

# Kit!



WHAT'S THAT?



## TERRIER THAT'S NEW

pages 16,17



## ENGINEER'S CORNER THE PRINCIPAL ENGINEER FOR LAND EQUIPMENT

Duty Holder &  
Non-ALARP Kit  
pages 28,29

Loads that will be of interest in this edition, including a new section from the Principal Engineer, which we hope will become a regular feature. We could use your help on page 9 - an expensive failure and on page 21, well any suggestions would be more than welcome.

The KiT Binders are available again! but still no suggestions page, but please keep sending them in - they're invaluable.

All queries regarding Distribution, Back Copies etc. The contact is opposite.

Please note the change of email address.

As usual, if you have something that may be of interest to the wide tri-service readership then please get in touch.

You can call on the work mobile

or

You can email too on MOD network to

The external address is

Postal address is:

DE&S LE KIT,  
Elm 0, #4001, Abbey Wood, Bristol. BS34 8JH

**Distribution** If you wish to be added to the KiT! distribution list or wish to amend the quantities that you already receive, contact **Bicester on**

**Recent copies** of KiT! can only be obtained from Bicester, request by Issue number. All issues of KiT! may be accessed through the Defence Intranet.

**Poster reproductions** (A3, A2 & A1) - Contact CDS (Corporate Document Services Ltd) on

**KiT! binders** they are now available on the Banner Stationery Contract, order using P2P.

**Product Code:** 0202 600

**Title:** Kit Binder for filing KiT Magazine - Binder

**KiT! magazine** is unclassified and should be distributed to reach the widest possible readership. KiT! may be accessed on the Defence Intranet by running a search on 'kit magazine'. Follow the link, all issues are available grouped by years. It is also available on army.net. (AKX & CESO)

**KiT! magazine** is published quarterly on behalf of D Land Equipment. There are no restrictions for the reproduction of articles for Service use; however, if articles are incorporated into other publications, copies of each should be forwarded to the KiT! Editor.

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**Pennant**

Technical information in this magazine is for guidance only. Always refer to the relevant AESP, EMER or other authoritative technical document when working on equipment.



Made from 100% recycled material

# ROAD SAFETY

## IS NOT JUST FOR DRIVERS



ROAD SAFETY

CONTRIBUTED BY:

Road Safety

Did you know that in 2011 as many service personnel were killed whilst walking or running, than those killed whilst riding motorcycles?

- All of these 6 fatalities occurred between 2100 hours and 0630 hours, which highlights the increased risk for pedestrians in the dark and the need for light or hi-vis clothing; DPM and MTP in particular, is nearly invisible in dark conditions.
- 3 of the 6 fatalities were service personnel struck by taxis and not wholly unexpectedly 4 occurred on either a Saturday or Sunday.





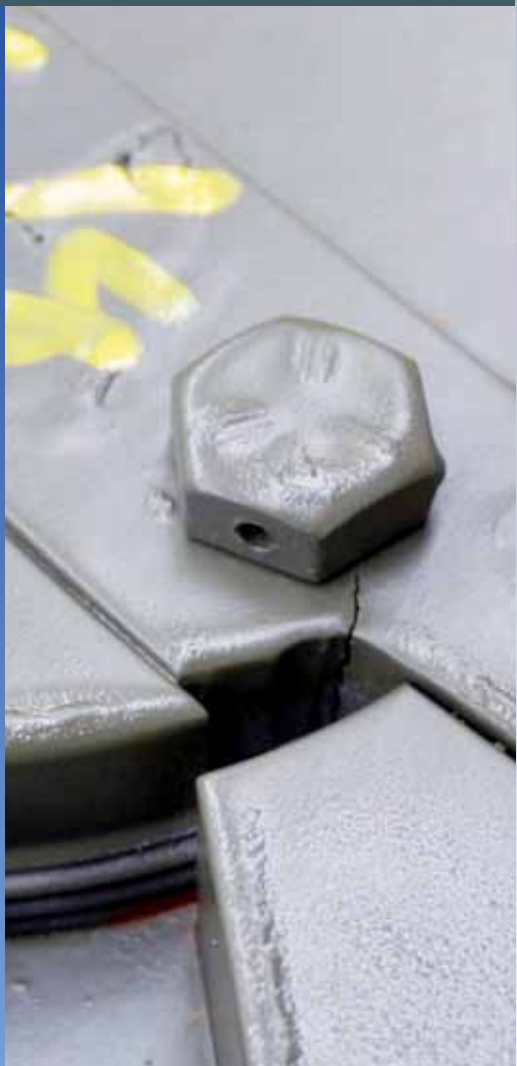
### Final Drive Hub Nut Lock Plate

Prevents the hub nut from working loose whilst the vehicle is moving. This lock plate (picture) is cracked through to the securing hole and was discovered during receipt inspection of a repaired final drive.

Failure of the lock plate would allow the hub nut to work loose, causing damage to the final drive output shaft and possibly complete loss of the sprocket carrier and track.

Safety of unit personnel and the general public depend upon inspections being carried out thoroughly and in accordance with the relevant AESPs.

All equipment is subject to inspection, **even new equipment.**



### Road Wheel Hub Cap Studs



The NSN for the studs is: **5307-99-120-3188.**  
The AESP will be amended.

### Shock Absorber Pins

The threads of the pins that secure the shock absorber to the axle arms should be prevented from loosening with Loctite 270 and tightened to 50 Nm.

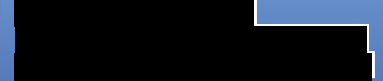
Any tendency for the pins to work loose should be reported on an EFR.



### CONTACT INFORMATION

CTG Platforms. Bulldog Team  
DE&S, Spruce 0A, Abbey Wood, Bristol. BS34 8JH

BULLDOG 'FV430' Bulldog WO



BULLDOG 'FV430' Programme Manager (SESM)





# C Vehicles



## Ancillary equipment

Ancillary equipment is to be maintained to the same standard as other main equipments.

This includes fault reporting during use and cleaning when returning to ALC.

The life and availability of the ancillary is greatly reduced if not maintained effectively.

The following is a sample of EFRs received in the last 6 months.

