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# REVIEW OF MARINE CORPS FORCE PROTECTION

HEARING

BEFORE THE

COMMITTEE ON ARMED SERVICES
HOUSE OF REPRESENTATIVES
ONE HUNDRED NINTH CONGRESS
FIRST SESSION

HEARING HELD
JUNE 21, 2005

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# CONTENTS

CHRONOLOGICAL LIST OF HEARINGS

2005


| | Page |
|---|---|
| HEARING: | |
| Tuesday, June 21, 2005, Review of Marine Corps Force Protection | 1 |
| APPENDIX: | |
| Tuesday, June 21, 2005 | 39 |


**TUESDAY, JUNE 21, 2005**

**REVIEW OF MARINE CORPS FORCE PROTECTION**

STATEMENTS PRESENTED BY MEMBERS OF CONGRESS


| | |
|---|---|
| Hunter, Hon. Duncan, a Representative from California, Chairman, Committee on Armed Services | 1 |
| Skelton, Hon. Ike, a Representative from Missouri, Ranking Member, Committee on Armed Services | 4 |


WITNESSES


| | |
|---|---|
| Catto, Maj. Gen. (Select) William D., Commanding General, Marine Corps Systems Command, U.S. Marine Corps | 7 |
| Nyland, Gen. William L., Assistant Commandant, U.S. Marine Corps | 5 |


APPENDIX


| | |
|---|---|
| PREPARED STATEMENTS: | |
| Hunter, Hon. Duncan | 43 |
| Nyland, Gen. William L. joint with Maj. Gen. (Select) William D. Catto | 49 |
| DOCUMENTS SUBMITTED FOR THE RECORD: | |
| Add on Under Armor for Light Skin HMMWV's | 69 |
| Timeline for Tactical Vehicle Underbody Armor Kit Solution | 94 |
| QUESTIONS AND ANSWERS SUBMITTED FOR THE RECORD: | |
| Mr. Hunter | 103 |

# REVIEW OF MARINE CORPS FORCE PROTECTION

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HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
*Washington, DC, Tuesday, June 21, 2005.*

The committee met, pursuant to call, at 9 a.m., in room 2118, Rayburn House Office Building, Hon. Duncan Hunter (chairman of the committee) presiding.

## OPENING STATEMENT OF HON. DUNCAN HUNTER, A REPRESENTATIVE FROM CALIFORNIA, CHAIRMAN, COMMITTEE ON ARMED SERVICES

The CHAIRMAN. The committee will come to order.

This morning the committee continues its review of the status of Marine Corps tactical vehicle armoring, and specifically we are going to discuss the requirements in the theater, what is happening in the theater in that dangerous area in Iraq where Marines are taking and have taken fairly substantial casualties, what we are doing and what the Marine Corps Systems Command here is doing to meet those challenges.

And with us this morning are General William L. Nyland, Assistant Commandant of the United States Marine Corps, and Major General (Select) William D. Catto, who is the Commander of the Marine Corps Systems Command.

Thank you, gentlemen, for being with us this morning. We appreciate your attendance and your service to the country.

Gentlemen, the reason we called this hearing is because of what I consider to be a focused, but very important issue; and that issue is that while we are working with big companies back here, with big schedules to move modern armor into the theater, the Marines who are over there right now, as well as Army personnel, who are meeting on a daily basis very creative threats that are being worked up and devised by the enemy, are meeting lots of danger; and they are doing that with vehicles that weren't designed initially to undertake this type of hit, literally.

And last year we had a gunnery sergeant—and if you will turn to your, to the handout that I have got, we had a gunnery sergeant.

The Marines in theater, being the adaptive and creative people that we teach them to be, came up with some methods of saving the limbs and the lives of our people who were in theater. And specifically one gunny sergeant who headed up a motor transport operation over there, came up with a system of placing plates of steel underneath high mobility multipurpose wheeled vehicles (HMMWVs) as the advent of mines, these triple-stacked mines, became prevalent in the western area of operations.

And this is pretty simple stuff. Once that explosion goes off and the shrapnel is headed up into the body of the vehicle, it is a matter of physics. You either have the protection to stop the projectiles going at a certain velocity with a certain mass or you don't.

This gunnery sergeant came up with a method of stopping the most deadly injuries and protecting people, and he gave us some fairly interesting illustrations of how his kit that he was bolting on in the theater to save his Marines was working. And if you see the side by side up here, you will see what I am talking about.

He gave us these two slides. And the first slide, the side by side, is a slide that shows heavy passenger injuries with loss of limbs. That was—these are mine strikes, or strikes that are underneath the vehicles. If you look at the slide on the left side, where it says side by side, on the left side, that is a mine strike in which the gunny sergeant had placed plates of steel and those steel plates stopped the shrapnel and the projectiles from getting into the compartment and killing or badly wounding Marines.

Now, on the other side, you can see the unprotected, the same fender well that is unprotected, and you can see where it blew through; and in fact, according to the gunny sergeant who put this plan together, this program together, without the fabricating armor, the fender well is completely missing and presumably the legs of the person who was sitting behind that fender well were also completely missing. So this was pretty simple stuff.

If you will move that slide, now, we have also some pictures of the armor that the gunny came up with. If you will turn to the—I believe it is your fourth chart down, and if the Members would turn to their fourth chart down, they will see a piece of steel.

Now, this is not rocket science. We are going to put this piece of steel up on the board. Go ahead and put that up there.

The gunny sergeant came up with pieces of steel, many of which he took off vehicles that were being scrapped because they were—we were moving new kits into the theater, and some of that is the 3/16 armor that we had before and we have moved off. So he had some leftover steel available. He took it, presumably used a plasma cutter, and he and his people in that motor pool cut these pieces of steel and they bolted them onto the underbody of their HMMWVs to save the lives of his men.

Keep those going. Let us see if we have got a few other pieces. Again, this is pretty simple stuff.

Now, he sent this, and there you can see the passenger side of the steel. You can see how it is up there in front of what I would call, or I would call the "leg saver area." that is where fragments can come in from the side and from the underbody; and if you saw the other side, you would see a second piece of steel up under the fender well.

But he simply bolted those on. And according to him—and again, he had the side by sides where they had none of this and there was no fender well and presumably no leg, and he had pictures of the vehicles in which people were KIA, killed in action, because they didn't have that protection. And then he showed the ones where he had bolted these leg savers and body savers up underneath, and people lived. In one instance, a person lost a couple of teeth, had a broken leg, but he lived, did not lose any limbs.

And the gunny recommended to the Marine Corps that they get a lot of this steel to the motor transport units out in the area of operations (AO), that is, out in Iraq and let them put it on; and while they are waiting for the fancy stuff to arrive—that is, for the new kits that are coming in, that you have advised us will be there in full supply by December of this year—while we are waiting for that, they could be putting this on. They could be saving lives.

Now, the reason I walked through this is because I think that this is a pretty good plan. It is the simplest and most practical plan. It amounts to putting steel in front of projectiles so that when the improvised explosive device (IED) goes off, they don't hit the soft bodies of the people who are inside those vehicles.

Now let us go to the timeline for response from the Marine Corps for this. The gunny sergeant made this presentation to help his Marine Corps, sent it back here, and this is where it hit Washington.

On February 15, we had a senior Office of the Secretary of Defense (OSD) staff member from Secretary Rumsfeld's staff, who met with the Marine Corps and with Mr. Bob Simmons to discuss getting this underbody action, this little program, undertaken simply by moving some steel out of the theater and allowing the Marines, while they are waiting for the other stuff to arrive, to protect themselves. That was February 15.

In March, nothing happened. We kept waiting for an activity to occur in Marine Corps Systems Command. That is the command that you command, General Catto. No action.

Let us go to April. In April, April 21, General Nyland, having seen no action for roughly two months on what we thought was a critical need to keep our troops intact and prevent casualties in the theater, I set up an appointment with you and came in and met with you; and you advised me at that time that the Marines decided not to do this.

I asked you why not, and you told me that you had had a report that this might worsen injuries. And I asked you to provide me an engineering report on that. There was no engineering report. That was just a comment, a typical comment, put out by bureaucracy to keep from doing anything. You don't do anything until you can do everything, so you do nothing.

At that meeting you advised me that you were interested in moving ahead on this program, but you couldn't do it with high hard steel because high hard steel is too brittle and will act itself as fragmentation underneath the force of a three-stacked mine blast.

