Selected Tornado and Jaguar Mission Reports for the Period 16th January to 23rd February 1991

Introduction by Group Captain Paul Wilkins

The following pages contain a selection of Mission Reports (MISREPs) from Royal Air Force (RAF) Tornado GR1 and Jaguar GR1 aircraft participating in Operation GRANBY, the UK's contribution to the First Gulf War in 1991. It was these 2 aircraft types that conducted the majority of the UK's fast-jet attack sorties in the campaign[1]. These MISREPs have been recently declassified thus permitting their use in this journal. In places, it has been necessary to redact some details, for example, the names of the aircrews involved, but essentially they are reproduced here *verbatim* from the primary source material they represent.

The period 16 Jan to 23 Feb 1991 covers the first night of the offensive air campaign through to its thirty-eighth. Collectively, these MISREPs tell 2 types of contrasting story. The first is one of evolving tactics, techniques and procedures (TTPs) utilised by the respective Tornado and Jaguar aircrews; these were different mainly because of the types of missions they were assigned. The Tornado flew predominantly against well-defended airfield and infrastructure targets, often deep within Iraq, which meant they operated mostly at night until their move to medium-level and daylight-biased operations on 20th January. In contrast the Jaguar was tasked predominantly against fielded Iraqi Army formations such as artillery and surface-to-surface missile batteries on the Kuwaiti coast. A more diverse and dynamic tasking regime, saw them also directly target Iraqi naval surface forces in the Northern Arabian Gulf. RAF Jaguars flew almost exclusively during daylight.

The evolution of TTPs as the air campaign progressed is well known but when viewed through the lens of human emotion – the second story told by these MISREPs – then their real value to the literature available on this part of the RAF's history is much clearer to see. First, all of these

[1] The HSA Buccaneer S2 also deployed to the Gulf region towards the end of this period primarily to provide laser designation services for Tornado GR1 aircraft via the Buccaneer's podded Pave Spike system. Although they did subsequently conduct some attack sorties of their own, their overall number (approx. 200 sorties) was much less than both the Tornado GR1 (over 1,500 sorties) and Jaguar GR1 (over 600 sorties).

reports[2] arguably demonstrate the professionalism and quality of RAF flying training as both sets of aircrews report their incidences and observations in a calm business-like manner. But over the time period they cover, other emotions are also clearly discernible.

For the Tornado aircrews there is growing apprehension as the significant threat from anti-aircraft artillery (AAA) and surface-to-air missiles (SAMs) during low-level attacks becomes apparent to them. Replaced by an almost palpable sense of relief when attacks are switched to medium-level it changes again almost as quickly to one of rising frustration. This is a result of the limited effectiveness of the unguided weapon employment methods available to the Tornados against dispersed targets. This evaporates rapidly when the first mission employing precision guided munitions (PGMs) targeted by the Pave Spike laser designation pod fitted to the Buccaneer occurs on the seventeenth day of offensive air operations.[3]

The human emotions are more difficult to detect in the reporting by the Jaguar aircrews, probably due in part to the different way MISREPs were compiled when compared to their Tornado colleagues.[4] The sense of early apprehension evident in the Tornado MISREPs is simply absent although perhaps the lack of a narrative style and the less well defended targets they were flying against played a part here. Jaguars delivered nearly all of their weapons from medium-level dive attacks[5] and they received [ineffective] Iraqi surface-to-air fire only infrequently.[6] There was however some of the same frustration in evidence albeit its root causes were different. Principally for Jaguar pilots, this derived from poor weather denying visual identification of their targets or other coalition attack formations operating in the wrong place, at the wrong time and compromising the Jaguar missions.

Overall, the RAF's Tornado GR1s and Jaguar GR1s conducted over 2,000 attack missions during the First Gulf War and therefore the de-classified MISREPS that follow are just a small snapshot of the whole. They do however arguably tell a story, one that is both factual and also requiring some interpretation; this introduction offers just one such view of those events from early 1991.

[2] It was usual for MISREPs to be compiled by operations and intelligence staffs during post mission debriefs on behalf of aircrews, ie, they were rarely written by the aircrew themselves. Nonetheless, the human emotions prevalent at the time have been clearly transmitted from the aircrew to the operations and intelligence staff drafting them.

[3] It should be noted that two early-development Thermal Imaging And Laser Designation (TIALD) pods were also deployed around this time and utilised by the Tornado detachment at Tabuk for buddy-designation purposes.

[4] The RAF Jaguar detachment at Muharraq appears to have utilised an early-generation, secure IT system (Air Staff Management Aid (ASMA)) to compile and transmit its MISREPs. This electronic box filling methodology has unfortunately resulted in high utilisation of acronyms and abbreviations for brevity meaning Jaguar MISREPs lack the more easily followed narrative style of the Tornado MISREPs for whom, this approach, presumably, was not available. A template identifying each 'box' of the Jaguar MISREP format thus precedes the official reports to aid their interpretation.

[5] This included: 1,000lb free-fall bombs; CBU-87 cluster bombs; CRV-7 unguided rockets; and 30mm Armour Piercing/High Explosive cannon fire. The exception was the use of a BL-755 cluster bomb on 31 Jan which was delivered at low level.

[6] No RAF Jaguar was lost or damaged by enemy action.

ATTACK ON AR RUMAYLAH SOUTH WEST AIRFIELD - 17 JAN 91

AIM

1. The aim of the mission was to disrupt enemy air operation at Ar Rumaylah South-West airfield.

PLAN

2. The task called for 4 aircraft to attack Ar Rumaylah South West airfield which lies 40nm south west of Basra between 0630Z and 0645Z. The airfield was a DOB for CAS aircraft and consisted of a main runway, parallel taxiway and 2 HAS sites, one at each end of the airfield. Becaues of the daylight TOT and the small size of the attacking force, we decided to delivery 1000lb freefall bombs from a low level toss manoeuvre, into each of the HAS sites. Each HAS site would thus receive 16 bombs. The attack was planned to have 2 aircraft in the toss manoeuvre together, separated laterally by 1.5nm. The second element would follow the first using visual spacing to deconflict from each other. The TOT of all aircraft could thus be compressed to approximately 15 secs. The attack was part of a USMC package of twenty-four F 18 targetting SA 6 to the east of the airfield two EA6 aircraft providing electronic support.

TEXT REDACTED

EXECUTION

4. Outbound Transit. Unfortunately the No 3 was unable to engage the flying control system of his aircraft and therefore had to ground abort. The remaining 3 aircraft took-off and effected a rendezvous with 2 Victor tankers west of Mahurraq. AAR during the transit was uneventful.

5. Ingress and Egress. The formation ingress to the target is visual escort formation flying at ultra-low level. Whilst numerous small fires were seen, presumably from targeted EW sites, no interception or SAM engagements were encountered. During the egress, however the lead aircraft was locked-up

by both SA 8 and Roland systems. Both locks were broken by chaff and low flying.

6. The Attack. On approaching the target the aircraft accelerated to 580kts and pulled up in dry power to deliver their weapons. Chaff and flares were deployed during the manoeuvre. The lead and No 4 aircraft successfully delivered their weapons onto the southerly HAS site and recovered safely at low level. Both aircraft report AAA fire commencing during the toss manoeuvre. The No 2 aircraft also pulled up to deliver his weapons, but reported shortly afterwards that their attack had failed. This transmission was followed by another, informing the lead that the No 2 had indications of an engine fire. A final transmission from the No 2, made approximately 40nm west of the target indicated that the crew were about to eject from the aircraft. The No 4 passed the ejection position to AWACs in order to notify the SAR organisation.

7. Homebound Transit. Having left Iraqi airspace the 2 aircraft rendezvoused with the Victors at FL100. After the AAR the aircraft climbed to FL270 and transitted home landing uneventfully after a 4 hour sortie.

CONCLUSION

8. Only 2 aircraft delivered their weapons onto the target and therefore the disruption caused to enemy operations must have been slight. A small attacking force against a relatively large target does not allow much flexibility. Operating by day, at low level, against heavily defended targets probably cost the Sqn an aircraft and resulted in one crew being held POWs.

ATTACK ON TALLIL AIRFIELD - 17 JAN 91

AIM

1. The aim of the mission was to disrupt enemy air operatons at Tallil airfield using 8 Tornados delivering JP233 weapons.

PLAN

2. The task called for aircraft to attack Tallil airfield which lies 150nm to the South-East of Baghdad and 90nm west of Basra between 0108Z and 0115Z on 17 Jan 91. The airfield was an MOB for Fulcrum, Fishled and Fitter aircraft and consisted of 2 main runways, 2 parallel taxi-ways and 4 HAS sites, one at each corner of the airfield. We decided to split the aircraft into two 4 shps attacking at 90o to each other.
Each aircraft was allocated a separate DMPI and using across JP233 deliveries, we planned to cut-off the HAS access splines, and cut the main runways in 4 places. The low level route to the target would be flown in 3nm parallel track formation with 40 secs between elements. The final attack would be flown with 20 secs between attacking aircraft. The task was part of a USMC package which included A6 aircraft aiming to bomb Scud missile storage facilities at Tallil airfield between 0100Z and 0105Z. The USMC package also provided for SEAD support from EA6 and F18 aircraft.

TEXT REDACTED

EXECUTION

4. Outbound Transit. All 8 aircraft took-off at 2300Z on 16 Jan 91; the first mission from RAF Detachment Muharraq in the war against Iraq. The formation rendezvoused with two VC10 tankers approximately 150nm west of Muharraq, although the second tanker failed to turn at the correct point and had to catch up some 8-9 miles before AAR could commence. The transit was flown at FL100 and involved 2 AAR bracket for each aircraft. AAR operations were carried out successfully despite some cloud tops at FL100.

