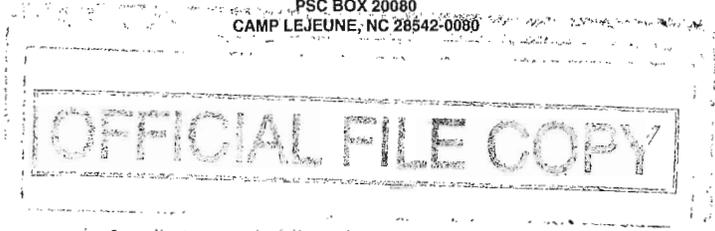




UNITED STATES MARINE CORPS

COMMAND ELEMENT
II MARINE EXPEDITIONARY FORCE
PSC BOX 20080
CAMP LEJEUNE, NC 28542-0080



[Handwritten initials]
IN REPLY REFER TO:
1650
Adj
APR 01 2010

THIRD ENDORSEMENT on CO, MALS-40 ltr 1650 CO of 7 Mar 10

From: Commanding General, II Marine Expeditionary Force
To: Commandant of the Marine Corps, Headquarters, U.S. Marine Corps, IL Department (Attn: LCP1, Room 2329) 2 Navy Annex Washington, DC 20380-1775
Via: Commander, U.S. Marine Corps Forces Command
Subj: 2010 DEPARTMENT OF DEFENSE SECRETARY OF DEFENSE (SECDEF) MAINTENANCE AWARD

1. Forwarded, recommended with enthusiasm.

[Handwritten signature]
J. E. WISSLER
Acting



UNITED STATES MARINE CORPS
2D MARINE AIRCRAFT WING
II MARINE EXPEDITIONARY FORCE
POSTAL SERVICE CENTER BOX 8050
CHERRY POINT, NC 28533-0050

IN REPLY REFER TO:

1650

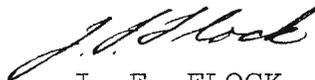
ADJ

MAR 19 2010

SECOND ENDORSEMENT on CO, MALS-40 ltr 1650 CO of 7 Mar 10

From: Commanding General, 2d Marine Aircraft Wing
To: Commandant of the Marine Corps (LPC 1) Headquarters, U. S. Marine Corps, IL Department (Code: LPC1, Room 2329), 2 Navy Annex, Washington, D. C. 20380-1775
Via: (1) Commanding General, II Marine Expeditionary Force
(2) Commander, U. S. Marine Corps Forces Command
Subj: NOMINATION OF MARINE AVIATION LOGISTICS SQUADRON 40 FOR THE 2010 SECRETARY OF DEFENSE MAINTENANCE AWARD PROGRAM (PHOENIX AWARD FOR FISCAL YEAR 2010)

1. Forwarded, recommended with enthusiasm.
2. Marine Aviation Logistics Squadron 40 has been a great asset to 2d Marine Aircraft Wing. Their support throughout a deployment within Marine Aircraft Group 40 has been a major contribution towards mission accomplishment in support of Operation ENDURING FREEDOM. It is without a doubt that they are well deserving of this award.
3. Point of contact at this command is Major Hill-Johnson at DSN: 582-2829.


J. F. FLOCK



UNITED STATES MARINE CORPS

MARINE AIRCRAFT GROUP 40
MARINE EXPEDITIONARY BRIGADE - AFGHANISTAN
UNIT 78368
FPO AE 09510-8368

IN REPLY REFER TO:

1650

CO

7 Mar 10

FIRST ENDORSEMENT on MALS-40 LTR 1650 of 7 Mar 10

From: Commanding Officer, Marine Aircraft Group 40
To: Commandant of the Marine Corps, Code IL Department (LPC1),
3000 Marine Corps Pentagon, Room 2329, Washington DC 20350-3000

Subj: NOMINATION FOR THE 2010 DOD SECRETARY OF DEFENSE
MAINTENANCE AWARD

Ref: (a) DODI 1348.30
(b) MARADMIN 022/10

Encl: (1) Marine Aviation Logistics Squadron 40 Nomination package

1. Forwarded, with utmost enthusiasm.

2. MALS-40 Forward is enthusiastically recommended for the 2010 SECDEF Maintenance Award in the Field-Level Unit Maintenance Medium Category. From the time the squadron formally stood up in March 2009, at Cherry Point, North Carolina, the Marines have been running a marathon at a sprint pace. MAG-40 has surged its combat power every single month of this deployment. MALS-40 has been integral to our ability to generate and sustain aviation combat power in support of 2nd Marine Expeditionary Brigade. In my opinion, no other military campaign is as vital to America's long-term interests as is the Counter Insurgency (COIN) operations being conducted by 2nd Marine Expeditionary Brigade in the Helmand River Valley of Afghanistan.

3. MAG-40 has participated in over twenty named operations conducting all six functions of Marine aviation during this twelve month deployment. Our ability to generate this high volume of aviation combat power in terms of the number of aircraft and the number of hours and sorties flown is directly dependent upon the health of our aircraft and aircrew as well as a viable aviation logistics capability. Without the technical acumen and resolute determination of our aviation logistics professionals who are asked to perform miracles time and time again, MAG-40 would struggle to meet the operational commitments of 2nd MEB. Further, while MAG-40 has grown in the number of aircraft and operating bases, the number of MALS-40 Marines has remained relatively the same. Clearly, the workload to support the flying squadrons non-stop while simultaneously assembling their own intermediate level maintenance capabilities under very harsh conditions and with a scarcity of equipment and manpower to

Subj: NOMINATION FOR THE 2010 DOD SECRETARY OF DEFENSE
MAINTENANCE AWARD

accomplish these daunting tasks has been a truly incredible feat and something I have never seen all my years as either squadron or MAG commander.

4. I am extremely proud of the "Smokin' Aces" from MALS-40 who have put forth tremendous effort day and night, twenty-four hours a day for twenty-six consecutive weeks to support three rotary wing, two fixed wing, and one tilt rotor squadrons from three geographically distant operating bases is truly remarkable. MALS-40 has my highest recommendation for the 2010 SECDEF Maintenance Award.