Location	Total EFRs
(MOD) Afghanistan	1
BATUS	0
South east England	0
South Wales	2
(MOD) United Kingdom	1

## Use of AESP

If a knowledge gap exists please make use of AESPs associated with the relevant equipment before approaching the helpdesk or CMC.

If it appears there is an error with any publications please raise a Form 10.

## EFR

All C vehicle PFI equipment is subject to 100% Equipment Failure Reporting.

Since the PFI was created there have been very few military EFRs produced.

**"IF IN DOUBT REPORT IT" -**  
See KIT 80 for EFR guide template

## RTCH

The Rough Terrain Container Handler is transferring into the C-Vehicle Fleet.

RTCH in Afghanistan and Falklands are now to be treated as C-Vehicles, users should follow JSP 818 instructions (including raising job cards!).

RTCH in UK and Germany will transfer later this year.

## Contacts

- C-Vehicle Helpdesk: [REDACTED]
- CMC Manager - [REDACTED]
- CMC Service - [REDACTED]
- CMC Demand - [REDACTED]



# PROJECT PHOENIX WHITE FLEET



## MONEY SAVING MOTORING

Project Phoenix has successfully replaced the White Fleet (UKWF) PFI contract. It is continuing to make improvements to the MOD's Car Booking System, bringing savings to the Department. There are also steps that MOD staff can take to reduce costs.

## REFUELLING COSTS

Ensure the vehicle is refuelled before you return it - identify a suitable garage close to your destination and ensure that you have enough time to re-fuel.

If the vehicle is returned with less than a full tank of fuel an additional 20p per litre (or £1.28 per litre for larger vehicles) will be charged on top of the actual pump price.

## DELIVERY COSTS

Arrange for the vehicle to be delivered to and collected from your MOD work address to reduce delivery/collection charges.

The delivery or collection of a vehicle to or from a home address or non MOD site within the normal working hours of Mon to Fri 0800 to 1800 hrs, or 0900 to 1300 Saturday will incur an additional charge of £7.50 - £8.00 each day.

## CANCELLATION COSTS

If you have to cancel your vehicle, give as much notice as possible, with a minimum of 2 working hour's notice before the hire start time.

Late cancellation of vehicle hire will incur charges equivalent to one day's hire, which can be £20 - £90.

## OUT OF HOURS COSTS

If you have an early start for your journey, arrange for the vehicle to be delivered the day before (up to 1800 hrs) and if you have a late return the vehicle can be collected the next day (from 0800 hrs).

Remember that the hire car charges are based on a 24 hour period.

The delivery or collection of a vehicle outside the normal working hours of Mon to Fri between 1801 and 0759 hrs, all day weekends and Public Holidays will incur an additional charge of £5 - £16 each day.

## PENALTY COSTS

Penalty and fine processing charges range from £20 - £30, depending on the vehicle.

This processing charge can be recovered from drivers if they have committed a driving infringement.

Be aware of the speed limits applicable to the road and particularly to the type of vehicle you are driving.

## LOSS OF KEYS

Loss of the vehicle keys will incur a £150 charge.

## PREMIUM LOCATION COSTS

Consider whether a Taxi to venues like airports would be more cost effective than one-way hire. Vehicle hire commencing or ending at an airport or other Premium Location will incur a surcharge of 15% of the total hire costs.

For more information regarding Project Phoenix please see the following Phoenix/Babcock website: [REDACTED]

CONTRIBUTED BY: GSG, C-Vehicle PFI, DE&S Abbey Wood.

CONTRIBUTED BY:

CONTRIBUTED BY:

Project Phoenix, DE&S, Abbey Wood.



# CRARRV Chronicles

## 5A Engine - There's more

The CRARRV 5A engine is being withdrawn from service and is being replaced with the CR2 6A engine. This increases commonality between the platforms and reduces the overhaul burden.

Mod instruction 132 details the parts necessary to convert CRARRRV to accept the CR2 engine; units requiring a new CRARRV pack should check with their supporting workshop to ascertain whether the replacement pack is fitted with a 5A or 6A engine.

The NSN for the CRARRV pack fitted with the 6A engine is 4CR2A 2815-99-517-1852.

The OHM sample, taken on fitting of the new pack should state that a 6A engine is fitted.

The EFR for the failed assembly should also state that the replacement pack has a 6A engine fitted.

## Main Winch failure

This winch was fitted to a CRARRV at 10 Trg Bn (Bordon). The storage drum drive gearing had suffered from a catastrophic failure - it would not have been visible with the winch fitted.

The capstans and storage drum operate in unison by hydraulic linkage, the winch capstans cannot apply a load sufficient to cause this damage; when winching out the storage drum motor acts as a brake until the PRV opens at 70 bar to maintain a tail tension on the rope.

## Weld Contactor Unit

The weld contactor unit allows the output from the GUE generator to be switched between normal battery charging and vehicle operation and track gouging and cutting.

The WCU relays are controlled by the WELD switch on the DIP, the relays tend to remain in the normal operation position for long periods of time and are reluctant to move - **operation of the WELD switch can cause a serviceable WCU to fail.**

The introduction of the BROCO kit to the CRARRV CES has made the built in track gouging facility redundant.

The WELD switch on the DIP should remain in the normal position to prevent WCU failures.

The built in facility will be removed when the vehicle is next overhauled.

The WELD switch also prevents the main engine from starting, to protect the VICS from possible high current and voltage spikes that may be experienced when cutting and gouging.

When winching in, the storage drum motor rotates the drum faster than the capstans so that the rope is pulled onto the drum.

It is possible that the vehicle was being reversed away from a casualty while in freespool and a gear was inadvertently selected before the vehicle had been brought to a halt. The interlocks should have prevented a gear selection but there may have been secondary faults on the winch...



**This is an unusual failure that will be very expensive to repair - we need to understand the circumstances that caused it - does anyone know what happened?**





## Turrets & Weapons

### Oxley Reader



The Oxley Elapsed Time Indicator (ETI) Reader is used to read the ETI's on the Challenger 2. Historically the Reader could only be demanded as a complete unit. It has now been broken down into the following component parts.