It took us one day, General Nyland, to find rolled homogenuous armor (RHA) steel, which you said you needed to perform this job. The RHA steel was in Kuwait, a couple hundred miles away from the Marines that needed it in quantity. And you agreed at that point, April 21 or the 22—no, it was on the 21, because we found the steel on the 22—you agreed on the 21 to get this thing done. And we all left that meeting with the understanding that this thing would be done.

May passed. No action.

Now I am told—do we have a June slide? I am told that yesterday, the day before the hearing, you made the contract to fabricate this underbody armor.

So we had a gunnery sergeant heading up a motor pool in theater who was saving the legs and lives of his Marines, and had some pretty good documentation, including after-action photos to validate that. That happened last year. It is now halfway through this year and you have made a contract to have this stuff cut by a private firm.

Now, obviously, the motor pool of personnel up there have the ability to cut it themselves because the gunny sergeant's cutting this stuff in theater. They have obviously done that on the HMMWVs that they have already up-armored.

So this is a sad day for us. It is a sad day because we have got Marines out there in the theater who are fighting with a great sense of urgency for our country. And they take advantage of every opportunity to try to be creative, to try to be aggressive, to try to be courageous, to serve this country.

The bureaucracy, gentlemen, that you head up back here, while it has done some good things, it has made some good contracts, you have got some HMMWVs moving, you have got some armor moving, is resistive to moving this thing with a sense of urgency. And you end up being an adversary to the people in the field who are trying to get things done quickly.

Now, if you had a problem, an engineering problem, with what this gunny sergeant came up with, you could have sent one of your engineers, or a team of engineers, out to say, Well, let's do it, but let's do it a little bit differently. We have a engineer who has got a concern about something. Let's move them out there.

If you were concerned about whether or not you had the right kind of steel, you could have done the same thing that Mr. Simmons of our staff did. It took him one day to find the kind of steel you said you had to have, and the steel happened to be just a couple of hundred miles from the Marines that needed it.

But you didn't do that. And I think that represents the disconnect that we have got between the warfighters who are doing a magnificent job and the bureaucracy that is serving them. And we are all part of that bureaucracy, and that is why we are here this morning.

And I have got your statements. We are going to take those statements into the record. But, gentlemen, I want to hear from you how we are going to move out and how we are going to get this stuff underneath these vehicles as quickly as possible.

Let me turn to my friend from Missouri, Mr. Skelton, for any remarks he would like to make, and then we will recognize General Nyland.

[The prepared statement of Mr. Hunter can be found in the Appendix on page 43.]

**STATEMENT OF HON. IKE SKELTON, A REPRESENTATIVE FROM MISSOURI, RANKING MEMBER, COMMITTEE ON ARMED SERVICES**

Mr. SKELTON. Thank you Mr. Chairman. I will be brief. I welcome the witnesses on this very important topic, and I share the frustration of our Chairman when hearing the facts out.

Today, we will hear testimony on the important issue of vehicle armor. This is an issue which our committee has explored on many

occasions. It is an old subject with us. And I think a full and complete airing of the facts is so important, so we in the Congress can ensure that our service members get all they need to be protected.

Providing adequate vehicle armor is a problem that continues to bedevil the Department of Defense. We heard testimony as late as May 5 that the armor issue was being resolved. And here we are again plowing the same old ground again.

For nearly two years we have watched services struggle to provide adequate armor to the fleet of ground vehicles in Iraq, and this committee and I have offered assistance and provided funds to try to alleviate this problem. But, unfortunately, here we are again, hearing testimony on shortfalls protecting our Marines; and needless to say, I am sorely disappointed.

The Department of Defense should take more of an active role managing this issue and further assist the services in meeting the needs of our service members. They are yours. They are your troops.

This ongoing problem only amplifies the need for this committee to fully exercise its oversight responsibilities to ensure that this and other important defense matters are not mismanaged. Our military, particularly the United States Army, is stretched as it fights the war in Iraq and the war on terror. And add to that the stress the ongoing transformation of the Armed Forces, the base closures, because it is clear we have entered a period of significant risk with regard to our Nation's defense.

It is imperative that this committee exercise comprehensive oversight over the full spectrum of defense issues to include the declining readiness of equipment, service policies in recruiting, retention and our policy in handling detainees. I urge my colleagues not to focus on one issue alone, and let's explore it as fully as we can today.

Mr. Chairman, I join you. Thank you.

The CHAIRMAN. Thank the gentleman.

General Nyland, thank you for being with us. The floor is yours, sir.

**STATEMENT OF GEN. WILLIAM L. NYLAND, ASSISTANT COMMANDANT, U.S. MARINE CORPS**

General NYLAND. Chairman Hunter, Congressman Skelton, distinguished Members of the committee, I am pleased to appear today to update you all on our force protection efforts, in particular our evolving vehicle armoring initiatives.

Let me——

The CHAIRMAN. Can you pull that mike a little closer, General?

General NYLAND. I will start back at the beginning.

Chairman Hunter, Congressman Skelton, distinguished Members of the committee, I am pleased to appear here today to update you on our force protection efforts, in particular our evolving vehicle armoring initiatives.

Let me begin by thanking you, Mr. Chairman, and the distinguished Members of the committee for your unwavering support of your Corps. Your support of these magnificent young men and women is greatly appreciated not only by the individual Marine, but by the leadership of the Corps.

As Lieutenant General Mattis testified on 5 May, he went 5½ months at the end of Operation Iraqi Freedom-One (OIF–1) without losing a single Marine or sailor. Yet during that period, in the intervening months, the insurgency was growing. When the Marines returned to Iraq in March of 2004, the threat had been evolving and the IED had started to become prevalent.

The IED threat then was generally 60-millimeter or 81-millimeter rounds, but today because we face a smart, adaptive and thinking enemy; we face munitions like 122-to-155-millimeter shells, triple-stacked mines, and even recently, shape charge-like weapons. As this threat has evolved, so has the armor protection for our tactical vehicles, the details of which can be found in my prepared statement.

Most recently, because of the growing threat of mines and IEDs, the Marines have increased delivery of the underbody from the Marine Armor Kit for installation on 400 HMMWVs at the unit level. Production of all 400 underbodies is complete; 372 are on the ground in Iraq and the balance should arrive by the last part of this week.

We are also making good progress on the production of underbodies to upgrade the armor on our 5-ton medium trucks and on logistic support vehicles (LVS). Production of 124 5-ton truck underbodies will be completed by the end of July; 243 LVS kits will be completed by the end of August. It has taken a little longer on the LVS kits because, at the request of the warfighter, we were also adding the MAK-style doors and air conditioning to the LVSs. Both of those kits will be shipped via military air.

Despite our successes to date, vehicle armor and other acquisitions have not been without impediments, and clearly there has been some incoherence between our desired timelines for fielding delivery and application of armor enhancements and other equipment and the timelines realized throughout the process. That is frustrating to me, as I know it is to you. While some progress is being made, we should look for enhancements to any process associated with time of war support to our forces with one common theme in mind: getting support and allowing responsible acquisition professionals to exercise the flexibility to expedite this support to the Marines.

That said, the flexibility to hold below threshold program funds in time of war and for combat emergencies in excess of the current financial levels and percentages is an area I believe should be reviewed. We will continue to identify other processes as well.

We are grateful to the committee for their rapid acquisition authority to respond to combat emergencies legislation in last year's bill. We used that to procure 27 Cougar vehicles, which is a heavily armored vehicle, to enhance the survivability of our Explosive Ordnance Disposal (EOD) Marines against IEDs. Clearly, the legislation is a success story, as I believe also is our urgent Urgent, Universal Needs Statement (U-UNS) process inside the Marine Corps, where we pride ourselves on meeting the needs of the warfighter.

Together, the Congress and the Corps are collectively realizing great successes in support of the warfighter by reducing the span of time between the identification of requirements and fielding to the force.

In closing, I would like to thank you again, Mr. Chairman, and the distinguished Members of the committee for all that you have done in support of our Marines and service members deployed in harm's way.

With respect to the timeline, sir, I am unaware of the 15 February meeting, but certainly I am well aware of our meeting on the 21st. At that time, we undertook to determine that steel. We gave that to the Army Materiel Command (AMC) in theater to determine how best to cut, what their capability was, and to ultimately let the contract.