K. S. VEST



UNITED STATES MARINE CORPS
MARINE AVIATION LOGISTICS SQUADRON 40
MARINE AIRCRAFT GROUP 40
MARINE EXPEDITIONARY BRIGADE-AFGHANISTAN
UNIT 78369
FPO AE 09510-8369

IN REPLY REFER TO:
1650
CO
7 Mar 10

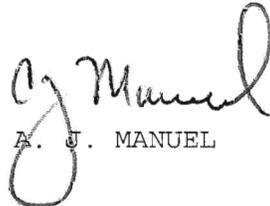
From: Commanding Officer, Marine Aviation Logistics Squadron 40
To: Commandant of the Marine Corps (LPC1)
Via: Commanding Officer, Marine Aircraft Group 40

Subj: NOMINATION FOR THE 2010 DOD SECRETARY OF DEFENSE MAINTENANCE
AWARD

Ref: (a) DODI 1348.30
(b) MARADMIN 022/10

Encl: (1) Marine Aviation Logistics Squadron 40 Nomination Package

1. In accordance with the reference, Marine Aviation Logistics Squadron 40 is enthusiastically nominated for the 2010 SECDEF Maintenance Award in the Field-Level Unit Maintenance Medium Category.
2. The illustrious achievements of the Smokin' Aces is even richer due to the success achieved during the past year. Their aggressive and remarkable performance and commitment has been instrumental and has paid dividends to the Aviation Command Element combat operations in Afghanistan. MALS-40 is a self motivated professional squadron driven to excellence and is highly deserving of this honor.
3. Point of contact at this command is Gunnery Sergeant Williams at DSN 318-357-3417 or email Ronald.williams@afg.usmc.mil.


A. J. MANUEL



2010

SECRETARY OF DEFENSE

MAINTENANCE AWARD

MEDIUM CATEGORY

MARINE AVIATION LOGISTICS SQUADRON-40

MARINE AIRCRAFT GROUP-40

MARINE EXPEDITIONARY BRIGADE – AFGHANISTAN

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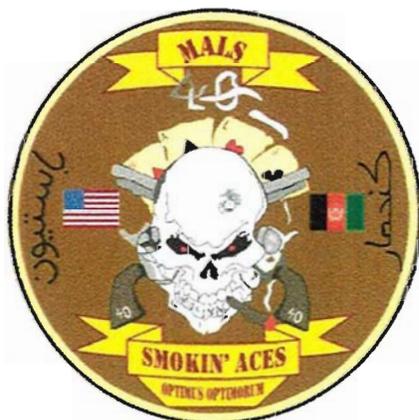
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MALS-40 INFORMATION SHEET

- 1. MILITARY SERVICE :** United States Marine Corps

- 2. SPECIFIC UNIT DESIGNATION :** Marine Aviation Logistics Squadron 40

- 3. CATEGORY/ UNIT SIZE:** Medium / 393 personnel

- 4. COMMANDERS NAME AND MAILING ADDRESS:**
LtCol Anthony J. Manuel
2 MAW ALD, Bldg 4814
PSC Unit 8016
Cherry Point, N.C. 28533

- 5. POINT OF CONTACT:**
MSgt Robert Bergmann
MALS-31 Maintenance
MCAS Beaufort, S.C. 29904
robert.bergmann@usmc.mil
(843) 228-7056

- 6. MILITARY SERVICE POINT OF CONTACT:**
Commandant of the Marine Corps
Headquarters, U.S. Marine Corps
IL Department (Code: LPC1, Room 2329)
2 Navy Annex
Washington, DC 20380-1775



7. BACKGROUND INFORMATION:

Marine Aviation Logistics Squadron Forty (MALS-40), the “Smokin’ Aces,” was activated in March of 2009 by the Commanding General of 2nd Marine Aircraft Wing (2D MAW) as a newly formed, provisional aviation logistics squadron. MALS-40 immediately deployed to Southern Afghanistan in support of Marine Aircraft Group Forty (MAG-40), the Aviation Combat Element (ACE) for Marine Expeditionary Brigade-Afghanistan (2ND MEB). The MALS faced the daunting task of establishing intermediate level maintenance capabilities while supporting the MEB Counter Insurgency (COIN) operations in support of NATO’s International Security Assistance Forces (ISAF).

The MALS is composed of an aviation intermediate maintenance department, aviation supply department, aviation ordnance department, and a headquarters section. The majority of manpower is within the maintenance department with divisions that specialize in the repair and periodic maintenance of power plants, airframes, avionics systems, aviation life support systems, ground support equipment, and aviation logistics information systems.

The Marines of MALS-40 were sourced from twelve various commands, and deployed in late March 2009 into an austere, expeditionary environment with less than one-half that of a normal size MALS. Despite the numerous challenges associated with deploying a newly formed unit with no previous pre-deployment training, MALS-40 was still able to support and sustain MAG-40 squadrons’ ability to fly their combat sorties over an extended period without an operational pause. Without question, the “Smokin’ Aces” met MAG-40’s tall order with steadfast determination, technical acumen, and a “can-do” spirit while the squadron itself sought ways to overcome a plethora of resource and manning challenges. Maintaining a high state of readiness throughout the deployment and during crucial ACE commitments such as Operation Khanjari and the Afghanistan elections; MALS-40 proved to be a force multiplier during their Operation Enduring Freedom deployment.



8. UNIT SIZE:

12 Officers, 372 Enlisted, 9 civilians

9. UNIT LOCATION:

Camp Bastion and Camp Dwyer, Helmand Province and Kandahar Air Facility, Kandahar, Afghanistan

10. UNIT MISSION STATEMENT:

As ordered by CG 2nd MAW, MALS-40 will deploy with elements from 2nd MAW as well as from 1st, 3rd, and 4th Marine Aircraft Wings to Helmand and Kandahar Provinces in Southern Afghanistan; provide direct aviation logistics support to the Aviation Combat Element, Marine Aircraft Group-40, who will fly combat assault and close air support missions in support of 2nd Marine Expeditionary Brigade's counter insurgency operations which are designed to liberate Afghan citizens from the tyranny of enemy forces, elect and restore a centralized Afghan government and security, and restore and improve local tribal economies within the USFOR-A and NATO International Security Assistance Force's Regional Command South's Area of Responsibility.