**Oxley Reader Set Complete**  
6645-99-768-3330

The photographs below show what is supplied. There are now individual part numbers for the components inside the case.

**Note:** the Battery fitted in the case is a 'lifer' item (and as in this case the battery can be past its use by date).

#### Dual 'Y' interrogation cable

6150-99-463-7400

This connects the ETI Reader and the Electronic Connector Module.



#### ETI Reader Display Unit

6625-99-565-9924



### PBIR Beacon (Pegasus) Cases

Replacement PBIR (Personal Beacon Infrared) Cases are available from stores.

If the beacon case gets broken or damaged, Don't order a whole replacement PBIR kit **demand the case.**

The NSN for PBIR Case (Personal Beacon IR Clip Mount) is **NSN 5340-01-598-4800**



### Examination of Ordnance

All Units currently holding the Rarden cannon and the Challenger 2 MBT are to ensure that all Examination of Ordnance are forwarded to the Project Team (PT) detailed below.

As well as the Examination of Ordnance, units are requested to also send copies of all records of rounds fired sheets for both Barrels and components. Forwarding of documentation in this way allows the PT to maintain a database of ordnance history. This is in accordance with AESP 0200-A-600-013 Chapter 2-1 Paragraphs 13 and 31. I realise some units are doing this already, so thanks to you guys.

Through this database we can track the usage of the weapon system and offer advice and information should gun docs be damaged, go missing or should incidents occur.

Currently the PT addresses in the AESP are incorrect. This will be updated in due course. In the mean time please address correspondence as follows:

#### Project Manager: Rarden Cannon

Turrets & Weapons  
Systems Team  
Abbey Wood  
NH1, Spruce 1a  
#1122

#### Project Manager: L30

Turrets & Weapons  
Systems Team  
Abbey Wood  
NH1, Spruce 1a  
#1122

**(Note for those that are already forwarding documents, we have moved!)**

### Top Level Assembly Demands

Frequently, demands are being made to replace complete assemblies, rather than sub components in order to repair these assemblies. This has been noticed in particular, with the Round Rammer assembly from the Rarden Cannon, but is known to happen with other systems.

In some cases, only the top-level assemblies are available, but in others, sub assemblies and components are waiting on the shelves while the more expensive top-level assemblies are used.

In order to relieve the strain and costs of meeting the demand for full assemblies can users please demand sub components and assemblies where ever possible before looking towards the higher level stock.





# WARRIOR



# WARNINGS



## DOUBLE TOP ROLLER ASSEMBLY

The centre double top roller assembly 2590-99-839-7063 is supplied complete with the top roller wheels fitted.

**There is currently nil stock of the wheels and critical demands are being satisfied with the assembly.** The wheels have two holes drilled to allow the mounting bolts to

be tightened to 380 Nm (280 lbf ft), the holes in the inner and outer wheels should be in line.

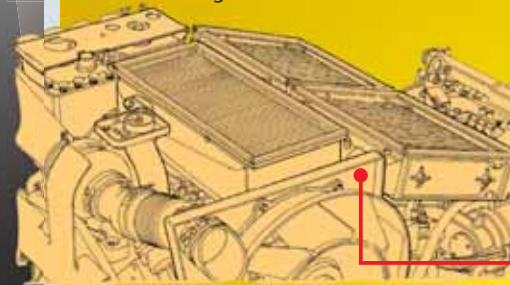
Units may have received assemblies where the holes are misaligned (see picture) due to the wheels being machined incorrectly. This prevents the mounting bolts from being tightened to the correct torque.

**An EFR should be raised and the assembly quarantined pending a return to DSDA and rectification by the supplier.**

Units are advised to check that the centre nut is tightened to 1000 Nm on any new assemblies after they have been fitted to a vehicle.

## POWER PACK SERIAL NUMBERS

The OPR companies who carry out, power pack regeneration are unable to despatch repaired packs because there are duplicate power pack serial numbers recorded on JAMES. Power pack serial numbers have been entered in various formats and do not appear to have been kept up to date, as packs have been exchanged.



The serial number plate can be accessed by lifting the exhaust outlet louvre so that the RH top corner of the fan plate can be seen.

**Pack serial numbers have been recorded incorrectly in the following formats:**

- The correct PP number but with a gap between the letters and numbers, for example PW 0499 instead of PW0499, or a hyphen between the letters and numbers, for example PW-2598
- The correct PP format but with '0's dropped, for example PW323
- ABRO or DSG and then a number, for example ABRO45; this is possibly because the PP serial number plate is missing and a local serial number has been created
- Original parent equipment VRN
- The digits of the serial number, for example 639
- A completely random number - 123456789 is recorded on JAMES!
- A mix of the above.

Location of Power pack serial no.

## FRACTURED REAR DOOR HINGE

SEFIT 12-120-SEF

...CONTINUED

There is a safety concern on all variants of Warrior with the one-piece rear door concerning fracture to the rear door lower hinge - see picture below. The crack has extended completely through the fabric of the door and is visible on the inside.

The damage was likely to have been caused by the additional stresses placed on the door hinges during manoeuvring of the vehicle with the rear door open. It is also possible that continued operation of the rear door actuator when the door is obstructed or if the micro-switches are not correctly adjusted will contribute to the failure.



Lower door hinge external



Lower door hinge inner surface

The door hinges must also be lubricated IAW the relevant 601 to ensure that the door opens and closes smoothly.

This is not an isolated incident, other Warrior vehicles were examined and found to have similar problems. A level 2 repair scheme will be issued to units detailing weld repair procedures.

All personnel are to ensure that the rear door is shut whilst manoeuvring - AESP 2350-T-201-201 states that the vehicle rear door must be properly secured before the vehicle is moved.

All units holding Warrior are requested to physically check the power pack serial numbers and amend the JAMES record for the vehicle so that the serial number is in the format:

**PWxxxx where xxxx is a four-digit number, eg:**

- PW0023
- PW0156
- PW1052

**Units are to request a PP serial number from CTG if there is no serial number recorded or there is a non-compliant serial number.**

CTG will maintain a register to ensure that there is no duplication.

# WARRIOR



## WARNINGS

### BRAKE ADJUSTMENT



1. Adjust the transmission brake plate clearance in accordance with AESP 2350-T-200-522 Chapter 1-7, paragraphs 14 - 21 (Adjustment method 2).

