ICS スイッチ	-	OFF
*ユティリティ・ライト	-	OFF 及び固定

*は各飛行前に点検すること。

適用

機体製造番号 1009 及び 1025 以降 1108 迄で
KSB-117-101 を実施済の機体
[△] ショルダー・ハーネス付 (タイプIIのみ)

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4.3.4 機内点検 (続き)

- | | |
|--|---------------------------|
| * 操縦室ドーム・ライト | — OFF |
| * コレクティブ・ピッチ・レバー上の全スイッチ | — OFF |
| * “WIPER” スイッチ | — OFF/PARK |
| * “AMM SEL” スイッチ | — BAT/EXT PWR |
| * “SPAS” スイッチ | — OFF |
| * “EMER LTS” スイッチ | — ARM |
| * “PWR SELECT” スイッチ
(非常灯が点灯することを確認) | — BAT 次に OFF |
| * “PWR SELECT” スイッチ | — BAT |
| * “EMER LTS” スイッチ
(非常灯が点灯することを確認) | — ON |
| * “EMER LTS” スイッチ | — ARM |
| * 電圧計の読み | — 点検 (約 26V) |
| * “PWR SELECT” スイッチ | — EXT PWR (外部電源装置を使用する場合) |

注： 外部電源装置が接続されているときは **EXT PWR** 注意灯が点灯している。

- | | |
|--------------------------|-------------------|
| * “BUS-TIE” スイッチ (2個) | — ON |
| * “INVERTER” スイッチ (2個) | — ON |
| * 機内交話装置 (ICS) | — ON にし点検 |
| * “FUEL VALVE” スイッチ (2個) | — CL にし、作動を確認後 OP |
| * “FUEL PUMP” スイッチ (4個) | — ON にし、点検後 OFF |
| * 全計器 | — 点検及びセット |
| * “FIRE EXT” スイッチ | — NORM |
| * “FIRE DET TEST” スイッチ | — TEST 後に NORM |
| * “AGENT DISCH” スイッチ | — OFF |

* は各飛行前に点検すること。

EFFECTIVITY : KAWASAKI BK117B-2 S/N 1009

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4.4.2 No.2 エンジン始動

No.1 エンジン バッテリ始動後	No.1 エンジン外部電源始動後
(14) 電圧計の読み - 点検 (約 26V)	
注: バッテリの残りの容量が不十分であるか、又は電圧が低い場合は、下記(15)~(17)の操作を行う。	
(15) “GENERATOR I” - ON スイッチ	
(16) GEN I 注意灯 - 消灯	
[バッテリ充電電流が安定するまで待つ。]	
(17) “AMM SEL” スイッチ - GEN II	
上記(4)~(13)と同じ操作を繰返し行う。	
(18) 両 “GENERATOR” スイッチ - ON	(18) 両 “GENERATOR” スイッチ - ON
(20) GEN I 及び GEN II 注意灯 - 消灯	(19) “PWR SELECT” スイッチ - BAT
	(20) GEN I 及び GEN II 注意灯 - 消灯
	(21) EPU - 切離す
	(22) EXT PWR 注意灯 - 消灯 (EXT PWR ドア - 閉確認)
(23) “AMM SEL” スイッチ - GEN II	(23) “AMM SEL” スイッチ - GEN II

適用 機体製造番号 1009 及び 1025 以降

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4.11 エンジン停止 (続き)

(7) TOT, N_1 の低下 — 監視

注： エンジン N_1 が 63%未満で **ENG I LOW** 及び **ENG II LOW** 警報灯の点灯及び警報音を確認する。確認できない場合は、ログ・ブックに記録し点検が必要である。

(8) “ANTI COL LIGHT” スイッチ — OFF

(9) “EMER LTS” スイッチ — OFF

(10) “PWR SELECT” スイッチ — OFF

(11) エンジン停止及びロータ停止 — 確認

4.12 飛行後点検

ヘリコプタの一般的状態（燃料の滑油の漏れ、破損及び全般的状態等）を点検すること。

EFFECTIVITY : KAWASAKI BK117B-2 up to S/N 1008, and from 1010 to 1024

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GEN I

and

GEN II

(amber)

(amber)

No electrical power is supplied from both generators.

