

KIT!

Joint Asset Management and Engineering Solutions

JAMES

page 15,16&17

WEAPON PAINT

SSP Lethality Team - page 7

A quarterly guide to equipment care

Issue 82 | 2012

Welcome to KiT! 82 Winter 2012

Lots of information on James in this edition and do make a note of the Form 10 address.

FORM 10

Email to: [REDACTED]

The KiT Binders are back!

And there is a suggestions page in this Issue, please make use of it - or email as usual.

All queries regarding Distribution, Back Copies etc. The contact is opposite. But 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: [REDACTED]

or [REDACTED]

You can email too on MOD network to [REDACTED]

The external address is [REDACTED]

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 [REDACTED]

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 [REDACTED] or e-mail [REDACTED]

KiT! binders are back - 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 ♻️

RAF Benson

Defence Road Safety
**AWARD
WINNERS
2012**

Congratulations

Well done to RAF Benson for all your hard work in highlighting the importance of Road Safety over the last 12 months.



- 1** Extremely proactive in raising the awareness of Road Safety in the last year.
- 2** Proactively engaged with the 'technological generation' through use of games consoles, showing 'innovation' to engage and to aid in Cat B theory test.
- 3** Remodelling of the stations main entrance, to aid Road Safety and reduce accident risk.
- 4** Close links forged with a large and diverse number local authorities including The County Council, Community Road Safety Team, the Transport Research Laboratory, HELI BIKES and local schools

ROAD SAFETY

CONTRIBUTED BY:

Road Safety

ART

ART

WALL DESCENT

Failure to Recoil

ART/SEFIT 12-157

AUTOMATIC CLIMBING WALL DESCENT CONTROLLER (AUTO BELAY)

Automatic Climbing Wall Descent Controller (Auto Belay) is used to enable the safe ascent and descent of a mobile climbing wall while eliminating the need to have a person belaying. During a display the equipment failed to operate as designed, **leading to the cable becoming slack and entangled around the climber's neck.**

The Auto Belay is a centrifugal brake type device, the slow payout under tension and fast retraction of lifeline allows movement of the user about the climbing area. The excess lifeline is taken up by the device and in the event of a fall the descent brake slows the fall and lowers the climber to the ground at a safe and consistent speed.

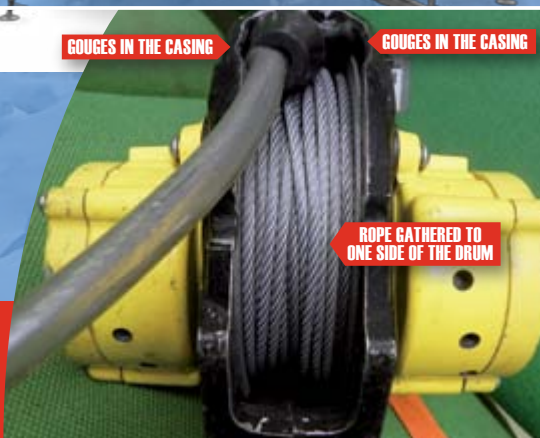


INCORRECTLY FITTED

The descent controller had been incorrectly fitted to the climbing wall.

During operation the cable became mis-layered on one side of the cable drum, it became snagged on the drum and failed to retract leading to the slack cable. This was a direct result of the device being fitted 90° out of correct alignment.

It was noted that the casing of the equipment suffered gouges indicating that the equipment had been incorrectly fitted for an extended period of time.



AUTO BELAY FITTING

All holding units should carry out an immediate review, to ensure that the equipment is Fitted and Operated in accordance with the Manufacturer's Manual and subject to before use inspections.



ARTY systems



FireStorm

DVD Drive USB Configuration

With the recent addition of an improved BLANCCO disk within the FireStorm system there has been instances where the Go Book Hard Drive failed to blank and re-image correctly. This has been observed as a possible port configuration problem with the DVD Drive Assy. When connecting the DVD Drive to the Go Book ensure the USB cables are fitted as follows:

- DVD Data** – Front right hand USB port
- DVD Power** – Mains Power preferable or DVD Power USB to rear USB Port

MR1 Go Book Battery Calibration

Due to a high instance of batteries failing on the MR1 Go Book an investigation was instigated with RCUK. The result was the mandating of a 3 monthly battery calibration event. Users are to ensure this occurs for both issued batteries. Procedures are being taught during training but anyone requiring further information should contact the Project Team.

The FireStorm Tech Docs will be amended accordingly.

MR1 Go Book Battery Pins

There has been a high rate of failure on the MR1 Go Book battery pin blocks in the last 12 months. A fleet wide replacement program has been implemented with the new item having better reliability. Users should ensure they check the pins on their MR1 Go Book regularly to ensure there is no damage (as shown). If damage is identified the Go Book should be exchanged through unit stores and an EFR submitted; please ensure the Project Team is informed.

EClypt Freedom Enhanced Hard Disk Drives

With the fielding of the EClypt Freedom 600 Enhanced Hard Disk Drives the FireStorm imagery, mapping and mensuration software programmes, with reduced classification can be transported more easily. Data Managers are to ensure they familiarise themselves with the revised procedures as soon as possible after receiving their allocation of EHDDs.



Any legacy LACIE drives are to be returned to PT after disk blanking has been carried out in accordance with SyOps.

WEAPON PAINT

ONLY WITH COYOTE BROWN WEAPON CAMOUFLAGE PAINT



SSP Lethality Team has procured Coyote Brown removable weapon paint for use on Small Arms. Initially this paint will only be fielded to troops deployed or about to deploy on OP HERRICK.

DO

- Do apply as per instructions
- Do allow a minimum of 15 minutes between the 2 coats and apply in a well-ventilated area under supervision of Unit Armourers where possible
- Do retain unused aerosol for 'touch up' during subsequent weapon use

DON'T

- Don't use on crew served / vehicle mounted weapons
- Don't use with locally sourced paint to create your own distinct camouflage
- Don't ditch the part used can

This paint is cleared for use on weapons that will be carried by the dismantled soldier and will decrease the likelihood of detection when wearing MTP clothing. It is only to be used on the following weapons:

- SA80 (IW, LSW & Carbine), UGL,
- Combat Shotgun
- .338 Sniper Rifle,
- Sharpshooter / Sniper Support Weapon,
- LMG,
- GPMG

The paint comes in an aerosol can - 1 can will paint 2 weapons with 2 generous coats. There is a requirement to remove working parts and to mask off parts of the weapon and sights, in accordance with the technical instruction.

The use of locally purchased paint IS NOT permitted for the purpose of camouflaging weapons.

The painting of weapons is a user task but all Units are to include their Armourers in this process to ensure that the instructions are followed and the correct masking of weapon parts takes place.

A technical instruction on the painting of weapons will be included in each of the relevant Army Equipment Support Publication's (AESP's) that are available online via the TDOL facility.