**Note that the minimum clearance in each brake pack is 4.19 - 4.32 mm (0.165 - 0.170 in).** The clearance will have to be measured using standard feeler gauges or a locally manufactured tool similar to the standard acceptance gauge (which is 3.2 mm thick).

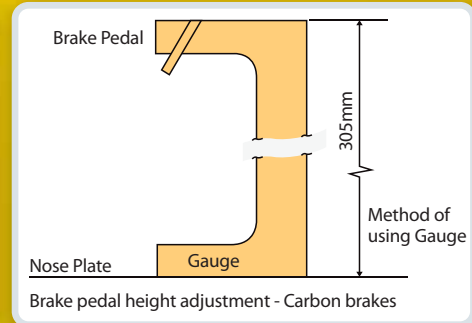
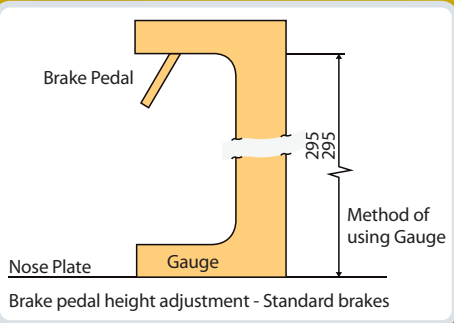
2. Adjust the foot (service) brake linkage in accordance with AESP 2350-T-200-522 Chapter 3 paragraph 72.

**Note that the foot brake pedal height, which is adjusted to 295 mm for standard brakes, must be set to 305 mm when a carbon brake pack is fitted.**

This is achieved by using the setting gauge 4910-99-532-4488 (FV2110324) positioned on the nose plate and adjacent to the brake pedal - see below.

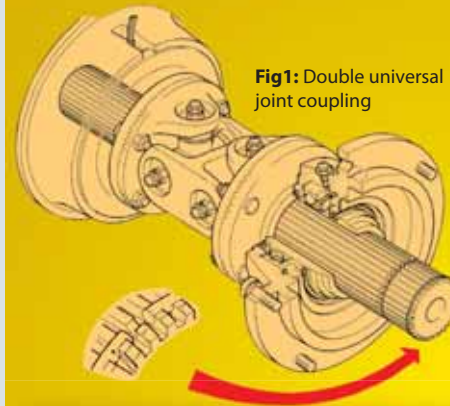
The clearance is greater between the carbon brake plates and the original brake plates - **This can cause the foot brake pedal to bottom out - before the brakes are fully applied.**

The following procedure should be carried out on all Warriors fitted with carbon brake packs to ensure that there is sufficient clearance to allow the brakes to be fully applied.



### LH DRIVE SHAFTS

The old pattern double universal joint coupling 2520-99-490-3865 must not be used with transmissions fitted with carbon brakes. All Warriors should have been converted to the new pattern Left Hand Drive Shaft (LHDS). **All unit and secondary depot holdings of the double universal joint coupling are to be returned to Donnington.**



There is an obvious misalignment between the transmission output flange and the final drive input flange on this vehicle. SEFIT must be informed if difficulty is experienced in fitting the LHDS - **do not be tempted to fit the shaft as overheating and possible catastrophic failure may occur.** The misalignment between final drive and transmission cannot be corrected at unit level as both the pack and final drive are bolted rigidly to the hull. **In cases of misalignment Units are to initially ensure that:**

- The pack is correctly located and secured in the hull and that the RH trunnion alignment ring is fitted correctly
- The final drive input bearing is serviceable
- The bulkhead bearing through which the transmission output shaft runs is serviceable
- The transmission output shaft snap ring is correctly located in the groove - **see detail in Fig 1** and that the output shaft is pushed fully into the transmission so that the snap ring prevents the shaft from inadvertent disengagement.



This LHDS has overheated – the characteristic blue colour indicates that the temperature has risen to around 300° C. This overheating has been caused by a misalignment of the final drive input flange with the transmission output flange causing the LHDS to run eccentrically. The LHDS is designed to tolerate a maximum of 1.5° misalignment. The overheating will not occur if the vehicle travels short distances as the heat gradually builds up due to the sliding friction between the LHDS internal gear teeth. **Any LHDS that exhibit this colour change must be reported to SEFIT immediately and the vehicle quarantined.**

Difficulty in withdrawing or replacing the drive shaft assembly, either prior to towing the vehicle or before a pack lift - **indicates that the alignment is incorrect and should be investigated.**

The modified LHDS is fitted with Viton O rings, Viton is a fluoroelastomer - at high temperatures or in a fire, fluoroelastomers decompose, and may release hydrogen fluoride. Upon contact with moisture, including tissue (skin), hydrogen fluoride immediately converts to hydrofluoric acid, which is highly corrosive and toxic, and requires immediate medical attention upon exposure. **Any residue from burnt or charred O rings must be handled using protective equipment.**



# TERRIER TINTIN ABULATIONS



GOOD HOLE AND QUICK TOO!

WOW, WHATS THAT?

DON'T KNOW, BUT IT LOOKS VERY BUSY

IT LOOKS A BIT LIKE THE CET - BUT SHINIER!

AT PRESENT TERRIER IS STILL GOING THROUGH FORMAL ACCEPTANCE TRIALS.

IT'S A TERRIER AND LOTS MORE OF THEM ARE COMING SOON!



# REBS RAPIDLY EMPLACED BRIDGING SYSTEM

**THERE HAVE BEEN THREE SERIOUS IN THEATRE EQUIPMENT FAILURES INVOLVING THE RAPIDLY EMPLACED BRIDGING SYSTEM**

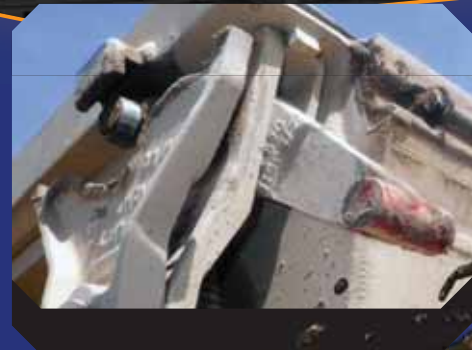
**Users are reminded of the following key points:**

- 1. REBS should be operated by two suitably trained personnel (commander and assistant) at all times.
- 2. Maintenance should be performed in accordance with AESP 5420-K-100-522- Maintenance Instructions. REBS is a complex engineering bridging system and with correct maintenance future failures can be prevented.