Fault condition	Corrective action
<ul style="list-style-type: none"> ● Both generators failure or both electrical systems short circuit. 	<p>(1) Ammeter indication — Check</p> <p>(2) Both GENERATOR switches — RESET, then ON.</p> <p><u>Both GEN caution lights remain on and affected ammeter indications are still zero :</u></p> <p>(3) GEN TRIP switch — I and II</p> <p>(4) PWR SEL switch — OFF</p> <p>(5) Both GENERATOR switches — OFF</p> <p>(6) AMM SEL switch — BAT/EXT PWR</p> <p>(7) Ammeter — Monitor</p> <p>(8) Electrical consumption — Reduce</p> <p>(9) Ammeter and voltmeter — Monitor</p>

(Continued to next page)

EFFECTIVITY

up to S/N 1008, and from 1010 to 1024.

EFFECTIVITY : KAWASAKI BK117B-2 up to S/N 1008, and from 1010 to 1024

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GEN I and **GEN II**
 (amber) (amber)

No electrical power is supplied from both generators.

Fault condition	Corrective action																		
<ul style="list-style-type: none"> ● Both generators failure or both electrical systems short circuit. (Continued) 	<p>(10) <u>LAND AS SOON AS PRACTICABLE.</u></p> <p>NOTE : Electrical power from the battery is supplied to both flight essential busses only when PWR SEL switch is in OFF position. Electrical loads connected to both main busses can be operated by the following actions as required. However, in this case, the battery will be discharged at a high rate.</p> <p>(a) PWR SEL switch – BAT</p> <p>(b) BUS-TIE switch – NORM</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th colspan="6" style="text-align: center;">Residual Battery Endurance</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Continuous load (A)</td> <td style="text-align: center;">15</td> <td style="text-align: center;">20</td> <td style="text-align: center;">25</td> <td style="text-align: center;">30</td> <td style="text-align: center;">40</td> </tr> <tr> <td style="text-align: center;">Time (min.)</td> <td style="text-align: center;">60</td> <td style="text-align: center;">45</td> <td style="text-align: center;">35</td> <td style="text-align: center;">30</td> <td style="text-align: center;">22</td> </tr> </tbody> </table> <p>NOTE : Calculations are based on an assumed min. battery capacity of 15 amp hr. Times include 10-min. landing light operation and 10-min. radio transmitting.</p>	Residual Battery Endurance						Continuous load (A)	15	20	25	30	40	Time (min.)	60	45	35	30	22
Residual Battery Endurance																			
Continuous load (A)	15	20	25	30	40														
Time (min.)	60	45	35	30	22														

EFFECTIVITY up to S/N 1008, and from 1010 to 1024.

EFFECTIVITY : KAWASAKI BK117B-2 S/N 1025 and subsequent

This page shows the description of flight manual temporary revision. Do not remove the corresponding page of flight manual, and insert this page in the front of the corresponding page.

GEN I

and

GEN II

(amber)

(amber)

No electrical power is supplied from both generators.

Fault condition	Corrective action	
<ul style="list-style-type: none"> ● Both generators failure or both electrical systems short circuit. 	(1) Ammeter indication — Check	
	(2) Both GENERATOR switches — RESET, then ON.	
	<u>Both GEN caution lights remain on and affected ammeter indications are still zero :</u>	
	(3) GEN TRIP switch — I and II	
	(4) Both BUS-TIE switches — OFF	
	(5) Both GENERATOR switches — OFF	
	(6) AMM SEL switch — BAT/EXT PWR	
	(7) Ammeter — Monitor	
	(8) Electrical consumption — Reduce	
(9) Ammeter and voltmeter — Monitor		

(Continued to next page)

EFFECTIVITY

S/N 1009, 1025 and subsequent.

EFFECTIVITY : KAWASAKI BK117B-2 S/N 1009

This page shows the description of flight manual temporary revision. Do not remove the corresponding page of flight manual, and insert this page in the front of the corresponding page.