In parallel with that, because we knew we didn't control all of that process, we accelerated and have now completed the assembly of additional 400 underbodies that are part of our Marine Armor Kit. They are in theater today, less 28 which are still to be en route. So we have not stood still.

And while we have one alternative, we pursued a second to make sure, as you said, that the absolute best—and that MAK underbody is the absolute best, short of an M1114 that we can put out there for our young Marines on the ground.

And I would at this time ask General Catto if he has any additional comments to add, sir.

[The joint prepared statement of General Nyland and General Catto can be found in the Appendix on page 49.]

**STATEMENT OF MAJ. GEN. (SELECT) WILLIAM D. CATTO, COMMANDING GENERAL, MARINE CORPS SYSTEMS COMMAND, U.S. MARINE CORPS**

General CATTO. Sir, I understand your angst on the lack of performance on the AMC contract. Mr. Chairman, I understand your angst on the slowness with the completion of the rocker panels on the AMC contract in Kuwait. That is my responsibility, because I did not push them fast enough.

As the Assistant Commandant said, we did pay attention to your concern for underbodies, and because I did not have direct control of what happened in that contracting office, we did have a parallel path. I assure you that we were paying attention.

Again, this is a lack of leadership on my part for not paying more attention to that specific contract.

[The joint prepared statement of General Catto and General Nyland can be found in the Appendix on page 49.]

The CHAIRMAN. Gentlemen, thank you. Let's go to the—when the gunny requested that we start putting this underarmor on, came up with this program, all he needed at that point, all we needed in those units in the field was the steel. The steel was only a couple of hundred miles away in Kuwait.

Now, obviously, because you can see that he cut panels and his own motor operation installed those panels, they were able to do that without having a cutting contract. So you had eight weeks that transpired, General Nyland, between our conversation and this letting of this contract today.

But one thing that you have pointed out in your statement is—I think the lesson for us, and it must be the lesson for you; and that is this: How long have the triple-stacked mines been a problem in the western AO?

General NYLAND. I think the triple-stacked mines, to the best of my knowledge, it is within about the last four to six months that we have started to see that.

The CHAIRMAN. Okay. When will you have a full complement of underbodies, whether it is manifested in the 1114 or the new underbodies for all of the Marine HMMWVs in theater?

General NYLAND. Right now, we have 372 on the ground plus 330 full MAK kits on the ground. We have already made 700 maximum on the ground.

We have 500 up-armored HMMWVs and another 400 that will be delivered by September. As quickly as we can hang the armor on the underside, and we have completed over 300 last month, that will be the determiner of whether it ties up exactly with the last delivery of 1114 in September or at what point that will be.

The CHAIRMAN. Okay. So at what point would you say, would you estimate that you will have a full-up underbody for the operational vehicles in Iraq?

General NYLAND. No later than December.

The CHAIRMAN. Okay. That is my point. The triple-stacked mines started occurring early this year, as you said, a move by a creative and adaptive enemy, although a mine is not necessarily a profound change in warfare. But they started to show up on the battlefield. Our reaction to those, to have our Marines protected, will be roughly one year later.

Now, if we had gotten together and come up with a creative way to get some steel, some RHA steel, good, solid, high-quality steel underneath those vehicles by rolling out that steel to the AO, getting it out to the motor pool, getting a design out—and if you didn't like what the gunny designed, you could have designed something else—had a team of engineers get on that thing immediately, we could have moved RHA steel out and had—if I could ask the staff to go back to the picture of the side on—bolt-ons there on the vehicles.

Put that one. But then put up the picture of the HMMWV that has got the side panels on it.

Okay, we could have had those, General Nyland and General Catto, we could have had those on by having them done in the field by simply supplying about four major elements. In fact, the gunny listed them when he sent his recommendation.

Steel, we had the steel just a couple hundred miles away. You put them on a flatbed, you run them up on a convoy. RHA steel. Steel.

Bolts, you need to have good strong bolts.

Plasma cutters and tips on the plasma cutters.

And we could have moved those things up into theater and had an emergency order to get those things underneath the vehicles back at the beginning of this year.

Now, as soon as you bring the kits on, obviously you can put a socket wrench on those, take them right off, they don't prejudice you at all. They don't hurt you in terms of the kits. They don't slow down the kits coming, but we can't meet this rapid evolution of threats.

And, again, putting mines on roads isn't necessarily the height of creativity. It is something that the enemy will do. But you can't

meet a change of threat that can happen in a week or a couple of days or simply show up on the battlefield with a one-year plan to protect and react against because what that means is the people who get in, who are operating on the first part of that year and the middle part of that year and the last of the year, before you get everything full up, are going to take more hits than they would otherwise. That is the point.

And I think that is the connection that we are going to have to make between the warfighter, which I think is represented by that, and the bureaucracy, which is represented by you and us. And I would hope that we embark on this program right now.

What do you think?

General NYLAND. Sir, I agree. We owe those young Marines and all the other members of our service over there the best. I would simply say that we have actually been manufacturing underbodies for over a year. The 11th Marine Expeditionary Unit (MEU), 24th MEU, 31st MEU all went ashore with underbody vehicles. We had a plan in place for an underbody that was part of a whole kit. While the gunny's solution is a solution, it does not meet the rigor of the whole—of the MAK armor kit. And in some cases, the way it was installed, it would not allow that vehicle later to be modified, to put the kit on, to provide the all-around.

I would be remiss if I didn't point out that the majority of the IED blasts still are a side blasts. So we have to get after the belly blast as well, but we can't ignore the side blast either.

The CHAIRMAN. Well, that is, if you look at what the gunny had there, General, that is a side view. That is a piece of side armor that he put on that melds with the steel door that takes on side blasts.

But my point is—and I think it is well illustrated by the picture; he had the picture of the wheel well where you had nothing. That wheel well is gone, and presumably the legs of the driver who were sitting behind it are gone also.

Then he had a picture of the wheel well where he put up his steel protect, and although a lot of that HMMWV is blown away, the steel is still there and the driver escaped with a couple of broken teeth and a broken leg.

My point is, once that IED goes off, this is all physics. You have projectiles of certain mass traveling at a certain velocity. You either have something between them and your Marines or you don't.

And plans don't suffice. And there is no bureaucracy in the world that can move everything, going through the contracting process, and then going through the long—sometimes the appeals process for the competitors that lose the competition—and then going through all of the hoops and the hurdles that we have back here that ultimately gets things out to theater five, six, seven, eight, nine months, a year after the threat has evolved that they are having to meet. They can move much faster than that.

What you have to do is move to the field as quickly as possible. And I think we all agree you have got to do everything that is possible.

Certainly that piece of steel that the gunny put on, these pieces of steel he put on these HMMWVs aren't pretty. They are going to leave bolt holes that you are probably going to have to solder over.

But what they did do is, they filled in the gap between the time when the kit vehicles would arrive or when new M1114s would arrive, and they saved Marines and they saved legs. And we should encourage that. We should pursue it. We should aggressively be on it.

I hope you agree with that, General.

General NYLAND. Yes, sir. And we are on it.

As you know, the 372 underbodies that we have over there, that are on the ground now, are designed to be put on at the unit level so they don't have to wait to come to the facility.

The CHAIRMAN. Okay. Thank you.

Mr. Skelton.

Mr. SKELTON. General Nyland, I have seen reports that indicate an increased underbody threat from mines and IEDs in Iraq. The HMMWV is a vehicle which was not designed to withstand that type of threat; am I correct?

General NYLAND. Yes, sir.

Mr. SKELTON. What do you believe is the future for the HMMWV as a vehicle for our military?

General NYLAND. Sir, I believe at the present time our spiral development of the MAK kit is another interim step on the way to what we understand clearly the Cadillac is, which is the M1114 or the M1116. And we have an effort ongoing right now with our commanders on the ground to identify what their requirement would be to go to a 100 percent M1114/M1116 fleet.

Where do we go in the future, is another interesting question. We rapidly fielded 27 of the Cougar vehicles, which is a V-bottom-type vehicle; and I think we are going to have to look more for two things: One, from our science and technology community, we need an armor that is lightweight and easily applied. And the second will be is something along the lines of these heavily armored vehicles that will ultimately take the place, not just for EOD, but potentially as tactical vehicles.