Contacts:

IW Weapons

Support Weapons



ARRIVING IN THEATRE JANUARY 13'

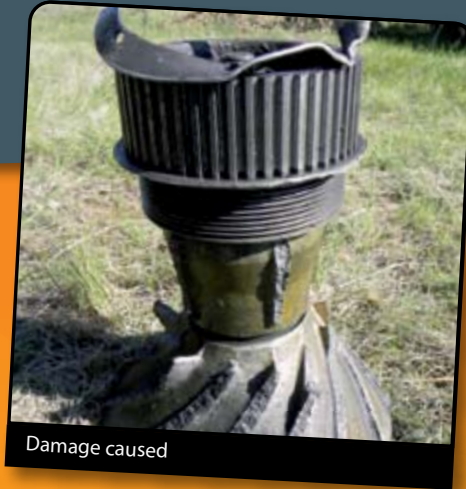


CONTRIBUTED BY: Artillery Systems, DE&S Abbey Wood

Engine Cooling Fan

This is the remains of a CVRT cooling fan assembly - the damage to the vehicle when the fan failed was extensive, which made it impossible to determine the sequence of events that led up to the failure. There are a number of points worth noting:

- The transmission had been renewed shortly before the failure - it is possible that the transmission was not correctly aligned so that the fan driven pulley was not parallel with the driving pulley. AESP 2350-T-220-522 Chapter 4 refers.
- There is evidence of fretting on the fracture surfaces of the fan blades, which suggest that some of the fan blades were cracked prior to the failure. The fan should be inspected for cracks during MEI
- The fan belt tension may have been excessive - this imposes excessive loads on the fan bearings and would eventually cause the fan to run out of true. The fan belt tensioning procedure is detailed in AESP 2350-T-220-522 Chapter 3



Damage caused

The fan drive belt should be adjusted so that there is total free play of 14 mm (9/16 in.) when measured at the mid point between pulleys.

AESP 2350-T-220-522 Chapter 3 does not state the effort required to achieve this deflection - **Experience suggests that the belt should run loose and therefore minimal effort should be used.**

The CVR(T) EM UOR Aide Memoire (2350-R-113-211) Chapter 3 Para 19 states:

- Tension the cooling fan drive belt until the tensioning pulley is in contact with the belt but can still be easily rotated by hand (light rubbing contact). Tighten adjusting bolt.

TN15 Oil Filter

The transmission oil filter can be found in AESP 2350-T-220-711 Chapter 2-5-4.

Units are to demand the filter element using the following NSN: Element 2520-99-052-5455

The microswitch (circled) closes when the oil filter is blocked and illuminates the gearbox filter warning lights on the DIP.

This alerts the driver that the filters require changing.

A failure of the microswitch, either in the closed position so that the warning lights are always on, or in the open position so that the warning lights never illuminate should be repaired by replacement of the microswitch (and not the complete assembly)

NSN: Switch 5930-99-774-5294



Idler



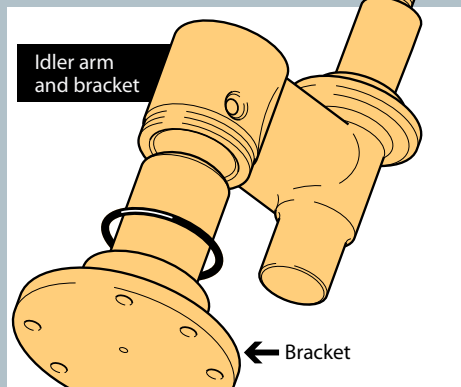
Misalignment between idler wheel and No.5 road wheel

The picture shows a misalignment between the idler wheel and the No.5 road wheel.

The vehicle had been submitted for an MEI, the misaligned idler was not reported although it is clearly visible.

The misalignment was due to a bent idler arm bracket, the force required to bend this substantial component can only have been generated by an impact with an immovable object, which should have been noticed by the crew. The impact may have cracked the hull around the bracket mounting threads.

This damage would have caused the vehicle to track to one side, which would have required a constant steering input from the driver. The track would have worn unevenly and at a greater rate than is normal.



Users are reminded:

Vehicle maintenance must be carried out correctly and in accordance with the AESPs.

Unusual occurrences must be reported and investigated to ensure that the vehicle is safe to use, SEFIT should be consulted if there is any doubt.

Braking and Steering

A recent serious incident in BATUS may have been caused by a loss of brakes.

There was a possibility that OX8 had been used in the braking and steering systems.

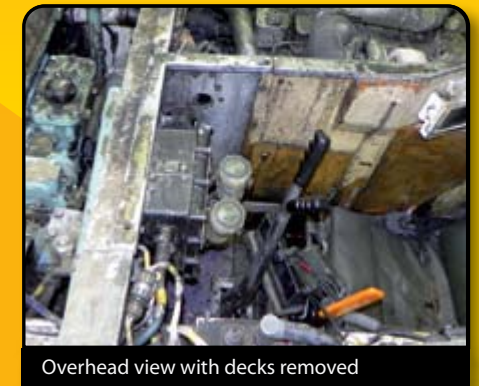
OX8 is a synthetic oil and causes the seals in the master cylinder and callipers to swell and/or leak if introduced into a system that uses OM11 (a mineral oil).

All CVRT variants should use OM11 in the braking and steering systems as detailed in AESP 2350-T-220-601 Table 1 - Before use maintenance - Serial 5.1 (CVRT (D) maintenance schedule).

This incident highlights the dangers of personnel acting on rumours, no matter how creditable the source. All users are reminded that the AESPs are the definitive authority for all aspects of the maintenance, repair and operation of vehicles.

AESPs should always be accessed through TDOL - to ensure that the latest version is consulted. Paper copies or saved files on computers should not be trusted as they are uncontrolled and may have been superseded.

IF IN DOUBT CHECK IT OUT - CONSULT THE AESP



Overhead view with decks removed

Side Hatch Springs

In response to user concerns regarding the doors and hatches on AS90 the Joint Project Team have made changes to the AESP, particularly the AQLs.

The turret side hatch torsion bar (2590-99-350-5574) is being replaced by a new one, with improved stress and corrosion resistance. The new bar (2530-99-226-0815) has been added to the mandatory EFR list so that the Joint Project Team is alerted if any fail in service.

If you replace a torsion bar please check which type it is and, in the unlikely event that it is one of the new ones, back-load the broken bar with an EFR. See Cat 111 Annex A for details of how to tell the difference!

JAMES Component Reports

When using JAMES CRs please ensure that serial numbers are included in the free text 'Comments' field within the repair decision section.

This will assist the PT to select the quickest and most cost effective assemblies for repair or overhaul and also to track any quality issues from our industry repair agents.

APUs

The cost of APU repairs at 4th line was set to double this year so the Project Team has come up with an improved repair policy for it including provision of EEP APUs, AESP and spares improvements. However, some APUs have been returned to 4th line with quite trivial faults. Almost every item on the APU assembly is available separately, even the engine, so please repair your APU if you can!

If you cannot get a part please contact the Artillery Support Technicians at the Project Team.

Form 10s

Last year we got an F10 regarding technical content of the AESP.

Well, that was one more than during any of the preceding 3 years!

Is the AESP perfect or did everyone just assume that someone else would do an F10 when they spotted something? Answers on an F10 please! There is one at the back of each Category.

As well as FRACAS, please send a copy direct to the AS90 Project Team at #1003, MoD Abbey Wood, Bristol BS34 8JH, then we can get to work on it straight away.

FORM 10

Email to: [REDACTED]

What is an idler Assembly?

Units should always ensure that repairable spares are back-loaded complete, unless an item is clearly beyond repair, in which case the AF-G1043 procedure detailed in JSP 886 should be followed.

Several Idler Assys (2530-99-244-4312 & 3020-99-725-1800 Cat 711 Chap 2-9-2 & 3 Page 3 Item 1) have been back-loaded recently missing wheels, rams and/or mountings.

This can more than double the cost and time to repair, particularly in the case of the track adjuster ram forward mounting, as a complete batch of new castings must be made.

When back-loading an idler assembly please ensure that all the items shown on Cat 711, Chap 2-9-2 & 3, Page 3 are returned, or the repair agent may not be able to repair it economically.