<div style="border: 1px solid black; display: inline-block; padding: 2px 10px; margin-bottom: 5px;">BAT 70</div> <p>(red)</p> <p>Battery is in over-temperature (above 70 °C).</p>			
Fault condition	Corrective action		
• Battery temperature is excessively high.	<p><u>ON GROUND</u></p> <p><u>Before engine start :</u></p> <p>(1) PWR SELECT switch – OFF</p> <p><u>Engine(s) running :</u></p> <p>(1) PWR SELECT switch – OFF</p> <p>(2) Engine(s) – Shut-down</p> <p><u>IN FLIGHT</u></p> <p>(1) PWR SELECT switch – OFF</p> <p><u>If any smoke or odor is noticed :</u></p> <p>(2) <u>LAND AS SOON AS POSSIBLE.</u></p> <p><u>If no smoke or odor is noticed :</u></p> <p>(2) <u>LAND AS SOON AS PRACTICABLE.</u></p>		
<div style="border: 1px solid black; display: inline-block; padding: 2px 10px; margin-bottom: 5px;">CAUTION</div> <p>IF BAT 70 WARNING LIGHT ILLUMINATES, THE BATTERY MUST BE INSPECTED PRIOR TO NEXT FLIGHT.</p>			
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; padding: 2px 5px;">EFFECTIVITY</td> <td style="padding: 2px 5px;">S/N 1009, 1025 and subsequent.</td> </tr> </table>		EFFECTIVITY	S/N 1009, 1025 and subsequent.
EFFECTIVITY	S/N 1009, 1025 and subsequent.		
3-14			

EFFECTIVITY : KAWASAKI BK117B-2 S/N 1009

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3.2.3 Annunciator panel caution lights (amber)**BAT 60**

(amber)

Battery temperature is high (above 60 °C).

Fault condition	Corrective action
• Battery temperature exceeds 60 °C.	<u>ON GROUND</u> <u>Before engine start :</u> (1) PWR SELECT switch – OFF <u>Engine(s) running :</u> (1) PWR SELECT switch – OFF (2) Engine(s) – Shut-down <u>IN FLIGHT</u> (1) PWR SELECT switch – OFF (2) <u>LAND AS SOON AS PRACTICABLE.</u>

CAUTION

IF **BAT 60** CAUTION LIGHT ILLUMINATES, THE BATTERY MUST BE INSPECTED PRIOR TO NEXT FLIGHT.

EFFECTIVITY : KAWASAKI BK117B-2 S/N 1009

This page shows the description of flight manual temporary revision. Do not remove the corresponding page of flight manual, and insert this page in the front of the corresponding page.

<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 2px 10px;">GEN I</div> or <div style="border: 1px solid black; padding: 2px 10px;">GEN II</div> </div> <div style="display: flex; justify-content: space-around; align-items: center;"> (amber) (amber) </div>	
<p>No electrical power is supplied from affected generator.</p>	
Fault condition	Corrective action
<ul style="list-style-type: none"> • Electrical short circuit Both BUS-TIE switches in position OFF and ammeter pointer on shorted side indicates zero. • Relevant generator failure Both BUS-TIE switches in position ON. 	<ul style="list-style-type: none"> (1) Both BUS-TIE switch position – Check (2) Ammeter – Assure shorted side indicating zero. (3) GEN TRIP switch – Set to shorted side. (4) GENERATOR switch on shorted side – OFF (5) Electrical consumption – Reduce (6) <u>LAND AS SOON AS PRACTICABLE.</u> (3) Affected GENERATOR switch – RESET, then to ON.
<p>(Continued to next page)</p>	
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="border: 1px solid black; padding: 2px 5px;">EFFECTIVITY</div> <div>S/N 1009, 1025 and subsequent.</div> <div style="text-align: right;">3-25</div> </div>	