We have a number of efforts trying to determine what is the right vehicle for the future. I think it is pretty clear that a flat bottom vehicle is not even at the Cadillac level of the M1114. We have a prototype that hopefully will be available next month called the Ultra Armored Patrol Vehicle that we will be able to take a look at partnering with both industry and NASCAR. But I think that the utility, if this is the threat of the future, the long-term utility of the HMMWV has to be questioned. We have to take continued steps to find what will defeat this kind of a threat.

Mr. SKELTON. It seems to me that it is imperative that this be put on the fast track. And normally, something like this is going to end up taking 10 or 15 years. I don't think the troops can wait 10 or 15 years.

How do we get it on a faster track?

General NYLAND. Sir, I think we will take that for action.

We are also working very closely with the joint IED/Integrated Product Team (IPT), which has also capitalized on this development with the Cougar. We have purchased 122 more of those. We are looking, as I mentioned, at the Ultra. We are looking internal to the Marine Corps at what is the next tactical vehicle, and we will continue to work that.

And I might ask General Catto to comment on that because much of that work is done at Systems Command.

Mr. SKELTON. Well, what we would like to know, and I know the Chairman would like to know as well, could you get back to us within a reasonable length of time as to proposals, so this doesn't stretch on some 10 or 15 years.

General NYLAND. Yes, sir, absolutely.

Mr. SKELTON. A lot of wonderful young people are getting injured, and if the HMMWV, even with all the kits on it, doesn't cut the mustard, what does? And we need to know; it is our job to provide and maintain.

General Catto, do you have a comment?

General CATTO. Congressman Skelton, for a Commercial-Off-the-Shelf (COTS) vehicle, something that we take basically off the marketplace like the Ultra vehicle that General Nyland talked about, we anticipate about a two-year effort for that, somewhere in the neighborhood of $7 to $10 million Research and Development (R&D), and then the procurement cost after that.

You are correct. If we develop a new vehicle from scratch, it is probably a five-year effort.

Mr. SKELTON. We can't wait that long.

Thank you, Mr. Chairman.

The CHAIRMAN. I thank the gentleman. The gentleman from Pennsylvania, the chairman of Air/Land, Mr. Weldon.

Mr. WELDON. Mr. Chairman, first I want to thank you for having this hearing.

I want to thank you both for testifying and for your leadership.

I just led a delegation into the theater over Memorial Day, and six of us, along with Senator Biden, visited with the troops in Baghdad and Fallujah; and our specific purpose was to observe the activities you just described to us in theater. And I would be candid with you in telling you, I am impressed. We were impressed. We were impressed with the attitude of the Marines doing the work and the capability that had been achieved. We saw some examples of some of our vehicles that had been hit.

But I also want to tell you that there was more than one who mentioned the name of Duncan Hunter. And I told you this when I came back. It shouldn't take a Duncan Hunter to solve a problem with the up-armoring of our HMMWVs and our artillery in the field. And this is no offense to anyone in the service. But thank goodness we have a chairman who has made it a personal crusade, I think possibly because he served in this capacity and because he has two sons, one of whom has served in this theater, to make sure that we are taking the steps that are necessary.

General, we have been talking about this issue for well over a year. We recognize there was additional money needed. It was this committee who went out in front of the White House and put $25 billion up on the table as the first supplemental when the Pentagon was balking at doing anything because it was an election year; and we persevered as Republicans and Democrats because we wanted you to have the flexibility and the resources to do whatever it would take.

You will never meet with resistance from this committee to put the equipment immediately into the field. We will cut through the

red tape. If there are problems in the procurement process or the process of buying or the technology of—as Duncan pointed out, these plasma torches, we will give that capability to you.

But the point that Duncan is making is that we had an interim solution identified months ago. And it is going to take a year before we have all of that capability in theater. And to this committee I would say, Democrats and Republicans, that is just unacceptable.

I have attended several Marine funerals over the past six months, brave Marines who were a part of a unit from my district, one of whom had just been married three days before he was deployed. And I know you have attended funerals of friends of yours and the sons and daughters of your friends.

What this hearing is designed to say is that we need immediate response. We are in a changing threat environment today. This is a threat environment that changes, I guess, by the day.

When I was there, we were seeing additional projectile capability that had the ability to pierce even our best armor. And so there is no protection against that right now because the enemy has come up with a new capability that we still can't meet. And that is why we have got to have this combination of technology and application directly applied, along with the ingenuity of the troops in the field to provide whatever short-term solutions are needed.

I am not totally comfortable that we have that right now, and I say that acknowledging that I was very impressed with what is taking place in the theater. I was impressed with the up-armoring, the attitude of the contractors working side by side with our military personnel, the rate of production that was really impressive, the facilities that were being used to do this work and the attitude of the Marines that they would get the job done.

But I think if there is one statement that has to come out of this hearing to you, it is, there is no impediment to you getting what you need to get to our soldiers immediately—not six months from now. If there is a problem with some piece of legislation or some requirement or some dollar amount, what the Chairman is saying—and I know Ranking Member Skelton feels the same way—we will solve that problem for you. Let's be the people that take that and deal with the bureaucracy.

But as the leader of our warfighters, we need you to make sure that we are doing everything humanly possible to protect these young Marines, which I know is the same objective that you have. We do not want the bureaucracy to get in the way.

I read a statement today where a reporter is alleging that some piece of legislation is hampering our effort in the area of body armor. Well, if that is the case, we want the military to come and tell us if it is a problem, not wait until after the fact and say, Oh, Congress passed this bill or that bill or this restriction or that restriction.

The lives of our troops, as it is with you, is our number one priority; and we will do whatever it takes to give you the resources, but we do expect action to take place immediately.

And so, again I want to thank you. I don't have any questions. I think you get the tone of the purpose of this hearing. And I can tell you no one is more sincere on these issues than this guy sitting right here.

And there are people who criticize the Congress and say, Well, the Congress doesn't really have any feel for what is going on in theater. His son was in theater. Were both of your sons in theater? One of them was in theater. He understands. As to my other colleagues, Congressman Wilson's son has been in theater. My nephews have been in theater.

We want to give the capability immediately, whatever it takes. There are no limitations. And so I would just ask you to consider that as we move forward, especially where the changes you are going to need to deal with these enhanced artillery capabilities that are piercing even our best armored capability.

Thank you.

General NYLAND. Sir, thank you. And you are correct. Our goals are exactly the same, and I thank you for your continued support, sir.

The CHAIRMAN. Thank the gentleman.

Incidentally, we passed this law last year, that this committee wrote, that gives to the Secretary of Defense (SECDEF) the ability to waive every law on the books of the United States of America and simply buy things if you are taking casualties in combat, which we are, and the procurement item is needed to address those casualties. So I haven't seen the newspaper article the gentleman's talking about, but we have a law that allows you to waive everything.

SECDEF's got to sign that. He has got to certify it, but certainly there is nothing—if the Marines made a request for the Secretary of Defense to sign a certification for a vital warfighting component, he is going to do it.

I thank the gentleman.

Gentleman from Massachusetts, Mr. Meehan.

Mr. MEEHAN. Thank you, Mr. Chairman.

Thank you, General, for appearing. It seems to me, after all we have been through on the issue of armor, it is just really a disappointment to see that we still can't seem to manage a supply chain.

I remember last December we were told by Secretary Rumsfeld that a lack of armor on HMMWVs was a question of physics and that there was an insurmountable supply. We discovered a few days later, Armor Holdings had actually—who is a supplier—actually told the Defense Department months earlier that they could, in fact, increase their supply and increase production.

So the Chairman has laid out here—in April, Pentagon officials were aware of 1,000 of the three-eighth-inch armor for use on the underbody for the Marine Corps. And now we are being told that we will have this done by the end of August. It seems to me that a four-month turnaround on what the Pentagon itself characterized as an urgent requirement is just too long. I mean, to take four months for a requirement that is described as "battlefield urgent" seems to me to be an embarrassment.

Add that to the fact that these three-eighth-inch sheets are over in Kuwait. It just seems inexcusable and indefensible to me.

General, the Government Accountability Office (GAO) issued a report and faulted the Pentagon for the shortfall in up-armored HMMWVs because it said that it didn't ramp up-armor protection

production to the maximum level. And this GAO report pointed to the Pentagon's failure to release funds in a timely and predictable manner, even though this committee and the Congress made the money available.

They recommended two things to the Army. One is to update its war reserve requirements at least every year to account for the change in operational tempo; and second, to develop computer models that can estimate supply requirements for deploying units as part of prewar planning.

