



M88A2 全履帶救濟車操作手冊譯本(第三章故障排除要領)

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提要

- 一、本篇譯文-美陸軍司令部 2005 年 11 月版 M88A2 全履帶救濟車操作手冊，本書籍區分一冊五個章節，為美陸軍保修單位配賦 M88A2 部隊所用之單位技術書刊，然其內容包含裝備諸元性能、操作機件名稱及功用、正常及非正常之操作程序、單位保養項目及規範、簡易故障排除要領等，實可供我未來部屬該型裝備之單位運用。
- 二、故障排除(包含輔助動力機、艙底泵、制動系統、引擎、發煙系統、空氣微粒過濾裝置、發電機、液壓、燈光系統及監視系統，人員加溫器、動力關斷離合器電力、煙幕彈發射器系統、履帶及避震系統，通風鼓風機、警告與絞盤電力系統等故障排除)在遇到任何突發狀況，如是能夠簡單解決的問題，乘員可依操作手冊所列項目實施排除，如遇到超過或是未列舉之項目，則通知單位維修人員實施車輛的故障排除。

壹、前言

鑑於裝甲部隊為地面防衛作戰決定性兵種，我軍近期已積極展開戰車的汰舊換新將攸關防衛作戰任務之成敗，近期為配合採購M1A2戰車同時也購入適用於該型戰車之同級等重型全履帶式救濟車M88A2，使得我裝甲部隊在保修能量可大幅度的提升，在新式救濟車獲得的同時應先對於該項裝備之特殊設計、系統特性、操作、保養等項目有初步之了解，俾利未來接裝訓練時可加速接裝人員對裝備了解及提升對裝備之熟悉度。

本篇譯文-美陸軍司令部 2005 年 11 月版 M88A2 全履帶救濟車操作手冊，本書籍區分一冊五個章節，美陸軍配賦 M88A2 戰車救濟車之保修部隊所用之單位技術書刊，故實屬為我陸軍配屬 M88A2 戰車救濟車之保修部隊重要運用之書籍之一先行譯文第一冊第三章「簡易故障排除要領」項目，俾供讀者參酌運用。

貳、譯文

一、故障排除介紹及概述

TROUBLESHOOTING INTRODUCTION AND OVERVIEW

前置工作/所需人員/3 員/參考-WP 0086 00

INITIAL SETUP/Personnel Required/Three/References-WP 0086 00

(一)本章節包含有關於 M88A2 恢復正常操作的措施，本章節列出可能常發生的故障原因及相關測試，檢查及糾正措施。如果有未列出的故障或事不容易改進的，通知單位保養人員維修。

This section contains information on corrective actions used to return the M88A2 to normal operation. This section lists most malfunctions that may occur along with associated tests, inspections and corrective actions. If a malfunction is not listed, or is not easily corrected, notify unit maintenance

(二)時刻警惕異常噪音，檢查任何故障或無法作用的成因，車上乘員應首先向車輛指揮官報告所有目視、感覺或聽到的故障現象，M88A2 故障排除要求乘員執行非計畫與計畫內的維修程序，全時監控系統功能，即時發現與糾正問題，通常會降低對車輛的嚴重損壞，當遭遇故障或無法作用時，為乘員提供安全的狀況，使用故障索引進行故障識別，故障索引 (WP 0086 00)將引導乘員運用系統工作包件執行故障排除程序，並採取改正措施。

Always be on the alert for unusual noises. Check out any evidence of failure or malfunction. Crewmembers should report all malfunctions that are seen, felt or heard to the vehicle commander first. Troubleshooting the M88A2 requires crewmembers to perform unscheduled and scheduled maintenance procedures and to monitor system functions at all times. Discovering and correcting a problem when it first appears will usually result in less serious damage to the vehicle and provide safer conditions for crewmembers. When a fault or malfunction is encountered, use the malfunction index for fault identification. The malfunction index (WP 0086 00) will lead the crewmember to applicable system work package troubleshooting procedures, and the corrective action to be taken.

二、無法作用故障排除/徵兆索引/工作包含項目

TROUBLESHOOTING MALFUNCTION/SYMPTOM INDEX/THIS WORK PACKAGE COVERS:



前置工作/所需人員/3 員/參考-WP 0105 00

INITIAL SETUP/Personnel Required/Three/References-WP 0105 00

注意/NOTE

對於本工作中未列出的故障改正措施，通知單位保養人員維修

For corrective actions of malfunctions not listed in this work package, notify Unit Maintenance

當出現潤滑一詞請參考 WP 0105 00 第 6 表。

Whenever the word lubricate appears refer to WP 0105 00, Table 6

(一)輔助動力單元故障排除/AUXILIARY POWER UNIT TROUBLESHOOTING

- 1.輔助動力單元引擎無法啟動/Auxiliary Power Unit engine fails to start
- 2.輔助動力單元啟動，但無法保持運轉/Auxiliary Power Unit starts, but fails to keep running
- 3.當輔助動力單元(APU)運轉且電源開關開啟，電池電量表讀數位於黃色或更低的紅色/BATT-- GEN gauge reads in yellow or lower red with APU running and APU GEN switch ON.

(二)艙底幫浦故障排除(已安裝)/BILGE PUMP TROUBLESHOOTING (WHEN INSTALLED)

- 1.艙底幫浦無法抽水/Bilge pump does not pump water.
- 2.艙底幫浦無法運行/Bilge pump fails to operate.

(三)煞車系統故障排除/BRAKES TROUBLESHOOTING

- 1.煞車幫浦馬達連續運轉且壓力未達 950 磅/吋-舊構件或 1100-1300 磅-吋-新構件/Brake pump motor runs continuously and brake pressure does not reach 950 psi old configuration and new configuration or 1100 to 1300 psi.
- 2.新構件區分調製煞車與調製及增益停駐煞車/(new configuration with brake modulation or new configuration with brake modulation and enhanced parking brake)
- 3.煞車不能有效停止救濟車/Brakes do not stop vehicle effectively
- 4.煞車在單側或兩側拖行/Brakes drag on one or both sides

(四)駕駛控制器故障排除/DRIVER'S CONTROLS TROUBLESHOOTING

- 1.引擎不能正確回應油門控制/Engine does not respond properly to throttle controls
- 2.救濟車不能轉向或只能轉單一方向/Vehicle will not steer or will only steer in one direction

(五)引擎故障排除/ENGINE TROUBLESHOOTING

- 1.引擎曲軸以正常速度運轉但無法啟動/Engine cranks at normal speed but will not start
- 2.按下啟動按鈕時引擎曲軸無法運轉/Engine fails to crank when START switch is pressed
- 3.引擎曲軸運轉緩慢且無法啟動/Engine cranks slowly and will not start
- 4.引擎冒白煙(或有燃油在隔柵門或排氣格柵門上)/Engine has excessive white smoke (or fuel is on grille doors or exhaust grilles)
- 5.引擎動力低，且冒黑煙/Engine has low power and excessive black smoke
- 6.引擎機油溫度過高/Engine oil temperature is high
- 7.引擎運轉不穩或失火/爆震/Engine runs rough or misfires and/or knocks
- 8.引擎啟動但無法持續運轉/Engine starts, but fails to keep running
- 9.引擎轉速低，不能發揮全動力，但排煙正常/Engine has low stall RPM and does not develop full power, but exhaust smoke is normal
- 10.引擎轉速過高/Engine overspeeds
- 11.引擎上機油/Engine uses excessive oil
- 12.引擎機油壓力過低(高)，但溫度正常/Low (or high) engine oil pressure, oil temperature is normal

(六)發煙系統故障排除/EXHAUST SMOKE GENERATING SYSTEM TROUBLESHOOTING

- 1.救濟車輛產生劣質煙霧或發煙量不足/Vehicle produces poor quality smoke or insufficient quantity of smoke
- 2.救濟車不發煙/Vehicle fails to make smoke
- 3.煙霧開關關閉時救濟車會發煙/Vehicle produces smoke when exhaust smoke switches are off

(七)微質粒氣體過濾裝置故障排除/GAS-PARTICULATE FILTER UNIT TROUBLESHOOTING

- 1.面罩空氣不足/Lack of air at facepieces
- 2.馬達沒有作動/Motor does not operate

(八)發電機系統故障排除/GENERATOR SYSTEM TROUBLESHOOTING

主引擎運轉時，電壓表讀數在黃色或紅色區域/Engine BATT-GEN gauge reads



in yellow or lower red region with main engine running

(九)液壓系統故障排除 /HYDRAULICS SYSTEM TROUBLESHOOTING

- 1.起重機絞盤無法操作或未輸出全動力/Hoist winch fails to operate or develop full power
- 2.起重機絞盤制動器無法保持負載/Hoist winch brake fails to hold a load
- 3.液壓油箱溢流/Hydraulic reservoir overflows
- 4.液壓油不斷過熱/Hydraulic oil constantly overheats
- 5.輔助油壓不足或無輔助油壓/Insufficient or no auxiliary oil pressure
- 6.主液壓系統壓力不足/Insufficient main hydraulics system pressure
- 7.主絞盤無法運行或無法輸出全動力/Main winch fails to operate or fails to develop full power
- 8.主絞盤靠輔助液壓動力工作，但不靠主引擎液壓操作/Winch operates on auxiliary hydraulic power, but does not operate on main engine hydraulic power

(十)燈光系故障排除/LIGHTS TROUBLESHOOTING

- 1.任何燈(除警示燈及閃光燈外)都不會閃爍或不會亮起/Any light (except warning indicator and flasher light) flickers, will not go off or will not come on
- 2.主開關打開時主指示燈不亮/MASTER indicator will not come on when MASTER switch is ON
- 3.一個或多個絞盤燈不亮/One or both winch lights fail to operate
- 4.面板燈或救濟車燈不亮/Panel or vehicle lights do not work
- 5.警告閃光燈不亮/Warning FLASHER fails to operate
- 6.啟動燈光開關測試時，指示燈不亮/When activating LAMP switch TEST, indicator will not come on

(十一)監視系統故障排除/MONITORING SYSTEM TROUBLESHOOTING

- 1.壓力過濾器(回油過濾器)堵塞燈常亮/PRESSURE FILTER (RETURN FILTER) CLOGGED light stays on
- 2.發動機機油溫度表無法正常工作/Engine OIL TEMPERATURE gauge fails to operate properly
- 3.低油位指示器亮起/LOW OIL LEVEL indicator comes on
- 4.變速箱壓力表小於 17 磅/吋 /TRANSMISSION PRESS gauge indicates less than

17 psi

- 5.變速箱溫度表指示為 260 度 F(127 度 C)以上之系統警告指示燈和喇叭亮起/TRANSMISSION TEMP F gauge indicates 260F (127C) or above and SYSTEM WARNING indicator and horn comes on
- 6.變速箱濾清器堵塞指示燈持續亮起/TRANS FILTER CLOGGED indicator stays on
- 7.渦輪除塵指示燈亮起/TURBO DUST DET indicator comes on

(十二)被動夜視器故障排除/PASSIVE NIGHT VIEWER TROUBLESHOOTING

(十三)人員加溫單元故障排除/PERSONNEL HEATER UNIT TROUBLESHOOTING

- 1.人員加溫器無法持續加熱/Personnel heater fails to keep burning
- 2.人員加熱器無法點燃(加熱器鼓風機運轉正常)/Personnel heater fails to ignite (heater blower operates properly)
- 3.人員加熱器無法正常運行/Personnel heater fails to operate properly
- 4.人員加熱器冒煙/Personnel heater smokes

(十四)動力解除電子系統故障排除/POWER TAKEOFF ELECTRICAL SYSTEM TROUBLESHOOTING

- 1.動力解除離合器無法接合/PTO(POWER TAKEOFF)clutch will not engage
- 2.當動力解除離合器打開時指示燈不會亮/PTO(POWER TAKEOFF) CLUTCH ENGAGED indicator does not come on when PTO CLUTCH switch is ON

(十五)無線電干擾抑制系統故障排除/RADIO INTERFERENCE SUPPRESSION SYSTEM TROUBLESHOOTING

- 1.主引擎與輔助動力系統未啟動時，過度干擾附件開啟/Excessive interference. Main engine and APU not running. Accessories on
- 2.救濟車主引擎發動但保持駐止，過度干擾運作/Excessive interference with main engine running and vehicle stationary

(十六)煙幕彈發射器故障排除/SMOKE GRENADE LAUNCHER SYSTEM TROUBLESHOOTING

- 1.其他所有系統正常運作，部分或全部發射管無作用，導致煙幕彈發射器無法正常操作/Grenade launcher fails to operate properly. Some or all tubes fail to operate.All other systems operate properly.