Save the Engines!



We cannot buy any more AS90 engines so it is important to look after what we have.

The Project Team is still seeing evidence of engines having been run with liquids in the wrong place, such as water in the cylinders or all the oil in the bottom of the engine compartment!

Please take care not to get water in the intake when washing the vehicle and double check the sump plug whenever there is the slightest doubt that it **might not be fitted or tight!**

If it all goes a bit Pete Tong when fording, switch the engine off before it ingests the water and don't be tempted to try to restart it until the intake system has been dried out and the cylinders purged by REME. **The cost of these failures is usually around £50K** (plus a one way conversation and a very late tea!).

Dust ingestion and internal water leaks are also damaging a lot of engines, although rather less dramatically.

Is your inlet tract clean and free from leaks?

Does the oil look milky? Did you send off the OHM samples on time and pay proper heed to the recommendations that came back?

Lightly damaged parts can be skimmed, bored and ground but if the con-rods are bent by water or come out for some fresh air, or the engine is run without oil, most of it will end up in Cummins' back yard waiting for the scrap lorry.

Top Rollers

The cost of new top rollers has doubled recently so we have just changed the ICC code for top rollers, **so they need to be returned.** This is so that we can build up a pool of E0 stock, which can then be repaired, as already happens with the road wheels. We need to collect a minimum quantity of 50 before a repair contract can be placed.

We're hoping to get the cost of providing top rollers down below what the price was before the rise!

STANO

LUCIE & HMNVS

FACE MASK ASSEMBLIES



LUCIE Face Mask
Assembly
(5855-14-522-1272)

The LUCIE Face Mask Assembly (5855-14-522-1272) & the HMNVS Face Mask Assembly (5855-01-515-4436) are no longer part of the LUCIE & HMNVS CES and should not be demanded to make up deficiencies.

The Face Masks are available for specialist user requirement only.

ELECTRONIC BUSINESS CAPABILITY (EBC)

DMC CATOE is now utilising EBC, which connects MOD systems to our external contractors systems. When a CATOE equipment is sentenced BR/BER/BLR a manual AFG 8883 is no longer required, **one will be automatically generated when you submit your demand.**

EBC roll out of DSS PT equipment

DMC CATOE: Live on EBC as of 23/07/2012

DMC FIST: Due to go live by the end of October

DMC CASE: Under going testing and due to go live in the near future.

If users find that they have anything other than the above please contact:

DES LE ICG DSS InvM5: [REDACTED]

CASUALTY LOCATING BEACON (CLB)

Information Management System (IMS) (NSN: 5820-99-307-1207). When the CLB was initially fielded the original IMS passwords were also issued. As a default the IMS passwords and Windows login passwords are reset every 90 days. Units are requested to notify the PT of any password changes.

Unfortunately the Soldier Systems Programme (SSP) has received limited feed back from units of the new passwords.

If you are issued a CLB IMS without a working password then please initially try the previous holding unit. If you are unable to contact the unit or the passwords do not work, then please contact the SSP PT for further advice.

DES LE SSP-Del-STA-SCM-CATOE:
[REDACTED]

LIGHTWEIGHT DAY SIGHT

(NSN: FIST 1240-99-839-6503)

The following level 1 spares are now available for the FIST LDS:

5330-20-006-6130 Battery Cap Gasket

6160-99-580-4321 Battery Cap Assembly
(includes: Battery Cap, Tether, Screw)

These NSNs are included in the AESP Operating Instructions (1240-L-261-201) available on TDOL

PICATINNY RAIL CONVERTOR

(NSN: 1005-99-250-2273)

Units are to ensure that they have been issued the correct Picatinny Rail Converter (Mil Std 1913), they can be identified by the side clamp that secures the rail to the NATO rail (see picture).

If users have anything different contact:

DES LE SSP-Del-STA-SCM-FIST:
[REDACTED]

The correct Picatinny Rail fit

SLV

RECOVERY DEVICE

A recent SEFIT investigation into the loss of hydraulic function on a MAN SV(Recovery) recovery device, identified that damage to the recovery device hydraulic system can be caused.

When disconnecting a casualty following a suspended tow the recovery bar should be returned to the horizontal position before attempting to stow.

Retraction of the recovery device with the tilt ram extended may result in contact between the tow pintle and the hydraulic pipes on the recovery device lift rams.

Also ensure that the tow pintle is in either the deployed for use or fully stowed position before stowing the recovery device.



CRANE WINCH DAMAGE

There have been a number of SEFIT investigations into damage of the crane ropes and the crane winch strut.

Users are reminded that, it is essential that tension be maintained on the rope at all times. Loss in rope tension can cause mislaying of the rope on the winch drum and may result in contact between the rope and winch strut damaging both.



MODIFICATIONS

The SLV Project Team are uploading the 17 Support Vehicle Mods listed in AESP 2320-W-100-811 on to JAMES. Units should update JAMES with the information currently held in Unit Modification Registers.



CRARRV

Main Brake Hose

DSG Bovington have reported that there is a possibility of the main brake hose fouling against the underside of the Electric Fan Control Box (EFCB).



Brake hose fouls EFCB

Failure of the brake hose would cause a loss of brake fluid and a consequent loss of brakes.

The CRARRV before use maintenance includes a check of the main brake reservoir fluid level and a check that the brakes are functioning as the vehicle moves off from rest. (The fluid level is also checked as part of the after use maintenance).

Units are advised to check that the brake hose is serviceable and that there is no contact between the hose and the EFCB.

Any fouls or wear to the hose should be reported to:

CRARRV Availability Manager - [REDACTED] and an EFR raised.

DSG Bovington are routing the hose differently.



Alternative routing

Turbo damage



Turbocharger Failure

This is the turbine wheel from a CRARRV 6A engine. Due to excessive play in the turbocharger bearings, the wheel had sheared from the shaft, as a result of colliding with the main body of the turbo. The impeller (compressor) wheel had bent blades and evidence of frictional wear from high speed contact with the housing – further evidence of excessive play in the bearings.

AESP 2350-P-120-201 Chapter 1-11 states: (5) EQUIPMENT DAMAGE. **Run the engine at 800 rev/min for 3 to 5 minutes, to allow the engine to partially cool before switching off.**

The cooling off period is designed to maintain a flow of engine oil to the turbochargers to assist in cooling them down from 800 °C to approx. 100 °C. Prematurely shutting the engine down causes the engine oil, lubricating the turbocharger bearings, to boil - this leaves the bearings, rotating at 100,000 rpm, running dry - this rapidly increases the bearing wear rate and leads to catastrophic failure.

It is also important to follow the correct start up procedure to allow the engine to warm up and ensure that there is a full flow of lubricating oil to the turbochargers before increasing the engine speed above idle.

Turbocharger failure results in an immediate loss of power and a high probability of a fire, as the lubricating oil will spray over the hot exhaust manifolds.

Turbochargers should be inspected in accordance with AESP 2350-P-120-532.

This is applicable to all vehicles that are fitted with turbochargers.



Joint Asset Management and Engineering Solution

JAMIES

JAMIES in Theatre HERRICK 17

Theatre is now 'JAMIES ready' JAMIES is the asset and engineering management system within BSN, KAF and KBL by Apr 13. MOBs may be brought forward.

It is planned for JAMIES to replace FEMIS (and MJDI to replace Global) at both the ES Bn and ES Regeneration Facility within BSN in Jan 13. JAMIES will then be the engineering management system in theatre with automated spares demands routed to MJDI.