I am curious as to the degree to which the Marine Corps has adopted these practices, or might adopt them, in order to better deal with planning and programming inventories.

General NYLAND. Yes, sir. Let me start and then I will ask General Catto to comment as well.

We recently sent the Inspector General of the Marine Corps over to Iraq to understand what is the use of the equipment on the ground and how that plays against what we call our equipment density list. And what he came back and told us, in essence, was, in many ways items that we have over there now, the Marines are using and require almost double what we use in our old equipment density list.

This is a new conflict. There are wide areas. There are more mobility requirements. There are more weapons requirements. So as a result of that, we have come back and we are taking that to look and adapt, is this what the whole Marine Corps needs to do to understand the right levels of tables of equipment given this as the prospective new threat in the world. So we are working that very hard right now and, in fact, have already put out a series of directives and taskers on that.

To speak more appropriately to using modeling to help with us that in the future, I would ask General Catto from the Systems Command to comment.

General CATTO. I have not seen this GAO report. I can tell you that we do use modeling to determine our ammunition levels and our use on the vehicles in terms of how much life that we take out of them.

If I may comment on your statement about four months being too long for acquisition, you know, it really depends on what we are buying. If it is an article that exists, whether it is Wiley X glasses or earplugs or even armor for vehicles—you know, we armored our entire vehicle fleet of over 3,000 vehicles in less than four months before we went into OIF the second time.

If it is a new vehicle or something that doesn't exist, it is going to take time to develop it and do the testing, et cetera. So you know, the four-month time frame can be good or bad, depending upon what particular item we are looking at.

Mr. MEEHAN. So you think what the Chairman laid out here, starting with a meeting in February, going to April, August, that that is a reasonable period of time to get the underbelly?

General CATTO. No, we are not happy with the underbody piece. I understand that.

But as I said, sometimes you know when you say, four months is too long, well, if it is an item that does not exist and you have

to develop it, you know, a new weapon or a new vehicle, you know, as we talked about earlier, sometimes that just takes time.

Mr. MEEHAN. But the instance that I am citing is, they were over in Kuwait. It just seems to me that the Members of this committee that have visited Iraq, that visit Walter Reed Hospital, that see the nature of the injuries and then see a presentation, as the Chairman has made, we just have to do better.

And Members of this committee work hard to try to get the services the money that they need. This inspector general's report for the Marines, they estimate that 30,000 Marines in Iraq need twice as many heavy machine guns, more fully protected armored vehicles, more communications equipment. This committee wants to provide whatever our men and women need, and we are doing it very much in a bipartisan way with no regard to politics, just trying to get people what they need.

But it seems continually, at different points in time during this conflict in Iraq, representations are made that we are fully up-armored, and then we go into theater and see improvements that could be made to underbellies, or the kits aren't getting there quickly enough. And it is really frustrating, particularly when you look at the nature of the injuries of people that come home without arms and without legs, who are—who, it seems to many of the people of this committee, would be in a much better position if we could quickly make decisions and get these up-armored or get, in this case, the underbellies.

It just seems that it is taking the bureaucracy too long and we need to do better. We absolutely need to do better.

General NYLAND. Sir, we certainly agree with that. And we are very disappointed in the way that went with that one sheet of steel.

We are absolutely pleased that we were able to accelerate our own making and delivery of those underbodies, which can be installed at the unit level. And now we have over almost 400 on the ground, as we speak today.

Mr. MEEHAN. And, Mr. Chairman, I thank you for that presentation. It was an excellent presentation.

The CHAIRMAN. I thank the gentleman.

The gentleman from Missouri, Mr. Akin.

Mr. AKIN. Thank you, Mr. Chairman. And I very much appreciate the hearing as well. I am sorry I had to step out. We had a couple of things I had, so I missed a little bit about what was going on.

I guess a concern that I had, having been in theater about, I guess, a little more than a month, maybe six weeks ago or so, was the fact that the top leadership in Iraq was saying to us there is nothing going out in the field that is either an up-armored HMMWV or a Level two. So I go out and the same day see a HMMWV where the driver just got killed. And it was sort of what I called "good old boy armor" in a way. I don't think we have a name for that exactly.

So I started asking questions, and what I found out was that we have got up-armored HMMWVs, and then we have got about five different levels of Level two, so anything that has got anything bolted on it is some kind of a Level two. And this particular vehicle

did not have the protection in the rocker—not the rocker panel, but the post between the doors—and he had shrapnel coming through there that killed the driver.

It did have some other pieces of armor protection on it, so the guys in the back were not hurt. And you could see where the shrapnel had gone through the first layer and had been stopped by the second layer of armor there. But there were an awful lot of variations, at least five different types of Level two armor.

And then I further got concerned when I heard that the Marines were taking something like 43 percent of the casualties and had five percent of the up-armored HMMWVs.

Somehow or other—I understand the nature, if I were an Army guy and I were in the southern part and there wasn't a lot going on and you send me some up-armored HMMWVs, I am going to keep them because I want to take care of my own guys. That is just natural for us to do that.

But somehow that distribution has to be adjusted for where the action is. And I haven't heard the plan as to how that is going to take place yet.

So I guess, from both a concern, but also I would like to know how are we going to make sure. The two things that—and I typically ask this even when I am going to Iraq or other places: What are the one or two things that would be the most helpful for you? And it kind of surprised me after all this talk for years, I want more up-armored HMMWVs is what the leadership was saying to me. This is mostly in the Fallujah.

I said, What is your second-most thing? He said, The second-most thing actually kind of comes up with up-armored HMMWVs, which is better longer-range radios because if we have better radios, we can get further out into the field and communicate, and we can push our missions further. But he said the up-armored HMMWVs—I think, if I remember this right—had some of the better radios in them and some of the other things. The other radios weren't much good; you couldn't trust them very far.

So that is our sense of frustration. Did you present a plan as to how we are going to get more up-armored HMMWVs to the places where the action is.

General NYLAND. Yes, sir. And if I might, I would answer that in two parts.

The first one is one that we can maybe help influence, but is really the purview of the operational commander; and that would be the distribution to put more where the higher threat is. And we are pursuing that with the operational commander to look at a review. What is the threat theater-wide, and does it make sense then perhaps to reorient some of the assets out there?

In fact, I will be going to Iraq this afternoon and I will be talking to General Vines and to General Johnson.

On the second piece——

Mr. AKIN. On that point, would it help you any if this committee were to—I mean, can we provide some extra incentive to try and get something like that going?

General NYLAND. Sir, I believe that the Chairman has spoken with the Secretary of Defense on this issue already, and I intend

to bring it up to the extent that I can as a Title 10 guy with the operational commanders.

The CHAIRMAN. If the gentleman will yield, we have been talking to the Secretary and to the combatant commanders, and we probably need to have a discussion off the—in a classified way; and we will do that after we get finished with this open hearing, the gentleman and I and anybody else who is interested in how this is progressing.

But there is a work on distribution right now of up-armored HMMWVs.

General NYLAND. And sir, to the second part, we now have roughly 500 of the up-armored HMMWVs. We have another roughly 400 that will be delivered by September, and our ground combat commander and MEF commander has undertaken the review to tell us how many vehicles would he need to go to, in essence, a 100 percent M1114/M1116 up-armored fleet. And we think that is going to be in the vicinity of about 2,600 vehicles.

Whether that is mitigated by any distribution or not remains to be seen. But we are trying to finalize that, pin that down, so that we can put that in the 2006 request and move toward that all-Cadillac 1114/1116 fleet.

The CHAIRMAN. Thank the gentleman.

The gentleman from Arkansas, Dr. Snyder.

Dr. SNYDER. Thank you, Mr. Chairman. I want to thank you for not just this hearing, but for the work that has gone on by not just you, but I know the staff has been very much involved. I think it is the kind of activity that we can contribute as a legislative body in a time of war.

As you know, General, there is a tremendous rumor mill in the military, and we are all part of that. And we all have our friends and constituents, and some Members have family members. And we hear from people. And the sad thing is that, a lot of times, we hear things, we ask about it—and I won't give you an overstatement and say a lot of times—there have been times when we hear these rumors, or hear reports from our constituents, ask about them, are assured nothing is wrong, and then months later it turns out, no, it was right to begin with. And I think the frustration at this end of things is that we ask these questions trying to be helpful, and it seems like things get delayed for several months.