- 2.系統運行但備射燈不亮/System operates but arming light does not come on.

(十七)履帶和避震故障排除/TRACKS AND SUSPENSION TROUBLESHOOTING

- 1.救濟車行駛過程中發出異音/Vehicle makes thumping noise during travel
- 2.救濟車向單邊傾斜/Vehicle sags to one side.
- 3.救濟車拉動單邊，沒有出現轉向/Vehicle pulls to one side when no steering is applied.

(十八)變速箱故障排除/TRANSMISSION TROUBLESHOOTING

- 1.救濟車轉向正常，但任何檔位均無法行駛/Vehicle steers but will not drive in any range.
- 2.救濟車無法於低速檔行駛/Vehicle will not drive in low range.
- 3.救濟車無法於中速檔行駛/Vehicle will not drive in intermediate range.
- 4.救濟車無法於高速檔行駛/Vehicle will not drive in high range.
- 5.救濟車可前行但無法倒車/Vehicle will drive forward but not reverse.
- 6.排入空檔救濟車會移動/Vehicle creeps in neutral.

(十九)通氣鼓風機故障排除/VENTILATING BLOWER TROUBLESHOOTING

所有系統正常運行，但通氣鼓風機無法正常運行/ Ventilating blower fails to operate properly. All other system operate properly.

(二十)警告系統故障排除/WARNING SYSTEM TROUBLESHOOTING

系統警告指示無作用，當啟動絞盤測試開關時，低制動壓力警告燈會亮起，並發出警告聲響/SYSTEM WARNING indicator will not come on when activating WINCH TEST switch LOW BRAKE PRESSURE warning light comes on and warning horn sounds.

(二十一)絞盤電力系統故障排除/WINCH ELECTRICAL SYSTEM TROUBLESHOOTING

- 1.校準繞線器故障指示燈亮起/LEVEL WINDER MALFUNCTION indicator comes on
- 2.延展限制指示燈亮起/ PAYOUT LIMIT indicator comes on
- 3.絞盤輪轂故障指示燈亮起/WINCH DRUM MALFUNCTION indicator comes on
- 4.絞盤正常運作，但絞盤輪轂故障指示燈亮起/WINCH DRUM MALFUNCTION indicator lights, winch is operating properly
- 5.絞盤正常運作，但絞盤延展限制指示燈亮起/WINCH PAYOUT LIMIT

indicator lights, winch is operating properly

三、輔助動力單元故障排除/AUXILIARY POWER UNIT TROUBLESHOOTING

工作包含項目/ THIS WORK PACKAGE COVERS/所需人力 3 員/Personnel Required Three
參考文件- WP 0074 00、WP 0117 00、WP 0105 00、WP 0033 00

References-WP 0074 00、WP 0117 00、WP 0105 00、WP 0033 00

(一)輔助動力單元引擎無法啟動/Auxiliary Power Unit engine fails to start.

1.參考文件-WP 0074 00、WP 0117 00/References- WP 0117 00、WP 0117 00

2.故障排除步驟：

(1)步驟 1.如果輔助動力單元無法啟動，請檢查電量表是否電池電量不足無法啟動救濟車輛，並為電瓶充電(參見-WP 0074 00)

Step 1. If APU will not crank, check BATT-GEN gauge for low battery charge. Slave start the vehicle and charge batteries (WP 0074 00)

(2)步驟 2.檢查並確認輔助動力單元電源開關位於關閉位置，保持開關位於關斷的位置。

Step 2. Check and ensure APU GEN switch is in the OFF position. Place APU GEN switch in the OFF position.

(3)步驟 3.檢查進氣口是否堵塞、清除任何堵塞物並清潔空氣濾清器(參見-WP 0117 00)

Step 3. Check air intake for restrictions. Remove any restrictions and clean air filter (WP 0117 00).

(4)步驟 4.使用油量表檢查油箱油量並為救濟車加油。

Step 4. Use fuel gauge to check rear fuel tank fuel level. Refuel vehicle.

(5)步驟 5.如果問題仍然存在，通知單位維修(輔助動力單元動機無法啟動)。

Step 5. If problem still exists, notify unit maintenance (AUXILIARY POWER UNIT ENGINE FAILS TO START)

(二)輔助動力單元發動，但無法持續運轉/Auxiliary Power Unit starts, but fails to keep running.

1.參考文件- WP 0105 00、WP 0117 00/References-WP 0105 00、WP 0117 00

2.故障排除步驟：



(1)步驟 1.檢查燃油濾清器中是否有水，排放燃油濾清器並收合(參見-WP 0105 00)

Step 1. Check for water in the fuel filters. Drain fuel filters for condensation (WP 0105 00).

(2)步驟 2.檢查進氣口是否堵塞、清除任何堵塞物並清潔空氣濾清器(參見-WP 0117 00)

Step 2. Check air intake for restrictions. Remove any restrictions and clear air filter (WP 0117 00).

(3)步驟 3.如果問題仍然存在，通知單位維修(輔助動力單元無法持續運轉)

Step 3. If problem still exists, notify unit maintenance (AUXILIARY POWER UNIT FAILS TO KEEP RUNNING)

(三)當輔助動力單元(APU)運轉且電源開關開啟，電池電量表讀數位於黃色或更低的紅色/BATT-GEN gauge reads in yellow or lower red with APU running and APU GEN switch ON

1.參考文件-WP 0122 01/References- WP 0122 01

2.故障排除步驟：

(1)步驟 1.按下電壓調節器重置按鈕(參見-WP 0122 01)

Step 1. Press reset button on voltage regulator (WP 0122 01).

(2)步驟 2.如果問題仍然存在，通知單位維修(電瓶指示器電量讀數位於黃色或更低的紅色，輔助動力單元運轉及電源開啟)。

Step 2. If problem still exists, notify maintenance (BATT/GEN GAUGE READS IN YELLOW OR

四、艙底泵故障排除(安裝時)/BILGE PUMP TROUBLESHOOTING (WHEN INSTALLED)

工作包含項目/ THIS WORK PACKAGE COVERS :

艙底泵無法抽水/Bilge pump does not pump water/艙底泵無法運轉/Bilge pump fails to operate/所需人力 3 員/ Personnel Required Three

(一)艙底泵無法抽水/BILGE PUMP DOES NOT PUMP WATER

1.參考文件/References

2.故障排除步驟：

(1)步驟 1.檢查艙底泵入口是否堵塞，清除泵入口的堵塞物，如果故

障是艙底泵堵塞，通知單位維修人員。

Step 1. Check for a clogged bilge pump inlet. Remove obstruction from pump inlet. If failure is due to clogged pump screen, notify unit maintenance.

(2)步驟 2.檢查艙底泵通風口是否堵塞，清除泵通風口堵塞物

Step 2. Check for a clogged bilge pump vent. Remove obstruction from pump vent.

(3)步驟 3.如果問題仍然存在，通知單位維修(艙底泵無法運行)

Step 3. If problem still exists, notify unit maintenance (BILGE PUMP FAILS TO OPERATE)

(二)艙底泵無法運轉/BILGE PUMP FAILS TO OPERATE

1.參考文件/References

2.故障排除步驟：

(1)步驟 1.重置動力面板上的艙底泵斷路器開關

Step 1. Reset bilge pump circuit breaker switch on Accessory/PTO panel.

(2)步驟 2.如果問題仍然存在，通知單位維修(艙底泵無法運行)

Step 2. If problem still exists, notify unit maintenance (BILGE PUMP FAILS TO OPERATE).

五、煞車系統故障排除/BRAKES TROUBLESHOOTING

工作包含項目/ THIS WORK PACKAGE COVERS:

煞車幫浦馬達連續運轉且壓力未達 950 磅/吋-舊構件或 1100-1300 磅/吋-新構件(新構件區分調製煞車與調製及增益停駐煞車)/Brake pump motor runs continuously and brake pressure does not reach 950 psi old configuration and new configuration or 1100 to 1300 psi (new configuration with brake modulation or new configuration with brake modulation and enhanced parking brake)/所需人力 3 員/Personnel Required Three

1.參考文件-WP 0105 00、WP 0122 00/References- WP 0105 00、WP 0122 00

2.故障排除步驟：

(1)步驟 1.檢查制動液壓油箱油量，填充制動液壓油(參見- WP 0105 00)

Step 1. Check hydraulic reservoir fluid level (WP 0105 00). Fill hydraulic reservoir (WP 0105 00).

(2)步驟 2.檢查制動液壓管路中是否有空氣，排放制動器的空氣(參見-WP 0122 00)

Step 2. Check for air trapped in brake hydraulic lines. Bleed brakes (WP 0122 00).



(3)步驟 3.如果問題仍然存在，通知單位維修(煞車幫浦馬達連續運轉且壓力未達 950 磅/吋-舊構件或 1100-1300 磅/吋-新構件)，(新構件區分調製煞車與調製及增益停駐煞車)

Step 3. If problem still exists, notify unit maintenance (BRAKE PUMP MOTOR RUNS CONTINUOUSLY AND BRAKE PRESSURE DOES NOT REACH 950 PSI (old configuration) or 1100 to 1300 psi (new configuration with brake modulation or new configuration with brake modulation and enhanced parking brake).

六、引擎故障排除/ENGINE TROUBLESHOOTING

工作包含項目/ THIS WORK PACKAGE COVERS :

引擎曲軸以正常速度運轉但無法啟動/Engine cranks at normal speed but will not start/
 按下啟動按鈕時引擎曲軸無法運轉/Engine fails to crank when START switch is pressed/
 引擎曲軸轉動緩慢且無法啟動/Engine cranks slowly and will not start/發動機冒白煙
 (或有燃油在隔柵門或排氣格柵門上)/Engine has excessive white smoke (or fuel is on
 grille doors or exhaust grilles)/引擎動力低，且冒黑煙/Engine has low power and excessive
 black smoke/引擎機油溫度過高/Engine oil temperature is high/引擎運轉不穩或失火/
 爆震/Engine runs rough or misfires and/or knocks/引擎啟動但無法持續運轉/Engine starts,
 but fails to keep running/引擎轉速低，不能發揮全動力，但排煙正常/Engine has low
 stall RPM and does not develop full power, but exhaust smoke is normal/引擎轉速過高/Engine
 overspeeds/引擎上機油/Engine uses excessive oil/引擎機油壓力過低(或高)但溫度正
 常/Low (or high) engine oil pressure, oil temperature is normal/所需人員 3 員/Personnel
 Required Three

參考文件-WP 0053 00、WP 0116 00、WP 0105 00、WP 0108 00、WP 0109
 00/References- WP 0053 00 、 WP 0116 00 、 WP 0105 00 、 WP 0108 00 、 WP 0109 00

(一)引擎曲軸以正常速度運轉但無法啟動/Engine cranks at normal speed but will not
 start

1.參考文件-/References

2.故障排除步驟：

(1)步驟 1.檢查油量表，確保油料足夠，將車輛加油

Step 1. Check fuel gauge to ensure enough fuel is present. Refuel vehicle.