11. OPERATIONAL CHRONOLOGY:

19 March - Advon arrives in Afghanistan in support of OEF

20 March - MALS-40 is activated

02 July - Operation Khanjari

12 August- Operation Eastern Resolve II

20 August- Afghanistan Elections



MALS-40 SUMMARY OF ACTIONS

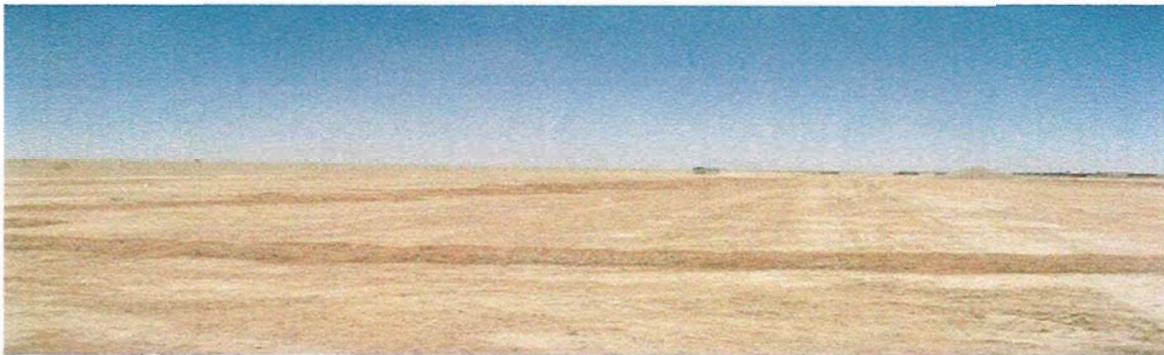
1. Mission Accomplishments:

Marine Aviation Logistics Squadron 40 (MALS-40) deployed to Camp Bastion Airfield with detachments at Kandahar Airfield and at Camp Dwyer, within the Helmand and Kandahar Provinces of Afghanistan on its mission to provide timely aviation logistics support. This newly established, provisional MALS provided intermediate level supply, maintenance and ordnance support to 79 aircraft from 14 tactical squadrons comprised of 8 type/model/series. From an empty desolate patch of desert, the Marines from MALS-40 formed their logistical operations consisting of 271 aviation repair capabilities inside of 177 MMFs along with 350 pieces of support equipment. This monumental effort made MALS-40 the first intermediate level repair capability in Southern Afghanistan and proved Marine aviation logistical support is essential to sustaining combat operations in an austere, expeditionary environment. Providing aviation logistical support from three separate forward operating bases presented many challenges for an aviation logistical squadron less than half the size of a normal MALS. Adding to the already complex situation, the unit had to overcome the severe shortages of material handling equipment, communication, and transportation assets by being innovative and exploiting time share agreements with multiple units who could temp loan equipment to MALS-40. Since its deployment, the MALS has proven itself capable of providing superior quality and expeditious repairs and combat readiness while supporting a very diverse fixed wing, rotary wing and tilt rotor aircraft mix. The squadron expeditiously repaired over 12,000 mission-critical aeronautical components, issued over 60,000 aviation parts, managed an inventory in excess of 285 million dollars, issued over 500,000 rounds of mostly small arms ammunition, and built over 1,400 bombs and rockets. These efforts enabled Marine squadrons to fly 35,241 combined flight hours, airlift over 81,000 coalition and Afghan passengers and 25,000,000 pounds of cargo, and conduct 29,953 sorties into a hostile, combat environment. The impact on aviation logistics, techniques, and procedures has been an immense accomplishment that grows in importance especially in today's competitive resource environment, coupled with the military's high operational tempo. The vision, tenacity, and unequalled actions of MALS-40 are exemplary and truly deserving of this year's Phoenix Award.



A. Unit development:

Upon arrival to Afghanistan, the Marines of MALS-40 faced a daunting task of trying to create an in-theater aviation repair and replenish capability for squadrons flying combat sorties. The foundation for the unit's capabilities was the construction of the Mobile Maintenance Facility (MMF) complex in the midst of an open field and juxtaposed to the Camp Bastion runway. Marines from the MALS Mobile Facility work center took the lead in the preparation and development of the MALS-40 MMF complex. Working directly with the British Royal Air Force Engineers at Bastion, MALS-40 gained approval to construct a mobile facility complex on a 350' x 600' plot of land.



The above 350' X 600' desolate plot of land shows how the Marines of MALS-40 made something out of "nothing."

During the first two months in which assets were trickling into theater, MALS-40 worked directly with the engineer company of Marine Wing Support Squadron (MWSS) -371 to level the land and prepare it for the MMF pad construction. Simultaneously, they designed Visio and Auto Cad layouts of the mobile facility complex for the site survey crew.





The Marines had to install 72 grounding rods by hand without the aid of pneumatic tools into the hardened desert floor. Once these rods were driven into the ground, the Marines then needed to connect them with buried, bare copper wire. The wire had to be hand stripped from its insulation and connected to each grounding rod to ensure the MMF complex had an overall resistance of .45 ohms.

Upon completion of the grounding rod installation, they quickly began to build the MMF complex with the aid of heavy equipment operators from 2nd MEB. Utilizing a Kalmar to complex the mobile facilities, they were able to build eight work center cells containing 22 MMFs each in less than one week. Working countless hours, the Marines ensured that each mobile facility complex was properly grounded and powered in order to support combat operations in Afghanistan.



In addition to coordinating the Mobile Maintenance Facility complex, the Marines also performed acceptance inspections on 177 MMF's, 348 Environmental Control Heating and Air Conditioning Units, and 34 generators. The Marines quickly identified and corrected all discrepancies with the mobile facilities and ancillary equipment ensuring that every mobile facility was ready for use and environmentally controlled.



Simultaneously, the Marines from the other departments in MALS-40 were busy conducting inventories, equipment acceptance inspections, and identifying immediate issues affecting each flying squadron's readiness. Specifically the command had to perform the following tasks:

- The Individual Material Readiness List (IMRL) test equipment managers globally sourced and acquired critical test equipment. The IMRL Marines were responsible for receipt and inventory of over 3,000 avionics test equipment items, flight control support systems, ordnance handling equipment, and ground support systems. With limited connectivity and tracking modes of shipment, the IMRL Marines were able to attain 100% accountability of all IMRL assets. Within 90 days of their deployment, Marines in IMRL established support equipment allowances for MALS-40 and MAG-40 squadrons. Additionally, they conducted joint inventory of IMRL allowances for fourteen squadrons' Remain-In-Place- Transfer of Authority evolutions.
- Marines from Airframes division developed a safe functional HAZMAT storage and waste disposal site. This location was immediately tapped for essential aircraft support and equipment readiness requirements.
- Having temporarily loaned 7-ton truck and forklift from the Navy Seabees, the Marines from Ordnance built a working relationship with the Marines at the Arrival/Departure Air Cargo (A/DACG) reception and staging area to ensure safe transportation and receipt of all aviation ordnance and support equipment. Since there was no way to communicate with the A/DACG, the Marines had to make frequent trips from the FASP to identify assets and equipment belonging to the MALS as it arrived. In addition to receiving and transporting over 300 tons of munitions, the Aviation Ordnance department transported all necessary gear for the build-up of MALS-40's MMF maintenance van pad. At the same time, they built up the Ordnance intermediate level repair capability at the FASP.
- While wrenches and shovels were employed around the clock, other Marines pushed forward to meet administrative tasks. 41 Naval Aviation Maintenance Programs and the Central Technical Publication Library needed to be established by the Quality Assurance division, while over 350 equipment record jackets needed screening and proper documentation for their effective transfers from other activities by the Maintenance Administration division.
- The Aviation Logistics Information Management Systems (ALIMS) Division had to trench and connect 150 network machines and ensure over 400 Naval



Tactical Communication Support Systems (NTCSS) accounts as well as the DP-17 database were established in as little as three days. This was critical to MALS establishing communication with the rest of the world.