5. Ingress and Egress. The low level routing to and from the target took approximately 40 mins with the Automatic Terrain. Following system engaged throughout except for the final stages of the attack. The routing was uneventful.

6. The Attack. At approximately 30nm from the target a heavy AAA barrage was seem in the target area. The AAA fire appeared to be unco-ordinated and not aimed but continued throughout the attack, indeed was still continuing some minutes after the last aircraft had delivered his weapons. Despite the AAA barrage the first 4 aircraft successfully delivered their weapons on a north westerly heading and the second 4-ship successfully delivered their weapons on a north easterly heading.

7. Homebound Transit. After leaving Iraqi airspace the formation climbed to effect a rendezvous with the two VC10 tankers. This rendezvous was again hampered by the incorrect action of the second tanker and cloud at FL100 made the rendezvous rather difficult. At this stage the leader experienced an oil pressure failure on his left engine and as a consequence shut down the engine once AAR was completed. The leader was escored home at FL100 by the No2, whilst the rest of the formation climbed to FL270. All aircraft landed safetly at Muharraq after a sortie lasting approximately 4 hours.

CONCLUSION

8. The formation failed to achieve tactical surprise primarily because of the A6 attack immediately prior to our TOT. We believe that were we to attack the target alone and compress the TOT as much as possible tactical surprise would be achieved and the threat from AAA would be reduced.

ATTACK ON JALIBAH SOUTH EAST AIRFIELD - 18 JAN 91

AIM

1. The aim of the mission was to disrupt enemy air operations at Jalibah South East airfield.

PLAN

2. The task called for aircraft to attack Jalibah South East airfield which lies approximately 200nm south-east of Baghdad between 0200Z and 0215Z on 18 Jan 91. The airfield was an MOB of Fulcrum and Flogger aircraft and consisted of a main runway, 2 parallel taxiways and a HAS site in each of the corners of the airfield. In the light of our experience the previous night, we decided to compress the formation TOT as much as possible. We therefore decided to attack DMPI's spread by 1.5nm with 10 secs separation between each aircraft. This profile would allow 6 aircraft to deliver their weapons onto 6 different runway and HAS areas DMPIs in under 1 minute. Thirty seconds later the remaining 2 aircraft would attack HAS access spines at 90o to the main attack, again attacking with 10 secs and 1.5nm separation. The mission was supported by USAF EF 111 and F4 SEAD aircraft.

TEXT REDACTED

EXECUTION

4. Outbound Transit. Shortly after take-off No 4 turned back to base because both his GMR and TFR were unserviceable. The remaining 7 aircraft rendezvoused with a single Victor tanker and this formation then joined up with the VC10 tankers. The transit and AAR operation were uneventful although one AAR basket was damaged.

5. Ingress and Egress. The low level ingress was flown in 4nm parrallel track formation with the lead and No2, who would carry out the first attack, approximately 1 minute ahead of the rest of the formation. No enemy activity was observed by any of the formation, until the lead and No 2 flew approximately

3nm to the south of an ammunition dump, AAA started as the aircraft flew past but was ineffective. Approaching the final attack the No 6 pulled away from the stream having had a number of problems with his navigation equipment. The egress routing for lead and No 2 was uneventful. However, the remainder of the formation found that the increased speed of the off-target turn put their aircraft some 3nm north of the planned attack. The actual track unfortunately put them over the ammunitions dump which had fired AAA at the lead and No 2. All 4 aircraft succeeded in escaping from the AAA and the No 7 decided to attempt to level strafe the AAA units. The No 6 re-joined the formation 1 minute stream behind the No 8.

6. The Attack. Approximately 8nm from the target the aircraft accelerated to 540kts. The No 3 reported that no AAA fire was seen until the weapons started to impact the ground. However, the No 7 reported that there was a full AAA barrage in effect by the time he attacked, 30 secs later. The Nos 3, 5, and 7 all reported successful attacks as did the lead and No 2 attacking from the north west. Unfortunately the No 3 mis-identified an aiming offset and delivered his weapons approximately 2nm to the north of the airfield. In so doing the No 8 cut-down his planned separation from the lead and No 2 to approximately 10 secs.

7. Homebound Transit. Upon passing into Saudi Arabia airspace, the aircraft climbed to rendezvous with two VC10 tankers. The tankers were at the briefed height but this was in the cloud tops making a safe rendezvous with the AAR impossible. Unfortunately, the second tanker did not remain in the rendezvous orbit and this caused additional problems for the Nos 5,6,7 and 8. Having completed AAR the aircraft climbed to FL270 to transit back to Muhurraq although the No 6 still carrying his JP233 weapons had to fly at FL120. The aircraft all landed safely after a 4 hour sortie.

CONCLUSION

8. The failure of 3 aircraft to deliver weapons onto the target obviously meant a lessening of the disruption caused to the airfield and it was unfortunate that the 3 aircraft who failed all had DMPI’s concentrated in the northern half of the target. It would appear that tactical surprise may have been

achieved by the first aircraft to attack, the No 3. However, the AAA barrage quickly became fully developed and even compressing the TOTs to 10 secs did little to lessen the risk to subsequent aircraft. We believe that aircraft dedicated to suppressing every AAA may help subsequent deliveries of JP233 and intend to exercise this plan in our next mission.

ATTACK ON UBAYDAH BIN AL JARRAH AIRFIELD - 20 JAN 91

AIM

1. The aim of the mission was to disrupt enemy air operations at Al Jarrah airfield using 4 Tornados for the main attack and a further 4 Tornados for defence suppression.

PLAN

2. The task called for aircraft to attack Al Jarrah airfield which lies 90nm to the south-east of Baghdad between 0215Z and 0230Z on 20 Jan 91. The airfield was an MOB for Mirage and Fishbed aircraft and consisted of 2 parallel runways, one parallel taxiway, and HAS sites in the SW and SE corners of the airfield. Given the relatively small size of the attacking force, we decided to concentrate our efforts onto the HAS sites and consequently targeted 2 Tornados loaded with 2 x JP233 against each site. Our experience, gained on previous airfield attacks, showed that AAA fire posed the greatest threat and that in the past this had been stimulated by the detonation of the first weapons to be delivered on target. Hence, we decided to put the first 2 attack aircraft through the target line abreast so that they would be past the weapon delivery point before AAA fire could commence. The problem remained: how to suppress the defences for subsequent aircraft. We decided to load each of the middle 4 aircraft with 8 x 1000lb bombs fused for airburst to be delivered from loft attacks. Our expectation was that the airburst bombs would suppress the AAA sufficiently for the final 2 aircraft loaded with JP233 and following in 40 sec trail to deliver their weapons with minimum risk. The first 6 aircraft would attack as pairs 1½nm line abreast, with 20 sec between succeeding aircraft, for maximum compression. The distance to the target was such that we had to use 2250 litre UWTs in order to complete the mission in place of the usual 1500 litre ones. The support package for the attack consisted of a single EF111 aircraft which was tasked to suppress SAM and AAA acquisition radars.

TEXT REDACTED

EXECUTION

4. Outbound Transit. No 8 was unable to select reheat on the left engine on take off and hence was a ground abort. Shortly after coasting into Saudi Arabia, No 7 reported that he was unable to transfer fuel from the UWTs. After repeated attempts to solve the problem without success, the crew were obliged to return to base. Despite the loss of half the main attack package the lead crew decided to continue with the mission. The remaining 6 aircraft successfully rendezvoused with 2 Victor tankers approximately 150nm west of Bahrain.
The transit to the Iraqi border was planned at FL90 and included 1 AAR brackets. Unfortunately, at this height the formation encountered cloud and associated severe turbulence which made AAR very difficult particularly at the high AUWs involved. Safe routing procedures and the weight of the Tornados prevented a climb above the cloud layer and so the crews, none of whom had tanked at such high AUW before, had to make the best they could of the conditions. The net result was that 3 had to make the best they could of the conditions. The net results was that 3 of the 4 wing refuelling baskets were damaged to varying degrees during the first AAR bracket. The No 2 crew was sent to the rear tanker in order to make best use of the available baskts. The formation continued towards the end of the tanker trail, some 450nm west of Bahrain, taking fuel when and where possible. During the final stages of the transit, further cloud and turbulence again interfered with AAR operations to the point where it was impossible even to remain in contact with the baskets. The Victor crews attempted to climb out of the turbulent cloud tops but this proved impossible at the AUWs involved and hence tanking remained extremely hazardous. The tankers continued on beyond the planned drop off point in the hope of finding better conditions and eventually set up a race track further to the north.
At this stage the lead crew had sufficient fuel to delay the TOT by a maximum of 6 minutes. At the end of this time, Nos 2 and 3 were in position to continue and so the 3 aircraft set off in formation towards the Iraqi border. Some 3 minutes later, No 5 having successfully taken on fuel, elected to try to catch up with the formation enroute to the target. There was insufficient time remaining within the TOT bracket for Nos 4 and 6 to refuel and so they returned to base with their weapon loads.

5. Ingress and Egress. The low level routing to and from the target took approximately 80 minutes and was planned as 4nm wide parallel track formation with 30 sec between elements. Automatic Terrain Following was used throughout except for the final stages of the attack run which were flown manually. No RHWR warning of note were encountered on either the inbound or outbound transit. About 10 mins into enemy territory, AWACs requested a deviation from track in order to search an area believed to contain downed aircrew. No 5, already delayed off the tanker, reduced speed and, once over the specified area, briefly turned on his lights and searched using NVGs. Unfortunately, nothing was seen of possible survivors. However, this action prevented No 5 from rejoining the rest of the formation and so he continued alone.