(2)步驟 2.檢查手動燃油切斷手柄，將手動燃油切斷手柄推至定位

Step 2. Check manual FUEL shutoff handle. Push in manual FUEL shutoff handle.

(3)步驟 3.檢查燃油泵開關，打開燃油油泵開關

Step 3. Check FUEL PUMP switch. Turn on FUEL PUMP switch.

(4)步驟 4.檢查滅火器拉柄護罩，將釋放插銷推入安全護罩

Step 4. Check fire extinguisher pull handle shield. Secure shield with push release pin.

(5)步驟 5.檢查油管中是否有空氣阻塞，將引擎預熱器開啟 10 秒

Step 5. Check for air trapped in the fuel lines. Operate ENGINE PREHEAT switch for 10 seconds.

(6)步驟 6.如果問題仍然存在，通知單位維修(引擎曲軸以正常速度運轉但無法啟動)

Step 6. If problem still exists, notify unit maintenance (ENGINE CRANKS AT NORMAL SPEED BUT WILL NOT START)

(二)按下啟動按鈕引擎曲軸無法運轉/Engine fails to crank when START switch is pressed

1.參考文件-WP 0053 00/References WP 0053 00

2.故障排除步驟：

(1)步驟 1.檢查電量表讀數是否為電池電量不足，啟動輔助動力單元為電池充電(參見-WP 0053 00)

Step 1. Check BATT-GEN gauge for low battery charge. Start APU and charge batteries (WP 0053 00).

(2)步驟 2.如果問題仍然存在，通知單位維修(按下啟動按鈕引擎曲軸無法運轉)

Step 2. If problem still exists, notify unit maintenance (ENGINE FAILS TO CRANK WHEN START SWITCH IS PRESSED).

(三)引擎曲軸轉動緩慢且無法啟動/Engine cranks slowly and will not start

1.參考文件-WP 0053 00/References- WP 0053 00

2.故障排除步驟：

(1)步驟 1.檢查電量表讀數是否為電池電量不足

Step 1. Check BATT-GEN gauge for low battery charge.

(2)步驟 2.啟動輔助動力單元為電池充電(參見-WP 0053 00)



Step 2. Start APU and charge batteries (WP 0053 00).

(3)步驟 3.如果問題仍然存在，通知單位維修(引擎曲軸轉動緩慢且無法啟動)

Step 3. If problem still exists, notify unit maintenance (ENGINE CRANKS SLOWLY AND WILL NOT START).

(四)引擎冒白煙(或有燃油在隔柵門或排氣格柵門上)/Engine has excessive white smoke (or fuel is on grille doors or exhaust grilles)

1.參考文件-/References

2.故障排除步驟：

(1)步驟 1.確定操作員及指揮官的煙幕發射器開關位於關閉

Step 1. Make sure both operator's and commander's exhaust smoke generator switches are OFF.

(2)步驟 2.確定煙幕發射器手動燃油切斷閥已關閉

Step 2. Make sure exhaust smoke generator manual fuel shutoff valve is closed.

(3)步驟 3.如果問題仍然存在，通知單位維修(發動機白煙過多)

Step 3. If problem still exists, notify unit maintenance (ENGINE HAS EXCESSIVE WHITE SMOKE)

(五)引擎動力低，且冒黑煙/Engine has low power and excessive black smoke

1.參考文件-WP 0116 00/References- WP 0116 00

2.故障排除步驟：

(1)步驟 1.檢查空氣濾清器限制指標，清潔空氣濾清器(參見-WP 0116 00)

Step 1. Check air cleaner restriction gauge. Clean air filters (WP 0116 00).

(2)步驟 2.如果問題仍然存在，通知單位維修(引擎動力低，且冒黑煙)

Step 2. If problem still exists, notify unit maintenance (ENGINE HAS LOW POWER AND EXCESSIVE BLACK SMOKE).

(六)引擎機油溫度過高/Engine oil temperature is high

1.參考文件-WP 0105 00/References- WP 0105 00

2.故障排除步驟：

(1)步驟 1.檢查引擎機油平面，添加指定油品(參見-WP 0105 00)

Step 1. Check main engine oil level. Fill as specified in (WP 0105 00).

(2)步驟 2.檢查機油冷卻器是否通暢，用低壓水清潔機油冷卻器濾網

Step 2. Check oil coolers for restrictions. Clean oil cooler screens with low pressure water.

(3)步驟 3.檢查履帶張力，調整履帶張力

Step 3. Check track tension. Adjust track tension (WP 0108 00 or WP 0109 00).

(4)步驟 4.如果問題仍然存在，通知單位維修(引擎機油溫度過高)

Step 4. If problem still exists, notify unit maintenance (ENGINE OIL TEMPERATURE IS HIGH)

(七)引擎運轉不穩或失火/爆震/Engine runs rough or misfires and/or knocks

1.參考文件- WP 0116 00/References-WP 0116 00

2.故障排除步驟：

(1)步驟 1.檢查空氣濾清器限制指標，清潔空氣濾清器(參見-WP 0116 00)

Step 1. Check air cleaner restriction gauge. Clean air filters (WP 0116 00).

(2)步驟 2.檢查燃油是否洩漏，關閉主引擎並通知單位維修人員

Step 2. Check for fuel leaks. Shut down main engine and notify unit maintenance.

(3)步驟 3.引擎在低於正常溫度下操作(單一或多個汽缸不點火)，提高引擎轉速至(1100-1800)轉/分，運轉 3-5 分鐘

Step 3. Engine operating at below normal temperature (one or more cylinders not firing). Run engine at a higher rpm (1,000 – 1,800) for 3 to 5 minutes.

(4)步驟 4.如果問題仍然存在，通知單位維修(引擎運轉不順或失火/爆震)

Step 4. If problem still exists, notify unit maintenance (ENGINE RUNS ROUGH OR MISFIRES AND/OR KNOCKS).

(八)引擎啟動但無法持續運轉/Engine starts, but fails to keep running

1.參考文件- WP 0116 00/References- WP 0116 00

2.故障排除步驟：

(1)步驟 1.檢查燃油平面，對救濟車加油

Step 1. Check fuel level. Refuel vehicle.

(2)步驟 2.確保燃油管內沒有空氣阻塞，啟動引擎預熱開關 10 秒鐘以去除燃油管中的空氣



Step 2. Ensure that air is not trapped in fuel lines. Operate engine PREHEAT switch for 10 seconds to remove air from fuel lines.

(3)步驟 3.檢查空氣濾清器是否堵塞，清潔空氣濾網和進氣口(參見-WP 0116 00)

Step 3. Check air cleaners for restrictions. Clean air filters and air inlets (WP 0116 00).

(4)步驟 4.如果問題仍然存在，通知單位維修(引擎啟動，但無法持續運轉)

Step 4. If problem still exists, notify unit maintenance (ENGINE STARTS BUT FAILS TO KEEP RUNNING).

(九)引擎轉速低，不能發揮全動力，但排煙正常/Engine has low stall RPM and does not develop full power, but exhaust smoke is normal

1.參考文件-/References

2.故障排除步驟：

(1)步驟 1.檢查滅火器開關已關閉並確認快速釋放銷已結合

Step 1. Check fire extinguisher shutoff switch to ensure quick-release pin is engaged.

(2)步驟 2.檢查前油箱燃油控制閥確認為開啟，打開前油箱燃油控制閥

Step 2. Check FORWARD TANK FUEL CONTROL VALVE to ensure it is OPEN. Open FORWARD TANK FUEL CONTROL VALVE.

注意/NOTE

救濟車長時間固定位置停在斜坡上操作，將會限制燃料泵入口以下的前油箱燃油供應 Operation for long periods in recovery operation with vehicle in fixed position on incline will lower front fuel tank supply below pump inlet.

(3)步驟 3.如果問題仍然存在，通知單位維修(引擎轉速低，不能發揮全動力，但排煙正常)

Step 3. If problem still exists, notify unit maintenance (ENGINE HAS LOW STALL RPM AND DOES NOT DEVELOP FULL POWER, BUT EXHAUST SMOKE IS NORMAL).

(十)引擎轉速過高/ Engine overspeeds

1.參考文件-/References

2.故障排除步驟：

(1)步驟 1.檢查並確保手油門再推入狀態，將手油門推至定位

Step 1. Check and ensure hand throttle is in. Push in hand throttle.

(2)步驟 2.如果問題仍然存在，通知單位維修(發動機超速)

Step 2. If problem still exists, notify unit maintenance (ENGINE OVERSPEEDS)

(十一)引擎上機油/Engine uses excessive oil

1.參考文件- WP 0116 00/References- WP 0116 00

2.故障排除步驟：

(1)步驟 1.檢查底盤引擎艙放水活門是否有油品流出或滴落，通知單位維修人員

Step 1. Check for oil draining out of hull drains from oil leak in engine compartment. Notify unit maintenance.

(2)步驟 2.檢查機油是否加注過多，通知單位維修人員

Step 2. Check engine oil level for over fill. Notify unit maintenance.

(3)步驟 3.檢查空氣濾清器是否有破洞或裂痕(參見- WP 0116 00) ，通知單位維修人員

Step 3. Check air filter elements for holes and tears (WP 0116 00). Notify unit maintenance.

(4)步驟 4.如果問題仍然存在，通知單位維修(引擎上機油)

Step 4. If problem still exists, notify unit maintenance (ENGINE USES EXCESSIVE OIL).

(十二)引擎機油壓力過低(高)但溫度正常/Low (or high) engine oil pressure, oil temperature is normal

1.參考文件- WP 0105 00/References- WP 0105 00

2.故障排除步驟：

(1)步驟 1.檢查發動機機油平面，加注指定油品(參見- WP 0105 00)

Step 1. Check engine oil level. Fill as specified in WP 0105 00.

(2)步驟 2.如果問題仍然存在，通知單位維修(發動機機油壓力過低(高)但溫度正常

Step 2. If problem still exists, notify unit maintenance (LOW (OR HIGH) ENGINE OIL PRESSURE, OIL TEMPERATURE IS NORMAL)

七、發煙系統故障排除/EXHAUST SMOKE GENERATING SYSTEM TROUBLESHOOTING

工作包含項目/ THIS WORK PACKAGE COVERS



救濟車產生劣質煙霧或煙霧輛量不足/Vehicle produces poor quality smoke or insufficient quantity of smoke/救濟車輛不發煙/Vehicle fails to make smoke/煙霧開關關閉時救濟車會發煙/Vehicle produces smoke when exhaust smoke switches are off/所需人力 3 員/Personnel Required Three

(一)救濟車產生劣質煙霧或煙霧量不足/ Vehicle produces poor quality smoke or insufficient quantity of smoke

1.參考文件-/References

2.故障排除步驟：

(1)步驟 1.檢查燃油是否由底盤放水活門溢出或混雜冷凝空氣，關閉主引擎並通知單位維修人員

Step 1. Check for fuel running out of hull drains or mixed with cooling air. Shut down main engine and notify unit maintenance.