Although JAMIES will not be deployed forward of BSN, equipments brought back into MOBs for repair and/or regeneration will have their records up-dated before they are returned for operations or redeployed.

Over time, the asset and engineering information will improve and because it is stored electronically and is visible to all stakeholders both within Theatre and in UK.

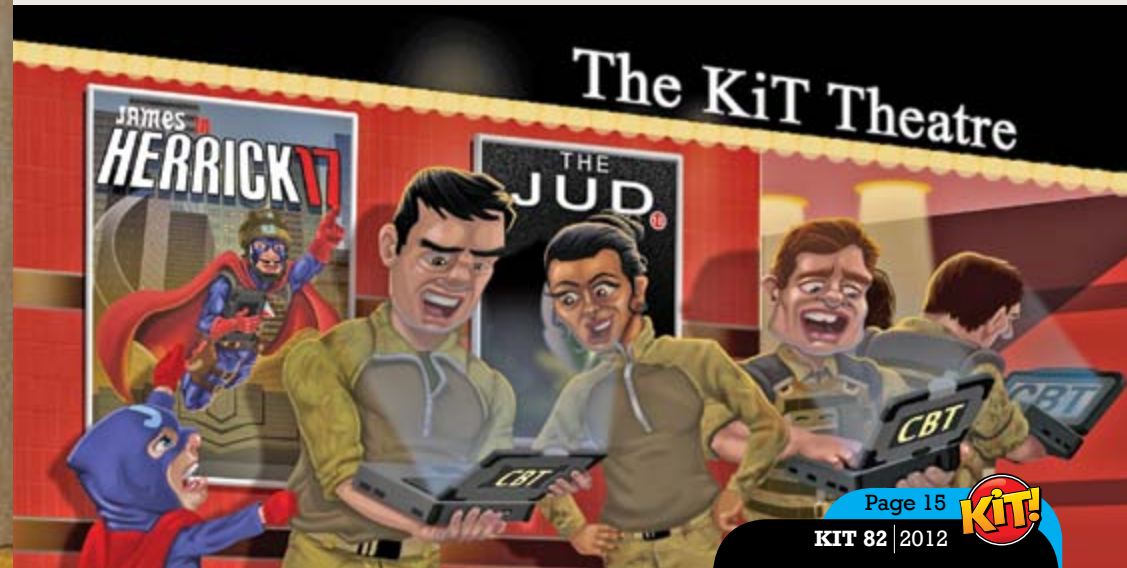
JAMIES will provide information that can be exploited to support redeployment and the subsequent return to contingency.

Key to the success of JAMIES is the ability for personnel to properly and accurately record information, as well as to generate reports from the Reports Repository.

It is essential that personnel successfully complete the appropriate Computer Based Training (CBT) for their JAMIES User Role before arrival in Theatre. Although there is an in-Theatre training solution available, it is just an emergency safety net and if the training is undertaken it is not valid outside Op HERRICK.

JUD familiarity and competence is also required as for many personnel, the JUD will be what they use.

JAMIES will be the prime tool in asset management and rehabilitation of equipment for redeployment. Users must be trained competently in its use as it will be a key enabler in the support of equipment capability for Op HERRICK and Redeployment. Those seeking further information may wish to view the JAMIES HERRICK CONUSE, available on the JAMIES Portal.



Joint Asset Management and Engineering Solutions

JAMES



JAMES Activation

JAMES activation for units from all three services continues! JAMES, which is available to any user with access to the Defence Intranet, is providing

benefits to the end user already, even though the full operational capability for JAMES will not be achieved until 31 Mar 14.

The JAMES Portal

The JAMES Portal provides all the information that you need to successfully manage your equipment using JAMES. It is vital that JAMES users only navigate to JAMES using the JAMES Portal to ensure they are aware of all updates and changes that affect their equipment or role. This information can change hourly users should only save a short cut to the JAMES Portal <http://www.james-project.r.mil.uk>

Annual Vehicle Census

Units that are operating the full capability of JAMES will find that this years annual vehicle census (MERLIN Census) will be less of a headache. This year the National Audit Office (NAO) has agreed to run the census by exception. This means only vehicles that have not been used on JAMES (or MERLIN) in the last 12 months will require a census paperwork return. For a working JAMES unit, 80%, or even 100% in some cases, of vehicles will not require census information.

JAMES Updates

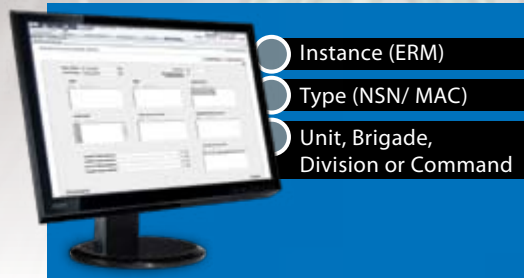
Along with the release of the "Dashboard" there have been a number of significant recent changes to JAMES. These include:

- The maintenance events of fitted Equipment Breakdown Structure (EBS) items will now be displayed and accessible from the Platform information level when viewing Maintenance Forecast screens.
- The Maintainer User Role can now access Repair Actions (RAs) to update repair information as required.
- Instructions have been introduced to allow all users to interact with special instructions associated with RAs. In addition, entered information will cascade up from the RAs to the associated faults.

JAMES Dashboard

From Nov 12 JAMES 'All Users' will have access to two new screens where they can view equipment information which will replicate the functions of Equipment Availability Returns. The Army HQ aspiration is that this Equipment & Activity Status "Dashboard" will replace paper returns.

This interactive Dashboard will provide visual display of your equipment using a variety of filters to view it by:



The Equipment & Activity Status Dashboard will provide a collated view of equipment status (Fully Fit, Limited Role & Non Taskworthy) and activity (Planned, Allocated & Tasked) to support Equipment Managers and Planners in the management and resourcing of their equipment at all levels.



Note: The Dashboards will only be available when using JAMES on the RLI, and not on JAMES Unplugged Devices (JUDs) because the data is saved at 23:59 each night to a separate JAMES Dashboard Server.

JAMES User Survey

Please take the opportunity to let the JAMES team know how JAMES is performing. If you don't think that the online training delivered through the Learning Management Systems (LMS) is meeting your needs, or have other concerns, please go to the survey link below and provide LMS feedback.

There are various surveys that can be found at the link below and your feedback counts so please help us to make the system better. If you think that the JAMES application could be better then please complete the JAMES survey at the link here <http://www.james-project.r.mil.uk/hottopics/surveys.html>.



CR2

SEFIT 12-0123

Road Wheel Failure

This is the inner road wheel fitted to the RH No.5 wheel station on an MBT. It was discovered when the vehicle was being washed down at the end of an exercise. The inner part of the wheel and the outer road wheel (which was still serviceable), were securely bolted to the hub.

The hardened wear strip was flaking away; the wheel should have been renewed in accordance with AESP 2350-P-102-201 Chapter 1-9-2 para 10.3 which states that the wheel should be condemned if:

Any chipping or cracking damage to the metal spray extends more than 1/3 of the width of the metal spray at any point.

It's possible that the wheel would not have failed catastrophically if it had been renewed when the wear strip started to fail. The quality of the rubber and the bonding process have improved over the last few years which makes it difficult to condemn a road wheel without visually checking the wear strips, in accordance with AESP 2350-P-102-201 Chapter 1-9-2 and AESP 2350-P-102-601.