6. The Attack. Approximately 8nm from the target, Lead and No 2 accelerated to 540 kts. At about 3nm from the target, intermittent AAA fire started and rapidly developed into a full scale barrage which enveloped the target area. The 2 crews pressed into the barrage and successfully delivered their JP233s onto the planned DMPIs. The crews reported that the general elevation of the AAA fire was lower than that experienced on previous missions and both experienced airframe buffeting from AAA exploding around the aircraft. Twenty seconds later No 3 delivered 8 x 1000lb bombs but reported that the toss maneouvre took the aircraft right into the heart of the AAA barrage. Both crew members were aware of tracer and explosions both above and below the aircraft. reported that the enemy fire was extremely disorientating and that the recovery maneouvre took the utmost concentration as a result. Three minutes later No 5 delivered another 8 x 1000lb bombs and reported experiencing the same problems as No 3. In addition, [TEXT REDACTED] the No 5 crew felt that the detonation of No 3's bombs had little discernable effect on the weight of the AAA fire emanating from the target. On checking fuel reserves post the attack No 2 was obliged to jettison UWTs, No 3 twin store carriers, and No 5 both UWTs and twin store carriers, in order to ensure safe fuel margins for the return of the tankers.

7. Hombound Transit. Once clear of Iraqi airspace the 4 aircraft climbed to FL80 and successfully rendezvoused with

2 VC 10 tankers. After completing AAR, the aircraft climbed to sanctuary level and turned for home. During the course of the mission unbeknown to the crews, the duty runway at Muharraq was changed from 30 to 12 and in addition unforecast low cloud and fog had formed over the entire area. None of these facts was passed to the returning crews and the result was that the aircraft, once again approaching fuel minimum, had to descend from FL270 and make an approach to the airfield from a range of 30nm. Despite these last minute problems, all 4 aircraft landed successfully having broken cloud at approximately 150ft from internal aids approaches after a sortie lasting just over 4 hours.

CONCLUSION

8. The first 2 aircraft failed to achieve surprise, suggesting that the Iraqis had developed an effective early warning system. Furthermore, the resulting defensive barrage was directed at both low and medium level indicating that the Iraqis had recognised the threat posed to them by aircraft attacking from low level. It was disappointing to note that the airburst 1000lb bombs had little apparent effect on the AAA fire. Furthermore, concern was raised that the loft maneouvre took the aircraft, not only into the heart of the AAA barrage, but as a result, tested the considerable skills of 2 of the most able and experienced pilots on the Sqn. In the light of these facts, we have conducted a review of our tactics and have decided that there is little advantage to be gained from compression through the target. If JP233 attacks remain necessary in future, they would be better conducted as pairs of aircraft sent to the target at irregular intervals. The support afforded to our missions this far has done little to suppress what has proved to be the greatest threat - that posed by AAA barrage fire. Our preferred option would be to negate the AAA by flying above it at 20,000ft plus. However, at this altitude, 2 way contact with AWAVs would be essential and fighter sweep desirable. In addition, depending upon the en-route and target area SAM threat, EF111 or Wild Weasel support might also be necessary.

ATTACK ON UBAYDAH BIN AL JARRAH AIRFIELD - 20 JAN 91

AIM

1. The aim of the mission was to disrupt enemy air operations at An Natef airfield.

PLAN

2. The task called for aircraft to attack An Natef airfield located 80nm south of Baghdad between 1630Z and 1645Z on 20 Jan 91. The airfield was a DOB and consisted of a main runway, parallel taxiway and revetments at either end of the airfield. Following our review of tactics we decided to load the aircraft with 8 x 1000lb freefall bombs, each with a mix of impact and delay fuzing. The bombs would be delivered from a level attack at 20000ft. The centre of the airfield was designated as the sole DMPI and it was expected that bomb dispersion and marking inaccuries would ensure a reasonable spread of weapons onto the airfield. The attack direction was constrained to a single LOA because of the presence of a protected religous site 2.5nm north of the target. The mission would be supported by two EF111 Revers and two F14 Tomcat fighters.

TEXT REDACTED

EXECUTION

4. Outbound Transit. All 8 aircraft took off from Muharraq behind the 2 Victor aircraft tasked to refuel the formation. The transit and AAR was uneventful.

5. Ingress and Egress. Having completed AAR the aircraft climbed to 20000ft to ingress to the target. Both ingress and egress were uneventful. Winds encountered at 20000ft were of the order of 70knots on a bearing of 250o. Such winds, combined with the aircraft having a 30kt IAS speed band in which to fly, made time keeping difficult and emphasized the need for accurate forcasting and careful planning.

6. The Attack. Approaching the target area the lead and No 3

reported that their MGRs were unserviceable. Therefore, the lead formated on the No 2 and the No 3 formated on the No 4, and these aircraft manually released their weapons on call from the No 2 and No 4. The No's 5,6,7 and 8 carried out normal attacks in the fully automatic mode. Airfield defences were quiet until the first bombs impacted. Subsequently a heavy AAA barrage began but it was estimated that the AAA did not reach above 18000ft. No SAM indications or launchers were seen in the target area.

7. Homebound Transit. All the aircraft returned to the tanker towline and refuelled from the Victors prior to transitting home at FL270. The aircraft landed safetly at the end of a 3.55 hour sortie.

CONCLUSION

8. All 8 aircraft delivered their weapons onto the target area, including 2 aircraft that would have had to abort the sortie if a low level delivery had been chosen. The accuracy of the attack was difficult to assess since the target was also the point of interest of B52 aircraft shortly after our-mission. This, together with the very slow delivery of damage assessment, made it impossible to draw out lessons for subsequent attacks. However, all crews agreed that the medium level option, with support, felt safer than low level overflight of defended targets.

ATTACK ON JALIBAU SOUTH EAST AIRFIELD - 21 JAN 91

AIM

1. The aim of the mission was to disrupt enemy air operations at Jalibau South East airfield.

PLAN

2. The task called for aircraft to attack Jalibau South East airfield which lies some 200nm south east of Baghdad between 1745Z and 1800Z on 21 Jan 91. The target had already been attacked by the Sqn on 18 Jan and heavy AAA ad been experienced during that low level attack. Further attacks by other Multi-National Forces aircraft had also been directed against the airfield. In order to remain above the AAA threat, a level attack from 20000ft was planned, with the centre of the HAS sites at either end of the runway selected as the DMPIs. Such widely spaced DMPIs would allow pairs of aircraft to attack them abreast along 2 separate LOAs making deconfliction easier and each pair of aircraft would attack the target at 20 sec intervals. It was planned to have each aircraft loaded with 8 x 1000lb bombs with a mixiture of impact and delay prizes. The attacking force was supported by USAF F4G Wild Weasel aircraft and F15 fighters.

TEXT REDACTED

EXECUTION

4. Outbound Transit. All 8 aircraft departed Muharraq and rendezvoused with VC10 tankers. The outbound transit was uneventful.

5. Ingress and Egress. The ingress to the target were relatively quiet. However No 6 reported that his radar warning receiver was unserviceable and decided to abort the sortie. On egress a number of fighter indications were received by the formation, despite information to the contary from AWACs. The indications caused 4 crews to jettison their underwing tanks and twin store carriers.

6. The Attack. The 7 aircraft attacked their DMPIs without incident and no airfield defences were active until the first bombs impacted the target. Thereafter a AAA barrage commenced and several unguided SAM launches were seen. Both the AAA and SAM launches were ineffective.

7. Homebound Transit. Since 4 aircraft had jettisoned their underwing tanks and twin store carriers, those aircraft were able to transmit direct to Muharraq. the 3 remaining aircraft rendezvoused with the Victor tankers to carry out AAR prior to transitting home. Upon arriving at Muharraq, a missile attack warning was in progress. The Victor tankers still had spare fuel and set up a towline to enable to Tornados to refuel again and remain airborne until the alert was cancelled. The last aircraft landed after a sortie of 4.20 hours duration.

CONCLUSION

8. Seven aircraft succeeded in delivering their weapons onto the target. Unfortunately damage assessment has not been forthcoming and so it is impossible to draw conclusions as the the attacks effectiveness. Of note, however is the number of apparently spurious warnings of enemy fighters recieved by the formation. Had these spurious warnings been recieved before the attack phase, the effectiveness of the mission would probably have been degraded by over 50%. If such spurious warnings cannot be programmed out of the warning system, confidence in the system could be lost, leading to potentially dangerous complacency.

ATTACK ON TALLIL AIRFIELD - 22 JANUARY 1991

AIM

1. The aim of the sortie was to disrupt enemy air operations at Tallil airfield.

PLAN

2. The task called for aircraft to attack Tallil airfield between 1910Z and 1915Z on 22 Jan 91. The airfield had been the target of numerous attacks by Multi-National Forces, including 2 attacks by Muharraq Tornados. Since previous attacks on this airfield had encountered very heavy AAA fire we decided to attack from 20000ft using 8 x 1000lb freefall bombs with a mix of impact and 12 hour delay fuzing. Two DMPIs were chosen on the main runway, one in the north western quadrant of the airfield, and one in the south eastern quadrant. The other two quadrants were allocated to 8 Tornados from the Dharhan Detachment, who would attack 6 minutes before us and other DMPIs were selected for four F15E aircraft attacking 3 mins before us. Since we were attacking at 20000ft, we decided that compression TOT would not affect the survivability or success of the attack. We therefore opted for a single track routing with aircraft separated laterally by 20 seconds and vertically by 500ft. In addition we planned to have 1 minute separating the No 4 and No 5 aircraft. The attack was supported by an EF111 Raven and two F15 fighters.

TEXT REDACTED

EXECUTION

4. Outbound Transit. Unfortunately the No8 could not get both engines into reheat and had to ground abort the sortie. Shortly after take-off, the No 6 reported that he had fumes in the cockpit and returned to land safely at Muharraq. The 6 remaining aircraft successfully rendezvoused with VC10 tankers and the outbound transit was uneventful.