(2)步驟 2.如果問題仍然存在，通知單位維修(車輛產生劣質煙霧或煙霧量不足)

Step 2. If problem still exists, notify unit maintenance (VEHICLE PRODUCES POOR QUALITY SMOKE OR INSUFFICIENT QUANTITY OF SMOKE).

(二)救濟車不發煙/Vehicle fails to make smoke

1.參考文件-/References

2.故障排除步驟：

(1)步驟 1.檢查燃油種類，排氣煙幕發射系統不會使用 8 號航空燃油 (JP-8)產生煙霧

Step 1. Check fuel type. Exhaust smoke generating system will not produce smoke with JP-8 fuel.

(2)步驟 2.檢查燃油關斷閥，打開燃油關斷閥

Step 2. Check fuel shutoff valve. Open fuel shutoff valve.

(3)步驟 3.檢查燃油是否由底盤放水活門溢出或混雜冷凝空氣，關閉主引擎並通知單位維修人員

Step 3. Check for fuel running out of hull drains or mixing with cooling air. Shut down main engine and notify unit maintenance.

(4)步驟 4.如果問題仍然存在，通知單位維修(車輛無法產生煙霧)

Step 4. If problem still exists, notify unit maintenance (VEHICLE FAILS TO MAKE SMOKE)

(四)煙幕開關關閉時救濟車會發煙/Vehicle produces smoke when exhaust smoke

switches are off

1.參考文件-/References

2.故障排除步驟：

(1)步驟 1.確認操作手及車長的煙霧產生器開關都是關閉狀態

Step 1. Make sure both operator's and commander's exhaust smoke generator switches are OFF.

(2)步驟.2.確認煙霧產生器手動燃油切斷閥為關閉狀態

Step 2. Make sure exhaust smoke generator manual fuel shutoff valve is closed.

(3)步驟 3.如果問題仍然存在，通知單位維修(煙霧開關關閉時救濟車會產生煙霧)

Step 3. If problem still exists, notify unit maintenance (VEHICLE PRODUCES SMOKE WHEN EXHAUST SMOKE SWITCHES ARE OFF)

八、微質粒氣體過濾裝置故障排除/GAS-PARTICULATE FILTER UNIT TROUBLESHOOTING

工作包含項目/ THIS WORK PACKAGE COVERS

面罩空氣不足/Lack of air at facepieces/馬達電機沒有作動/Motor does not operate/所需人力 3 員/Personnel Required Three

(一)面罩空氣不足/Lack of air at facepieces

1.參考文件-/References

2.故障排除步驟：

(1)步驟 1.檢查糾結、擠壓、堵塞或鬆動的軟管接頭，拉直扭結、擠壓並疏通軟管軟管及將軟管接旋緊。

Step 1. Check for kinked, pinched, clogged or loose hose connections. Straighten kinked or pinched hoses, unclog hoses and tighten loose connections.

(2)步驟 2.如果沒有加溫空氣流動，打開 M3 加溫器開關並調整溫度

Step 2. If no heated air flows, turn M3 HEATER switch ON and adjust heater.

(3)步驟 3.如果問題仍然存在，通知單位維修(表面缺乏空氣)

Step 3. If problem still exists, notify unit maintenance (LACK OF AIR AT FACEPIECES).

(二)馬達沒有作動/Motor does not operate



1. 參考文件-/References

2. 故障排除步驟：

(1) 步驟 1. 控制單元上啟閉重置斷路器開關

Step 1. Reset ON/OFF circuit breaker switch on control unit.

(2) 步驟 2. 如果問題仍然存在，通知單位維修(馬達沒有作動)

Step 2. If problem still exists, notify unit maintenance (MOTOR DOES NOT OPERATE)

九、發電機系統故障排除/GENERATOR SYSTEM TROUBLESHOOTING

工作包含內容/ THIS WORK PACKAGE COVERS

主引擎運轉時，電壓表讀數在黃色或紅色區域/Engine BATT-GEN gauge reads in yellow or lower red region with main engine running/所需人力 3 員/Personnel Required Three

1. 參考文件- WP 0122 01/References- WP 0034 00

2. 故障排除步驟：

(1) 步驟 1. 重置主引擎電壓調節器斷路器，位於電壓調節器的上方(參見- WP 0122 01)

Step 1. Reset main engine voltage regulator circuit breaker located on top of voltage regulator (WP 0122 01).

(2) 步驟 2. 如果問題仍然存在，通知單位維修(主引擎運轉時，電壓表讀數在黃色或紅色區域)

Step 2. If problem still exists, notify unit maintenance (ENGINE BATT-GEN GAUGE READS IN YELLOW OR LOWER RED REGION WITH MAIN ENGINE RUNNING)

十、液壓系統故障排除 /HYDRAULICS SYSTEM TROUBLESHOOTING

工作包含項目/ THIS WORK PACKAGE COVERS

起重機絞盤無法操作或未輸出全動力/Hoist winch fails to operate or develop full power/液壓油不斷過熱/Hydraulic oil constantly overheats/輔助油壓不足或無輔助油壓/Insufficient or no auxiliary oil pressure/主液壓系統壓力不足/Insufficient main hydraulics system pressure/主絞盤無法運行或無法輸出全動力/Main winch fails to operate or fails to develop full power/主絞盤靠輔助液壓動力工作，但不靠主引擎液壓操作/Winch operates on auxiliary hydraulic power, but does not operate on main engine hydraulic power/所需人力 3 員/Personnel Required Three

參考文件- WP 0045 00、WP 0036 00、WP 0105 00/References- WP 0045 00、

WP 0036 00、WP 0105 00

(一)起重機絞盤無法操作或未輸出全動力/Hoist winch fails to operate or develop full power

1.參考文件- WP 0105 00/References- WP 0105 00

2.故障排除步驟：

(1)步驟 1.檢查液壓油箱中的油平面，加注指定油品(參見-WP 0105 00)

Step 1. Check oil level in hydraulic reservoir. Fill as specified in WP 0105 00.

(2)步驟 2.嘗試以手動接合動力解除離合器(參見- WP 0045 00)

Step 2. Attempt to operate with PTO clutch manually engaged (WP 0045 00).

(3)步驟 3.如果問題仍然存在，通知單位維修(起重機絞盤無法操作或未輸出全動力)

Step 3. If problem still exists, notify unit maintenance (HOIST WINCH FAILS TO OPERATE OR DEVELOP FULL POWER).

(二)液壓油不斷過熱/Hydraulic oil constantly overheats

1.參考文件-/References

2.故障排除步驟：

(1)步驟 1.檢查油溫表的高油溫指示器，如果儀表指示高溫(約為 225°F(107°C))，確保動力關斷離合器開關位於開啟，停止操作任何液壓裝置，提高引擎轉速至 2000 轉/分，使油循環通過液壓油冷卻器，直到油冷卻且指示燈熄滅

Step 1. Check OIL TEMP GAGE for high temperature indication. If gauge indicates high temperature (above 225°F (107°C)), ensure PTO CLUTCH switch is ON. Stop any operations using the hydraulics system. Run the engine at 2000 RPM to circulate oil through the hydraulic oil cooler until oil cools and indicator goes off.

(2)步驟 2.如果問題仍然存在，通知單位維修(液壓油經常過熱)

Step 2. If problem still exists, notify unit maintenance (HYDRAULIC OIL CONSTANTLY OVERHEATS)

(三)輔助油壓不足或無輔助油壓/Insufficient or no auxiliary oil pressure

1.參考文件-WP 0105 00/References-WP 0105 00



2.故障排除步驟：

(1)步驟 1.檢查並確認系統選擇桿位於輔助位置・將系統選擇桿推至輔助位置

Step 1. Check and ensure system selector lever is in auxiliary position. Place system selector lever in auxiliary position.

(2)步驟 2.檢查液壓油箱的油平面，加注指定油品(參見-WP 0105 00)

Step 2. Check oil level in hydraulic reservoir (WP 0105 00). Fill as specified in WP 0105 00.

(3)步驟 3.如果問題仍然存在，通知單位維修(輔助油壓不足或無液壓油)

Step 3. If problem still exists, notify unit maintenance (INSUFFICIENT OR NO AUXILIARY OIL PRESSURE)

(四)主液壓系統壓力不足/ Insufficient main hydraulics system pressure

1.參考文件-WP 0036 00 or 0036 01/References-WP 0036 00 or 0036 01

2.故障排除步驟：

(1)步驟 1.打開液壓管路及組件上方的底層隔板(參見-WP 0036 00 or 0036 01)

Step 1. Remove or open subfloor plates above hydraulic lines and components (WP 0036 00 or 0036 01).

(2)步驟 2.察看管路及組件是否洩漏

Step 2. Inspect lines and components for leaks.

(3)步驟 3.旋緊接頭及組件

Step 3. Tighten fittings and connections.

(4)步驟 4.嘗試以手動接合動力解除離合器(參見-WP 0045 00)

Step 4. Attempt to operate with PTO clutch manually engaged (WP 0045 00).

(5)步驟 5. 如果問題仍然存在，通知單位維修(主液壓系統壓力不足)

Step 5. If problem still exists, notify unit maintenance (INSUFFICIENT MAIN HYDRAULICS SYSTEM PRESSURE)

(五)主絞盤無法運行或無法輸出全動力/Main winch fails to operate or fails to develop full power

1.參考文件-WP 0105 00、WP 0045 00/References-WP 0105 00-WP 0105 00、

WP 0045 00

2.故障排除步驟：

(1)步驟 1.檢查液壓油箱平面位置，加注指定油品(參見- WP 0105 00)

Step 1. Check oil level in hydraulic reservoir. Fill as specified in (WP 0105 00)

(2)步驟 2.嘗試以手動接合動力解除離合器(參見- WP 0045 00)

Step 2. Attempt to operate with PTO clutch manually engaged (WP 0045 00).

(3)步驟 3.如果問題仍然存在，通知單位維修(主絞盤無法運行或無法輸出全動力)

Step 3. If problem still exists, notify unit maintenance (MAIN WINCH FAILS TO OPERATE OR FAILS TO DEVELOP FULL POWER)

(六)主絞盤靠輔助液壓動力工作，但不靠主引擎液壓操作/Winch operates on auxiliary hydraulic power, but does not operate on main engine hydraulic power

1.參考文件- WP 0045 00/References- WP 0045 00

2.故障排除步驟：

(1)步驟 1.檢查動力驅動離合器開關是否是開的
將動力驅動離合器開關置於開的位置

Step 1. Check that PTO CLUTCH switch is ON. Place PTO CLUTCH switch in ON position.

(2)步驟 2.嘗試在手動接合動力驅動離合器的情況下進行操作(參見- WP 0045 00)

Step 2. Attempt to operate with PTO clutch manually engaged (WP 0045 00).

(3)步驟 3.如果問題仍然存在，通知單位維修(絞車僅能依靠輔助液壓動力運行，但無法使用主引擎液壓動力運行)

Step 3. If problem still exists, notify unit maintenance (PTO CLUTCH DOES NOT ENGAGE, INDICATOR IS NOT LIT AND GOVERNOR DOES NOT OPERATE PROPERLY).