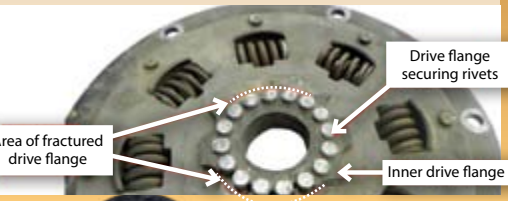
The fracture line coincides with the outer circumference of the road wheel hub flange and would have been difficult to detect without a detailed inspection from underneath the vehicle (impossible to carry out while on exercise when the running gear is covered in mud). The failure of the inner wheel resulted in the outer wheel supporting 100% of the load from the suspension unit and would have quickly failed.

Units are advised:

The newest road wheel should always be fitted in the inner position so that the outer wheel will always fail first, allowing the inner wheel to be inspected during the replacement process.

The road wheel securing nuts should be tightened to 700 Nm and checked in accordance with the 601.

The vehicle should not be run with failed suspension units; the wheels are subjected to increased loads and impacts that they are not designed to withstand.



BULLDOG

Driveshaft Failure - We've been here before!

This vibration damper failed because the bolts used to secure the drive coupling were too long - **the witness marks are clearly visible** - this strained the flange and the cyclical load eventually led to a catastrophic failure and loss of drive.

The correct bolts to secure the drive coupling to the engine and transmission are listed in AESP 2350-T-255-711 Chapter 2-3, Page 3, items:

- 15 Bolt, drive coupling to engine - 5306 99 758 6635 - 2 inches long
- 19 Bolt, drive coupling to transmission - 5306 99 190 7245 - 2¼ inches long

A spring washer should be fitted to all of the bolts - 5310 99 363 2546

The fitting procedure for the engine drive coupling is taken from AESP 2350-T-255-522 Chapter 3:

- 11 Refitting is the reverse procedure for removal ensuring that the drive coupling is clean and chased through with grease (XG291).
- 12 Ensure all needle rollers are present (33 in each cap) and the end cap seals are in place.
- 13 Apply Loctite 243 to the securing bolts. Ensure the driving flanges are fully engaged with the drive coupling and gearbox output and final drive input flanges before tightening bolts to 115 Nm (85 lbf ft). When using adaptor torque wrench (5120-00-399-1154) the torque figure is reduced to 90 Nm (66 lbf ft).

Turrets & Weapons

CR2 Obturators

DE&S are currently experiencing problems in supporting demands for CR2 obturators (1015-99-179-8291).

In order to ensure the equipment remains supported a number of control measures have been placed upon the item.

Units should follow this procedure:

- All demands other than SPC 02 will be referred by DSG to the L30 PM at DE&S ABW.
- Demanding units may be requested to include condemnation details with each demand. Details will include: Reason for demand - including condemnation criteria, service or spare obturator, date of manufacture and rounds fired details.
- Units are required to refer to AESP 2350-P-102-532 Chap 2 Page 8 Para 13.5 when carrying out examination of obturators. Condemnation should not take place outside of these instructions and exceptional circumstances should be referred to the L30 PM.
- Demands for spare obturators (each vehicle should hold a spare as CES) will not be satisfied. Units will be expected to internally manage the spare obturators they currently hold. Where units require additional obturators, for example to support firing camps, they are to contact the L30 PM.
- Demands from repairing/storage units (DSG or TFSU (UK) or TFSU (G) for example) will not be satisfied. Receiving units should demand obturators on receipt of the vehicle if required (internal management).

The movement of service obturators between vehicles should not take place to satisfy shortfalls. Demands should be placed and advice sought from the L30 PM.

The transfer of spare obturators between platforms is to be tightly controlled at unit level and recorded on a local register in order to make any transfer details available to the L30 PM when requested.

Further clarification can be obtained from the L30 PM:

Email: [Redacted]
[Redacted]
[Redacted]
Email: [Redacted]
[Redacted]



Field Electrical Power Distribution (FEPDS)

Lightweight Field Generator (LFG)

From 1 October 2012, support of FEPDS and LFG has transferred from Deployable Infrastructure Project Team (DI PT) to Rolls-Royce Distributed Generation Systems (RRDGS) under a Contractor Logistic Support (CLS) arrangement. This means:

- RRDGS are now responsible for the Whole Fleet Management (WFM) and Equipment Support Management of FEPDS and LFG, these are functions previously carried out by DI PT.
- A fleet rebalancing exercise is currently being conducted that will establish a re-baseline of unit Equipment Table (ET) and create a permanent Unit Holding (UH) of FEPDS and LFG. This rebalancing will help minimise the burden on units to maintain the non-active Equipment Fleet. As a result of the initial UH rebalancing actions, RRDGS stocks will be built up to enable effective WFM.

A noticeable change is that there will no longer be an "Open to All" Loan Pool.

For a unit to obtain General Purpose power generation & distribution equipment they must first possess an Authorised Entitlement to hold it against their ET. Requests for loans will now be made using the new MOD Form 2268. Further details will be available in a DIN and AESP updates due shortly.

One thing that will not change is the need for full accurate and informative equipment failure reporting. As with all other in-service equipment, there is still a requirement for AFG 8267 Equipment Failure Reports (EFR) or JAMES Component Reports. These reports provide all the necessary information to make visible problem trends and equipment weaknesses and enable the planning of stock levels.

Stating that - "Engine will not start", "No out-put" or "Fuel Leaking from melted fuel tank" is unacceptable and does not provide sufficient information. The circumstances surrounding the failure are required: operating conditions of the equipment, whether the operating instructions were followed and any information that will help those analysing the report to formulate a solution or remedy.

Rolls-Royce Distributed Generation Systems contact:

[Redacted]

MOD contact:

[Redacted]



FORM 10

Email to: [Redacted]

Form 10's are also obtainable from this email address.

JACKAL / COYOTE

High Mobility Truck Variant (HMTV)

In May 2012 the original publications for the Jackal /Coyote fleet (AESP 2320-D-106-***) were superseded by a new set of core publications.

The new AESP number is 2320-D-140-***. The publications can be found on TDOL by searching the AESP number or by searching HMTV.

Any problems with the new publications should be reported on a **FORM 10** as usual, or contact; Protected Mobility Team, [Redacted]



TN2EY Fibre Optic LAN Issues

The Fibre Optic LAN Cables and Connectors on this system are prone to failure. The white ceramic inserts in the front panel female connector can become displaced, (picture), break up into shards and disrupt the F/O light path creating a fault condition.

An air duster may help clean the connector socket, however if the ceramic inserts are missing its likely to produce an intermittent alignment condition.

ECM Operators carrying out their daily duties should not be removing the cables REME Maintainers when conducting faultfinding and maintenance, should exercise extreme caution when removing and replacing these cables. Even if the socket's Key Ways are aligned it is possible the Cable's internal male connectors are not, which can cause the internal destruction of the female ceramic inserts.

FELIX's Corner



If any resistance is encountered when connecting these cables carry out the following action:

Stop - Disconnect - Inspect Socket and cable for damage and then Re-attempt Connection if no damage is observed.

If the Ceramic inserts are missing or displaced, an EFR report should be forwarded to:

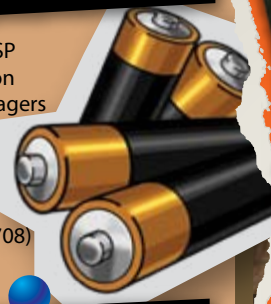
asap and [Redacted]

KIT! BITZ

STANO

THERMAL IMAGERS

Please note that *all* SSP hand held and weapon mounted Thermal Imagers which are powered by the AA battery must use the Lithium type (NSN: 6135-99-195-6708) for both training and operations.