EFFECTIVITY : KAWASAKI BK117B-2 S/N 1009

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<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 2px 10px;">GEN I</div> or <div style="border: 1px solid black; padding: 2px 10px;">GEN II</div> </div> <div style="display: flex; justify-content: space-around; align-items: center;"> (amber) (amber) </div>	
<p>No electrical power is supplied from affected generator.</p>	
Fault condition	Corrective action
<ul style="list-style-type: none"> • Relevant generator failure Both BUS-TIE switches in position ON. (Continued) 	<p style="border-bottom: 1px dashed black; padding-bottom: 5px;">If GEN caution light remains on and affected ammeter still indicates zero :</p> <ul style="list-style-type: none"> (4) GEN TRIP switch - Set to affected generator side. (5) Affected GENERATOR switch - OFF (6) If generator current exceeds 150 A, reduce unnecessary electrical consumption. (7) <u>LAND AS SOON AS PRACTICABLE.</u>
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="border: 1px solid black; padding: 2px 5px;">EFFECTIVITY</div> <div>S/N 1009, 1025 and subsequent.</div> <div style="text-align: right;">3-26</div> </div>	

EFFECTIVITY : KAWASAKI BK117B-2 S/N 1009

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GEN I

and

GEN II

(amber)

(amber)

No electrical power is supplied from both generators.

Fault condition	Corrective action
<ul style="list-style-type: none"> Both generators failure or both electrical systems short circuit. 	<p>(1) Ammeter indication – Check</p> <p>(2) Both GENERATOR switches – RESET, then ON.</p> <p><u>Both GEN caution lights remain on and affected ammeter indications are still zero :</u></p> <p>(3) GEN TRIP switch – I and II</p> <p>(4) Both BUS-TIE switches – OFF</p> <p>(5) Both GENERATOR switches – OFF</p> <p>(6) AMM SEL switch – BAT/EXT PWR</p> <p>(7) Ammeter – Monitor</p> <p>(8) Electrical consumption – Reduce</p> <p>(9) Ammeter and voltmeter – Monitor</p>

(Continued to next page)

EFFECTIVITY S/N 1009, 1025 and subsequent.

EFFECTIVITY : KAWASAKI BK117B-2 S/N 1009

This page shows the description of flight manual temporary revision. Do not remove the corresponding page of flight manual, and insert this page in the front of the corresponding page.

GEN I and GEN II

(amber) (amber)

No electrical power is supplied from both generators.

Fault condition	Corrective action																		
<ul style="list-style-type: none"> • Both generators failure or both electrical systems short circuit. <p>(Continued)</p>	<p>(10) <u>LAND AS SOON AS PRACTICABLE.</u></p> <p><u>NOTE</u> : Electrical power from the battery is supplied to both flight essential busses only when BUS-TIE switch is in OFF position.</p> <p>Electrical loads connected to both main busses can be operated with both BUS-TIE switches in ON position, as necessary.</p> <p>However, in this case, the battery will be discharged at a high rate.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th colspan="6" style="text-align: center;">Residual Battery Endurance</th> </tr> <tr> <th style="text-align: left;">Continuous load (A)</th> <th style="text-align: center;">15</th> <th style="text-align: center;">20</th> <th style="text-align: center;">25</th> <th style="text-align: center;">30</th> <th style="text-align: center;">40</th> </tr> </thead> <tbody> <tr> <td style="text-align: left;">Time (min.)</td> <td style="text-align: center;">60</td> <td style="text-align: center;">45</td> <td style="text-align: center;">35</td> <td style="text-align: center;">30</td> <td style="text-align: center;">22</td> </tr> </tbody> </table> <p><u>NOTE</u> : Calculations are based on an assumed min. battery capacity of 15 amp hr. Times include 10-min. landing light operation and 10-min. radio transmitting.</p>	Residual Battery Endurance						Continuous load (A)	15	20	25	30	40	Time (min.)	60	45	35	30	22
Residual Battery Endurance																			
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EFFECTIVITY

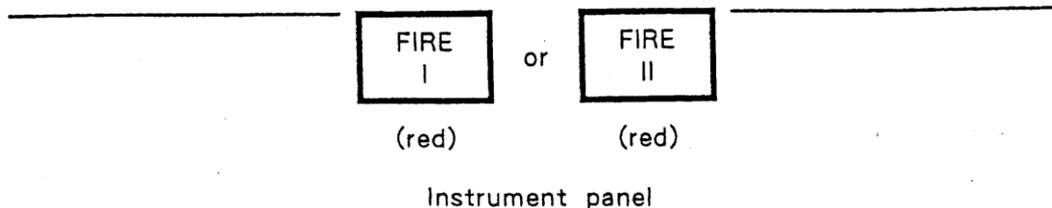
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This page shows the description of flight manual temporary revision. Do not remove the corresponding page of flight manual, and insert this page in the front of the corresponding page.