- 3. All maintenance activity performed should be accurately recorded within the equipment documents.
- 4. Sand, dust and grit contaminated grease should be removed and those areas re-greased with new grease before operation.
- 5. Pre-launch checks of equipment should be performed in accordance with AESP 5420-K-100-201 prior to operation of the equipment.
- 6. Safety zones outlined in AESP 5420-K-100-201 should be adhered to at all times to prevent personal injury.



# REBS RAPIDLY EMPLACED BRIDGING SYSTEM





# challenger chat

## Misaligned Track

Any lateral misalignment of the track links, experienced when replacing the track on the vehicle, can be corrected by inserting the track guide bar 4910-99-968-1505, which forms part of the vehicle CES, into the track pin and gently tapping the guide bar to align the top hat indents.

The track pins and top hat will be damaged if the end connector is fitted without correcting the misalignment and an attempt made to align the links by forcing the top hat into the end connector.

The use of the guide bar to align the links is being added to the CR2, CRARRV and T2 AESPs.



Misaligned track

## Road Wheel Stud

The road wheel studs are fitted to the hubs and used to secure the road wheels. The road wheel nuts are tightened to 700 Nm - the action of tightening the nuts pulls the stud securely into the hub; a flat on the head of the stud prevents it from rotating. There have been a number of stud failures, attributed to a suspect batch of studs. The studs were stretching before the nuts were tightened to 700 Nm.

The correct studs are shown in the pictures - these are the only studs that should be used. All previous batches and any studs with no identifying marks held in unit lines should be scrapped.

There is no requirement to replace the studs already fitted to vehicles.

Units are reminded that the studs should be checked for serviceability when a road wheel is replaced - any that have damaged threads or are loose in the hubs should be renewed.



## Sprockets

4CR2AV 3020-99-357-8800 is the NSN for a Sprocket Kit comprising of Qty 44 of the sprocket bolts and Qty 4 of the sprockets:

5305-99-577-1913 (Qty 44)

3020-99-608-9885 (Qty 4)

This is the sprocket fitted to CR2, CRARRV and T2.

## help Unidentified Parts



Can anyone identify this component - it is roughly 30 cm in height, has a mass of 27kg and is made from steel.

DSDC Longtown has a large quantity that needs to be disposed of but the component has no identifying marks and there is no paperwork.

Any ideas to Combat Track Group on



### PIHP

- PIHP is being withdrawn from service at the end of Herrick 18.
- Core solution currently under evaluation and due to come into service Herrick 21, Delivered by ICG DSS delivery team not BATCIS DT
- Interim solution between H18 and H21 is Combat Arms Ear Plugs (CAEP). Issued in 'Black bag' to all deployees.
- Army Briefing Note (ABN) 39/11 provides further guidance and instruction.

KIT!BITZ

## General Purpose Power Equipment Demand Form

### Introduction to Service of MOD Form 2268

A Contractor Logistic Support (CLS) arrangement has been established between the MOD and Rolls-Royce Distributed Generation Systems (RRDGS), for the management of all General Purpose Power generation and distribution equipment. The first part of the inventory to be passed across to RRDGS is the Field Electrical Power Distribution System (FEPDS). There is a new Mod Form that allows the user to request loans of this equipment.

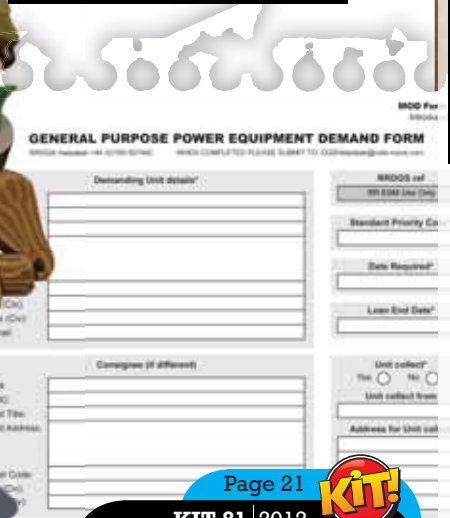
All other equipment to go live on this form by end 2012.

MOD Form 2268 is an interactive electronic publication that is accessed online via the electronic library and will also be available in hard copy as part of the AESP.

All completed forms to be sent to RRDGS via email in the first instance

or faxed to

Contributed by: GSG DI Power,





## Big Springs

Thanks to all of you who told us about the problems with the big springs on the turret hatches and the barrel clamp. Modified springs will be fitted soon which will make your life a little bit easier and safer, plus save us all some money!

EFRs are important and really help us to make a difference, so please keep sending them in, not just on the compulsory list in Cat 111 Annex A, but also on anything that you think we could improve or has an unusual or dangerous fault we should know about.

The Project Team is here to help but we can't fix problems that we do not know about. **And we can't get budget approval without some evidence to back it up!**

## Recoil System

Reliability of recoil system parts is decreasing, in particular the Recoil Buffers, Recuperator and Balance System Cylinder Assy.

We want to know why, so these items are being added to the compulsory EFR list in Cat 111 Ch 1 Annex A.

**Tell us what broke, how it broke, why you think it broke, anything else that might help stop them breaking in future!**

At present EFRs are only submitted for 20% of failed parts on that list. Please have a look at the list and see what we need reports on - we do monitor it and have deleted lots of items that we don't need reports on - **So you are not wasting your time!**

## Serial Numbers

Last time we told you of the huge increase in APU repair costs. We've been working hard to offset this and have made huge savings by selecting APUs for repair or scrap (we have surplus stock) based on serial numbers and EFRs.

This is made really difficult when the EFR or JAMES Component Report has no serial number! We know some really good APUs exist that could be really cheaply repaired, also some really bad ones that will cost a fortune and should be scrapped immediately - but we don't know which ones they are! The same goes for other repairable items.