- The Ground Support Equipment (GSE) division immediately provided support to the flying squadrons conducting combat operations while they set up their own equipment on the fly. This necessitated equipment acceptance inspections and maintenance was performed under a small shelter on the “moon dust” desert floor with minimal tools and personnel.



Above Ground Support equipment and Aviation supply pack-ups are staged in barren lots near the flight line for immediate support.

- Like GSE and Ordnance, the Aviation Supply department was also tasked with instant mission requirements while establishing a functioning Aviation Supply Department with a logistical pipeline stretching 7,000 miles back to CONUS. The initial supply issue point was located within the flying squadron spaces and exemplified the term expeditionary. The Marines did not have commercial carrier access for steady replenishment at either Camp Bastion or Camp Dwyer where the majority of the aircraft were located. The road network was too risky with the potential for Improvised Explosive Devices or ambushes.

From an empty desolate patch of desert, the Marines from MALS-40 formed their logistical operations consisting of 271 aviation repair capabilities inside of 177 MMFs along with 350 pieces of support equipment. This monumental effort made MALS-40 the first intermediate level repair capability



in Southern Afghanistan and proved Marine aviation logistical support is essential to sustaining combat operations in an austere, expeditionary environment. The foresight with regard to possibly expanding the area of operations or increase the number of supported aircraft will make it more feasible for future MALS units to fall in on this existing capability and immediately provide support to fixed, rotary, or tilt rotor aircraft, if so desired, without having to relocate the mobile maintenance facilities. MALS-40 validated its expeditionary nature and contributed to the success of 2nd MEB's Aviation Combat Element.

B. Operational Support:

Once in Afghanistan, MALS-40 successfully employed 393 Marines and 177 Mobile Maintenance Facilities consisting of 271 intermediate level maintenance capabilities across three operating bases – Camp Bastion Main Operating Base, Kandahar Air Facility (KAF), and Forward Operating Base (FOB) Dwyer. As a provisional MAG, MAG-40 formed the Aviation Combat Element (ACE) for Marine Expeditionary Brigade-Afghanistan (2ND MEB), who itself, acted as a bridging force between Special Marine Air Ground Task Force-Afghanistan and a much larger Marine Expeditionary Force scheduled to deploy in early 2010. Throughout the MEB's twelve month deployment, the MEB relied heavily upon the ACE to conduct its extensive Counter Insurgency (COIN) operations in and around the Helmand River Valley in order to separate Taliban forces from the civilian populace, disrupt the Taliban drug trade, and help restore a central Afghan government and security presence in the towns and tribal villages located in and around NATO's International Security Assistance Forces' (ISAF) Regional Command South's Area of Operations.

Between March 2009 and October 2009, MAG-40 grew rapidly from 29 tactical aircraft to 79 fixed, rotary, and tilt rotor aircraft. 2nd MEB conducted twenty named operations during this period, while at the same time, MALS-40 established its in-theater intermediate repair and replenish capability and simultaneously provided superb aviation logistics support to Marine Aircraft Group 40 (MAG-40)



despite a MEB-wide scarcity of resources and personnel. The demands for assault and close air support for Marines and Afghan National Army continued to rise each month and by October 2009, MAG-40 flight hours had exceeded 3,500 hours for the month. The collective efforts enabled MAG-40 to fly over 25,874 flight hours from May to October. To put this into proper perspective, MAG-40 flew three times the Weapons Systems Planning Document (WPSD) sortie rates and also tripled the maintenance workload. Nevertheless, MAG-40 managed to maintain aircraft readiness at 79% Mission Capable, 69% Full Mission Capable, and 67.6% of their Ready Basic Aircraft more than sufficient to execute its daily air combat tasking. Throughout these accomplishments, the “Smokin Aces” acted as the behind-the-scenes nucleus; ensuring each squadron received “the right part, on time, every time.”

MALS-40 was the first Marine Aviation Logistics Squadron to deploy to Afghanistan and served as the single aviation logistics support entity for the MEB’s Air Combat Element (ACE), MALS-40’s noteworthy actions were as follows:

- Produced the highest average aircraft mission readiness rates in 2nd Marine Aircraft Wing (2D MAW) during this period with an average Mission Capable (MC) rate of 79 percent and Full Mission Capable (FMC) rate of 69 percent.
- The Power Plants Division met 100% of all requests for engine and went the entire deployment without a single bare firewall. MALS-40’s power plant shop maintained and issued 60 engines (12 T-700-GE-401/401C engines, 4 T-400 Twin Packs, 28 T64-GE-416/416A engines, 8 F402/408 engines, 5 AE1107 engines, and 3 AE2100D3 engines), with an average turnaround time of 3 days.
- Airframes (A/F) Division processed over 932 items this period, which included 107 welding actions, 80 tire buildups for the CH-53D, CH-53E, and MV-22, 78 Composite/Structural repairs, 705 NDI inspections, and 491 Hydraulic components processed/repaired. This division has maintained an impressive 87% shop RFI rate throughout this period.
- Production Control (PC) Division inducted over 17,874 components and maintained an average 68.6% ready for issue rate with an average turnaround time of 2.3 days. The extraordinary efforts by the entire PC team inspired an 8% reduction in the Beyond Capable Maintenance (BCM) actions (from 32% to 24%) expending many hundreds of man-hours in the process.