3.2.4 Other warning lights (red)



Temperature at engine compartment is excessively high.

Fault condition	Corrective action
<ul style="list-style-type: none"> • Fire in engine compartment. 	<p><u>ON GROUND</u></p> <p>(1) Both FIRE EXT switches – ARMED</p> <p><u>NOTE</u>: Both fuel shut-off valves and bleed air shutoff valves close automatically. Both engines will be cut off.</p> <p>(2) Both FUEL PUMP PRIME switches – OFF</p> <p><u>As soon as N1 of affected engine has dropped below 40 % :</u></p> <p>(3) AGENT DISCH switch – NO. 1 BOT</p> <p>(4) Both power levers – OFF</p> <p>(5) Passengers – Alert and Evacuate</p> <p>(6) PWR SELECT switch – OFF</p>

WARNING

DO NOT RESTART ENGINE UNTIL CAUSE OF FIRE HAS BEEN DETERMINED.

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3.3.14 Double engine failure – In-flight

【INDICATION】

- Left yaw.
- **MASTER** warning light on.
- Both **ENG LOW** warning lights on and aural (intermittent) warning audible.
- Both **ENG OIL P** and **GEN** caution lights and both **FUEL PRESS** warning lights on.
- N2/NR decrease.
- **ROTOR RPM** warning light on at or below 95 % NR.
- Both engine instruments indicate power loss.

【ACTION】

- (1) Heading azimuth – Maintain
- (2) Autorotation landing (para. 3.3.16) – Perform

3.3.15 Double engine emergency shut-down.

【ACTION】

ON GROUND :

- (1) Both power levers – OFF
- (2) Both FUEL VALVE switches – CL
- (3) PWR SEL switches – OFF

IN-FLIGHT :

- (1) Both power levers – OFF
- (2) Both FUEL VALVE switches – CL

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3.3.16 Autorotation landing

【ACTION】

- | | |
|----------------------------|-------------------------------------|
| (1) Collective pitch lever | – Down immediately. |
| (2) NR | – Adjust within limit. |
| (3) Airspeed | – Adjust to optimum glide airspeed. |

NOTE : Optimum glide airspeed may be obtained at following conditions :

- 90 KIAS/85% NR – Max. glide distance
(approx. 1900 ft/min rate of descent)
- 60 KIAS/85% NR – Min. rate of descent
(approx. 1500 ft/min rate of descent)

- | | |
|--|-----------|
| (4) Double engine emergency shut-down (para. 3.3.15) | – Perform |
|--|-----------|

Altitude between 150 ft to 100 ft :

- | | |
|--------------|--------------------------|
| (5) Airspeed | – Decelerate with flare. |
|--------------|--------------------------|

Close to ground :

- | | |
|----------------------------|------------------------------|
| (6) Landing attitude | – Establish skid level. |
| (7) Landing skid | – Align |
| (8) Collective pitch lever | – Adjust to cushion landing. |

NOTE : Recommended maximum touchdown ground speed is 30 kt or less.

After touchdown :

- | | |
|-----------------------|--------|
| (9) PWR SELECT switch | – OFF. |
|-----------------------|--------|

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3.5.4 Unusual pedal vibration.

【INDICATION】

- Sudden unusual pedal vibration

NOTE : Sudden unusual pedal vibrations may indicate an impending tail rotor bearing failure.

【ACTION】

- LAND AS SOON AS POSSIBLE.