十一、燈光系統故障排除/LIGHTS TROUBLESHOOTING

工作包含項目/ THIS WORK PACKAGE COVERS

任何燈(除警示燈及閃光燈外)都不會閃爍或不會亮起/Any light (except warning indicator and flasher light) flickers, will not go off or will not come on/主開關打開時主指示燈不亮/MASTER indicator will not come on when MASTER switch is ON/一個或多個絞盤燈不亮/One or both winch lights fail to operate/. 面板燈或救濟車燈不亮/Panel or vehicle lights do not



work/警告閃光燈不亮/Warning FLASHER fails to operate/.啟動燈光開關測試時，指示燈不亮/When activating LAMP switch TEST, indicator will not come on/所需人力 3 員/Personnel Required Three

(一)任何燈光都不會亮起或不會熄滅(除了警告指示燈和閃光燈)/ANY LIGHT (EXCEPT WARNING INDICATOR AND FLASHER LIGHT) FLICKERS, WILL NOT GO OFF OR WILL NOT COME ON

1.參考文件-/References

2.故障排除步驟：

(1)步驟 1.檢查燈泡，依需要旋緊或更換燈泡

Step 1. Check lamp. Tighten or replace lamp as required.

(2)步驟 2.如果問題仍然存在，通知單位維修(燈光)

Step 2. If problem still exists, notify unit maintenance (LIGHTS)

(二)主開關打開時主指示燈不亮/MASTER INDICATOR WILL NOT COME ON WHEN MASTER SWITCH IS ON

1.參考文件-/References

2.故障排除步驟：

(1)步驟 1.檢查燈泡，更換燈泡

Step 1. Check lamp Replace lamp

(2)步驟 2.如果問題仍然存在，通知單位維修(燈光)

Step 2. If problem still exists, notify unit maintenance (LIGHTS).

(三)一個或多個絞盤燈無作用/ONE OR BOTH WINCH LIGHTS FAIL TO OPERATE

1.參考文件-/References

2.故障排除步驟：

(1)步驟 1.在動力關斷輔助面板重置絞盤燈斷路器開關

Step 1. Reset winch light circuit breaker switch on PTO/Accessory panel

(2)步驟 2.如果問題仍然存在，通知單位維修(一個或多個絞盤燈無作用)

Step 2. If problem still exists, notify unit maintenance (ONE OR BOTH WINCH LIGHTS FAIL TO OPERATE).

(四)面板燈或救濟車燈無作用/PANEL OR VEHICLE LIGHTS DO NOT WORK

1. 參考文件-/References

2. 故障排除步驟：

(1) 步驟 1. 檢查主電源開關位於開啟

Step 1. Check MASTER switch. Turn MASTER switch ON

(2) 步驟 2. 如果問題仍然存在，通知單位維修(燈光)

Step 2. If problem still exists, notify unit maintenance (LIGHTS).

(五) 警告閃光器不亮/WARNING FLASHER FAILS TO OPERATE

1. 參考文件-/References

2. 故障排除步驟：

(1) 步驟 1. 檢查燈泡，更換燈泡

Step 1. Check lamp Replace lamp

(2) 步驟 2. 如果問題仍然存在，通知單位維修(警告閃光器無作用)

Step 2. If problem still exists, notify unit maintenance (WARNING FLASHER LIGHT FAILS TO OPERATE)

(六) 當打開燈光開關測試時，指示燈不亮/WHEN ACTIVATING LAMP SWITCH TEST, INDICATOR WILL NOT COME ON

1. 參考文件-/References

2. 故障排除步驟：

(1) 步驟 1. 檢查燈泡，更換燈泡

Step 1. Check lamp Replace lamp

(2) 步驟 2. 如果問題仍然存在，通知單位維修(當打開燈光開關測試時，指示燈不亮)

Step 2. If problem still exists, notify unit maintenance. (WHEN ACTIVATING LAMP SWITCH TEST, INDICATOR WILL NOT COME ON).

十二、監視系統故障排除/MONITORING SYSTEM TROUBLESHOOTING

工作包含項目/THIS WORK PACKAGE COVERS

壓力過濾器(回流過濾器)堵塞燈常亮/PRESSURE FILTER (RETURN FILTER)

CLOGGED light stays on/低油量指示燈亮起/ LOW OIL LEVEL indicator comes on/變速箱

機油壓力表壓力小於 17 磅/吋/TRANSMISSION PRESS gauge indicates less than 17

psi/變速箱機油溫度表溫度指示高於 260°F (127 °C)以上導致警告警示燈



及喇叭亮起/ TRANSMISSION TEMP°F gauge indicates 260°F (127°C) or above and SYSTEM WARNING indicator and horn come on/渦輪除塵指示燈亮起/TURBO DUST DET indicator comes on/所需人力 3 員/Personnel Required 參考/References Three/參考文件-WP 0036 00、WP 0105 00、WP 0040 00、WP 0116 00、WP 0120 00/References-WP 0036 00、WP 0105 00、WP 0040 00、WP 0116 00、WP 0120 00

(一)壓力過濾器(回流過濾器)堵塞燈常亮/PRESSURE FILTER (RETURN FILTER) CLOGGED LIGHT STAYS ON

1.參考文件-WP 0036 00/References-WP 0036 00

2.故障排除步驟：

(1)步驟 1.拆下底層格板過濾器歧管(參見-WP 0036 00)

Step 1. Remove subfloor plate above filter manifold (WP 0036 00)

(2)步驟 2.按下電荷過濾器上的重置按鈕

Step 2. Push reset button on charge filter

(3)步驟 3.如果問題仍然存在，通知單位維修(電荷過濾器(回流過濾器)堵塞燈常亮)

Step 3. If problem still exists, notify unit maintenance (HYDRAULIC LOW OIL LEVEL WARNING LIGHT STAYS ON. RESERVOIR IS FULL).

(二)低油量指示燈亮起/LOW OIL LEVEL INDICATOR COMES ON

1.參考文件-WP 0105 00/References-WP 0105 00

2.故障排除步驟：

注意/CAUTION

立即關閉動力關斷離合器，以防止液壓幫浦嚴重損壞/Turn PTO CLUTCH switch OFF immediately to prevent serious damage to hydraulic pump.

(1)步驟 1.檢查隔柵是否洩漏

Step 1. Check compartment for leaks.

(2)步驟 2.檢查儲油箱並加注指定油品(參見-WP 0105 00)

Step 2. Check reservoir and fill as specified in WP 0105 00.

(3)步驟 3.如果問題仍然存在，通知單位維修(液壓油低油量警告燈在油箱已滿的狀態下常亮)

Step 3. If problem still exists, notify unit maintenance (HYDRAULIC LOW OIL LEVEL

WARNING LIGHT STAYS ON. RESERVOIR IS FULL)

(三)變速箱機油壓力表壓力小於 17PSI/ TRANSMISSION PRESS gauge indicates less than 17 psi

1.參考文件-WP 0105 00/References-WP 0105 00

2.故障排除步驟：

(1)步驟 1.檢查變速箱機油油平面，加注指定油品(參見-WP 0105 00)

Step 1. Check transmission oil level (WP 0105 00). Fill as specified in WP 0105 00.

(2)步驟 2.如果問題仍然存在，通知單位維修(變速箱機油壓力表無作用)

Step 2. If problem still exists, notify unit maintenance (TRANSMISSION OIL PRESSURE GAUGE FAILS TO OPERATE)

(三)變速箱機油溫度表溫度指示高於 260°F (127 °C)以上，系統警示燈亮起及發出警告聲響/TRANSMISSION TEMP F GAUGE INDICATES 260F (127C) OR ABOVE AND SYSTEM WARNING INDICATOR AND HORN COME ON)

1.參考文件-WP 0105 00、WP 0040 00/References-WP 0105 00、WP 0040 00

2.故障排除步驟：

(1)步驟 1.檢查機油散熱器網氣流是否堵塞，使用低壓水清潔之

Step 1. Check oil cooler screens for restriction of air flow. Clean oil cooler screens with low pressure water.

(2)步驟 2.檢查變速箱機油油平面，加注指定油品(參見-WP 0105 00)

Step 2. Check transmission oil level (WP 0105 00). Fill as specified in WP 0105 00.

(3)步驟 3.如在牽引操作期間或是崎嶇的地面上出現問題，請遵循牽引操作程序，(參見-WP 0040 00)

Step 3. Problem occurs during towing operation or when on rough ground. Follow procedures listed under TOWING OPERATIONS (WP 0040 00).

(4)步驟 4.如果問題仍然存在，通知單位維修(變速箱機油溫度過高)

Step 4. If problem still exists, notify unit maintenance (TRANSMISSION OIL TEMPERATURE HIGH).

(四)渦輪灰塵除塵指示燈亮起/TURBO DUST DET INDICATOR COMES ON

1.參考文件-WP 0116 00/References-WP 0116 00



2.故障排除步驟：

(1)步驟 1.檢查空氣濾清器外殼是否過度汙染，和空氣濾清器除塵讀數指示器，清潔空氣濾清器及其外殼(參見-WP 0116 00)

Step 1. Check air cleaner housing for excessive contamination, and air cleaner restriction gauge indicators. Clean air filters and housings (WP 0116 00).

(2)步驟 2.渦輪除塵過濾器燈亮起

Step 2. Turbo dust detector filter clogged light on.

A.檢查兩個渦輪增壓器頂部的渦輪除塵檢測器開關確認何者堵塞

a. Check turbo dust detector switch on top of both turbochargers to determine which filter is clogged

B.檢查空氣歧管及接頭是否洩漏，並檢查夾箍是否緊定

b. Check air tubes and joints for leaks, and check clamps for tightness.

C.持續原任務及監看指示器

c. Continue with mission and monitor indicator.

D.任務完成後，如果問題仍然存在，通知單位維修。(除塵檢測系統運作不正常、發電機警告燈及除塵檢測器警告燈亮起壓力開關可見)

d. On completion of mission, if problem still exists, notify unit maintenance [DUST DETECTOR SYSTEM OPERATES IMPROPERLY (POWER PLANT WARNING LAMP AND DUST DETECTOR WARNING LAMP ON AND PRESSURE SWITCH PLUNGERS ARE VISIBLE)]

十三、人員加溫單元故障排除/ PERSONNEL HEATER UNIT TROUBLESHOOTING

工作包含項目/ THIS WORK PACKAGE COVERS

人員加溫器無法持續加熱/ Personnel heater fails to keep burning/人員加溫器無法升溫(加溫器鼓風機運行正常)/Personnel heater fails to ignite (heater blower operates properly)/人員加溫器鼓風機無法運作/ Personnel heater fails to operate properly/員加溫器冒煙/ Personnel heater smokes/所需人力 3 員/Personnel Required Three

(一)人員加溫器無法持續加熱/ PERSONNEL HEATER FAILS TO KEEP BURNING

1.參考文件-/References

2.故障排除步驟：

(1)步驟 1.檢查燃油油平面，對救濟車加油

Step 1. Check fuel level. Refuel vehicle.

(2)步驟 2.檢查電纜是否鬆動，將鬆脫電纜鎖緊

Step 2. Check for loose cable connection. Tighten loose cable connection.

(3)步驟 3.如果問題仍然存在，通知單位維修(人員加溫器無法持續加熱)

Step 3. If problem still exists, notify unit maintenance (PERSONNEL HEATER FAILS TO KEEP BURNING)

(二)人員加溫器無法升溫(加溫器鼓風機運行正常)/ PERSONNEL HEATER FAILS TO IGNITE (HEATER BLOWER OPERATES PROPERLY)

1.參考文件-/References

2.故障排除步驟：

(1)步驟 1. 檢查燃油油平面，對救濟車加油

Step 1. Check fuel level. Refuel vehicle.