- In addition to establishing a MAG-40 Quality Assurance program, MALS-40's Quality Assurance (QA) Division performed internal audits, Computerized Self Evaluation Checklist (CSEC) maintenance inspections in the form of Maintenance Program Assist visits (MPA), and Material Conditional Inspections (MCI) on all flying squadrons within MAG-40. Significant results are as follows: 7 MALS-40 Division audits, 7 MAG-40 MPA or MCI inspections, and 17 Program/Area audits for a total of 31 inspections this period. Their efforts ensured that all publications, Support Equipment, and Test equipment were compliant, available, and all safe maintenance practices were in place. These taskers were accomplished with minimal staffing.
- The Individual Material Readiness List (IMRL) Division maintained 100% accountability of 2,813 accounts containing over 868 line items of aviation support equipment with only five Marines. These Marines also conducted fourteen squadron inventories in conjunction with squadrons' Transfer of Authority (TOA) to the next squadron.
- The Ground Support Equipment Division maintained an 83% Ready For Issue rate for 2,434 pieces of support equipment with half the manning of a normal sized MALS.
- Avionics surveyed and established a Compass Rose and developed a comprehensive calibration lab to support ground and aviation units. They also assisted the Air Force, Navy, Army, and civilian contractors with calibration needs. They performed over 2,000 calibrations outside of MAG-40.
- Ordnance Marines established the first Field Ammunition Supply Point (FASP), Basic Load Ammunition Handling Area, and intermediate level repair capability for 2nd MEB. They also conducted over 743 ammunition transactions, encompassing over \$213 Million and 442,428 ammunitions. Ordnance maintained 403 AWSE assets, and sustained a 160 Crew Served Weapons Armory at a 97.5 percent RFI rate.
- Starting from scratch, the Tool Control work center obtained and maintained 7,104 tools and 39 tool boxes valued at \$216,000. The tool control program is now an effective work center with over 967 tools distributed throughout 6 divisions and 21 work centers.
- The Aviation Logistics Information Management and Support (ALIMS) planned, installed, and managed the MALS-40 MMF Local Area Network providing network access to over 300 MALS users via 156 Non-classified Internet Protocol Router Network (NIPRNet) laptops, 16 Secret Internet Protocol Router Network (SIPRNet) laptops and 35 printers within 177 Mobile Maintenance Facilities, one remote Ammunition Supply Point location, one remote Ground Support Equipment location, and one remote Supply Department location. They managed and administered the Joint Aviation Technical Data Integration (JATDI) system providing online technical publications for all maintenance performed by MALS and the flying squadrons. ALIMS implemented Advanced Skills Management (ASM) server providing online tracking of all on-the-job-training (OJT), certifications, and qualifications for all maintenance Marines at the MALS and VMM-261. Additionally, ALIMS installed a smaller, embarkable version of ASM for use by VMA-231 at the remote Kandahar Air Base. They provided Marine Wing



Communication Squadron-28 network connectivity to four workstations for their weather station. ALIMS assisted ten flying squadrons in the administration and maintenance of their organizational level Naval Tactical Command Support System (NTCSS) servers at Camp Bastion, Kandahar Air Base, and the Camp Dwyer, and they managed ten IRIDIUM and four INMARSAT satellite phone systems providing voice and data connectivity for Camp Bastion, Camp Dwyer and Kandahar Air Base when no LAN fiber connectivity existed.

- From June 2009 to present, the MALS-40 Aviation Supply Department has encountered numerous challenges due to erratic weather, low Internet bandwidth, and very limited availability of 10,000 pound forklifts. Regardless of these persistent challenges, the Aviation Supply Department (ASD) contributed an impressive 79% Mission Capable rate. The MALS-40 Aviation Supply Department meticulously managed, inventoried, and organized 34 supply pack-ups containing 1,805 repairable line items and 23,169 consumable line items totaling over 318 million dollars. Additionally, the Aviation Supply Department issued over 60,000 line items to the Organizational Maintenance Activities in an expeditious and meticulous manner.
- MALS-40 had zero (0) Class A/B/C mishaps.

The challenges of producing the achievements above are underscored and emphasized by the fact that prior to this deployment MALS-40 was non-existent. The squadron was established expeditiously with support packages and equipment globally sourced from all four Marine Aircraft Wings. The squadron successfully met all deployment requirements and had boots on ground in Afghanistan with less than four weeks' deployment notification. Despite the myriad of challenges the Marines from MALS-40 faced while supporting their fellow Marines during combat operations, the "Smokin' Aces" still managed to successfully accomplish their assigned mission and set favorable conditions for a larger Aviation Combat Element through their creativity, adaptability, and a sheer determination to do what they could to help win the fight.

C. Challenges:

- **Manpower** – In order to keep 2nd MEB manning levels below 10,672 Marines, MALS-40 deployed with just 42% of a normal sized MALS (850+ Marines) and yet supported six different MAG-40 squadrons distributed over three operating bases in Southern Afghanistan. Further, MALS-40, as a unit, did not get the opportunity to conduct any pre-deployment training prior to its deployment due to short-notice notification. Rather, Marines were quickly identified and sent



forward to join MALS-40 as they arrived in Afghanistan. Thus, unit cohesion took time to build. The Quality Assurance and Production Control sections quickly developed training standards and Standard Operating Procedures (SOP'S) to ensure uniform maintenance practices throughout the command. Additionally, key billets such as Operations Officer, Sergeant Major, and four maintenance officer billets were filled internally from Marines within the maintenance department, many of whom were Staff Non Commissioned Officers (SNCOs), and senior officers also had to perform functions of a Marine Aircraft Wing Aviation Logistics Department due to the lack of a Marine Aircraft Wing Forward staff to handle theater maturation resourcing issues.

- **Equipment-** Arriving ahead of their equipment and support assets to support the ACE, the Marines of MALS-40 forged ahead by forming close working relations with flying squadrons. The Marines borrowed heavy equipment on a time share agreement basis to set up the MMF

complex. Ordnance Marines made liaison with Navy Seabees to schedule a "time share" schedule for the only available 7-ton truck and forklift. While Ordnance had to ensure safe transfer of tons of munitions, the Aviation Supply Department transported mission essential aircraft parts to the flying squadrons and delivering parts to the growing maintenance department using the same 7-ton and forklift. Getting the MALS intermediate level capability into the fight soon became the



next highest priority. MALS-40 complexed over 177 globally sourced MMF's from the ground up, literally. The arduous task of digging a 2,000 feet trench and driving 72 grounding rods with just hand tools was accomplished despite being exposed to triple digit temperatures. Because the original 2,500 feet of uninsulated 1 gage grounding wire never arrived from the US, the Marines out of desperation, hand stripped 2,500 feet of wire they obtained from the British. Even though the Marines completed the MMF van pad construction, MALS-40 still had to pursue missing calibrated equipment and standards that needed to be shipped to Afghanistan. Steadily, MALS brought 271 intermediate repair capabilities on line ready to expeditiously repair aircraft components. Through all of this, the Ground Support Equipment Marines ensured squadrons received 100% support equipment support. Doing "whatever it takes" to get the squadrons what they needed, even pushing equipment by hand down the flight line when the sole tow tractor was in use elsewhere.