I had a specific situation where I heard there was a problem in getting replacement parts, all kinds of replacement parts. I was assured at that table that, no, that was not a problem, that the anecdote I heard was spotty. Finally there was a study done, and it said for the entire Baghdad area there was a terrible problem with supplying parts. So I think that is part of the frustration that you are hearing about today.

I wanted to ask you, if I could, about this report, the inspector general's report. The Boston Globe has a story about it today, U.S. Marine Corps Ground Equipment in Iraq, Readiness Assessment. What is your comment about that report?

General NYLAND. Sir, actually we dispatched the inspector general over to get that, and quite honestly, I think it is a good news story because it validates exactly what we have been saying and

supports the great support that this committee has given us to understand what we really need in the way of equipment.

I would say that the Globe story misinterprets that, at least in my view. The story seems to indicate they need twice as much. The reality is they have twice as much in Iraq. The question is do we need twice as much for the remainder of the Marine Corps, if this is the kind of theater and the kind of threat that we will see in the future.

So my assessment of that report is it was very well done. It is very timely. It is helping us assess what exactly are the types of equipment, be it rolling stock or weapons, or communications gear, that what we think the Marine Corps will need to be able to provide a relevant ready combat force for the Nation in the future.

Dr. SNYDER. Was there a specific reason why the Marine Corps did not comment to the Boston Globe? The last paragraph says, Officials in the Marine Corps Headquarters in Systems Command declined to comment on the Inspector General (IG) report, saying they were not yet familiar enough with its findings to respond to questions.

When you have the press asking questions at a time of war about what you are painting as a good news story, I want to ask you more about that. Is there a simple reason why there was no response to a reporter's questions about what clearly is an important report?

General NYLAND. Sir, I do not know, and I asked that question. I typed out that e-mail as I came to the hearing to find out why in the world nobody either had the knowledge or the comment. The Commandant was briefed on this report. And we made the decision then—in fact I believe it was on the 8th of June, copies were provided to the armed services committees, to the readiness members, because this does, in fact, substantiate what the Commandant and the rest of the leadership have indicated our needs are. Why we didn't have a knowledgeable person—I don't know where that call went, I don't know who provided that answer, but I will find out.

Dr. SNYDER. Because when you say it is a good news story, I am not entirely convinced it is a good news story that the Boston Globe story is not right. Well, what do we expect them to do if the Marine Corps doesn't comment on the report? It doesn't make any sense.

General NYLAND. Yes, sir.

Dr. SNYDER. I want to ask you again, we have very limited time, one of the conclusions I will read from the report, most inventory logistics and security battalions require approximately twice the number of 50-caliber machine guns and more M240G and MK–19 machine guns than they would normally possess. Now, tell me how that is a good news story for this report to conclude that—this is not like we are talking about some, you know, refrigerator for storing water supplies. They are talking about 50-caliber machine guns.

General NYLAND. Yes, sir. What that report is saying is the Marines on the ground over there have double what their table of equipment is today. So the way I see that is good news is that tells me if the nature of war and the threat has changed, and this is where I am going in the future, then I better change the table of equipment for all the Marine Corps.

So that is not written to say there is a shortage. It is to say we have taken from the other of the Marine Corps to ensure that they on the ground have double what we used to think they would need in their table of equipment. So it is a validation of what it takes to fight this new threat in a sustained land campaign.

Dr. SNYDER. The sentence in here, the draft EDL, or equipment density left at 16 February is understated in meeting current and future equipment requirements.

General NYLAND. I believe it goes on to say that it is updated by tomb F which we now have, and that the tomb F is accurate.

Dr. SNYDER. So the way you all have been looking at equipment needs over the last year or two or months ahead, if you were following those requirements, your Marines would not have what they need. But this report is coming back and saying we have gone and looked; the Marines are using more 50-caliber machines guns, they are using more equipment. We have got a—I guess the drum major has to get ahead of the parade because the troops are responding appropriately to their equipment needs. Is that a fair way of saying that?

General NYLAND. In essence, yes, sir. What I am saying is that we, initially, went to war with our table of equipment. We found the Marines needed more. We gave that to them. That ends up being about double what the old table of equipment was. We now have seen that that is what is required, and that now gives us the ability, then, if that is going to be the fight of the future, the threat, and the ability to control it, then we better be looking at our equipment density list across the Marine Corps to change those tables of equipments.

Dr. SNYDER. Just one final comment. There is a series of charts in there, if I am reading it right, say the readiness levels of a lot of that equipment is not going to be what you all wanted it to be as time goes by. And if the Congress needs to—you may have a comment on that, and it may be in line with what Chairman Hunter said. If there is things we need to hear from you about how we can help with that, because we don't want, you know, four out of ten vehicles not to be operating properly in an unsafe manner. If you have any comment on that, I would be glad to hear that.

General NYLAND. I do. Yes, sir, and I appreciate your comments. In fact, I believe we are scheduled to brief the staff on that report in detail on the 23rd, which is a Thursday. We will use that to substantiate what we need and any 20O6 supplemental to ensure that the readiness does not deteriorate. We are already looking at vehicles for contracting, and different support that we can put in, as well as changing the rotation policy on some of the equipment to ensure that the readiness, those in the fight, have the best that is available for them. But I thank you very much for your support, sir, and we will, I believe it is this Thursday, brief the committee staff on that.

Dr. SNYDER. Thank you, Mr. Chairman.

The CHAIRMAN. Thank the gentleman.

Gentleman from Colorado Mr. Hefley.

Mr. HEFLEY. Thank you, Mr. Chairman.

I think you see the level of frustration on the part of the committee, and maybe you feel some of it, too, but I just don't understand.

If you watch the History Channel just a little bit, you see hundreds of B–17s rolling off the assembly line at a pace that no one ever imagined you could build airplanes. Same way with ships during that time, because we were in war, and there was a sense of urgency because we were in war.

I guess it raises the question in my mind, we are talking about putting a little steel on a car. I guess it raises a question in my mind, are we really operating this like we are at war with that kind of a sense of urgency?

I would like to go back to Chairman Hunter's original premise, which there has been some attempt to answer, but I still don't understand it. You have got a gunny sergeant who comes up with a pretty good plan, not a perfect plan, doesn't do everything you would like it to do, but it does help, and it does save some lives and some injuries. And it takes an inordinate amount of time for anybody to deal with that plan.

Why didn't the first person that saw that plan in the command structure say, you bet it is going to help, do it; and what do you need to do it with; and let's get that steel out of Kuwait, and let's get you the plasma torches, and let's get this thing done? It is not going to be perfect. It is not going look like the kind of armor we were going to bolt on later, but it still is going to help. How in the world could we have waited this long, and let them get along with inferior equipment, and endanger those lives when there was a way to help?

I was out at Ramstein the other day, and I was visiting with some of our wounded troops, and I got one young man just coming out of the operating room all bandaged up. And I said to him, soldier, are you going to stay in, or are you going to get out? He said, I am staying in if they will let me. He said, we have got work to do.

That is the attitude they have. Why don't we in this committee and in your structure over there at the Pentagon, why don't we have that attitude? We have work to do, and whatever you need to do it, we are going to provide it to you. Why didn't we follow up on this gunny sergeant? That would be my first question.

General NYLAND. Yes, sir. I certainly agree. These are magnificent young men and women. I go to Bethesda and Walter Reed regularly to visit them as well. And we owe them this.

I think the issue with this particular case is we can't lose sight that we had parallel efforts. Now, granted we took our eye off the ball on this rolled hard steel and the contract that we did not control, but at the same time we accelerated these underbodies so that they could be put over there, and they will provide even better protection, and they are installable at the unit level, and it doesn't take a really skilled artisan to do that. I think that is a huge step to be able to go toward this, and we have been building these underbodies since last fall.

So while that one piece—and I acknowledge we took our eye off the ball on that contract taking two months to get let, but we had a parallel course at the same time because we knew we didn't control that process. And we have, in fact, now almost 400 underbodies on the ground, for the purpose of installation at the unit level, to

put the protection on there that is superior to everything except for the 1114, the armored HMMWV vehicle.

Mr. HEFLEY. It took a long time to do that, and does the Marine Corps—I know you are very structured, and you expect your young Marines to follow your rules without question, but does the Marine Corps encourage thinking out of the box and innovation? And we ought to be very proud of this gunny sergeant who saw a problem and set about to solve it. Again, he didn't have the equipment of a manufacturing company to do it, and he didn't have any contract to be let. He just went about doing it. Do you encourage that, or is that something that is discouraged?