(2)步驟 2.如果問題仍然存在，通知單位維修(人員加溫器無法升溫(加溫器鼓風機運行正常)

Step 2. If problem still exists, notify unit maintenance (PERSONNEL HEATER FAILS TO IGNITE (HEATER BLOWER OPERATES PROPERLY).

(三)人員加溫器鼓風機無法運作/ PERSONNEL HEATER FAILS TO OPERATE PROPERLY

1.參考文件-/References

2.故障排除步驟：

(1)步驟 1.檢查電纜是否鬆動，將鬆脫電纜鎖緊

Step 1. Check for loose cable connection. Tighten loose cable connection.

(2)步驟 2.如果問題仍然存在，通知單位維修(人員加溫器鼓風機無法運作)

Step 2. If problem still exists, notify unit maintenance (PERSONNEL HEATER FAILS TO OPERATE PROPERLY).

(四)人員加溫器冒煙/ PERSONNEL HEATER SMOKES

1.參考文件-/References



2.故障排除步驟：

(1)步驟 1.檢查妨礙排氣的障礙，並移除之

Step 1. Check exhaust for restrictions. Remove restriction from exhaust.

(2)步驟 2.如果問題仍然存在，通知單位維修(人員加溫器冒煙)

Step 2. If problem still exists, notify unit maintenance (PERSONNEL HEATER SMOKES)

十四、A20 人員加溫器故障排除/A20 PERSONNEL HEATER UNIT TROUBLESHOOTING

工作包含項目/ THIS WORK PACKAGE COVERS

無人員加溫器及故障燈操作與診斷代碼顯示/ No personnel heater operation, no fault lamp operation, no diagnostic code display/排氣扇故障/ C3, Vent fan fault/電壓過低/ E1, Low voltage/燃燒器氣流量低/ E3, Low burner air flow/點火逾時/ F1, Ignition overtime/燃燒器熄火/ F2, Burner flameout/熱量限制/ F3, Heat limit/排氣過熱/ F4, Vent air overheat/進氣過熱，車輛溫度高於 131°F(56°C)/ F6, Inlet overheat, Vehicle ambient temperature is above 131F (56C)/排氣過熱, F7 ,Exhaust overheat/所需人力 3 員/Personnel Required Three

注意/ NOTE

操作人員可在診斷顯示窗列出以下的故障排除代碼，如果顯示任何診斷代碼，則通知單位維修/The operator can troubleshoot the codes listed below when displayed in the diagnostic display window. If any other codes are displayed, notify UNIT maintenance.

(一)無人員加溫器及故障燈操作與診斷代碼顯示/ NO PERSONNEL HEATER OPERATION, NO FAULT LAMP OPERATION, NO DIAGNOSTIC CODE DISPLAY

1.參考文件-/References

2.故障排除步驟：

(1)步驟 1.檢查 MS 電源連接處

Step 1. Check MS power connection.

(2)步驟 2.重新打開加熱器

Step 2. Restart heater.

(3)步驟 3.如果問題仍然存在，通知單位維修(無人員加溫器及故障燈操作與診斷代碼顯示)

Step 3. If problem still exists, notify UNIT maintenance (NO PERSONNEL HEATER OPERATION, NO FAULT LAMP OPERATION, NO DIAGNOSTIC CODE DISPLAY)

(二)C3,排氣扇故障/ C3, VENT FAN FAULT

1. 參考文件-/References

2. 故障排除步驟：

(1) 步驟 1. 檢查通風扇是否結霜或堵塞，並清除之。

Step 1. Check for frost or obstruction in vent fan, Remove frost or obstruction.

(2) 步驟 2. 啟動人員加溫器

Step 2. Start personnel heater.

(3) 步驟 3. 如果問題仍然存在，通知單位維修(C3 排氣扇故障)

Step 3. If problem still exists, notify UNIT maintenance (C3, VENT FAN FAULT).

(三) E1, 電壓過低/ E1, Low voltage

1. 參考文件-/References

2. 故障排除步驟：

(1) 步驟 1. 檢查電纜連接處是否鬆動，鎖緊鬆脫電纜

Step 1. Check for loose cable connection, Tighten loose cable connection.

(2) 步驟 2. 如果問題仍然存在，通知單位維修(E1 電壓過低)

Step 2. If problem still exists, notify UNIT maintenance (E1, LOW VOLTAGE)

(四) E3, 燃燒器氣流量低/ E3, LOW BURNER AIR FLOW

1. 參考文件-/References

2. 故障排除步驟：

(1) 步驟 1. 檢查排氣障礙，並排除之。

Step 1. Check exhaust for restrictions, Remove restriction from exhaust.

(2) 步驟 2. 檢查燃燒空氣障礙，並排除之

Step 2. Check for combustion air restriction. Remove combustion air restriction.

(3) 步驟 3. 重新啟動人員加溫器。如果問題仍然存在，通知單位維修
(E3, 燃燒器空氣流量低)

Step 3. Restart personnel heater. If problem still exists, notify UNIT maintenance (E3, LOW
BURNER AIR FLOW).

(五) F1, 點火逾時/ F1, IGNITION OVERTIME

1. 參考文件-/References

2. 故障排除步驟：

(1) 步驟 1. 檢查燃油供應，必要時添加燃油



Step 1. Check fuel supply, Add fuel if necessary.

(2)步驟 2. 重新啟動加熱器

Step 2. Restart heater.

(3)步驟 3. 如果問題仍然存在，通知單位維修(F1，點火時間過長)

Step 3. If problem still exists, notify UNIT maintenance (F1, IGNITION OVERTIME).

(六)F2, 燃燒器熄火/ F2, BURNER FLAMEOUT

1. 參考文件-/References

2. 故障排除步驟：

(1)步驟 1. 檢查燃油供應，必要時添加燃油

Step 1. Check fuel supply. Add fuel if necessary.

(2)步驟 2. 重新啟動加熱器

Step 2. Restart heater.

(3)步驟 3. 如果問題仍然存在，通知單位維修(F2，燃燒器熄火)

Step 3. If problem still exists, notify UNIT maintenance (F2, BURNER FLAMEOUT)

(七)F3, 熱量限制/ F3, HEAT LIMIT

1. 參考文件-/References

2. 故障排除步驟：

(1)步驟 1. 檢查加熱器出口處是否堵塞，並清除之

Step 1. Check for obstructed heater outlet, Remove outlet obstruction.

(2)步驟 2. 重新啟動加熱器

Step 2. Restart heater.

(3)步驟 3. 如果問題仍然存在，通知單位維修(F3，熱量限制)

Step 3. If problem still exists, notify UNIT maintenance (F3, HEAT LIMIT)

(八)F4, 排氣過熱/ F4, VENT AIR OVERHEAT

1. 參考文件-/References

2. 故障排除步驟：

(1)步驟 1. 檢查加熱器通風口是否堵塞，並清除之

Step 1. Check for obstructed heater output ventilation, Remove obstruction.

(2)步驟 2. 重新啟動加熱器

Step 2. Restart heater.

(3)步驟 3.如果問題仍然存在，通知單位維修(F4，排氣過熱)

Step 3. If problem still exists, notify UNIT maintenance (F4, VENT AIR OVERHEAT)

(九)F6,進氣過熱，車輛溫度高於 131°F(55°C)/ F6, INLET OVERHEAT, VEHICLE AMBIENT TEMPERATURE IS ABOVE 131F (55C)

1.參考文件-/References

2.故障排除步驟：

(1)步驟 1.待溫度低於 131°F 或救濟車溫度低於 104°F 時 F6 顯示碼將會消失

Step 1. Wait until the temperature is below 131°F, F6 display code will be cancelled when vehicle temperature is below 104°F.

(2)步驟 2.手動清洗加熱器 3 次

Step 2. Manually purge the heater three (3) times.

(3)步驟 3.重啟加熱器

Step 3. Restart heater.

(4)步驟 4.如果問題仍然存在，通知單位維修(F6,進氣過熱，車輛溫度高於 131°F(56°C))

Step 4. If problem still exists, notify UNIT maintenance (F6, INLET OVERHEAT, VEHICLE AMBIENT TEMPERATURE IS ABOVE 131F (55C))

(十)F7,排氣過熱/ F7, EXHAUST OVERHEAT

1.參考文件-/References

2.故障排除步驟：

(1)步驟 1.檢查進排氣口是否堵塞

Step 1. Check for obstruction in air inlet or exhaust.

(2)步驟 2.清除障礙物

Step 2. Remove obstruction.

(3)步驟 3.重啟加熱器

Step 3. Restart heater.

(4)步驟 4.如果問題仍然存在，通知單位維修(F7,排氣過熱)

Step 4. If problem still exists, notify UNIT maintenance (F7, EXHAUST OVERHEAT)

十五、動力解除離合器電力系統故障排除/POWER TAKEOFF ELECTRICAL SYSTEM



TROUBLESHOOTING

工作包含項目/ THIS WORK PACKAGE COVERS

動力解除離合器無法接合/ PTO clutch will not engage/當動力輸出離合器開關打開時，動力輸出離合器指示燈不亮/ PTO CLUTCH ENGAGED indicator does not come on when PTO CLUTCH switch is ON/所需人力 3 員/ Personnel Required Three/參考資料 -WP 0045 00-45、WP 0036 00/ References-WP 0045 00-45、WP 0036 00

(一)動力輸出離合器無法接合/ PTO CLUTCH WILL NOT ENGAGE

1.參考文件-WP 0036 00 or 0036 01/References-WP 0036 00 or 0036 01

2.故障排除步驟：

(1)步驟 1.重啟動力解除離合器附件面板上之斷路器開關

Step 1. Reset PTO clutch circuit breaker switch on PTO/Accessory panel.

(2)步驟 2.拆下或是打開動力輸出離合器上層隔板並手動接合離合器
(參見- WP 0036 00 or 0036 01)

Step 2. Remove or open subfloor plate over PTO clutch and manually engage clutch (WP 0036 00 or 0036 01).

(3)步驟 3.如果問題仍然存在，通知單位維修(動力輸出離合器無法接合，指示燈不亮，調速器運行不正常)

Step 3. If problem still exists, notify unit maintenance (PTO CLUTCH DOES NOT ENGAGE, INDICATOR IS NOT LIT AND GOVERNOR DOES NOT OPERATE PROPERLY).

(二)當動力輸出離合器開關打開時，動力輸出離合器指示燈不亮/ PTO CLUTCH ENGAGED INDICATOR DOES NOT COME ON WHEN PTO CLUTCH SWITCH IS ON

1.參考文件-WP 0036 00 or 0036 01、WP 0045 00/References-WP 0036 00 or 0036 01、WP 0045 00

2.故障排除步驟：

(1)步驟 1.檢查燈泡，更換燈泡

Step 1. Check lamp. Replace lamp.

(2)步驟 2.打開動力輸出離合器上層隔板(參見- WP 0036 00 or 0036 01)

Step 2. Open subfloor plates (WP 0036 00 or 0036 01) above PTO clutch.

(3)步驟 3.檢查並確保動力輸出離合器接合。緊急情況下手動鎖定離

合器(參見-WP 0045 00)

Step 3. Check and ensure PTO clutch is engaged. For emergency use, activate manual clutch lock (WP 0045 00).

(4)步驟 4.如果問題仍然存在，通知單位維修(動力輸出離合器無法接合，指示燈不亮，調速器運行不正常)

Step 4. If problem still exists, notify unit maintenance (PTO CLUTCH DOES NOT ENGAGE, INDICATOR IS NOT LIT AND GOVERNOR DOES NOT OPERATE PROPERLY).