Please make the effort to put the serial number of any item on the EFR and include it in the text of a CR - it could save up to £25,000 in the case of an engine or transmission!



**"When reporting an APU ensure you use the correct serial number as shown - NOT the APU engine serial number!"**

## Amazing Suspension News - New Kit Available!

As well as complete assemblies, Suspension Units are available without Hubs for RH or LH fitment. Hubs are also available - they fit on either side.

Not only that - it's all brand new!

So, next time you have suspension problems and it is only the suspension or hub that is damaged why not treat your gun to lovely shiny brand new part! The numbers are all in the Cat 711 but it will be updated shortly to make these parts a bit more obvious!

Item	NSN
Suspension Assy LH	2590-99-300-2696
Suspension Assy RH	2590-99-810-0091
Suspension Unit LH	2510-99-523-7794
Suspension Unit RH	2510-99-151-1913
Road wheel Hub c/w Bearings	2530-99-192-8042



**JOLLY WELL DONE!  
TOP NSRs!**




# B VEHICLE BIT 'Z

## Oshkosh


### Alfons Haar Refuelling Equipment

**Your chance to save a Shed load -**  
Oshkosh will overhaul returned items that become unserviceable (including those with missing parts) but on certain equipment will insist that it is supplied 'complete' on return to you. This causes a large amount of additional expense,

which can be avoided - especially when some of the 'missing' items are sat in units.  
Equipment returned for repair should include all items as indicated in the following pictures.  
**Any queries please contact DSG on**



**Trigger nozzle assembly  
Hose Assy Non-Metallic with 5.7m hose**  
NSN 4720-12-364-8722 (Price - £6646.39)  
**Note:** This will only be returned as one piece for repair




**Trigger nozzle assembly  
Hose Assy Non-Metallic with 15.1 m hose**  
NSN 4930-12-386-1204 (Price - £5360.42)  
**Note:** This will only be returned as one piece for repair



**Hose unit 3" with UDL (Complete)  
Coupling Assy Quick Disconnect**  
NSN 4730-12-364-8728 (Price - £3736.27)  
**UDL (Coupling Half)**  
NSN 4730-12-368-7674 (Price - £1136.91)  
**Hose unit 3"**  
NSN 4720-99-840-8087 (Price - £1916.51)




**HEPCV / Unisex dry  
HUMY with 2" UDL (Complete)**  
NSN 4730-12-364-8724 (Price - £7694.85)  
**Hose End Pressure Coupling TAR 40deg**  
NSN 4730-99-133-3865 (Price - £6618.60)  
**UDL (Coupling Half)**  
NSN 4730-12-368-7677 (Price - £936.61)



**Hose unit ISO45 / Unisex 2"  
Coupling Quick Disconnect (Complete)**  
NSN 4730-12-364-8727 (Price - £5456.69)  
**Hose Unit**  
NSN 4720-99-397-4507 (Price - £2786.37)  
**UDL (Coupling Half)**  
NSN 4730-12-368-7674 (Price - £1136.91)  
**Note:** This will only be returned as one piece for repair



**3 way Splitting Box  
Y Quick Disconnect**  
NSN 4730-12-364-8723 (Price - £6137.15)  
**UDL (Coupling Half)**  
NSN 4730-12-363-6634 (Price - £1007.73)



**Tank unit 3" / 3" AG**  
NSN 4730-12-364-8730 (Price - £1169)




**Tank unit 3" / Tank unit 3**  
NSN 4730-12-364-8726 (Price - £2933.46)  
**Tank unit 3**  
NSN 4730-12-363-9652 (Price - £710.67)


# B VEHICLE BIT 'Z

## Oshkosh


### Alfons Haar Refuelling Equipment



**Fuel hose 2x3" (5m)**  
NSN 4720-12-364-8725 (Price - £5355.72)  
**Hose Unit 3"**  
NSN 4720-99-840-8087 (Price - £1916.51)



**Hose unit 2 1/2" / Tank unit 3"**  
NSN 4730-12-364-8729 (Price - £3359.31)  
**Hose unit 2 1/2"**  
NSN 4720-12-371-6203 (Price - not known)  
**Tank Unit 3"**  
NSN None (Price - not known)



**Collapsible hose (15,25m) incl. Unisex  
dry coupling 2"**  
**Coupling Collapsible Hose**  
NSN 4720-12-364-9355 (Price - £3427.47)  
**UDL (Coupling Half)**  
NSN 4730-12-363-6634 (Price - £1007.73)



**Hot refuelling nozzle with unisex  
dry coupling 2"**  
**Nozzle Assy Hot Refuelling**  
NSN 4930-12-365-0724 (Price - £4892.32)  
**UDL (Coupling Half) Coupling Dry Lock**  
NSN 4730-12-371-6031 (Price - £744.26)





# Bowman

## Back-loading of BCIP Repairable Items

Units are reminded that any BCIP item deemed as repairable and where subject to back-loading to Level 4 repair (GDUK) when unserviceable, should have the Blue copy of the Incident Report (IR) (MoD F683), the associated Supply Issue Voucher (AFG8883M) and where called for, a completed E-Purge Certificate contained with the BLR item.

**There are an unacceptable high number of repairable parts received in Bicester without the correct documentation when returned for repair.**

Missing hard copy IRs increase repair time, as GDUK cannot direct their attentions to the correct area immediately and are forced to raise a substitute IR so that the item can proceed into the repair loop. In addition, Units should be aware that under some circumstances i.e. for non-operational Units, the serviceable replacement will NOT be released until GDUK can confirm to which Unit demand the missing IR is cross referenced to.

## UDT Feet

The UDT feet can now be repaired at unit level. BRD 2012.045 contains more information regarding the new maintenance policy for the BUDT and VUDT equipment.

## BUDT CD/DVD ROM

BUDTs have been returned for repair with the CD/DVD-ROM drive missing. BRD 2012.048 reminds all units that the CD/DVD-ROM drive is to be left in a BUDT when returning the BUDT for repair.

The BRD also provides guidance on how to remove a CD/DVD that may be stuck in the drive.