5. Ingress and Egress. Having completed AAR, the formation climbed to 20000ft to ingress to the target. AWACs reported that the EF111 Ravens would not be on task, but we decided that this would not cause us to abort the sortie. Both ingress and egress routing was uneventful.

6. The Attack. Approximately 40nm from the target AAA fire was seen from the target area. We assumed that this AAA barrage was as a result of the attacks by the Dharhan Tornados and the F15E aircraft. The AAA fire continued throughout our attack but was ineffective. On approaching the target, the No 4 reported a GMR failure and closed on the wing of the No 5 for a reversionery attack. All 6 aircraft successfully delivered their weapons onto the target.

7. Homebound Transit. After leaving Iraqi airspace the formation rendezvoused with the VC10 tankers and carried out AAR. The transit back to Muharraq was uneventful and all 6 aircraft landed safetly having been airbourne for 3.50hrs.

CONCLUSION

8. Six aircraft succeeded in delivering their weapons onto the target. Subsequent reconnaissance photographs showed that 4 aircraft had delivered their weapons very close to the desired DMPIs causing 8 large craters in the main runways and taxiways. The 2 remaining sticks of bombs had fallen short of the planned DMPIs but had apparently caused some damage to support buildings on the airfield. Overall, the results were satisfactory, given that this was the first medium level weapon delivery by a number of the crews in the formation. None of the crews expressed concern at the lack of electronic jamming support although all agreed that such support, together with fighter cover, was highly desireable.

ATTACK ON AL ZUBAYR OIL PUMPING STATION - 25 JANUARY 1991

AIM

1. The aim of the mission was to destroy the oil pumping station at Al Zubayr.

PLAN

2. The task called for aircraft to attack the oil pumping and storage complex at Al Zubayr, 10nm south west of Basra, between 0240Z and 0245Z on 25 Jan 91. Because the target was located in an area known to be heavily defended by AAA units, we decided to attack at 20000ft using 8 x 1000lb bombs per aircraft. Since bomb ballistics and marking errors would cause a dispersal of bombs over the target a single DMPT was selected in the centre of the complex. The formation would ingress on a 40 sec card formation and attack from two directions with 20 secs separation between each TOT.The most direct routing to and from the target was selected taking the formation up the Persian Gulf, approximately 30nm off the Saudi Arabian and Kuwaiti coastline. The routing meant that AAR would not be required outbound, but tanker support would be required on egress from the target. The attack would be supported by EF111 and F4G SEAD aircraft and F15 fighters.

TEXT REDACTED

EXECUTION

4. Outbound Transit. Just prior to take-off the formation was informed that the EF111 aircraft would not be on task but the formation decided to continue with the sortie. All 8 aircraft got airborne but prior to entering Iraqi airspace the No 4 and 8 reported radar warning receiver failures and returned to Muharraq.

5. Ingress and Egress. Light AAA fire was seen during the ingress and several unguided missile launches were observed, all of which were ineffective. Heavy AAA fire was experienced

during egress close to the Iraq/Kuwait border. The formation at FL280, deviated to the east of this heavy AAA fire, and then once over the Persian Gulf contained southwards.

6. The Attack. The location of the target in an area covered in oil works and associated infrastructure made offset identification difficult. However, the target proved to be radar discrete and all 6 aircraft successfully released their weapons. A layer of low cloud precluded definitive damage assessment but several crews thought that secondary explosions had occurred. Upon weapon impact, heavy AAA fire commenced but none was assessed to exceed 18000ft.

7. Homebound Transit. Although the Victor tankers were away from the specified datum position, the formation successfully rendezvoused with them. Once AAR was completed the aircraft returned to Muharraq landing after a sortie of 2 hrs duration.

CONCLUSION

8. Six aircraft delivered their weapons onto the target area. However, no damage assessment has yet been recieved on this target making it difficult to come to any conclusions. Given the ballastic errors inherent in the Tonado at medium level and the small size of the nominated target, it is likely that any direct hits would be by luck rather than design. We feel that the small size of the target required the attentions of PGMs rather than dumb bombs, however accurately aimed.

ATTACK ON TAL AL LAHM AMMUNITIONS DUMP - 26 JANUARY 1991

AIM

1. The aim of the mission was to destroy as much as possible of Tal Al Lahm ammunitions dump.

PLAN

2. The task required aircraft to attack the ammunition dump at Tal Al Lahm which lies 170nm south east of Baghdad between 0200Z and 0215Z on 26 Jan 91. The target covered an area measuring 4nm long and 2nm wide, and consisted of dispersed storage sheds in 2 distinct groups. To the south approximately 190 storage sheds were randomly distributed about the site. To the north approximately 90 storage sheds measuring approximately 350ft by 50ft were arranged in an series of rows covering an area 1.5nm long and 0.75nm wide. Given the small attacking force we decided to concentrate the attack on the northern site and chose 8 evenly spaced DMPIs. Previous flights close to this area had shown that the dump was well defended by AAA batteries, and together with the possible explosive effect of hitting ammunition; we therefore decided that a medium level weapon delivery was necessary. Routing at medium level was confined to a single track with aircraft separated by 20 secs laterally and 500ft vertically and one minute separation between Nos 4 and 5. The attack would also be carried out using this spacing. The formation was to be supported by two EF111 Raven aircraft and four F15 fighters.

TEXT REDACTED

EXECUTION

4. Outbound Transit. On take-off No 4 suffered an engine surge and had to abort the sortie. The remaining 7 aircraft successfully rendezvoused with 2 Victor tankers. The first tanker unfortunately had one hose that was unserviceable forcing the Lead, No 2 and No 3 to refuel from the same wing hose. Upon completion of the first planned refuelling bracket

this hose also became unserviceable, but the formation had received sufficient fuel to complete the task.

5. Ingress and Egress. The ingress and egress were uneventful as far as enemy defences were concerned. However, medium level winds were stronger than forecast necessitating a 30 sec delay to the nominated TOT.

6. The Attack. All 7 aircraft carried out the attack according to the plan. Unfortunately No 6 was unable to release any of his bombs over the target because of a computer fault. The No 6 succeeded in dumping his bombs into the desert some 5 minutes later. Target defences were quiet until bombs impact occurred, but even then the AAA fire was not as intense as had been previously experienced from this area.

7. Homebound Transit. Upon egress the Lead and Nos 5,7 and 8 reported that they had sufficient fuel to return direct to Muharraq. the No2 2,3 and 6 however required AAR and therefore separated from the formation to rendezvous with the single serviceable Victor, prior to transitting back the Muharraq. All 7 aircraft landed safetly after a sortie of 3.20hrs.

CONCLUSION

8. Six aircraft succeeded in delivering their weapons into the target area. Subsequent photography of the dump, however showed that while delivery had been accurate, a majority of bombs had impacted between the sheds. Indeed only one of the storage sheds was clearly seen to have been destroyed. Subsequent intelligence reports indicated that 27 sheds had been destroyed, but it is not clear whether this was as a result of our attack or a follow-up attack by other Multi-National Force aircraft. it was disappointing to see such an apparently small amount of damage for the effort involved an observation which highlighted the problems of attacking a well-designed and dispersed ammunitions dump. Further, we do not consider that the more accurate delivery of weapons from low level would have necessarily increased the amount of destruction caused.

ATTACK ON AS SUMAWALI PETROLEUM REFINERY - 28 JANUARY 1991

AIM

1. The aim of the mission was to destroy the As Samawali petroleum refinery.

PLAN

2. The task called for 10 aircraft to attack the As Samawali petroleum refinery which lies approximately 120nm south east of Baghdad, between 0200Z and 0210Z on 28 Jan 91. The refinery consisted of 4 fractionating towers in a noth-south row with storage tanks to the west and support buildings to the east. The whole site covered an area 1200ft by 700 ft. We decided because of the explosive nature of the target, that a medium level attack would be most suitable and designated the row of fractionating towers as the aiming point for all aircraft. The 10 aircraft would all follow the same single track route into and out from the target, in 3 separate elements; a pair and two 4-ships. Each element would be separated by one minute and within each element, aircraft would have 500ft of vertical separation. The attack would be supported by two F4G Wild Weasel and two F15 fighters.

TEXT REDACTED

EXECUTION

4. Outbound Transit. All 10 aircraft got airborne from Muharraq, and proceeded to rendezvous successfully with 3 Victor tankers. The transit was uneventful.

5. Ingress and Egress. Having completed AAR the formation climbed to 20000ft before entering Iraqi airspace. At this altitude the wind speeds were stronger than forecasted and the TOT was delayed by one minute to take account of this. The ingress was uneventful, but on egress a large amount of AAA fire was seen from Tallil airfield, some 25nm north of track. We considered that this may have been due either to a sector

air raid warning, or as a direct response to our attack some 45nm west of the airfield.

6. The Attack. All 10 aircraft attacked the target, but the No 2 mis-identified an aiming offset and his bombs fell approximately 1.5nm to the east of the refinery. As the leaders bombs impacted, a huge explosion occured and this was followed by more secondary explosions as fires took hold and more bombs were delivered. No AAA was seen in the target area.

7. Homebound Transit. All 10 aircraft had sufficient fuel to return to Muharraq without AAR and the Victors were informed accordingly. The aircraft all landed safetly at Muharraq after being airborne for approximately 3.00 hrs.

CONCLUSION

8. Nine aircraft were considered to have delivered their weapons at the target. Although no damage assessment has been received from the intelligence network the huge secondary explosion witnessed and airborne reports of fires some days later, lead us to believe the attack was successful.