十六、煙幕彈發射器系統故障排除/ SMOKE GRENADE LAUNCHER SYSTEM

TROUBLESHOOTING

工作包含項目/ THIS WORK PACKAGE COVERS

系統運行但警示燈不亮/ SYSTEM OPERATES BUT ARMING LIGHT DOES NOT COME ON/所需人力 3 員/ Personnel Required Three

1.參考文件-/References

2.故障排除步驟：

(1)步驟 1.檢查燈泡，更換燈泡

Step 1. Check lamp. Replace lamp.

(2)步驟 2.如果問題仍然存在，通知單位維修(煙幕彈發射器無法正常操作，部分或是所有管道無法使用，其他所有系統均正常運行)

Step 2. If problem still exists, notify unit maintenance (GRENADE LAUNCHER FAILS TO OPERATE PROPERLY. SOME OR ALL TUBES FAIL TO OPERATE. ALL OTHER SYSTEMS OPERATE PROPERLY)

十七、履帶及避震系統故障排除/TRACKS AND SUSPENSION TROUBLESHOOTING

工作包含項目/ THIS WORK PACKAGE COVERS

車輛在行駛過程中發出異聲/ Vehicle makes thumping noise during travel/車輛向一側傾斜/ Vehicle sags to one side/(三)拉動轉向時救濟車輛未出現轉向/ Vehicle pulls to one side when no steering is applied/所需人力 3 員/ Personnel Required 參考文件-WP 0105 00、WP 0113 00、WP 0108 00、WP 0109 00/ References-WP 0105 00、WP 0113 00、WP 0108 00、WP 0109 00

(一)車輛在行駛過程中發出異聲/ VEHICLE MAKES THUMPING NOISE DURING



TRAVEL

1. 參考文件-WP 0105 00、WP 0108 00、WP 0109 00、WP 0113 00/References- WP 0105 00、WP 0108 00、WP 0109 00、WP 0113 00

2. 故障排除步驟：

(1) 步驟 1. 檢查履帶蹄片(參見-WP 0105 00)及更換履帶蹄片(參見-WP 0113 00)

Step 1. Check for dead track shoes (WP 0105 00). Replace dead track shoe (WP 0113 00).

(2) 步驟 2. 檢查履帶及避震系統是否有碎屑卡在組件之中，並清除之

Step 2. Check track and suspension system for debris stuck in components. Remove debris.

(3) 步驟 3. 檢查及調整履帶張力 (參見-WP 0108 00 or WP 0109 00)

Step 3. Check track tension. Adjust track tension (WP 0108 00 or WP 0109 00).

(4) 步驟 4. 如果問題仍然存在，通知單位維修(車輛在行駛過程中發出異聲)

Step 4. If problem still exists, notify unit maintenance (VEHICLE MAKES THUMPING NOISE DURING TRAVEL).

(二) 車輛向一側傾斜/ VEHICLE SAGS TO ONE SIDE

1. 參考文件-WP 0105 00/References-WP 0105 00

2. 故障排除步驟：

(1) 步驟 1. 檢查扭力桿是否損壞，通知單位維修 (參見-WP 0105 00)

Step 1. Check for broken torsion bars. Notify unit maintenance. (WP 0105 00).

(2) 步驟 2. 如果問題仍然存在，通知單位維修(車輛向一側傾斜)

Step 2. If problem still exists, notify unit maintenance (VEHICLE SAGS TO ONE SIDE).

(三) 拉動轉向時救濟車輛未出現轉向/ VEHICLE PULLS TO ONE SIDE WHEN NO STEERING IS APPLIED

1. 參考文件-WP 0108 00、WP 0109 00/References-WP 0108 00、WP 0109 00

2. 故障排除步驟：

(1) 步驟 1. 同(一) (參見-WP 0108 00 or WP 0109 00)

Step 1. Check track tension. Adjust track tension (WP 0108 00 or WP 0109 00).

(2) 步驟 2. 如果問題仍然存在，通知單位維修(拉動轉向時救濟車輛未出現轉向)

Step 2. If problem still exists, notify unit maintenance (VEHICLE PULLS TO ONE SIDE)

十八、通風鼓風機故障排除/ VENTILATING BLOWER TROUBLESHOOTING

工作包含項目/ THIS WORK PACKAGE COVERS

通風鼓風機無法正常運行。其他所有系統均正常運作/ Ventilating blower fails to operate properly. All other systems operate properly/所需人力 3 員/ Personnel Required 參考

/ References Three

1. 參考文件-/References

2. 故障排除步驟：

(1) 步驟 1. 檢查主開關，將其開啟

將主開關打開

Step 1. Check if MASTER switch is ON. Turn MASTER switch ON.

(2) 步驟 2. 重新將動力關閉附件面板上之通風鼓風機開關打開

Step 2. Reset vent blower circuit breaker switch on PTO/Accessory panel.

(3) 步驟 3. 如果問題仍然存在，通知單位維修(通風鼓風機無法正常運行。其他所有系統均正常運作)

Step 3. If problem still exists, notify unit maintenance (VENTILATING BLOWER FAILS TO OPERATE. ALL OTHER SYSTEMS OPERATE PROPERLY)

十九、警告系統故障排除/ WARNING SYSTEM TROUBLESHOOTING

工作包含項目/ THIS WORK PACKAGE COVERS

當絞盤測試開關打開時系統警告指示燈不會亮/ SYSTEM WARNING indicator will not come on when activating WINCH TEST switch/所需人力 3 員/ Personnel

Required Three

1. 參考文件-/References

2. 故障排除步驟：

(1) 步驟 1. 檢查及更換燈泡

Step 1. Check lamp. Replace lamp.

(2) 步驟 2. 如果問題仍然存在，通知單位維修(當絞盤測試開關打開時系統警告指示燈不會亮)

Step 2. If problem still exists, notify unit maintenance (SYSTEM WARNING INDICATOR WILL NOT COME ON WHEN ACTIVATING WINCH TEST SWITCH).



二十、絞盤電力系統故障排除/WINCH ELECTRICAL SYSTEM TROUBLESHOOTING

工作包含項目/ THIS WORK PACKAGE COVERS

校準繞線器故障指示燈亮起/ LEVEL WINDER MALFUNCTION indicator comes on/延展限制指示燈亮起/ PAYOUT LIMIT indicator comes on/絞盤輪轂故障指示燈亮起/ WINCH DRUM MALFUNCTION indicator comes on/絞盤正常運作，但絞盤輪轂故障指示燈亮起/ WINCH DRUM MALFUNCTION indicator lights, winch is operating properly/絞盤正常運作，但絞盤延展限制指示燈亮起/ WINCH PAYOUT LIMIT indicator lights, winch is operating properly/所需人力 3 員/ Personnel Required 參考/ References

(1)WP 0036 00

(2)WP 0036 01

(一)校準繞線器故障指示燈亮起/ LEVEL WINDER MALFUNCTION INDICATOR COMES ON

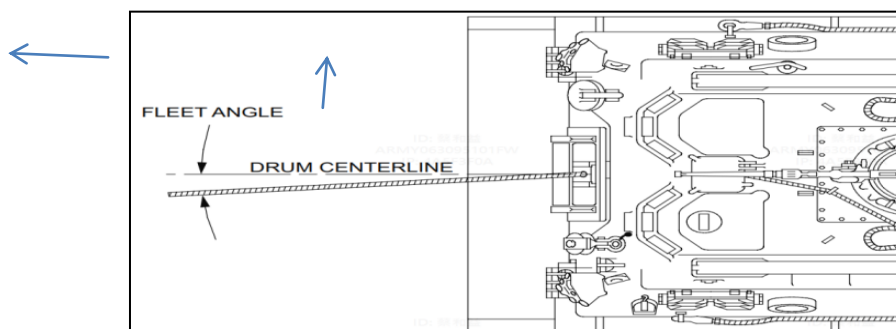
1.參考文件-WP 0036 00、WP 0036 01/References-WP 0036 00、WP 0036 01

2.故障排除步驟：

(1)步驟 1.檢查主絞盤鋼索校準捲揚器拖曳角度要位於故障車輛與捲揚器喇叭之間，根據地面情況，可能需要使用絞盤超載開關及主絞盤操作桿再重新調整牽引車輛鋼索之鬆緊度。

Step 1. Check main winch cable for excessive fleet angle between level winder trumpet and disabled vehicle. Position recovery vehicle to decrease fleet angle. Depending on ground conditions, it may be necessary to use the WINCH OVERRIDE switch and MAIN WINCH operating lever to get slack in the cable before realigning vehicle.

圖 1-主絞盤拖曳鋼索角度調整



圖片來源：TM9-2350-292-10，P0104 00-1

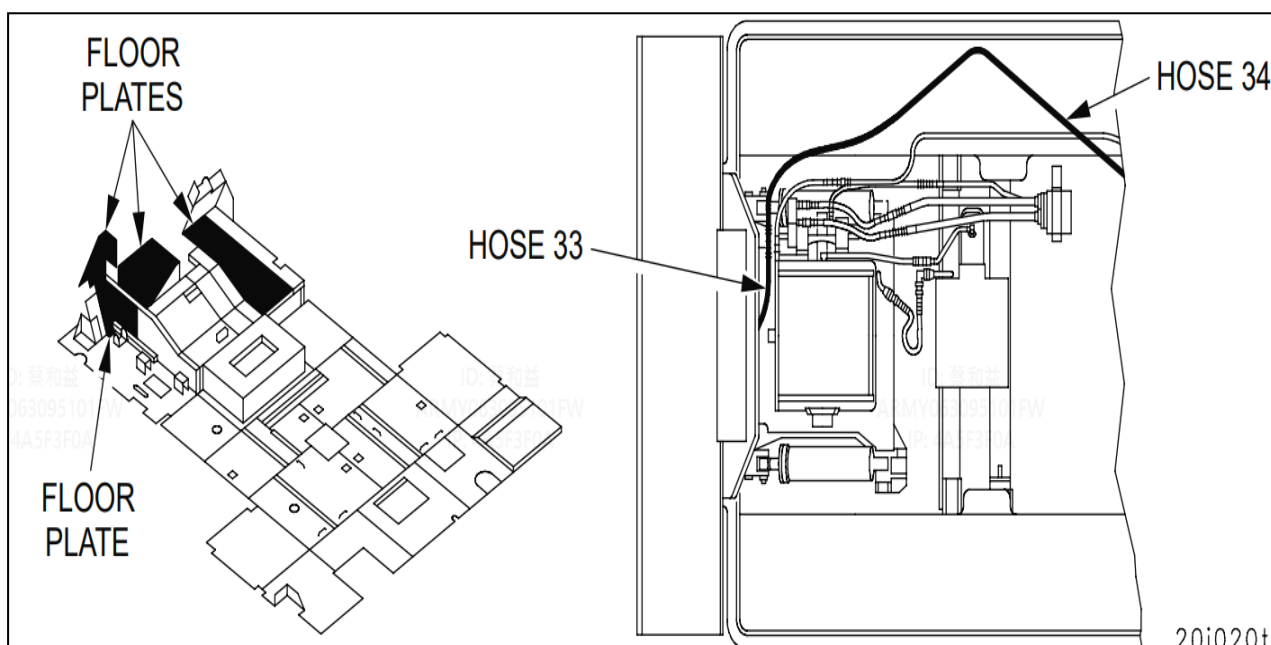
(2)步驟 2.檢查喇叭導向器或校準捲揚器是否有障礙物，並清除之

Step 2. Check for obstructions to trumpet guide or level winder. Remove obstructions.