CLB LITHIUM BATTERIES

Only AA Lithium batteries (NSN: 6135-99-195-6708) are to be used with CLB (for both training and Operations) not the AA alkaline type.
DSS PT POC InvM3: Mil: (9679) 39148
Civ: (03067) 9 39148

FLAMEPROOF POL LOCKER



NSN 7125-99-916-9570 is now obsolete, it is recommended all holders remove from use and replace with the safer in service locker NSN 7125-99-363-1810

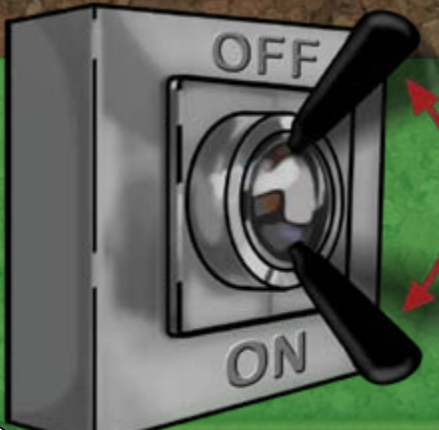


NSN 7125-99-363-1810 has a gas strut on each side to support the lid and will eliminate the possible re-occurrence of a recent safety incident.



FELIX'S Corner

Fault Finding Tips



Systems can display spurious faults after being switched on and off in quick succession. It has been observed that a 15-minute delay allows these spurious faults to disappear and the system continues to work as normal. Prior to raising an EFR, REME maintainers or ECM Operators should wait 15 mins to confirm whether or not the fault does exist.

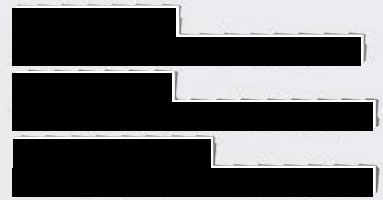
VCB

VEHICLE CERTIFICATION BRANCH

VCB Update

- Trials have commenced, writing new braking standards that may be enforced on all tracked vehicles. The policy will be released in JSP 930.
- JSP 930 (which will supersede AESP 2300-A-050-013, AESP 2320-A-100-522 and certain chapters of EMER T&M A028) is still planned to be released, as a draft for comments, in 2013.
- A new pilot scheme is underway at specified Units, trialling the new FMT 930, FMT 931, FMT 932T and FMT 934. These new forms may replace the AF G857 and AF B6534, and augment the current FMT 932W and FMT 933.
- The Vehicle Policy Notice Board has now moved to the following link:
<http://defenceintranet.diif.r.mil.uk/Organisations/Orgs/HOCS/Organisations/Orgs/DSEA/Pages/VehicleCertificationBranch.aspx>

- A new VCB Notice 2012/06 has been released on Interim Brake Testing.
- All ES queries and issues are to be flagged through the ES CofC in the first instance before contacting with VCB:



Please Note: There is no such thing as a stupid question, and this department is happy to provide guidance; but please check the **Vehicle Certification Branch Notice Board** first to ensure it has not already been answered. Many thanks.

CWGW CHOKER



SPEED LIMITS FOR CHOKER

Optimum Effective Speed in role:

10-15mph (16-24kph)

Transit Speed:

Metalled road - 20mph (32kph)

Unmetalled/Tracks etc. 15mph (24kph)

Note:

Mastiff speed limit - 25mph (40 kph)

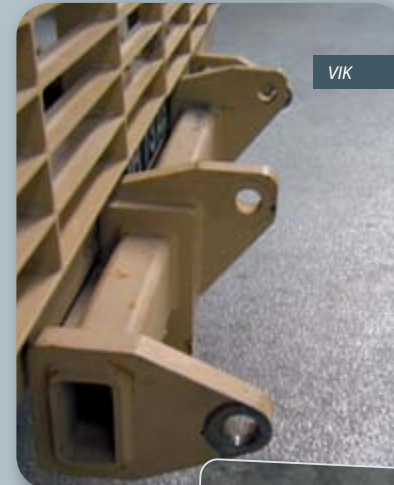
CHOKER SPARE PARTS AND NEW KITS

Spare parts for Choker Mine Roller (DMC: 9CMR) system - on shelves from 12th October 2012.



No.	NSN	Description	AESP item superseded
1	5365-99-553-6901	Shim pack, comprising 1 x Large (5/8 inch thick), 2 x Medium (1/4 inch) and 2 x Small (1/8 inch)	711, fig 24 Item NI2
2	5340-99-739-9783	Large Bolt Kit comprising of: 2 Large bolts (HEX HEAD CAP SCREW), 4 washers (2 normal, 2 spring), 2 nuts and large socket <i>Instead of ordering 2 of each item, only one of the new kits needs to be ordered.</i>	711, fig 24 Items NI7 - NI10
3	5340-99-322-3863	Small Bolt Kit comprising of: 6 small bolts (HEX HEAD CAP SCREW), 6 washers and 6 nuts <i>Instead of ordering 6 of each item, only one of the new kits needs to be ordered.</i>	711, fig 24 Item NI4 - NI6
4	5315-99-574-0964	R Clips (pack of 10)	
5	5306-99-553-6903	Mudguard / weight plate bolts (pack of 4 bolts) <i>Instead of ordering 4 of each item, order one of each of the new packs. (same for the nuts)</i>	711, fig 16 Item 3/5
6	5310-99-553-6905	Mudguard / weight plate nuts (pack of 4 nuts)	711, fig 16 Item 7

CHOKER AESP PARTS LIST: 1385-G-505-711



VIK

1. Shims (Large, Med, Small)

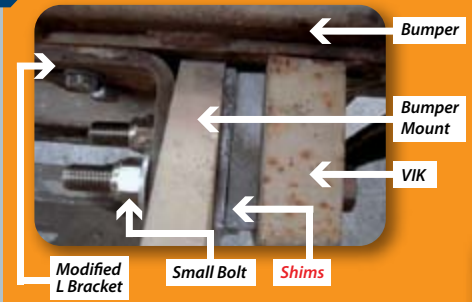


2. Large bolt, nut and washers

3. Small bolts, nuts and washers (only 1 washer per bolt)

Size of Bolt	Lbf.ft
1/2" UNC - S Grade - Small Bolts	68
1.1/2" UNC - S Grade - Large Bolts	2041

The VIK should be fitted using as many spacers as required to pack the gap tightly between the VIK and the bumper mount.



The spacers are critical to spread the load, if they are not used the bolts tend to shear, this picture illustrates an incorrect fit.

The small bolts have been shearing when used without the shims. Using the spacers reduces the movement of the VIK, meaning bolts are far less likely to shear.

Moving VIKs from one vehicle to another is also causing unnecessary strain on the bolts. Swapping VIKs from vehicle to vehicle should be avoided, especially if another VIK is available.

Supplied with the large bolt kit is a correct size socket. The large bolts should now be tightened to a higher torque than before. Resulting in some of the strain taken by the small bolts being transferred to the larger bolts.

Torque guidelines for the three types of bolts, assuming normal conditions and bolts and nuts are new, standard finish, uncoated and not lubricated

CONTRIBUTED BY:

CWGW, Manoeuvre Support, DE&S Abbey Wood.