ATTACK ON AD DIWANIYA PETROLEUM PRODUCTS STORAGE SITE - 29 JANUARY 1991

AIM

1. The aim of the mission was to destroy the petroleum products storage area at Ad Diwaniya.

PLAN

2. The task called for 8 aircraft to attack the petroleum products storage area situated on the western outskirts of Ad Diwaniya some 75nm south east of Baghdad between 2230Z and 2245Z on 29 Jan 91. The storage site measured approximately 1500ft by 900ft and consisted of 6 large storage tanks, 8 small storage tanks and a populated area with support buildings. The orientation of the site lent itself to an easterly attack direction and this also meant the attack would benefit from having a tailwind. Unfortunately, such an attack direction put the town of Diwaniya in the immediate overshoot of the target. We therefore decided to attack on a northerly track, albeit that this would mean that bombs would be delivered into a 60 knot crosswind. Each of the 4 rows of tanks were designated as DMPIs and we decided to deliver 8 x 1000lb bombs each from 20000ft. The formation would attack in 20 sec stream, with 500 feet separation between each aircraft. The attack was to be supported by two EF111 Raven aircraft and two F15 fighters.

TEXT REDACTED

EXECUTION

4. Outbound Transit. All 8 aircraft took-off from Muharraq and rendezvoused with 2 Victor tankers. The transit was uneventful although one Victor had an unserviceable hose.

5. Ingress and Egress. Having left the Victors and climbed to 20000ft it was found necessary to adjust the TOT because the wind speeds were not as forecast. The lead delayed the TOT of the first 4 aircraft by 30 secs and the No 5 delayed the

TOT of the rear 4 aircraft by 1 minute. the ingress and egress were otherwise uneventful although some radar warnings were received by some aircraft. These indications were reported to the intelligence staff during the debrief.

6. The Attack. The first 7 aircraft delivered their weapons onto the target area. Unfortunately the No 8's GMR failed at a late stage and he therefore released his bombs on the computers raw position. No 8's bombs were seen to impact the ground approximately 0.5nm short of the target. The No 4 had an autopilot failure and therefore formated on the No 3 in order to release his bombs on a call from the No 3. As the leaders bombs inpacted secondary explosions and fires were seen in the target area and these continued as more bombs were delivered. The target was apparently undefended, but AAA fire was seen from a military storage area 2nm short of the target. The AAA was ineffective.

7. Homebound Transit. On leaving Iraqi airspace some of the aircraft required AAR and the whole formation transitted home to land after 3.20 hrs.

CONCLUSION

8. Despite 2 aircraft malfunctions 7 aircraft succeeded in delivering weapons into the target area and the secondary explosions and fires led us to believe that the attack had been successful. Photography of the target received 2 days later, showed that only 2 of the large storage tanks and several support buildings had been destroyed. Unfortunately, the damage assessment could not tell us whether the other tanks had been penetrated by weapon fragments or damaged by the secondary explosives and fires. The photography also showed that a large number of bombs had impacted approximately 0.25nm to the west of the target. It would appear from this that the weapon aiming computer is allowing to much wind effect, and emphasises the need to attack with head or tailwinds whenever possible.

ATTACK ON SHAIBAH AIRFIELD - 31 JANUARY 1991

AIM

1. The aim of the mission was to destroy aircraft hangars on Shaibah airfields.

PLAN

2. The task called for aircraft to destroy the hangers in Shaibah airfield which lies 10nm south west of Basra between 1735Z and 1740Z. The hangars were situated in two groups to the south of the runway. One group of 3 hangars was in a line heading east-west and covered an area approximately 1200ft by 400ft whilst the second group of 4 hangars each measuring 100ft by 50ft were arranged in an arc. This second group would require 2 attack directions to ensure adequate coverage and so we decided to attack with 3 aircraft on a northerly track and 3 aircraft on a westerly track. the 2 remaining aircraft would attack the first group of hangars on a westerly track. Previous sorties to this area of Iraq had reported very heavy AAA throughout the region, and so we decided to deliver 8 x 1000lb freefall bombs each, from an altitude of 20000ft. Initially all aircraft would follow a single track northwards from Muharraq. the 5 aircraft attacking from the east would then split from the formation into their own track. Separation between aircraft would be 500ft vertically and 20 secs laterally, for the route and attack. In addition there would be 1 minute separation between No 3 attacking northwards and No 4 attacking westwards. the attack was part of a USN package consisting of six A6 aircraft tasked to attack aircraft in the open and support facilities at Shaibah, an EA6 electronic jammer, an A6 armed with HARM and four F14 fighters.

TEXT REDACTED

EXECUTION

4. Outbound Transit. All 8 aircraft took-off from Muharraq and climbed to 20000ft. The transit was uneventful.

5. Ingress and Egress. The route took the formation past Kuwait city and we were surprised to see that no blackout was being enforced by the Iraqis. Whilst the formation were abeam Kuwait City some 10nm off the coastline, a short burst of AAA was seen from a battery to the south of the city, but this did not threaten the formation. As the aircraft approached the target area sporadic AAA fire was seen but none reached the altitude at which we were flying. Numerous fires could be seen in the ground once we had coasted-in. Wind speed at 20000ft again caused timing problems and the Nos 4 to 8 delayed their TOT by one minute. The leader and No 2 attacked on time but the No 3 was unable to keep up and delayed his TOT by 30 secs. the egress was uneventful, the 2 parts of the formation rendezvoused abeam of Kuwait city.

6. The Attack. On approaching the target all the crews were able to identify the DMPIs on the GMR, and deliver their weapons normally. Unfortunately 4 of the leader's bombs were not released by the computer and these were taken back to Muharraq. AAA fire at the target was sporadic and one unguided missile was seen to be launched. The target defences did not affect the attack.

7. Homebound Transit. None of the aircraft required AAR from the pre-positioned Victor and all the aircraft transitted home to land safely after a 1.50 hr sortie.

CONCLUSION

8. A total of 60 x 1000lb bombs were delivered onto the target area and the confidence of the navigators led us to believe that the delivery had been accurate. However, damage assessment photography later showed that whilst the bombs had been delivered in the correct area, only one hangar had been damaged by the attack. Once again, we considered that much effort had been expended against a small target, for very little gain. Whilst low level delivery may have improved the result, the threat from AAA would, from experience, have posed a considerable danger. The target would have been ideally suited to PGMs and we hope that their arrival in theatre will be sooner rather than later.

ATTACK ON AS SAMAWAH HIGHWAY BRIDGE - 2 FEB 1991

AIM

1. The aim of the mission was to destroy the highway bridge north of As Samawah.

PLAN

2. The task called for 4 aircraft to attack the highway bridge 5nm north of As Samawah which lies 120nm to the south-east of Baghdad, between 1100 Z and 1120 Z on 2 Feb 91. The attack was to be the RAF's first use of LGBs in the war and we decided to attack each end of the bridge with 6 LGBs. In order to allow the maximum flexibility, in case of equipment failure, we decided to attack as 2 pairs of Tornados each flying in a close arrow formation at 20000 ft. Each pair of Tornados would have a dedicated Buccaneer designator aircraft but the separation between the elements would allow a single Buccaneer to designate for all 4 Tornados, if required. The mission was to be supported by four F 15 fighters.

TEXT REDACTED

EXECUTION

4. Outbound Transit. All 6 aircraft, with a spare Buccaneer, got airborne from Muharraq and proceeded to rendevous with 2 VC 10 tankers. The AAR trail was hampered by bad weather but the formation was able to proceed into Iraqi airspace. The spare Buccaneer returned to Muharraq.

5. Ingress and Egress. The ingress and egress were uneventful and the presence, at altitude, of large amounts of cloud meant that a close formation was required for most of the route. All the aircrew reported that they felt very vulnerable in this close formation.

6. The Attack. Fortunately, approximately 50 nm from the target, the medium level cloud disappeared to make ideal conditions for LGB operations. Approaching the target the lead

experienced problems with weapon aiming computer and decided to release his weapons from the wing of the No 2. The first 6 bombs were delivered successfully although only 3 appeared to guide to the target. The second 6 bombs were also delivered successfully and all 6 guided to their DMPI. A small amount of AAA fire was seen to the south of the target but this was ineffective.

ATTACK ON AS SAMAWAH SUSPENSION BRIDGE - 5 FEB 91

AIM

1. The aim of the mission was to destroy the suspension bridge at As Samawah.

PLAN

2. The task called for aircraft to attack the suspension bridge over the Euphrates river, in the centre of As Samawah town, which lies 120nm south-east of Baghdad, between 0500 Z and 0515 Z on 5 Feb 91. The bridge was 160 m long with suspension piers and towers positioned 40 m from the river bank. The aircrew assessed that the best DMPIs to destroy the bridge would be the suspension towers, since we considered that this was where the weight of the bridge was taken. However, the task called for us to attack the bridge abutments and this was confirmed by further advice from CTTD. We therefore targeted a pair of Tornados onto each bridge abutment. Each pair of Tornados would have a dedicated Buccaneer designator aircraft and weapon delivery would be from 20000ft. The attacking elements would be separated by 45 secs in order to allow a single Buccaneer to designate for both pairs of Tornado if this was necessary. Since the target was located in the centre of a town we decided the weapons would not be released unless a positive radio call was received from the Buccaneers, to indicate they had serviceable equipment and had identified the target. We expected this procedure, and an approach along the line of the river, to minimize the chances of collatoral damage to the town. The mission was supported by two F 15 fighters and two F 4G Wild Weasels.

TEXT REDACTED

EXECUTION

4. Outbound Transit. All 6 aircraft got airborne from Muharraq behind 2 Victor tankers. The formation caught up with the Victors shortly after coasting-in over Saudi Arabia. The transit was uneventful.

5. Ingress and Egress. Having completed AAR the formation climbed to 20000 ft for the ingress. Both ingress and egress, at 25000 ft, were uneventful.