## Incident Reporting - IRs... Why & When?

An effective IR procedure is key for the future development and improvement of all BCIP related products; but not all kit requires them!! Kit that requires an IR can be referenced by NSN and Equip Name.

The latest policy on IR reportable items can be found in:

**BUCK Portal; L1; Support Tab; Support Policy; IR Reporting Policy**

*Note:* These are live documents and will be updated regularly. **Make sure you stay up to date!!**

## Examples of poor Incident Reporting

We have seen a rise in R&O rates of the Auto Antenna Coupler (AAC) 5959-01-502-9782.

From the total of the items sent in:

- Around half did not have any IR paperwork. Lack of IR paperwork slows down the turn around time of an item due to the OEM not having the detailed and specific information of what happened with the item in question when it failed
- A small number had the description of "Coupler not recognised by radio" which is an un-official error message and therefore it is difficult to effectively diagnose the fault.

**The level of IR detail is key to effectively repair faulty LRUs/SRUs.**

## JAMES

Please be aware that JAMES is now live in the Bowman warehouse in B2 Bicester. Could all units ensure that all JAMES accounted for Bowman equipment is despatched and receipted in and out of JAMES.

## Clansman

Calling all units .....

Calling all units who hold Clansman Radios

Please follow BRD 2012.055 (found on the BUCK) 3 easy steps to rid yourselves of that legacy Comms kit that has been gathering dust since BOWMAN was introduced.

- Step 1: Follow BRD 2012.055
- Step 2: Read Clansman Disposal Instructions
- Step 3: Contact Clansman Asset Team -

Done - Job's a good 'un!

## Removal of Batteries from Unserviceable Equipment on Back-loading

There is a high quantity of Batteries being returned to stores in equipment. All batteries must be removed from PRR/EZPRR before returning to stores. Failure to remove the batteries will result in the items being returned to the Unit for them to be removed.

**The address for all your Bowman returns is:**

Building B2, B Site, Arncott, Bicester, Oxfordshire OX25 1PP, United Kingdom

Please remember that your Bowman equipment will only be receipted onto JAMES by B2 Bicester once it has been physically received by the warehouse.

There have also been instances of Units contacting the warehouse to ask 'what GD is issuing equipment to them for!' The warehouse is only issuing what you have demanded, so please speak to your Bowman/QMs stores personnel if you are in any doubt.

If you have any queries about your BOWMAN equipment JAMES transactions please email: **DemandsInbox@generaldynamics.uk.com**

Or contact the Supply Support Team GDUK on: **01495 237094**

## EZPRR- Incorrect Fitment of Gooseneck Antenna

Recent EFRs regarding both antenna and socket failures have highlighted users incorrectly attaching/removing the gooseneck Mk3 to the EZPRR.

Here is some guidance to correctly attach/remove the gooseneck.

## Gooseneck Antenna Installation



Users need to **push the collar of the Mk3 firmly down** against the body of the EZPRR after screwing the gooseneck on.

This prevents undue stress being transferred to the antenna connection. The gooseneck is to be used at all times in conjunction with the antenna. The Mk3 Gooseneck NSN 5985-99-676-6698 is available for users to demand. AESPs held on TDOL are being updated to reflect this change.

## Gooseneck Antenna Removal

When removing the gooseneck from the EZPRR users are to push the collar up before unscrewing from the EZPRR.

## Discontinuation Of Mk1 Gooseneck Antennae

All users are to note that the Mk1 gooseneck antenna is not to be used with the EZPRR. Any units with stock of the Mk1 gooseneck are to dispose of them and demand, Mk3 gooseneck antenna replacement.

For further information or queries users are to contact either:

**BATCIS DT Support Engineering Manager, email:**

**BATCIS DT Technical Support, email:**





# ENGINEER'S CORNER

## THE PRINCIPAL ENGINEER FOR LAND EQUIPMENT

HOME

UPDATES

OTHER QUERIES

HELP

CONTACT

A NEW SECTION FOR KIT! MAGAZINE. THE PRINCIPAL ENGINEER FOR LAND EQUIPMENT WILL UPDATE YOU ON VARIOUS ITEMS OF INTEREST RELATING TO EQUIPMENT, SUPPORT, SAFETY AND ENGINEERING.

### COUNTERFEIT PRODUCTS *How do you spot a fake pound coin?*

**The number of fake £1 coins in circulation now stands at more than 30 million.**

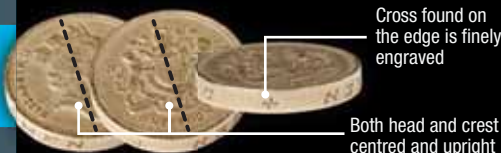
The US Department of Defence has recently published details of some of the cases they have detected. In one example, a large number of counterfeit parts were bought from a Chinese company, which were then fitted to US military aircraft.

There could be severe consequences if counterfeit products are used on our equipment, with potential risks to Safety, Security, Performance and Reliability.

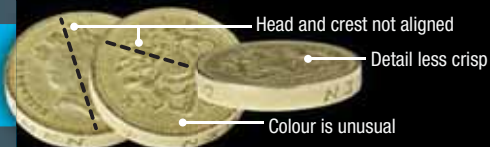
#### What you can do...

- Consider the possibility of counterfeit products when raising Equipment Failure Reports or Component Reports (on JAMES).
- If you suspect a counterfeit product to be a factor, indicate this on the report that you are raising; the DE&S desk officer will take the necessary action.

REAL



FAKE



It's not only money that could be affected by counterfeit products.

The probability of counterfeit products entering the military supply chain is increasing.

### NON-ALARP KIT

It is MOD's policy that Users are only issued with kit that is safe and suitable for service. It's a responsibility that DE&S and the Front Line Commands take very seriously.

In the jargon of safety management, 'safe' is defined as when we have reduced the risks of an accident or incident to a level which is

**'As Low As Reasonably Practicable' or 'ALARP'.**

MOD policy is clear: when kit is 'Non-ALARP', we will withdraw it from service.

We have recently withdrawn two items of equipment from service for this very reason:

- **Viking:** Overloading of vehicles in Afghanistan has led to the vehicles

experiencing accelerated mechanical fatigue, which has compromised the structural integrity and safe operation of the vehicle.