3.6 Electrical failures.

3.6.1 Electrical fire.

【INDICATION】

- An odor of burning insulation or smoke

【ACTION】

ON GROUND :

- | | |
|--|----------------------------|
| (1) Passenger and crew | - Alert and evacuate |
| (2) Double engine emergency shut-down (para. 3.3.15) | - Perform |
| (3) External power unit | - Disconnect, if using it. |
| (4) Fire | - Extinguish if possible. |

IN-FLIGHT :

- | | |
|-------------------------|-------------|
| (1) Passenger and crew | - Alert |
| (2) Both BUS-TIE switch | - OFF |
| (3) GEN TRIP switch | - I then II |

NOTE : Electrical power from battery is supplied to both flight essential busses only if BUS-TIE switch and GEN TRIP switch are operated.

EFFECTIVITY : KAWASAKI BK117B-2 S/N 1009 before compliance with KSB-117-101

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4.3.4 Interior check

- * Crew and passengers – Briefing
- * Seat and pedals – Adjust and secure
- * Safety belts and shoulder harnesses – Fasten
- * Inertia reel – Check for locking function
- * Fwd row passenger seat backs Δ – Check for folding fwd and locking functions.
- * All circuit breakers – IN
- * NAV/COMM – OFF
- * Both power levers – OFF
- * COLD START switch – NORM
- * HYD TEST switch – NORM
- * Portable fire extinguisher – On board
- * Waterproof flashlight – On board
- * PWR SELECT switch – OFF
- * BUS-TIE switches (two) – OFF
- * INVERTER switches (two) – OFF
- * GENERATOR switches (two) – OFF
- * GEN TRIP switch – NORM
- * DG control switch – SLAVE
- * FUEL VALVE switches (two) – OP and guarded
- * FUEL PUMP switches (four) – OFF
- * INSTR LIGHTS switches (three) – OFF
- * ANTI-COL LIGHT switch – OFF

- * To be checked before each flight

EFFECTIVITY

S/N 1009, 1025 thru 1108 before compliance with KSB-117-101.

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If shoulder harnesses are provided. (Type II only)

EFFECTIVITY : KAWASAKI BK117B-2 S/N 1009 after compliance with KSB-117-101

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4.3.4 Interior check

- | | |
|--|--|
| * Crew and passengers | - Briefing |
| * Seat and pedals | - Adjust and secure |
| * Safety belts and shoulder harnesses | - Fasten |
| * Inertia reel | - Check for locking function |
| * Fwd row passenger seat backs  | - Check for folding fwd and locking functions. |
| * All circuit breakers | - IN |
| * NAV/COMM | - OFF |
| * Both power levers | - OFF |
| * OVSP TEST switch | - Mid position |
| * COLD START switch | - NORM |
| * HYD TEST switch | - NORM |
| * Portable fire extinguisher | - On board |
| * Waterproof flashlight | - On board |
| * PWR SELECT switch | - OFF |
| * BUS-TIE switches (two) | - OFF |
| * INVERTER switches (two) | - OFF |
| * GENERATOR switches (two) | - OFF |
| * GEN TRIP switch | - NORM |
| * DG control switch | - SLAVE |
| * FUEL VALVE switches (two) | - OP and guarded |
| * FUEL PUMP switches (four) | - OFF |
| * INSTR LIGHTS switches (three) | - OFF |
| * ANTI-COL LIGHT switch | - OFF |
| * To be checked <u>before each flight</u> | |

EFFECTIVITY

S/N 1009, 1025 thru 1108 after compliance with KSB-117-101.