(3)步驟 3. 移除或打開下甲板(參見-WP 0036 00 or WP 0036 01)，檢查水平捲線器處是否漏油。察看 33 和 34 軟管的快速接頭(校準捲揚器的液壓裝置)是否正確連接，連接快速斷開得緊固接頭，或通知單位維修人員軟管損壞

Step 3. Remove or open (WP 0036 00 or WP 0036 01) floor plates. Check for hydraulic leaks at level winder. Check that quick-disconnect on hose 33 and 34 (hydraulics for level winder) is properly connected. Connect quick-disconnect, tighten connections, or notify unit maintenance if there are any damaged hoses

圖 2-下甲板及位置 33、34 快拆接頭位置



圖片來源：TM9-2350-292-10，P0104 00-2

注意/NOTE

檢查電纜問題包含繞線斷股過多的泥土及碎屑堆積、捲筒及喇叭上的電纜未對準。檢查螺絲蓋是否損壞檢查水平風組件是否損壞，檢查菱形螺釘/水平接風口處肩螺絲或板是否損壞或遺失

Check for cable problems including birdnesting, skipped wraps, kinks, broken strands, excess mud/debris build-up, misalignment between cable on drum and trumpet. Check for damage to level wind drive chain and sprockets. Remove two thumbscrews and raise diamond screw cover. Check for damage to level wind components, check for damaged/missing shoulder bolt or plate at the

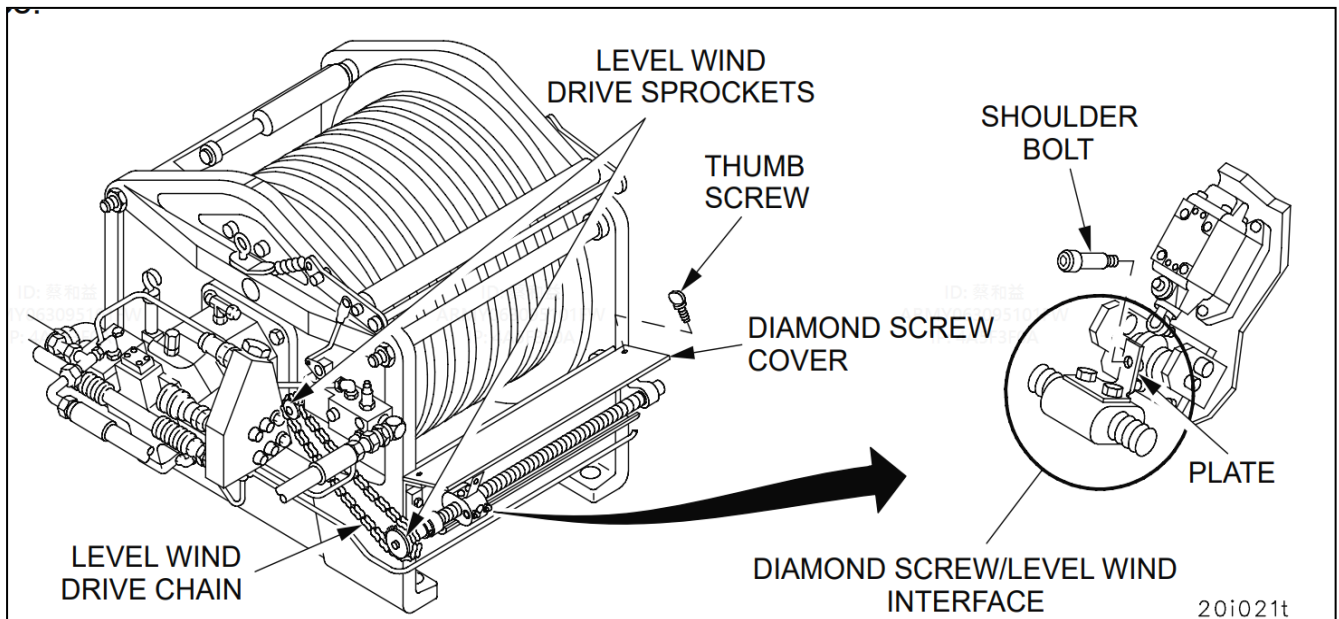


diamond screw/level wind interface.

如果水平捲繞器，電纜，傳動鏈輪損壞或者肩螺絲和板子損壞，請勿操作絞盤。通知單位維修

If there is damage to winch, level winder, cable, drive chain, or sprockets, or if shoulder bolt or plate is missing or damaged, do not operate winch. Notify unit maintenance

圖 3-主絞盤曳遺失或鬆動螺栓位置



圖片來源：TM9-2350-292-10，P0104 00-2

(4)步驟 4.使用絞盤開關及主絞盤操作水平間歇性放線及收起絞盤電纜，以確保絞盤鋼索在收放過程中正確纏繞及展開。使用主絞盤超控開關並保持鋼索張力，小心地展開主絞盤鋼索，剛好經過纏繞的故障位置，並改正捲揚器故障。

Step 4. Use WINCH OVERRIDE switch and main winch operating lever to intermittently pay out and inhaul winch cable to make sure main winch cable is wrapping and unwrapping properly during inhaul and payout. Maintaining cable tension, use WINCH OVERRIDE switch and carefully payout main winch cable just past the point where spooling malfunction occurred. Correct spooling malfunction.

(5)步驟 5. 如果問題仍然存在，通知單位維修

Step 5. If problem still exists, notify unit maintenance.

(二) 延展限制指示燈亮起/PAYOUT LIMIT INDICATOR COMES ON

1. 參考文件-/References

2. 故障排除步驟：

(1) 步驟 1. 檢查主絞盤，看絞盤鋼索是否留有四圈。將絞盤超控開關打開並吸入主絞盤鋼索，直到指示燈熄滅(一至一圈半)，然後再將主絞盤超控扳至關的位置

Step 1. Check main winch to see if four wraps of cable are left on winch drum. Move WINCH OVERRIDE switch to ON and INHAUL main winch cable until indicator goes out (one to one and a half wraps), then release WINCH OVERRIDE switch to OFF position.

(2) 步驟 2. 如果問題仍然存在，通知單位維修(主絞盤吸入但無法展開)

Step 2. If problem still exists, notify unit maintenance (MAIN WINCH INHAULS BUT WILL NOT PAYOUT).

(三) 絞盤輪轂故障指示燈亮起/WINCH DRUM MALFUNCTION INDICATOR COMES ON

1. 參考文件- WP 0036 00、WP 0036 01/References-WP 0036 00、WP 0036 01

2. 故障排除步驟：

(1) 步驟 1. 移開或打開底層隔板(參見-WP 0036 00 or WP 0036 01)，檢查水平捲線器是否有液壓油洩漏。檢查水平捲線器的液壓系統速脫接頭 33 號油管及 34 號油管是否連接正確，旋緊速脫接頭，如有任何油管損壞，通知單位維修人員檢查鋼索問題，包含巢化，鋼索跳繞，扭曲打結，斷股，過多的泥漿/碎屑堆積，捲筒及喇叭上的鋼索未對準，檢查水平風力驅動鍊條及鏈輪是否損壞。拆下兩個指旋螺釘及螺帽，檢查水平組件是否損壞，檢查損壞/遺失肩螺栓或螺帽處的板到水平線接合處。如果絞盤，水平捲線器，鋼索，傳動鍊條或鏈輪損壞，或者肩螺栓及螺帽遺失或損壞，請勿操作主絞盤，並通知單位維修人員

Step 1. Remove or open (WP 0036 00 or WP 0036 01) floor plates. Check for hydraulic leaks at level winder. Check that quick-disconnect on hose 33 and 34 (hydraulics for level winder) is properly connected. Connect quick-disconnect, tighten connections, or notify unit maintenance if there are any damaged hoses. Check for cable problems



including birdnesting, skipped wraps, kinks, broken strands, excess mud/debris buildup, misalignment between cable on drum and trumpet. Check for damage to level wind drive chain and sprockets. Remove two thumbscrews and raise diamond screw cover. Check for damage to level wind components, check damaged/missing shoulder bolt or plate at the diamond screw to level wind interface. If there is damage to winch, level winder, cable, drive chain, or sprockets, or if shoulder bolt or plate is missing or damaged, do not operate winch. Notify unit maintenance.

(2)步驟 2.使用絞盤超載開關及絞盤操作桿進行收放時，須確保主絞盤在收放的過程中正確的纏繞及展開。使用主絞盤超控開關並保持鋼索張力，小心地展開主絞盤鋼索，剛好經過纏繞的故障位置，並改正捲揚器故障。

Step 2. Use WINCH OVERRIDE switch and main winch operating lever to intermittently pay out and inhaul winch cable to make sure main winch cable is wrapping and unwrapping properly during inhaul and payout. Maintaining cable tension, use WINCH OVERRIDE switch and carefully payout main winch cable just past the point where spooling malfunction occurred. Correct spooling malfunction.

(3)步驟 3.如果問題仍然存在，通知單位維修

Step 3. If problem still exists, notify unit maintenance

(四)絞盤正常運作，但絞盤輪轂故障指示燈亮起/WINCH DRUM MALFUNCTION INDICATOR LIGHTS, WINCH IS OPERATING PROPERLY

1.參考文件- WP 0036 00、WP 0036 01/References-WP 0036 00、WP 0036 01

2.故障排除步驟：

(1)步驟 1.拆下操作手座位下及駕駛員座椅後面的底層隔板(參見-WP 0036 00 or WP 0036 01)

Step 1. Remove subfloor plates under mechanic's seat and behind driver's seat (WP 0036 00 or WP 0036 01).

(2)步驟 2.清除微動開關上的所有污垢並將開關重置為滾筒

Step 2. Remove any dirt from winch drum microswitches and reset switch spools to rollers.

(3)步驟 3.如果問題仍然存在，通知單位維修(絞盤滾筒故障指示燈亮起，絞盤正常運作)

Step 3. If problem still exists, notify unit maintenance (WINCH DRUM MALFUNCTION INDICATOR LIGHTS, WINCH IS OPERATING PROPERLY)

(五)絞盤正常運作，但絞盤延展限制指示燈亮起/WINCH PAYOUT LIMIT INDICATOR LIGHTS, WINCH IS OPERATING PROPERLY

1.參考文件-WP 0036 00、WP 0036 01/References-WP 0036 00、WP 0036 01

2.故障排除步驟：

(1)步驟 1.拆下操作手座位下的底層隔板(參見-WP 0036 00 or WP 0036 01)

Step 1. Remove subfloor plate under mechanic's seat (WP 0036 00 or WP 0036 01).

(2)步驟 2.清除展開微動開關上的所有污垢並將開關重置為滾筒

Step 2. Remove any dirt from payout microswitch and reset switch spool to roller.

(3)步驟 3.如果問題仍然存在，通知單位維修(絞盤展開指示燈亮起，絞盤正常運作)

Step 3. If problem still exists, notify unit maintenance (WINCH PAYOUT LIMIT INDICATOR LIGHTS, WINCH IS OPERATING PROPERLY)

參、結語

隨著新式裝備M1A2即將服役，舊式裝備M88A1救濟車的性能也將無法跟隨支援救濟。在此翻譯M88A2救濟車簡易故障排除，使成員不管在行駛前、中、後有發現問題時，均能實施簡單的故障排除，使得後勤保修能量可以更快速的更有效率地提供前線作戰的需求及減少裝備更嚴重的損壞。也希望藉由此篇譯文能讓乘員更加了解基本的處置裝況，期能達到後勤的「保養重於保修、保修重於購置」的基本原則。



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