**Therefore Viking has been withdrawn until the vehicles can be regenerated.**



### DUTY HOLDERS

The recent defence reforms will soon see responsibility for capability management pass from MOD Head Office to the Front Line Commands. This change, as well as the Haddon-Cave report on the Nimrod crash of 2006 has led HQ Army to update its policies on safety management in the land environment. One of the changes being introduced is the concept of 'Duty Holders'.

Duty Holders are nominated senior staff within the chain of command that exercise command and control and are responsible for activities that could give rise to a 'Risk to Life'.

Within the Army the Operating Duty Holder will normally be set at 2\* level, e.g. a GOC. The Delivery Duty Holder will be normally set at 1\* or OF5 level, e.g. a Brigade Commander or delegated senior commander deployed on an operation.

**The chain of command, including the Duty Holder as appropriate, must ensure that:**

- Equipment and platforms are operated and maintained in accordance with operating procedures and Safe Systems of Work.
- Records of equipment and platform material state are maintained and updated when equipment state is changed or altered.
- Equipment failures, injuries and incidents involving personnel and near misses and

incidents involving impact on the environment are reported and investigated.

- Equipment and platforms are operated within the limits of their Safety Cases. Where equipment or platforms need to be operated outside their safe operating envelope for justified operational reasons, then sufficient and suitable risk assessments and mitigation must be carried out. This will need to take account of the operational circumstances and for an enduring requirement, may necessitate following the Operational Dispensation process.

#### So what does this mean for you?

- Are you properly trained in how to use and maintain your equipment?
- Do you know your 'Safe Systems of Work'?
- Do you know how to maintain your equipment records?
- Do you know when and how to raise an Equipment Failure Report?
- Do you know what to do in the event of an accident?

If the answer to any of these questions is 'no', you must bring it to the immediate attention of your chain of command.

**Safety is paramount, if you have any doubts then ask, it is better to be safe than sorry.**

- **Tactical Fuel Handling Equipment (TFHE):** The TFHE pumps became Non-ALARP with the changes in ATEX and DSEAR regulations. The risk assessment identified that hot exhaust from the pumps could ignite fuel, causing fire or an explosion if a leak developed at any of the pump/pipeline couplings in the vicinity. The plan is to replace TFHE with the new Joint Operational Fuel System (JOFS), which is compliant with the recent regulations. This has already been completed for HERRICK. Recent approvals mean more JOFS Pumps will be available from Spring 2013. **The TFHE Pump ban remains in place.**



#### A Users 'Duty of Care' - What you must do...

- If you suspect that there is a safety problem on any item of equipment, you must raise your concern through your chain of command as quickly as possible, in order to notify the Duty Holders and the appropriate project team at DE&S.
- If it's appropriate, raise an Equipment Failure Report, making sure that you mark the 'safety related' check box.



## FIST

There have been a 'large' number of FIST Close Quarter Battlesight (CQB) 1240-99-555-2800 and Lightweight Day Sight (LDS) 1240-99-839-6503 lenses returned through the stores system that show evidence of damage due to incorrect cleaning methods.

**Evidence has shown circular scouring/abrasion on the lenses rendering the sights unusable.**

Users are reminded of the lens cleaning procedure:

### LDS & CQB

First blow away any dirt and dust - can be rinsed/agitated with warm water to remove excessive dirt/mud.

Ensure that lens is free of any grit/debris.

Clean using Cloth Cleaning 5855-99-967-7941 **do not use material likely to cause abrasion.**

### FOR CQB

Fingerprints and lubricants can be wiped off with Tissue Demisting 5855-99-966-9873 or Cloth Cleaning 5855-99-967-7941

**do not use material likely to cause abrasion.**



## CLEANING MATERIALS

The following are advocated for cleaning use:  
 5855-99-967-7941 Cloth Cleaning  
 5855-99-966-9873 Tissue Demisting

## MK2 CQB'S

All FIST CQB sights should now be at the Mk2 standard.



Mark 2 CQB - with new faceplate for improved pressure sealing

Mark 1 CQB without the front faceplate

If you have the MK1 please re-demand to receive the MK2 1240-99-555-2800 and backload the MK1 on an AF G8883 to the following address:

**Unipart Defence Logistics**  
 Unit 1  
 Ashfield Way  
 Cowley  
 Oxford  
 OX 4 6TU

Please state in the special instructions "MK1 swap-out"



## UNDERSLUNG GRENADE LAUNCHER SIGHT (UGLS)

The FIST UGLS 1005-99-551-8637 are to be disposed of in accordance with local regulations. They are not to be returned through the stores system.



Any questions/enquiries can be directed to [redacted] FIST Desk Officer) at:

DSS PT. Email: [redacted]

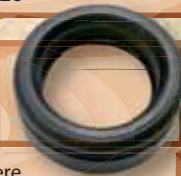
## LASER LIGHT MODULE

5855-12-364-4741



Battery Cap Kit - replacement kit can now be demanded under the following  
 NSN HMNVS/5855-99-742-1826

## RUBBER LAMP GUARD



There have been incidents where the rubber lamp guard covers are falling off due to excessive heat build-up during use. The rubber cover can now be demanded using NSN 6230-12-363-4114 and secured using adhesive.

Any questions/queries can be directed to [redacted] (LLM Desk Officer) at DSS PT.

Email: [redacted]

## CLB

The black connector, which connects the NAV-E to the EzPRR, should be disconnected by holding the collar (identifiable by the 3 black grooves) and pulling gently, the connector should not be twisted or rotated.



CLB as carried



Users should take care, where possible, to protect the connector while a protective shroud is being trialled.

**Users please continue to submit EFRs.**

DSS PT. [redacted]



# Armed Forces Compensation Scheme

Injured due to service on or after 6 April 2005? You may be entitled to compensation from the Armed Forces Compensation Scheme.

Are you eligible?

Call the free Helpline to find out more. 0800 169 2277 (UK only) +44 1253 866 043 (overseas)

[www.mod.uk/afcs](http://www.mod.uk/afcs) [www.veterans-uk.info](http://www.veterans-uk.info)



MINISTRY OF DEFENCE