6. The Attack. The attack was carried out as planned with the first pair of Tornados delivering their weapons onto the southern abutment and the northern abutment being attacked by the second pair of aircraft. All the bombs guided successfully to their DMPIs. Light AAA fire was seen from an area south-west of the target, after the attack, but none reached the attack altitudes.

7. Homebound Transit. Upon leaving Iraqi airspace none of the formation required AAR and all the aircraft recovered safely to Muharraq after a 3.15 sortie.

Conclusion

8. BDA photgraphs and Pavespike video showed that the weapons had been delivered and guided accurately onto the DMPIs. The bridge sections adjacent to the abutments had been damaged and the bridge was probably unuseable. However the main span of the bridge was still intact and we consider that the wrong DMPIs were tasked for this type of bridge.

ATTACK ON AS SAMAWAH SUSPENSION BRIDGE - 8 FEB 91

AIM

1. The aim of the mission was to destroy the suspension bridge at As Samawah.

PLAN

2. The task called for aircraft to attack the suspension bridge over the Euphrates river, in the centre of As Samawah town which lies 120nm south-east of Baghdad, between 0535 Z and 0550 Z on 8 Feb 91. The bridge had previously been attacked by the Sqn (in fact by the same crews) on 5 Feb, but had only been damaged. We believe that the failure of the first attack had been due to the wrong DMPI's being tasked. We therefore decided to deliver 6 LGB's, from pairs of aircraft, onto the suspension towers of the bridge. The target designation would be provided by 2 Buccaneer aircraft and the attacking elements would be separated by 45 secs. Weapon delivery would be from 20000 ft and the attack would be supported by two F 15 fighters, four F 4G Wild Weasels and three EF¬ 111 jammers.

TEXT REDACTED

EXECUTION

4. Outbound Transit. All 6 aircraft got airborne from Muharraq and proceeded to rendezvous with two Victor tankers. The transit was uneventful.

5. Ingress and Egress. The ingress and egress were uneventful.

6. The Attack. The Lead and No 2 carried out a normal attack and released their weapons successfully. The bombs all guided to the southern suspension tower and detonated normally. Shortly after commencing the turn onto the escape heading it became apparrent to the leader that the bridge had been totally destroyed. The observation came, however, too late to prevent the release of the rear elements bombs. The Nos 3 and

4 released their weapons normally. Unfortunately, only 3 of the second elements bombs guided, the other 3 fell short of the town.

7. Homebound Transit. All the aircraft recovered to Muharraq after a 3.20 hr sortie.

Conclusion

8. The attack was completely successful, 6 bombs totally destroying the bridge. The attack confirmed the importance of correctly identifying the weak part of the structure, and concentrating the attack on that spot.

ATTACK ON AL FALLUJAH RAILWAY BRIDGE - 13 FEB 91

AIM

1. The aim of the mission was to destroy the rail bridge at Al Fallujah.

PLAN

2. The task called for 4 aircraft to attack the rail bridge 3nm west of Al Fallujah which lies 40nm to the west of Baghdad, between 0540 Z and 0610 Z on 13 Feb. The bridge had previously been attacked by the Sqn on 10 Feb but the mission had failed to achieve the aims. We decided to attack with 2 pairs of Tornados delivering LGBs to each end of the bridge. The bombs would be guided to their DMPIs by 2 Buccaneer designators, one for each pair of Tornados. The attack would be supported by EF-111 jammers, F 4G Wild Weasels and F 15 fighters.

TEXT REDACTED

EXECUTION

4. Outbound Transit. All the aircraft took-off from Muharraq and procee3ded to rendezvous with 2 VC 10 tankers. The transit was uneventful.

5. Ingress and Egress. Each ingress and egress was uneventful.

6. The Attack. The attack proceeded as planned and the first pair of Tornados released their weapons successfully. Unfortunately, the Pavespike designator pod of the first Buccaneer failed approximately 10 secs before bombs impact and the bombs fell short of the target, onto open ground. The second pair of Tornados released their weapons as planned and 5 of these bombs succeded in hitting the bridge. The sixth bomb failed to deploy its tail unit and fell well short of the target.

7. Homebound Transit. The homebound transit was uneventful and all aircraft landed safely having been airborne for 4.00 hrs.

Conclusion

8. The bombs that struck the bridge did not destroy it but produced damage that, we assess, would render the rail bridge unusable. Of note on this sortie, was the lack of enemy air defence activity in an area which had previously been marked by heavy SAM activity.

Basic Decode of Jaguar MISREP Format

UPDATED BY *Name of Headquarters and Date Time Group (DTG)*
(note: JFAO was the HQ of the UK's Joint Force Air Operations)

**** Offensive Strike Mission Report ****

MUHZ *(4-letter airfield designator for Muharraq)* MISREP

MSNNO: *Mission Number assigned to this formation/sortie.*

A. TGT: *Target location, descriptor and number of aircraft tasked to attack it.*

B. TOT: *Time on target (all times in ZULU time).*

C. RESULT: *Aircrew's assessment of the results of the attack by this formation, for example, the number of weapons dropped. Initial assessment would have been made via visual and/or image recording devices, eg, aircraft Head Up Display.*

D1. TGT OBSERVATION: *Anything noteworthy observed in the vicinity of the target, for example, the presence of surface-to-air fire by its defenders.*

D2. ENROUTE OBSERVATION: *As per D1 but for the transit to/from the target area.*

D3. TARWI: *Target Weather Information. A report on the weather encountered in the target area. The digits relate to specific ASMA codes, the details of which are unavailable.*

E. RMKS. *Any additional noteworthy remarks, for example, problems with the aircraft systems or potential conflictions with other Allied formations during the mission (this is the closest the Jaguar MISREPs get to a narrative style).*

BROADCAST: *Routine messages for the rest of the RAF community operating on ASMA, for example, a change in the status of the ASMA system.*

ATTENTION: *Important messages for the rest of the RAF community operating on ASMA, for example, the status of surface-to-surface missile attacks on Allied airfields, or identifying other ASMA tote pages which RAF forces should review.*

VDU ID: *Identification number of the ASMA terminal sending this report and DTG it was sent.*

UPDATED BY JFAO ON 19JAN91 AT 08:16 *** OS MISREP *** TOTE JFA013 PAGE 11

MUHZ MISREP

MSNNO: 4401J

A. TGT: 3 AC ON 2848.15N 04802.40E SA2 SITE. 4 AC ON 2 OTHER SA2 SITES IN VIC

B. TOT: 190505 Z

C. RESULT: ALL AC SCORED HITS ON TGTS. DAMAGE TO ALL SITES, PROBABLY CONSIDERABLE.
APPROX LOCATION OF OTHER 2 SA2 SITES:
1. 2850N 4805E 2. 2851N 4807E

D1. TGT OBSERVATION: 1. AAA ON FRAGGED TGT. CONFIRMED BY HUD VIDEO. 2. AAA AT 2850N 0481E, 2844N.

D2. ENROUTE OBSERVATION:

D3: TARWI: 8881X

E. RMKS: DETCO COMMENTS. ALL 8 AC FLEW IN PRS TRAIL, IN CLOUD FOR 40 MINS TO TGT AREA AND BROKE CLOUD AT 15000 FT WITH 1 MIN TO TGT. TGT POSITIVELY ID AND AC ATTACKED IN 30 DEG DIVE DOWN TO 6000 FT DESPITE HEAVY AAA COMING UP FROM TGT. LEAD AC BOMBS HUNG UP. REMAINING 7 AC SCORED DIRECT HITS ON 3 SA2 SITES. ALL CONFIRMED BY FILM. ALL RETURNED SAFELY. NO BATTLE DAMAGE. ONE EXPERIENCED PILOT DESCRIBED IT AS THE MOST DIFFICULT SORTIE HE HAS EVER FLOWN.

BROADCAST: ASMA BACK ON LINE 1950Z 16TH JAN 1991 DISPLAY MODE CONTINUED
ATTENTION: SCUD ----- ALL CLEAR ALL CLEAR ALL CLEAR. FROM: JFAO QUEUE: 42
VDU ID: V900 TIME: 190816Z

UPDATED BY MUHZ ON 25JAN91 AT 08:22 *** OS MISREP *** TOTE JFA013 PAGE 31

MUHZ MISREP

MSNNO: 4401A

A. TGT: 1. 2852.00N 04807.00E M46 ARTY. 2. 2853.00N 04803.00E M46 ARTY.

B. TOT: 250615 Z

C. RESULT: LDR WEATHER ABORT. B - D DIVED THROUGH GAP. NO POS ID - NIL DROP. E - G WEATHER ABORT. HOTEL DIVED THROUGH GAP IN TGT 2 AREA - POS ID ON MIL POSNS. DROPPED 4 BOMBS. NO ASSESSMENT.

D1. TGT OBSERVATION: NIL AAA. DELTA HAD RAPIER LAUNCH INDICATION AND CWE AT 2837.00N 04815.00E.

D2. ENROUTE OBSERVATION: NIL

D3: TARWI: 7890Z

E. RMKS. 1. LDRS COMMENTS. EXT CLOUD COVER S KUWAIT UP TO 15000 FT
WITH ISOL-ATED CB UP TO 22000FT PRECLUDED TGT ID AND ATTACK.
ISOLATED SMALL HOLES IN CLOUD COVER WERE USED IN AN ATTEMPT TO GET
THROUGH TO THE TGT. NOT POSSIBLE TO POS ID MIL TGTS IN ALL CASES
BAR ONE.