If shoulder harnesses are provided. (Type II only)

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4.3.4 Interior check (Continued)

- * POS LIGHTS switches - OFF
- * VENT FAN switches (two) - OFF
- * STATIC HTR switch - OFF
- * PITOT HTR switches (two) - OFF
- * ICS switch - OFF
- * Utility light - OFF and secure
- * Cockpit dome light - OFF
- * All switches on collective pitch lever - OFF
- * WIPER switch - OFF/PARK
- * AMM SEL switch - BAT/EXT PWR
- * SPAS switch - OFF
- * EMER LTS switch - ARM
- * PWR SELECT switch - BAT then OFF
(Check emergency exit lights come on)
- * PWR SELECT switch - BAT
- * EMER LTS switch - ON
(Check emergency exit lights come on)
- * EMER LTS switch - ARM
- * Voltmeter reading - Check (approx. 26 V)

* To be checked before each flight

EFFECTIVITY : KAWASAKI BK117B-2 S/N 1009

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4.3.4 Interior check (Continued)

- * PWR SELELECT switch - EXT PWR (if EPU is used)

NOTE : If external power unit is connected, EXT PWR caution light must be illuminated.

- * BUS-TIE switch (two) - ON
- * INVERTER switches (two) - ON
- * Intercomm. system (ICS) - ON and check
- * FUEL VALVE switches (two) - CL, check for proper operation ; then OP
- * FUEL PUMP switches (four) - ON and check then OFF
- * All instruments - Check and set
- * FIRE EXT switches - NORM
- * FIRE DET TEST switches - TEST then NORM
- * AGENT DISCH switch - OFF
- * Fuel quantity indication - Check
- * Mast moment indicator - TEST
- * Clock - Set

(If NaBo17ES or JB153-07 is installed)

- * Clock (If 120-40505 is installed) - Check for battery service life and accurate time.

NOTE : The battery service life is approximately two years. When it comes due, the second-hand will repeat a movement through two-second increments in four steps followed by a pause for one second.

- * Annunciator panel test switch - Push to TEST

- * To be checked before each flight

EFFECTIVITY : KAWASAKI BK117B-2 S/N 1009

This page shows the description of flight manual temporary revision. Do not remove the corresponding page of flight manual, and insert this page in the front of the corresponding page.

4.4.2 <u>No.2 Engine start</u>	
After battery start of No.1 engine	After EPU start of No. 1 engine
<p>(14) Voltmeter indication – Check (about 26 V)</p> <p>NOTE: If remaining capacity of battery is insufficient or battery voltage is low, perform the following procedures from (15) to (17).</p> <p>(15) GENERATOR I switch – ON</p> <p>(16) GEN I caution light – Extinguished</p> <p>(Wait until battery charging current is stabilized.)</p> <p>(17) AMM SEL switch – GEN II</p> <p style="text-align: center;">Repeat the above procedures from point (4) to (13).</p> <p>(18) Both GENERATOR switches – ON</p> <p style="text-align: center;">↓</p> <p>(20) GEN I and GEN II caution lights – Extinguished</p> <p style="text-align: center;">↓</p>	<p style="text-align: center;">↓</p> <p>(18) Both GENERATOR switches – ON</p> <p>(19) PWR SELECT switch – BAT</p> <p>(20) GEN I and GEN II caution lights – Extinguished</p> <p>(21) EPU – Disconnect</p>
<p>EFFECTIVITY S/N 1009, 1025 and subsequent.</p>	
<p>4-22</p>	

EFFECTIVITY : KAWASAKI BK117B-2 S/N 1009

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4.11 Engine shut-down

(1) Collective pitch — Lock

(2) Power levers — Idle

NOTE : ● Set clock for minimum ground idle run of 2 minutes to allow TOT to stabilize.

● Check illumination of **ROTOR RPM** warning light plus aural (intermittent) warning, when the NR drop below 95%. If not fulfilled, entry in logbook and maintenance action are required.

(3) Cyclic stick — Trim neutral
Check neutral position using a neutral holder

(4) Switches of unnecessary instruments and equipment — OFF except ANTI-COL LIGHT switch

(5) GENERATOR switches (two) — OFF

(6) Both power levers — OFF

(7) TOT and N1 drop — Monitor

NOTE : Check illumination of **ENG I LOW** and **ENG II LOW** warning lights plus intermittent aural warning, when the N1 of the engines drop below 63%. If not fulfilled, entry in logbook and maintenance action are required.

(8) ANTI-COL LIGHT switch — OFF

(9) EMER LTS switch — OFF

(10) PWR SELECT switch — OFF

(11) Engine shut-down and rotor stop — Assure