General NYLAND. Absolutely encouraged. As a matter of fact, the Marine Armor Kit was developed not by us back here, but in concert with the warfighter. This is what we see that we need, this is where the threat is. That was a vehicle that is the third in three generations of armored vehicle all of which had been devised in concert with the warfighter. The warfighters came up with L-shaped doors that we put on the Level two vehicle. They have had input into this. What does it need to make it the best that we can make?

So we absolutely encourage innovativeness. We have tremendous young men and women out there who provide us with great solutions to many things. I will tell you that some of their—some of the tactics, techniques and procedures that these young men and women come up with are tremendous. And we do, in fact, encourage that. And I would again say that every one of these vehicle armoring systems in the three generations that we have built have all been built with the warfighters' vote and input.

Mr. HEFLEY. Thank very much, Mr. Chairman.

The CHAIRMAN. Thank you very much.

Gentlelady from Guam Mrs. Bordallo.

Ms. BORDALLO. I have no questions.

The CHAIRMAN. The gentleman from Minnesota Mr. Kline.

Mr. KLINE. Thank you, Mr. Chairman. Thank you, gentlemen, for being here.

The Chairman has said that we have warfighters and a bureaucracy, and we in this room are part of the bureaucracy. I suppose that is true to a certain extent. It is not my day to argue with the Chairman, so—but it seldom is.

But I know that both of you are also warfighters. And, Spider, General Nyland, you are one of the last handful of Marines that are still wearing ribbons from Vietnam. And I know that both of you care about the Marines, as they were part of your family. They were part of my family, and I would argue by extension still are. And I know you care deeply, but as has been pointed out here again and again, we are kind of trapped in a system that has been developed over decades and was well suited, perhaps one might argue, for the Cold War period; a very lengthy system of planning, programming, budgeting, executing and defining requirements and verifying them in 2 or 3 or 5 or 12 different places. And I think that what you are sensing from us, and certainly from me, is that we kind of haven't gotten out of that box.

We are still trying to validate those requirements. We are still working through a contracting system that is mired in pages and

pages and pages of Federal Acquisition Regulations and all sorts of conditions. And thanks to Chairman Hunter and the other Members of this committee, but I think fair to say principally the Chairman, we put into law a provision to allow you, us, to bypass all of that.

I mean, it is fairly incredible if you think about it. And so we need to find a way, you at the table, we here, for whatever part we need to play, to make sure that we are taking advantage of that. And I know that because you have a bureaucracy that has been in place for decades, it is hard to get that through sometimes to the people who work for you and work for other services and work for OSD and work for all manner of agencies and bureaucracies in the Department of Defense. But somehow we have got to do it.

So I would just beg you to, like the gunny, think out of the box, and when there is any hint that comes from the theater that there is a delay because of some acquisition problem, that we not let that slow us down for one minute.

General NYLAND. Yes, sir.

Mr. KLINE. And I know every gunny's idea isn't always a good one, too. I think I understand that, and most of the Members of the committee do, although most gunnies' ideas are pretty good, kind of got us to where we are today for the most part. But I don't know how to sort of beg you anymore and to say, do not let the system that we grew up in hold us back.

General NYLAND. Yes, sir.

Mr. KLINE. Don't let that happen.

And so then I would ask you, is there anything, anything that you think is in the way now, because I know that Chairman Hunter and Ranking Member Skelton, all of us on this committee, we will do everything we can to get it out of the way so that we can get what we need. So if there is something that you need down in Quantico that is bubbling down there, or, General Catto, please tell us now, tell us tomorrow, but let's get out of the way, because you are warfighters. You have been there. I know you care. You have been frustrated in the field. I have been frustrated in the field. Let's don't let the habits of the last 50 years or 30 some years of service, don't let that get in the way of getting what we need because we used to do it that way. And to a large extent, we still—we still have to, but not if it is costing the lives of Marines or soldiers.

General NYLAND. Yes, sir.

Mr. KLINE. Please.

General NYLAND. Absolutely. And I could not begin to say anything better than thank you for your support, and we will provide you anything that we see as an obstacle. I would say thank you again for the rapid acquisition legislation. That was the only way we got that Cougar vehicle as fast as we did and got it over there and put it in the hands of our EOD Marines.

I have to also say that there are some things that have been success stories inside the acquisition process. And I have seen Bill Catto turn around overnight the things that we have looked at, urgent needs from the warfighter with the Marine Requirements Oversight Council (MROC) that we have made a decision, put it on

contract, and had it delivered in less than three weeks later, the advanced optical gun sight, the personnel radios. So we are looking for ways to do that.

But you are right. There are probably still—and maybe General Catto can elucidate on them right now, and I can't, and I would like to take that part for the record—if there are any hurdles out there, we will come back to you with those hurdles so that we can remove them and get what we need to put in the hand of these great young Marines.

Mr. KLINE. Thank you.

Thank you Mr. Chairman.

The CHAIRMAN. Thank the gentleman.

The gentleman from Florida Mr. Meek.

Mr. MEEK. Thank you, Mr. Chairman.

Generals, I am glad you are here, both of you are here. It is kind of difficult because I can see if this committee or the Congress wasn't willing to give DOD what they need to be able to make things happen on behalf of the men and women in harm's way, and like my colleague just mentioned, all of you feel what we feel, and it is kind of difficult especially—and I have gone to Iraq and Walter Reed and Bethesda and had an opportunity to see these patriots, even in Germany, say that there are ready to go back if they could. But many of them can't because in many ways somewhere along the line they have been failed as relates to equipment. And we know, and I know, that we are every day working to resolve that issue. And it is almost at the point that everything has been said, just everybody everyone hasn't said it.

But I don't know if you are familiar with the article that came out in *New York Times* about Marines from Iraq sounding off about wanting armor and men, but it goes on somewhere in the second paragraph, and something that is very disturbing to me as Member of the committee, we are sitting out here—we are sitting out here in the open, and as easy targets for everyone, one Corporal Wynn said of Centerville, Texas. Said of the shortages, we complain about it every day to everybody we could. They tell us they are listening, but we don't see it. It goes on to say—talks about the leaders and what is coming, and then it says, the Pentagon officials say that they don't know how many more—I mean, how many of more than 1,500 U.S. troops that have died in war had insufficient protective gear.

First of all, that statement is probably not just dealing with the whole up-armor or undergurney issue of the HMMWV, but it is disturbing for so many Congressional Delegations (CODELs) that go over, so many Members of Congress, you are going over there after this hearing; so much of an effort, legislation that has been passed as it relates to rapid acquisitioning, giving those that are in a uniform and wearing stars to be able to make those decisions right here, right now on behalf of those troops, and it is still not happening in a way that we would like for it to happen.

I am not saying it is not happening. We are making progress talking to the folks on the ground. We don't send a vehicle out unless it is armored totally. But we are still hearing now, you know, years—in the early years of combat, and I firmly believe as a Member of this committee, even though there is great discussion on the

Hill about exit strategy, what is going to happen and how we are going to do it, that this is Iraq, the early years. And you made a statement earlier, and I want to give you an opportunity to explain it. And this is not about you, it is about our thinking as relates to how we are going to transition our equipment to be able to continue the effort in Iraq and areas like it.

As you know, we are dealing with the military closing bases in Europe, moving into Middle East, Horn of Africa, being able to deal with some of these very small, dirty conflicts that we are going to have. We are going to need this kind of equipment. And you said it is about the future. Maybe I didn't quite understand you, but I am hoping that we are not holding back or saying that, well, we are going to make all these vehicles ready for the terrain we are on now, but we have future terrain, and maybe you want to save some for that. But it is important as it relates to arms and the legs and the forward days in Iraq.

General NYLAND. Yes, sir. Let me take those in reverse order. But the first one, absolutely, we are moving—our goal now is to work—move for the ground forces in Iraq to an all up-armored HMMWV, M1114/M1116 fleet. While we look at what we need for the future that will be better than that, we are not going to stop providing them with the armor they need.

I am not familiar with that particular article. In fact, I would certainly like to review it because every single Marine is issued and has available all of their individual protective equipment, and I would be very much surprised to find that that was not the case. But certainly I would like to get that article and then provide any response to you for the record that could clarify that.