BROADCAST: DISPLAY MODE CONTINUED
ATTENTION: SEE/ACK JHQD82.30, SER 057 FOR DEP AIR CDR FROM: JHQD QUEUE: 15
VDU ID: V861 TIME: 250827Z

UPDATED BY MUHZ ON 29JAN91 AT 15:01 *** OS MISREP *** TOTE JFA013 PAGE 63
MUHZ MISREP
MSNNO: 4403A
A. TGT: 13 FMB AT 48 51N 48 20E HEADING SOUTH
B. TOT: 301150 Z
C. RESULT: WPNS EXPENDED 76 X CRV7 ROCKETS AND
D1. TGT OBSERVATION: FIRED ON BY ACCURATE AAA AND A SUSPECTED IR SAM BOTH
WERE SUCC NEGATED. NO RWR INDICATIONS.
D2. ENROUTE OBSERVATION: NILL

D3: TARWI: 0081Z
E. RMKS. NO. FLOWN 2 NO. PLANNED 2
WPN LOAD CRV7
RMKS. LDR REMK: ON SUCAP, WORKING WITH PB, FMB'S DECLARED HOSTILE BY US
NAVY. AC WENT TO VID BOATS AND WERE FIRED ON BY AAA. AC INFO PB (USN CON)
WHO CLEARED AC TO ENGAGE.
DETCO COMMENTS: TWO SUCCESSFUL WEAPON PASSES PER AC, 1 POSSIBLY 4 BOATS
HIT OVERALL A SUCCESSFUL SORTIE ON A SIGNIFICANT TGT.

BROADCAST: DISPLAY MODE CONTINUED
ATTENTION: SEE JFAO13.63 FOR SUCAP MISREP FROM: JHQB QUEUE: 01
VDU ID: V865 TIME: 291512Z

UPDATED BY MUHZ ON 30JAN91 AT 08:56 *** OS MISREP *** TOTE JFA013 PAGE 65

MUHZ MISREP

MSNNO: 4401A

A. TGT: 2M1726. 2S1 ARTY BN. 2858.25N 04748.00E AND 2858.01N 04749.05E.

B. TOT: 300630 Z

C. RESULT: WPNS EXPENDED 15 CBU87.
RESULT FIRST 4 AC, 3 BOMBS ONTO 1ST DMPI AND 4 ONTO 2ND DMPI. SECOND 4 AC, 4 BOMBS ONTO EACH DMI.

D1. TGT OBSERVATION: NIL AAA NIL SAM. NIL BDA POSSIBLE DUE TO VIS AND CLOUD.

D2. ENROUTE OBSERVATION: NIL

D3: TARWI: 3884Z

E. RMKS. NO. FLOWN 08 NO. PLANNED 08
WPN LOAD CCU2
RMKS. 1. LDR. SORTIE PLANNED WITH 4 AC AGAINST EACH PLANNED DMPI. VIS WAS POOR DUE TO HAZE WITH 3 OR 4 EIGHTHS OF CLOUD, WITH TOPS AT 13000 FT, WHICH MADE TGT ACQUISITION DIFFICULT. ALL AC DROPPED LESS 1 HANG UP WHICH COULD NOT BE RELEASED ON ALT TGT, DUE TO WEATHER. NO SAM OR AAA SEEN.

BROADCAST: DISPLAY MODE CONTINUED
ATTENTION: SEE JFA013.65 FOR JAG MISREP FROM: JHQB QUEUE: 01
VDU ID: V865 TIME: 300856Z

UPDATED BY MUHZ ON 30JAN91 AT 14:12 *** OS MISREP *** TOTE JFA013 PAGE 71

MUHZ MISREP

MSNNO: 4402A

A. TGT: 29 50 00N 048 32 00E POLNOCRNY ON FIRE

B. TOT: 301150 Z

C. RESULT: WPNS EXPENDED 76 X CRV7 ROCKETS AND 480 RDS OF 30MM HE/API. ON RESULT ARR SHIP ABLAZE AMIDSHIPS. ON DEP WAS ON FIRE END TO END.

D1. TGT OBSERVATION: LIFERAFT 1NM NORTH EAST OF SHIP. UNPROPELLED, ORANGE WITH HOOD. NO IDEA OF HOW MANY SURVIVORS.

D2. ENROUTE OBSERVATION: TANKER AGROUND AND ON FIRE AT 29 38 00N 048 50 00E.

D3: TARWI: 7863DX

E. RMKS. NO. FLOWN 2 NO. PLANNED 2

WPN LOAD CRV7 PLUS 30 MM HE/API.
RMKS. LEADER. REFUELED ON PULLER. HEADED FOR CAP 60. ENROUTE VECTORED 340DEG/90NM FROM 6D, 29 40 00N 048 00 00E, AND TOLD TO LOOK FOR SURFACE CONTACTS. INITIALLY FOUND THE TANKER DETAILED IN D2. ALSO ASKED TO VID MARITIME PTL AC, IDENTIFIED AS A FRIENDLY P3 ORION. FOUND HELIO AND POS ID AT 29 50 00N 048 50E HDN NW BACK TO PULLER. OFF PULLER RECONTACTED PB. IMMEDIATELY VECTORED TO W1 NORTH, TO 29 55 00N 048 55 0E. TOLD TO SEARCH WEST FOR TGTs AND OR BDA. HAVING FOUND A POLNOCHNY, REP'TD IT, AWAITED CLEARANCE TO ATTACK. CLEARANCE FROM PB RECD AFTER ABOUT 4MIN, INITIAL RECCE PASS TO CONFIRM HOSTILE TGT FOLLOWED BY 2 ROCKET PASSES, FOUR STRAFE PASSES. ALL STRAFE PASSES AND ONE ROCKET PASS HIT SHIP THEN ON FIRE END TO END. NOTICED LIFERAFT TWO THIRDS OF THE WAY THROUGH ATTACK AND THEREFOR ASSUMED SHIP ABANDONED. NO AAA SEEN FROM SHIPS DEFENCES.
DET COMMANDERS COMMENTS:

BROADCAST: DISPLAY MODE CONTINUED
ATTENTION: GRANBY WARNING TEST 301230Z FROM: WARN QUEUE: 09
VDU ID: V864 TIME: 301421Z

UPDATED BY MUHZ ON 31JAN91 AT 11:30 *** OS MISREP *** TOTE JFA013 PAGE 77

MUHZ MISREP

MSNNO: 4402A
A. TGT: ZSU23-4 AND SSVs 2847.00N 04816.00E.
B. TOT: 311005 Z
C. RESULT: WPNS EXPENDED 8 CBU BL755
RESULT 1 ZSU23-4 AND 1xSSV(TRUCK) DESTROYED.

D1. TGT OBSERVATION: TGT ON MAIN NORTH/SOUTH HIGHWAY. IR SAM FIRED, WITH WHITE PLUME FROM EAST OF ROAD IN RAS AL QUALAYAH.
D2. ENROUTE OBSERVATION: NIL

D3: TARWI: 0081X
E. RMKS. NO. FLOWN 02 NO. PLANNED 02
WPN LOAD CC4
RMKS. 1. LDR. INITIALLY TASKED ON SUCAP. ON CHECKING IN WITH PB WAS IMMEDIATELY RETASKED TO BEAR 601 ON BAI. HE PASSED LAT/LONG AND TGT DESCRIPTION. RECCED ROAD LOOKING FOR CONCENTRATIONS OF ARMOUR. SAW STATIONARY VEH ON SIDE OF ROAD. INITIAL ID AS APC, SUBSEQUENTLY ID AS ZSU23-4. ATTACKED AND MANAGED TO COMBINE POSN OF A TRUCK AND ZSU23-4 AT

MOMENT OF RELEASE. NO AAA SEEN ALTHOUGH HAND HELD SAM FORCED A MSL BREAK ON RECOVERING FROM TGT. WEATHER HAZY.

2. NO VIS ID ON No2 WPNS.

3. DETCO COMMENT. SUCCESSFUL SORTIE BY 2 AC. FIRST USE OF BL755 ON FIRST ZSU23-4 FOUND BY MUHZ. FOLLOWING ATTACK MISSILE FIRED AT LEAD AC, LDR EVADED AND JETTISONED REMAINING STORES.

BROADCAST: DISPLAY MODE CONTINUED
ATTENTION: SEE MY T11.42 THANKS FROM: JFME QUEUE: 21
VDU ID: V864 TIME: 311149Z

UPDATED BY MUHZ ON 02FEB91 AT 12:42 *** OS MISREP *** TOTE JFA013 PAGE 67

MUHZ MISREP

MSNNO: 4402A
A. TGT: CAP 6D INITIALLY. THEN FAYLAYKAH IS 2927.00N 04817.OOE. AAA SITE
B. TOT: 021040 Z
C. RESULT: WPNS EXPENDED 8 x 1000 LB WITH 152 AIRBURST FUZES.
RESULT LDRS BOMBS SEEN TO IMPACT DIRECTLY OVERHEAD OF 6 GUN EMPLACEMENTS. No2. BOMBS SEEN TO IMPACT ADJACENT TO CONCRETE PIERS ON COAST WITH PROBABLE AAA POSNS.
D1. TGT OBSERVATION: NIL AAA BURSTS SEEN BUT PB BRIEFED MSN TO EXPECT HEAVY AAA UP TO 12000FT. ALSO WARNED OF VERY HEAVY LOW LEVEL LIGHT AAA UP TO 5000FT.
D2. ENROUTE OBSERVATION: NIL

D3: TARWI: 0081X
E. RMKS: NO. FLOWN 02 NO. PLANNED 02
WPN LOAD CB4
RMKS. 1. LDR. INITIAL ACTION WAS TO GO TO CAP 6D. VECTORED BY PB TOWARDS FAYLAYKAH. HELD STATION UNTIL MIN FUEL AND THEN RETURNED TO PULLER TO AAR WITH TKR. ON COMPLETION VECTORED BY PB TO FAYLAYKAH AND INSTRUCTED TO CALL BERRY 601 ON FAD 8 FOR TGT DETAILS AND CONTROL. BERRY 601 REQUESTED SUPPRESSION ON EN AD ON SW FAYLAYKAH IS WHILE A6 AC MADE LOW LEVEL RECCE PASS TO SEARCH FOR SURIVORS IN WATER. VISUAL AND RADIO CONTACT ESTAB WITH AC AND A COORD RUN WAS MADE FROM N TO S EGRESSING TO SE. A6 EGRESSED SAFELY.