ENGINEER'S CORNER

THE PRINCIPAL ENGINEER FOR LAND EQUIPMENT

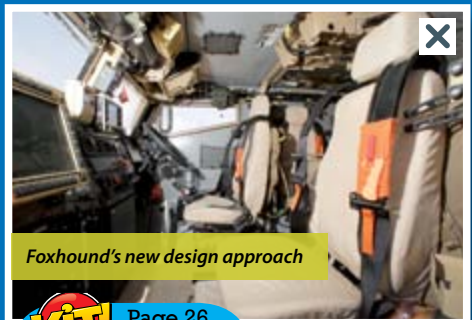
HOME **UPDATES** OTHER QUERIES HELP CONTACT

THE PRINCIPAL ENGINEER FOR LAND EQUIPMENT'S REGULAR UPDATE ON VARIOUS ITEMS OF INTEREST RELATING TO EQUIPMENT, SUPPORT, SAFETY AND ENGINEERING.

OPEN SYSTEMS

Readers will have seen all the publicity over the summer with the introduction into service of the Foxhound Light Protected Patrol Vehicle. Foxhound is the first UK vehicle to enter service using an 'Open Systems' approach, with its application of the 'Generic Vehicle Architecture'. So what is this GVA Open System and what does it mean for our User community?

Traditionally, we have designed, built and upgraded our vehicles using a 'federated sub-system approach'. In plain English, I call this the 'bolt on bits' method. Simply speaking, whenever we have wanted to add a new capability onto our vehicles, we have done it by adding on a new black box, which in turn has its own user display, controller, cables and power supply. Now you know why the interior of a lot of our older vehicles looks so cluttered! Foxhound introduces a new design approach. It has a vehicle computer and power network - a single electronic hub into which the black boxes are connected and which are all controlled using a single user interface. Security and safety requirements mean that some systems still have to be kept apart, but the overall impact on the interior of the vehicle is striking.



Foxhound's new design approach

Compare the pictures, a Panther, built using the old approach, with Foxhound and you can instantly see the difference.

Fewer bits of kit inside and the commonality of the user interface also means that our vehicles will weigh less, use less power, will be easier to train on, as well as being easier and less costly to maintain through life. A further advantage is that the GVA standard has been developed in close collaboration with industry, is openly published and freely available to anyone with an internet connection, so take up has been good.

Other future vehicles recently announced by the Government: the Warrior capability sustainment programme, Scout, the new Utility Vehicle and the Challenger 2 life extension, will all apply the same basic approach. We have also been busy developing other standards to apply the same open system principles to our future soldier systems, operational bases and ultimately to our future Army 2020 brigades. This approach means that so-called 'off-the-shelf' upgrades will be easier and that there will be greater uniformity with other new technologies and systems, future-proofing the Army's core capabilities.



Panther and the old approach



ARE WE SAFE?

"Are we safe?" is a question that I am often asked by my senior leaders in DE&S. My answer is usually the same: "Yes we are...", but...". It is the 'buts' that I want to talk about today. Now, DE&S does its utmost to procure and support kit that is safe and suitable for service; but this is not the whole answer. The Army and the other Services have a responsibility too; to ensure that their 'drills and skills' are up to scratch and that kit is not used outside of its safe operating limits.

It's only with 'safe kit' plus a 'safe system of work' that we can genuinely say that we are starting to be safe.

Once we have the basics in place, we also need to think about how we can continue to improve. The Chief Executive of Tesco was once asked for the secret of his company's success. After a moment's thought he replied; "Institutional paranoia". What he meant by this was that Tesco were never satisfied with the status quo and were always thinking about how to improve.

Now, I don't mean by this that we should be developing a daft 'elf and safety' culture of the type that has seen some schools ban conkers from their playgrounds. Although we need the right number of people who are suitably qualified and experienced in safety management, there is also a need for all of us, no matter what rank or grade, to be prepared to stand up and challenge things when we think that they are wrong.

I am always struck by the link between good safety management and strong leadership; which is something that the Services certainly know a thing or two about. In particular, there is the moral component to leadership; having a feel for what is right and having the courage to raise awkward issues with senior people who may not initially share your view that something is wrong.

Have a good think about this if you are ever asked; "Are we safe?"



'CIGARETTE LIGHTER' SOCKETS

All of our current Protected Mobility fleet of vehicles include 12v/24v Cigarette Lighter type sockets in order to provide auxiliary power to equipment from the vehicle power infrastructure. Common standards for these types of sockets include ANSI/SAE J563 and DIN 4165.

Typically, these sockets are used to power ancillary equipment such as laptops. However, Users may not be aware that many commercial electronic items have 'electrically noisy' power

systems, which can produce stray Radio Frequency fields. **These RF fields are quite capable of adversely affecting the performance of the communications or ECM equipment on the vehicle.**

What you must not do...
Users must not plug ancillary electrical equipment into 12v/24v sockets whilst under the protection of ECM, or when maintaining communications is critical.

WARRIOR WARNINGS

ACTIONS ON FIRE

This Warrior pack was damaged by fire, the heat generated was in excess of 660 °C - melting the radiator aluminium side members. Extensive damage was caused to the vehicle and pack which could have been minimised if the correct actions had been carried out, as detailed in AESP 2350-T-20X-201.

In all cases of fire, or suspected fire, proceed as follows:

- Stop the vehicle
- Stop the engine
- Set the BATTERY MASTER switch to 'OFF'.

Remove portable extinguishers from inside the vehicle, evacuate the vehicle, and close all hatches.

Allow the engine and fan to stop (fan takes approximately 30 seconds to stop from idle).

The senior person present will take charge of fire fighting, and direct operations according to the nature of the fire.

POWER PACK FIRES



If flames can be seen, where possible, roll down the covers over the engine air intake louvres.

Discharge one fixed extinguisher. If fire still persists after the extinguisher has been fully discharged, discharge the second fixed extinguisher.

If smoke only (no flames) is present, carry out a careful inspection - being prepared to use the hand held extinguishers if required. If inspection is impracticable and smoke persists or increases, discharge one, or if necessary, both extinguishers.

When the fire has been extinguished, report the fault.

It is important to switch the engine off as the cooling fans, if the engine is left running, will provide a ready source of oxygen and blow the extinguishant out of the power pack compartment.

A cover over the engine louvers will also help to starve the fire of oxygen.

The first priority in all cases of fire is the safety of the crew and any other personnel in the immediate area, the second priority is to minimise the damage to the equipment.

All Warrior units, should check the following parts for serviceability and security:

- Seal carrier securing screws
- Seal carriers and seal
- Final drive plug - (prevents the drive shaft from disconnecting from the transmission)

The checks are to be conducted during all subsequent mission maintenance activities or after a maximum of 500 Km, whichever occurs first, or where the situation allows.

The checks are also to be made on refitting the power pack after removal or replacement. Investigations are continuing and further checks will be carried out by BAE Systems to determine whether the failures (to date) are the result of misalignment between the transmission and final drive.

C Vehicles



JAMES

JAMES is improving C vehicle maintenance capture. The current work is trying to prevent daily checks turning vehicles Red and causing units to suffer the constant JAMES 'Red' problem.

To that end some Table 6 and 7 data will be changing in the AESP 601s to align servicing schedules.

Competency

Due to a few recent 'Operator Errors' it has become apparent that Qualification, Competency and Currency may be slipping in some areas. If you feel that you have not operated or worked on a vehicle in a while, inform your chain of command and get something arranged. You may not be the only one in need of a refresher at your unit.

This includes both operators and maintainers.

Servicing

Servicing schedules are being adjusted to accommodate changes in servicing frequency. Although the changes will not be immediate please use this as an early warning for all C vehicle operators and maintainers.

Oil Type Change

OMD 90 is about to be replaced by OX 90 for some C vehicles assemblies (mainly engines and gear boxes). Keep an eye on the AESPs to ensure you conform to the new changes. More work is being carried out to investigate other applications for OX 90 within C vehicle equipments.