- **Environment-** The summer months in Southern Afghanistan played havoc on aircraft and aircraft support equipment. The Marines operated around the clock so heat sensitive items could run during the cooler nights; being short-handed, they set work schedules that often exceeded 18 hour days. They performed their jobs often without shade and had to endure triple digit temperatures, blowing sand storms, and the ever present "moon dust" that rapidly eroded filters, seals and components. Additionally, they increased the interval of scheduled maintenance actions to ensure lubricants and filters were changed out more frequently



extending equipment lifespan. Marines adapted to the harsh conditions and kept sensitive aviation equipment from failing.

- **Communication-** Communication was nearly non-existent when MALS-40 first arrived at Camp Bastion in March 2009. In the early months of the deployment, Marines had to rely on personal Yahoo accounts to conduct morning reports and make contact with anyone in their chain of command. As the squadrons began dispersing across the AO, face-to-face meetings became necessary. As mission requirements dictated the need for essential information, MALS-40 Marines at all levels took it upon themselves to embed themselves into the squadrons and ensured continuous support. The daily squadron visits were hampered by the lack of readily available non-tactical and tactical transportation. Still, Marines made the mile long trip to the squadrons on foot whenever vehicles were lacking.
- **Transportation-** Movement by foot was the norm for much of the deployment due to very limited amount of buses and the poor reliability of non-tactical vehicles. The three-mile walk to the MALS MMF complex from their living spaces (tents) during the hot summer months could sap the energy out even the best conditioned Marine. The distance was about a mile more for Marines working further down the flight line such as GSE and Supply. The Marines took it upon themselves to coordinate tactical vehicle licensing to improve transportation of equipment and personnel. The constant use of the few vehicles the MALS had and their poor condition often meant the non-tactical vehicles were inoperative. From the commander down, Marines walked nearly everywhere they needed to go to for meetings, see their supported squadrons, or to return to their living spaces. To cover multiple sites with limited manpower, leaders often had to move Marines around frequently to ensure mission essential equipment was maintained and to ensure continuous accountability of equipment as it relocated from the various operating bases. Before commercial carrier service could be established at Camp Bastion approximately four months into the deployment , the surest, most secure way to get anything or anyone into Camp Bastion had to be flown in piecemeal based on C-17 or KC-130 availability.

In spite of the obstacles, the “Smoking Aces” adopted an innovative, “can-do” mindset as a way of doing business in Afghanistan ensuring aviation support and mission accomplishment for the MEB. The Marines refused to be stopped by the harsh environment or the lack of readily available resources.

2. Effective Use of Resources:

MALS-40 Marines implemented several innovations whenever possible to make MALS-40 a combat force multiplier capable of delivering superb aviation logistics support to MAG-40 while operating in and around Helmand and Kandahar Provinces, Afghanistan. The collective efforts of the MALS-40 aviation logistic professionals were key enablers for Marine squadrons who flew nearly



26,000 combined flight hours; airlifted over 81,000 coalition and Afghan passengers and 25,000,000 pounds of cargo, and conducted over 19,000 sorties into a hostile, combat environment. To support this enormous effort, MALS-40 processed more than 17,874 total items, produced a component ready-for-issue (RFI) rate of 68.6 percent, and maintained an average component turnaround time (TAT) of 2.3 days, which exceeds the standard TAT of most established MALS in both CONUS and OCONUS locations. Marine ingenuity ensured continual support for the flying squadrons, 2nd MEB ground units, and coalition forces.

- **Calibration Lab** - The calibration lab calibrated Combat Logistic Company 252 and Navy Seabees tools and equipment in just one day, down from the twenty days it normally took to ship and return the items from Bagram Air Base 350 miles away.



- **Test Sets** - The MALS-40 Marines from the electrical system repair shop utilized their genius to increase work center capabilities. The Marines built their own test sets mitigating the need to ship numerous assets back to the CONUS Depot repair activity saving of over \$20,000 in repair costs. This innovative idea significantly decreased repair turnaround time and increased the mission success for all type/model/series aircraft assigned to MAG-40. The Marines in Avionics designed two test sets to mitigate defects on helicopter systems. The IRWTS successfully repaired over 50 systems reducing defects and turnaround time. The second test set, Engine Air Particle Separator (EAPS) test box streamlined the repair of CH-53 EAPS panels, decreasing turnaround time from approximately two maintenance man hours per repair to mere minutes.

- **Airframes** - The Marines researched and gained Fleet Support Team (FST) engineering approval to manufacture flight control items on the control arm of the UH-1Y. This action put the aircraft back into the fight and saved two weeks of shipping and repair time to and from the depot facility. The Marines also received engineering disposition to weld bellows and a stronger air exhaust tube onto an Auxiliary Power Unit duct for the UH-1Y. This maintenance repair was previously only authorized at the depot level. This repair capability dramatically reduces turnaround time for parts repair to approximately two days and eliminated the need to ship the item back to CONUS and reduced the stress on the supply system which did not have any spare APU ducts. MALS-40 Marines also introduced a new inspection procedure on CH-53D rotor brakes after receiving approval from In Service Support Team (ISST). They identified a substitute way to visually inspect for cracks and fractures which reduced rotor brakes turnaround times from 7 days to 3 days.



- **Power Plants** - Another innovation called for intermediate level blade repair to be performed on the blade while it stayed on the aircraft. The standard method for repairing damaged rotor blades is to remove them from the aircraft and induct them at the MALS a mile away. Unfortunately, this approach also drives an aircraft Functional Check Flight (FCF) requirement once the repairs are complete. An average rotary wing FCF can take 3-7 days. Through this approved safe, innovative approach, the requirement for the FCF was eliminated gaining the squadron 3-7 more days of combat sortie flying.

MALS-40 Ordnance Marines Perform an Electrical Functional Test on a BRU-42 Triple Ejector Rack

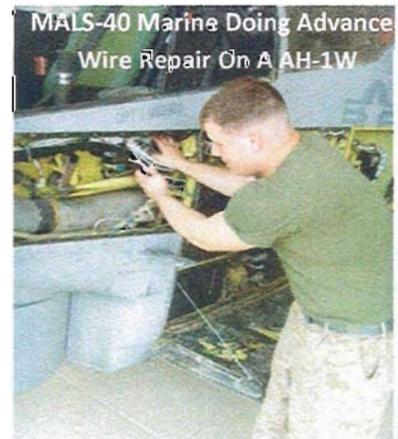


- **Ordnance** – Keeping pace with high operational tempo, the Marines from Ordnance recognized the need to be innovated as well. Seven Ordnance Marines were cross trained to expedite aircraft ammunition reloads while operating out of FOB Dwyer. These Marines were a factor in shaping MAG-40's ability to provide close air support anytime, anywhere Marine aviation

made positive contact with the enemy. The Ordnance division implemented Lean 5S (Sort, Set in Order, Sweep, Standardize, and Sustain) as a way to streamline inventories and faster repairs on H-1 gun turrets and multiple rocket launcher repairs.