E2. DETCO. SUCCESSFUL SORTIE BY 2 AC ON A VERY HEAVILY DEFENDED TGT. BOMBING COMPLETED FROM 12000 FT IN MANUAL AFTER RELEASE FAILED AT 15000 FT.

BROADCAST: DISPLAY MODE CONTINUED
ATTENTION: FROM: QUEUE:
VDU ID: V864 TIME: 021406Z

UPDATED BY MUHZ ON 02FEB91 AT 14:40 *** OS MISREP *** TOTE JFA013 PAGE 71

MUHZ MISREP

MSNNO: 4404A

A. TGT: SILK WORM SITE 29 11 87N 048 06 73E

B. TOT: 021230 Z

C. RESULT: WPNS EXPENDED 8 X 1000LB AIRBURST & 4 X CBU 87.
RESULT NO4 DH ON DMPI WITH 2 X CBU 87. THE OTHER 3 MISSED THE DMPI DUE TO A COMBINATION OF WEATHER AND OTHER FRIENDLY AC IN TGT AREA.

D1. TGT OBSERVATION: NOTHING CONFIRMED AT DMPI. HEAVY AAA BURST WIGHT 12,000FT NO SAM SEEN.

D2. ENROUTE OBSERVATION: MANY AC IN AREA MAKING SICCESSFUL ATTACKS VERY DIFF. ADDITIONALY THERE WERE BOMBS EXPLODING AROUND ROUTE INTO TGT.

D3: TARWI: 6483YB

E. RMKS. NO. FLOWN 5 NO. PLANNED 5
WPN LOAD 8 X 1000LB AIRBURST 4 X CBU87.
RMKS. LEADERS COMMENTS. F 16 IN TGT AREA AT TOT CAUSED LOSS OF MISSION EFFECTIVENESS. MARGINAL WEATHER COMBINED WITH FRIENDLY AC CONFLICTION IN TGT AREA MENT ONLY ONE AC ACHIEVED THE AIM. ALL BOMBS NOT ON DMPI FELL IN SEA. DETCO COMMETS. 5 AC RTB. RECCE AC UNABLE TO GAIN USEFULL PHOTOS. LOROP MSN NEED FURTHER CONSIDERATION BEFORE FUTURE TASKING. VERY HEAVY AAA CONSIDERABLE FRIENDLY AC ACTIVITY IN THE TGT AREA MADE THE ATTACK VERY DIFFICULT TO COMPLETE.

BROADCAST: DISPLAY MODE CONTINUED
ATTENTION: FROM: QUEUE:
VDU ID: V864 TIME: 021637Z

UPDATED BY MUHZ ON 08FEB91 AT 09:04 *** OS MISREP *** TOTE JFA013 PAGE 61

MSN No: 4401A

A. TGT: 2M2803, 59-1 ARTY BN. 2857.35N 04804.00E.

B. TOT: 080734 Z

C. RESULT: WPNS EXPENDED 16x1000LB. 8x947 FUZES. 8x952 FUZES.
RESULT ALL AC HIT IN DMPI AND ADJACENT ARTY POSNS. ALL HITS VERIFIED BY HUD VIDEO. ARTY REVETMENTS WHERE OCCUPIED. 3 AC DROPPED ON FRAGGED DMPI. No3 ON TO ARTY POSN 1 KM ENE.

D1. TGT OBSERVATION: NIL AAA/SAM. MANY TRENCHES AND REVETMENTS (ALL APPEARED OCCUPIED) IN AREA.

D2. ENROUTE OBSERVATION: SEE EW MISREP. COMMS DIFFICULT ENROUTE WITH ABCCC(E)ALLEYCAT. NO INFLIGHTREP PASSED DUE TO NIL COMMS WITH ALLEYCAT ON RTB.

D3: TARWI: 0081X

E. RMKS. No FLOWN 04 No PLANNED 04 WPNS LOAD CB4
RMKS. 1. LDR. GOOD INT FROM THEATRE SOURCES RESULTED IN A MOST SUCCESSFUL MSN WITH GOOD HITS ON BOTH DMPIs.

BROADCAST: DISPLAY MODE CONTINUED
ATTENTION: GRANBY RED SECTOR EAST SRBM 072258Z FROM: WARN QUEUE: 20
VDU ID: V864 TIME: 080913Z

UPDATED BY MUHZ ON 14FEB91 AT 09:15 *** OS MISREP *** TOTE JFA013 PAGE 17

MUHZ MISREP

MSNNO: 4405A

A. TGT: ARTY BN. 2858.25N 04746.70E AND ARTY CP 2819.30N 04748.72E.

B. TOT: 140742 Z

C. RESULT: WPNS EXPENDED 8xCBU87.
RESULT ATTACKED 1ST TGT. ALL BOMBS LANDED ON DMPI. SECONDARY EXPLOSIONS FROM BATTERY COMMAND POST JUST BEHIND GUNS.

D1. TGT OBSERVATION: NIL

D2. ENROUTE OBSERVATION: DURING EGRESS TO SOUTH SA2 AND SA6 EMISSIONS. SEE EW MISREP JFA043.67. GOOD COMMS THROUGHOUT.

D3: TARWI: 0081X

E. RMKS: NO. FLOWN 04 NO. PLANNED 04
WPN LOAD CCU2
RMKS. 1. A VERY SUCCESSFUL SORTIE FLOWN IN GOOD WX. THIS SORTIE PROVED THE VALUE OF GOOD INT AND INCREASING FAMILIARITY WITH AIMING THE CBU87 SHOWED THAT RESULTS ARE RAPIDLY IMPROVING. BEST SORTIE FOR THIS CONSTITUED 4 SHIP SO FAR.
2. DETCO. FIRST CLASS SORTIE.

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BROADCAST:                                              DISPLAY MODE CONTINUED
ATTENTION:                                                        FROM: QUEUE:
VDU ID: V899                                                      TIME: 141041Z

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UPDATED BY MUHZ ON 15FEB91 AT 09:59 *** OS MISREP *** TOTE JFA013 PAGE 25
                                MUHZ MISREP
     MSNNO: 4405A
A.   TGT: 2M0705V. MRL BTY 2853.58N 04808.95E.
B.   TOT: 150748 Z
C.   RESULT:   WPNS EXPENDED 8xCBU87.
               RESULT  LDR AND No2 HITS ON ARTY AT 2854.84N 04758.19E, ADJACENT
                       TO ASTROS MRL BTY. No3 MISSED 200M SHORT ON FRAGGED
                       DMPI, TO NE.No4 TASKED ON FRAG DMP1 AGAINST CP. CP ON
                       FIRE, THEREFORE SWITCHED TO THE ARTY. NO IMPACT SEEN.
D1.  TGT OBSERVATION: NIL AAA, NIL SAM. Nos 3 AND 4 SAW 12 IMPACTS FROM FROM 3
     SEPARATE AC ON SAME TGT IN SAME TOT BRACKET. CFMD AS F16s.
D2.  ENROUTE OBSERVATION: NIL

D3:  TARWI: 0081X
E.   RMKS:     NO. FLOWN 4 NO. PLANNED 4
               WPN LOAD CCU2
     RMKS. 1.    No4 BELIEVES THAT HIS BOMBS DID NOT EXPLODE.
           2.    PLEASE ENSURE THAT ALL PLAYERS STICK TO TOT BRACKET. WEATHER
                 EXCELLENT, LEADING TO EXCELLENT TGT ACQUISITION.


BROADCAST:                                            DISPLAY MODE CONTINUED
ATTENTION: PA HEADLINES JHQP35.L                        FROM: JHQP QUEUE: 09
VDU ID: V899                                                    TIME: 151003Z

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UPDATED BY MUHZ ON 23FEB91 AT 14:04 *** OS MISREP *** TOTE JFA013 PAGE 92
Msn No 4401B
A.   TGT: IU2307Z, 2917.93N 04651.98
B.   TOT: 231210 Z
C.   RESULT:   WPNS EXPENDED 4 X CBU87 AND 4 PODS OF CRV7
               RESULT NO1 MISS DUE TO KIT ERRORT. NO2 HIT ON ARTY BOSN NEAR
                       DMPI. NO3 & 4 HIT ON ARTY POSN. PLANNED DMPI.
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D1. TGT OBSERVATION: DMPI (BM21 BTY) FOR 1,2,3 APPEARED TO HJAVE BEEN HIT PREVIOSLY. NO4 TGTED AGAINST TOWED ARTY IN SAME AREA, HIT WITH CRV7

D2. ENROUTE OBSERVATION: NIL

D3: TARWI: 0081X

E. RMKS: No FLOWN 04 No PLANNED 04 WPNS LOAD CCU2, CV2
RMKS FIRST USE OF CRV7 NEW SOFTWARE VERY SUCCESSFUL. ALL ROCKETS HIT SELECTED TGT AND WHITE SMOKE SEEN FROM TGT POST IMPACT.
DETCO COMMENTS:

BROADCAST: ALL USERS-BRAMPTON GPTN SWITCH BACK UP DISPLAY MODE CONTINUED
ATTENTION: JFA045 NOW MUHZ EW MISREP,SEE 43 FOR TABZ/DHAZ FROM: JFAO QUEUE:01
VDU ID: V899 TIME: 231411Z