RTCH Boom Wear Plates

Boom wear plates must be inspected in accordance with AESP 3930-F-601 Table 7, Item 52, and 522 Chapter 7-2 Paragraph 17-23.

Excessive wear can damage the boom, resulting in a costly replacement of the boom assembly.

Money

Everything C-Vehicles is funded centrally by us, so there is no cost to your unit for using them.

It won't come out of your unit's budget!

But as a taxpayer it will cost us all extra money if the vehicles aren't used in accordance with JSP 818.



Contacts

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

LHDS - SAFETY NOTICE 0407

Was issued on 19 Jun 2012 and is concerned with the failure of the Left Hand Drive Shaft (LHDS). Failure of the LHDS will result in a loss of drive to the LH side of the vehicle. This will affect the steering and braking and may result in a Road Traffic Accident.

Indication of separation of the LHDS will be identified in the first instance by the loosening or failure of the M5 hex head screws, which secure the seal carriers to the coupling rings.

deployable infrastructure

CIRCUIT TESTER

Metrix MX67-MOD Tester, Circuit, Universal, Cased
NSN: Z4/6625-99-083-4221

The following CES items are no longer available for this equipment:

Probe & Lead, Fused (Black)

NSN: Z4/6625-99-131-1860

Crocodile Clip (Black)

NSN: Z4/6625-99-382-7067

Fuse (2A)

NSN: Z32/5920-99-564-8976

MX67-MOD with the old Black lead and attachments



They are to be replaced by a Test Lead Kit,
NSN Z4/6625-99-152-7134

Comprising:

- Probe holder and lead, fused (black). Length 1.2m
- Push-on prod (black)
- Push-on crocodile clip, large (black)
- Spare fuse (SIBA 70-094-63/0.5A)
- Self-adhesive label

Replacement Black Lead Kit



Upon failure of the current black test lead the above Test Lead Kit is to be demanded.

The label is to be affixed to the Carrying Case to indicate the change of NSN.

The 2 Amp fuse is now down rated to 0.5A and codified separately under:

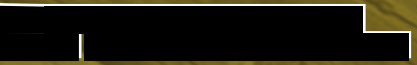
NSN: Z4/5920-99-463-9099.

Note: The old test lead components are not interchangeable with the new items.

All publications relating to the MX67-MOD on TDOL will be updated to show the replacement item and new part numbers in due course.

FOR FURTHER INFORMATION CONTACT

Defence Support Group,
Technical Officer 1,
TLS Cell,
Building B15, MOD Donnington, Telford. TF2 8JT



SUGGESTIONS



Use this page to let us have your ideas for an article in KiT! Anything that will help others to look after their equipment better will be welcomed. Don't forget to mention any relevant references - AESPs, EMERs, etc - and include any sketches that will help to explain your idea, on a separate piece of paper, if necessary. This page may also be used to let us know what you think of KiT! If you have any suggestions as to how the magazine could be improved, either in content or layout, please let us know.

Rank: _____ Name: _____

Full Postall Address: _____

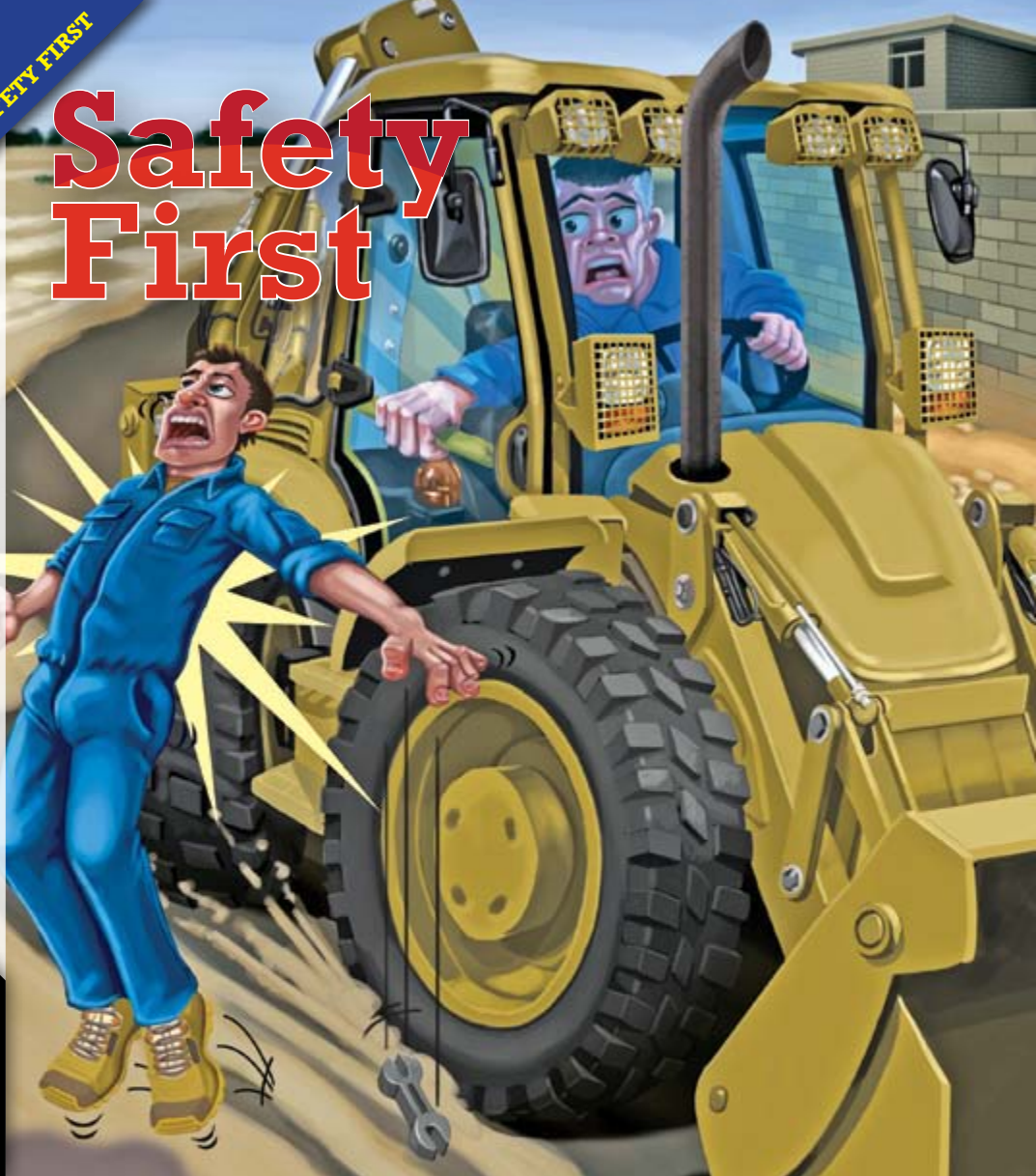
Tel No: _____ e-mail address: _____

Details: _____

Send this form to: DE&S LE KIT, Elm 0, #4001, Abbey Wood, Bristol. BS34 8JH

or by e-mail to: _____

Safety First



CONTRIBUTED BY:

Real Wheel Steer

The movement of people and vehicles in barracks, on vehicle parks, in workshops, on construction sites or in the field requires careful planning and effective control. Vehicle and pedestrian movements must be considered to be a critical part of transport and risk management. Lately it has been highlighted that a failure of the CoC to be in control of vehicle movements does have devastating consequences.