- **Ground Support Equipment** – By pre-empting the squadron daily pre-op requirements, MALS-40 GSE Marines conducted daily Pre-operational inspections for the squadrons instead. This not only freed up aircraft maintainers, it helped identify discrepancies with a proactive approach to support. GSE Marines prevented over 250 downing pieces of equipment by intervening and fixing them before they failed. This method also allowed for parts to be ordered faster, and for Ready For Issue (RFI) items to be identified and issued to the flying squadron without interrupting their maintenance rhythm. These behind-the-scenes efforts eliminated squadron down time and created an 88% readiness rate for squadron support equipment. Even though a total of fourteen squadrons flew combat missions at various times for MAG-40, no squadron lost a mission due to Not Ready For Use piece of support equipment throughout their respective deployments.

- **Wiring Team** – The Marines from Wire and Cable Repair established a wiring team in order to perform wiring inspections on the aircraft during their phase maintenance. By coordinating with flying squadron maintenance, the team





conducted inspections on (12) CH-53E, (8) UH-1Y and (6) AH-1W aircraft. They repaired, replaced and/or rerouted over 770 wiring related discrepancies. This was instrumental in increasing the reliability of critical avionics systems in the aforementioned aircraft. For their efforts, MALS-40 Marines were recognized by Sikorsky Helicopter for their work.

- **NATO and 2ND MEB Support** – The multitude of capabilities the MALS bring to the fight was exploited well beyond MAG-40. Over 700 man-hours were dedicated to helping coalition forces who were operating in and around 2nd MEB's AO. Airframes provided welding, component manufacturing, hydraulic tube bending, and assisted in various minor motor vehicle and tank repairs for twelve International Security Assistance Forces' (ISAF) units. The Marines in Avionics division helped the Canadian Air Force and US Army test and check several of their aircraft avionics systems. Additionally, Avionics repaired several AN/ALQ-144 Deceptive Electronic Countermeasures for the US Air Force HH-60 Medevac aircraft eliminating the need to send the transmitters to Bagram Air Base, thereby reducing their turnaround time from two weeks to 24 hours. This collaborative effort kept the Medevac aircraft in the fight flying 1,400 combat sorties saving lives of US, Coalition, and Afghan forces. MALS-40 Marines also repaired a hydraulic line for DHL commercial aircraft returning it to service and freeing up valuable ramp space.

- **2nd MEB Quick Reaction Force (QRF)** - Effective use of time and manpower by the MALS was not limited to just aviation support. Under the motto, "Every Marine is a Rifleman," the MALS-40 Marines, skilled in intermediate level aircraft repairs, made significant contributions to 2nd MEB's COIN operations in Helmand Province. Numerous base security details were absorbed by MALS Marines, specifically the MEB Quick Reaction Force. This freed up more combat arms Marines to conduct offensive combat patrols in the tribal areas. Also during this period, MALS-40 provided 37 Marines who conducted base security and perimeter patrols, ensuring equipment and personnel were secure from insurgent attacks on base.

- **2nd MEB Female Engagement Team (FET)** – In keeping with the Marine Corps' motto, "Every Marine a Rifleman," female Marines volunteered to assist Marine Regiments and Battalions conduct patrols in tribal areas in

order to interact with the Afghan female population. In order to respect the Afghani culture that prevents males from speaking to or searching women, 2nd MEB created the Female Engagement Team (FET) to breach this cultural barrier. Female Marines trained for offensive combat patrols, how to conduct searches, and how to gather human intelligence while establishing positive relationships with the





local population, especially the women. In keeping with the squadron's continued standard of excellence, MALS-40 Marines were right there to support the MEB. Sixteen MALS-40 female Marines trained and performed combat missions in harm's way. Sgt Blackburn, seen in the picture, is an IMRL manager by MOS and was selected to be a FET team leader and training Noncommissioned Officer in Charge. She was meritoriously promoted to Sergeant as a result of her outstanding performance in the field. The FET members were recognized by the Commandant and Assistant Commandant of the Marine Corps for playing a major part in 2nd MEB's successful COIN operations in Afghanistan.

3. Innovative Management:

MALS-40 incorporated a culture of Continuous Process Improvement (CPI) in every Marine and with every task assigned. Although in a combat zone, the efficient use of the proven business CPI techniques borrowed from Lean, Six Sigma and Theory of Constraints were utilized to improve readiness. Signs of this CPI culture could be easily seen throughout the squadron congruent with the unit's performance.

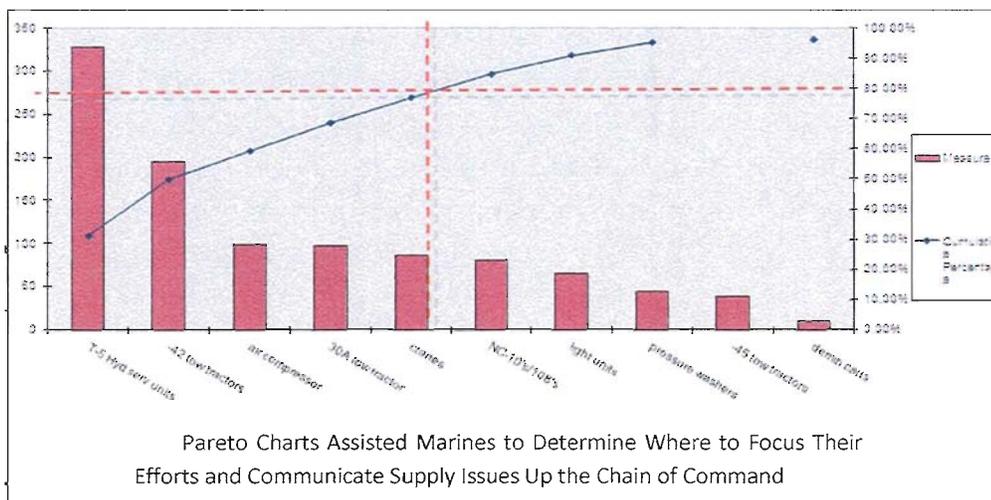
- Lean Manufacturing principle - "5-S" (Sort, Sweep, Set in order, Standardize, Sustain) training was provided at every level. This organizational practice created uniformity and empowered NCOs to ensure best practices are captured and implemented throughout the deployment. It also inspired several "Just Do it" projects to improve work center efficiency.
- Because the squadron was newly formed, it needed a Quality Assurance maintenance program as soon as possible. Senior enlisted Marines from the Quality Assurance department did not hesitate to establish local Standard Operating Procedures and desktop turnover binders for 31 maintenance programs and 28 sections where none previously existed. This effort set the tone for Marines to follow strict safety procedures while repairing equipment.
- All MALS-40 Marines were cross trained on daily Aviation Management Supply and Readiness Report (AMSRR) which reflected every squadron's readiness. This focused the squadron's limited resources on what most affected aircraft readiness and ergo aviation's impact on combat operations. Marines who had greater situational awareness were most often more motivated to help their fellow Marines.
- Each maintenance division created a tracking method for their particular equipment similar to the AMSRR. These were important reports for the command. The logistical struggle



of transferring equipment between three operating bases from which the MALS operated made these reports essential to maintaining positive inventory accountability and sustainment.

As an example, GSE identified the most critical assets that needed repair using a Pareto chart and updated it weekly. This gave GSE unforeseen clarity on where to focus their attention. Use of these reports, such as the Support Equipment Maintenance Readiness Report (SEMRR), helped easily identify problem areas which coincidentally were SE that were being phased out due to obsolescence. Obsolete equipment is difficult to get parts for into Afghanistan. The wholesale supply system is rapidly drying up parts to maintain the aged.

As an example, the A/S32A-30A tow tractor, A/S32A-42 tow tractor, and the A/M27T-5 Hydraulic Servicing unit were plagued by the lack of parts. These assets created the vast majority of our maintenance



and required even greater attention to keep them operational. GSE Marines tracked the maintenance gripes on these assets very closely using the Pareto chart and SEMRR. These assets quickly gained a lot of visibility from the command. From April to October of 2009, MALS-40 GSE maintained an average 75% RFI rating on the most heavily used assets across the entire flight line, despite a severe shortage in replacement parts.

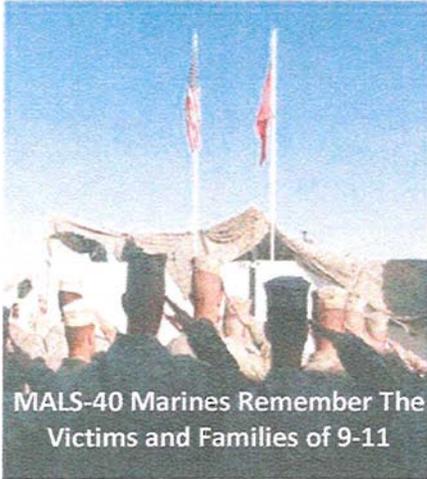
4. Personnel Quality of Life Programs:

MALS-40 senior leadership went to great lengths to try to improve the morale, quality of work, and quality of life for the Marines. Examples include:

- The squadron conducted Human Factors Boards to help identify Marines who may show signs of needing stress or anger management or religious support
- As soon as computer connectivity was established, the Sergeant Major created a Family Readiness newsletter that was released electronically to family members and parent commands quarterly keeping them abreast of MALS-40 Marines on deployment.



- The squadron flew American flags with serialized squadron certificates as special tributes to honor family members, special friends, and fallen comrades.
- SNCOs wrote letters to stateside agencies requesting care packages and morale items for the Marines. The unit was graciously supplied with care packages full of snacks, hygiene items, reading material and a variety of gifts from patriotic Americans.



- MALS-40 Marines obtained exercise equipment and erected a unit gym known as the "Smoke House."

- MALS-40 maintained Marine Corps traditions and heritage by conducting a memorial flag raising ceremony for the families and victims of 9-11, held a unit Mess night, and conducted a competitive unit field meet.

- The Sergeant Major, an adjunct professor with an accredited university, taught a fully accredited management course as well as numerous career

development classes to several Marines.

- The squadron also sold t-shirts, patches, coins and other squadron memorabilia to boost unit morale and sense of pride. The proceeds of the sales, which was over \$5,000, was donated to the Wounded Warrior families and loved ones of those injured in combat.



- During their deployment, MALS-40 conducted 27 re-enlistments, 36 promotions, and granted 158 personal awards. These statistics are indicative of the squadron's efforts to raise morale and displayed the professionalism of each Marine.



The "Smokin Aces" epitomize a "Mission first, Marines Always" mindset.

MARINE AVIATION LOGISTICS SQUADRON 40

FOR SERVICE AS SET FORTH IN THE FOLLOWING CITATION:

FOR MERITORIOUS ACHIEVEMENT IN AVIATION LOGISTICS IN SUPPORT OF MARINE AIRCRAFT GROUP 40, 2ND MARINE EXPEDITIONARY BRIGADE, CAMP BASTION, AFGHANISTAN FROM MARCH 2009 TO OCTOBER 2009. DURING THIS PERIOD MARINE AVIATION LOGISTICS SQUADRON 40 PROVIDED AVIATION LOGISTICS SUPPORT FOR 79 TACTICAL AIRCRAFT FLYING COMBAT SORTIES IN AND AROUND HELMAND AND KANDAHAR PROVINCES, AFGHANISTAN. THOROUGHLY TESTED BY A SHORT-NOTICE DEPLOYMENT TIMELINE, AUSTERE ENVIRONMENT, CAPRICIOUS WORK CONDITIONS, AND SCARCITY OF EQUIPMENT AND MANPOWER, THE SQUADRON NONETHELESS FIRMLY CONTRIBUTED TO MARINE AIRCRAFT GROUP 40'S ABILITY TO FLY 25,874 COMBAT FLIGHT HOURS AND SUSTAIN AIRCRAFT READINESS RATES THROUGHOUT AT 79 PERCENT MISSION CAPABLE AND 69 PERCENT FULL MISSION CAPABLE. THE SQUADRON EXPEDITIOUSLY REPAIRED OVER 12,000 MISSION-CRITICAL AERONAUTICAL COMPONENTS, ISSUED OVER 60,000 AVIATION SPARES, MANAGED AN INVENTORY IN EXCESS OF 285 MILLION DOLLARS, ISSUED OVER 500,000 ROUNDS OF COMBAT AMMUNITION, AND BUILT OVER 1,400 BOMBS AND ROCKETS. THROUGH DILIGENCE AND DEVOTION, THE MARINES OF MARINE AVIATION LOGISTICS SQUADRON 40 REFLECTED GREAT CREDIT UPON THEMSELVES AND UPHELD THE HIGHEST TRADITIONS OF THE MARINE CORPS.