Mr. MEEK. Mr. Chairman, very briefly, it is an April 25th *New York Times* article.

General, there is a number of articles there. If they are right or wrong—just because it is a *New York Times* doesn't necessarily mean it is true, but I would say that there is too many articles that are coming out like this. And we are doing everything we can. When I hear Members of this committee begging, literally, and if they could get on their knees, they would, Because we all see these young men and women, because we don't want the question what were we doing when all this was going on.

General NYLAND. I understand, sir, absolutely. But I can tell you that every Marine and every sailor serving with the Marines is issued and has all of his individual protective equipment.

The CHAIRMAN. I thank the gentleman.

The gentlelady from Virginia Mrs. Drake.

Mrs. DRAKE. Thank you, Mr. Chairman.

Generals, thank you for being with us here today and for listening to our frustrations. But what I am really concerned about is the process, and we all know, and you said it today, that this is an adaptive enemy, and that as soon as they know they can't get us one way, there is going to be something new that they come up with. So how do we make sure, what has happened in the past, that this process works so that you can do things more quickly?

I appreciate that General Catto has accepted responsibility and said he didn't follow up, but why should he have had to—once something was put in process, why didn't it just do what it was

supposed to do? And so I am concerned because in the Second District of Virginia I see these very bright young men and women who are so proud of their jobs and doing things to come up with new ideas and new ways to do things, and I want to make sure when that happens that we have a way to make sure it becomes reality.

So that is my concern is the process for the future and that there is something we can fix. And I think other Members have said that—tell us how we can help you, but to make sure that we have a process that works and does what you think it is going to do and we don't have these delays, because there is going to be something new, and we don't want to have this same discussion in a year or six months or on another war. We want you to be able to deal with it.

General NYLAND. Yes, ma'am. And thank you. And we will. We will come back with anything that we think will hinder the process and ensure that it moves speedily.

The other thing I think that we will take on ourselves and continue to do, which I think we have done in the past, but obviously in some places we haven't done it, is impart the same sense of urgency to the people that are in—not in harm's way, that we are trying to serve, for those who are in harm's way, and we will take that on.

Mrs. DRAKE. Just like you said, it took two months to let the contract. Is there something that needs to be changed, or was that just human error on someone's part who is not in harm's way?

General NYLAND. That one was a—it was just a lack of—taking an eye off the ball and not continually prodding someone so that they had that sense of urgency.

Mrs. DRAKE. I would think you shouldn't have to prod them, but thank you.

General NYLAND. Yes, ma'am. I didn't think I would have to either.

Ms. DRAKE. Thank you.

The CHAIRMAN. I thank the gentlelady.

The gentleman from Mississippi Mr. Taylor.

Mr. TAYLOR. Thank you, General, for being here, for your service to our country.

I am beginning to wonder if we are not throwing a lot of money at the wrong solution. It was a while back Colonel Jim Riddick, formerly with the Army Liaison Office, came by and showed me a variety of South African vehicles that have a V bottom; explained the difference with a blast going off with a flat bottom versus a V bottom. And I understand that Russians in Bosnia have V-bottom vehicles. When they would run over a mine, you lose the tires. The crew walks away.

Are you wedded to the HMMWV? Are you, for political reasons or logistic reasons or any other reason that doesn't make military sense, being told to fix something that doesn't work in Iraq?

General NYLAND. No, sir, I don't think so, I think we look at the HMMWV and certainly the M1114, M1116 as the best that we know right now.

That said, with the 27 Cougars that we have, there is another 122 coming to all services of which 38 are ours, we internally in the Marine Corps are looking at those other South African vehicles.

The Cougar, of course, is made in South Carolina. There are other ways potentially to defeat this problem.

So we are not standing still. We just recognize that right now it looks like the 1114 is the way to go while we determine—this Cougar is a huge vehicle. Can it be made in into a tactical size is the question. This is a 30,000-pound vehicle. Can we have a variant that can take a fire team or have a variant that can take a squad.

And I might ask General Catto to comment on this because some of his people are doing the work. But we are looking across the spectrum. As you say, it is something that is going to be better against this threat.

Mr. TAYLOR. General, again going to the sense of urgency. And again, there may be something that I don't see, but I don't see a sense of urgency in looking at a more appropriate vehicle for the fight we are in right now and what I presume will be similar fights in the future. I am noticing just from what I read in the paper a heck of a lot more IEDs going off in Afghanistan. I don't think that is a coincidence. Seeing how it worked in Iraq, we are going to be seeing that in Colombia, Afghanistan; wherever we have American troops, we will see a lot of roadside IEDs because, unfortunately, it works. So why do we sit back and make the same mistake that was made dragging the feet on the body armor, dragging the feet on the jammer, dragging the feet on the HMMWVs? I am glad Mr. Hefley has left. Why is there not a World War II crash program to respond to this?

I read daily where people in the automotive industry are laid off. I believe in Michigan alone, there is 24,000 people laid off this month. That means there is an assembly line waiting to do something. And if there is an effect to this, believe me, I would much rather see that money spent fixing this problem than a lot of other things I see this Congress spending money on.

And I what I would like to know at the appropriate time is who within the Marine Corps is in charge of that program, because I would like to meet that person.

Second thing I would like to ask, I had a great privilege of traveling a couple months ago with Lieutenant General Blum, head of the Guard Bureau. We rode in the convoy between two fire bases with the Mississippians. Along the way we discovered that one of our—just in the previous few days that vehicle had been blown up, an IED. This time it was a vehicle-borne IED. They had actually come up from behind, pulled alongside the vehicle, detonated it.

What I just found mind-boggling is that as our convoy went along, they were running vehicles off at the beginning, but allowing vehicles to come up from behind, and which seemed to me it would make sense that someone at the tail end of that convoy has a sign saying, stay back 200 feet, stay back, whatever.

Are there political restraints that prevent something like that? Are we so busy trying to get—put a normal face on life in Iraq that we are endangering our troops? Are there anything—things like that where you are prohibited from telling me, you can't come up that close; you can't tell people get off the road ahead of you?

General NYLAND. Sir, to my knowledge there are none. My information may be dated. My last trip was last August, but I am leaving this afternoon. I will ask the ground commander if that is an

issue, and I will come back and I will get word back to you if we have any, but to my knowledge, there are not any issues where we are told that because of some law, that we put people in harm's way.

Mr. TAYLOR. It may not be a law. It may just be again we are trying to put a normal face on what is going on in Iraq, and we end up losing people needlessly. It is my understanding from conversations with Lieutenant General Blum as of last week we still don't have a theaterwide policy that says you can't pass us from behind, which certainly seems to be a vulnerability.

General NYLAND. Yes, sir. Be honest, sir, I have exhausted my knowledge on it because I was unaware of any problems when I was there last year. I will ask that question when I go this week, and I'll get word back to you, sir.

Mr. TAYLOR. Again, thank you for what you are doing.

Thank you for having us here, Mr. Chairman.

The CHAIRMAN. I thank the gentleman.

The gentleman from Texas Mr. Conaway.

Mr. CONAWAY. Thank you, Mr. Chairman.

Generals, thank you for your service. I appreciate that. General Catto, thank you for your straightforward opening statement. I appreciate that very much.

Help me understand a little bit what is left to do with the HMMWVs we have got. With the second MEF, how many do they have, and do we have any kind of status as to the armoring of each of those? And just give us a sense of what—you said December. Help us understand what the scope is we are talking about.

General NYLAND. I will give you sort of a rough count, and then I will let General Catto go to any details.

Basically what we have right now, on the ground we have about 500 of the up-armored HMMWVs, some which the Marine Corps purchased and some which were provided by Multi-National Corps-Iraq (MNCI). We will have another 400 delivered by the end of September. We have already MAK armored, which is the highest, Level II, 700 vehicles. We have 330 fuel——

Mr. CONAWAY. Before you go, that is in addition to the 500 up-armored ones?

General NYLAND. Correct.

Mr. CONAWAY. That is 1,200.

General NYLAND. We have 330 kits that will take 82 HMMWVs and convert them to MAK. And we have 370-some underbodies whose rest of the kit will follow. That will also take those vehicles to the full MAK. That is aggregate numbers. General Catto can probably go onesie and twosie more, but that gets you to about the number we have there.

In addition to that, we are also flowing in HMMWV A2s that we complete here in the States and swap out with our base model HMMWVs, of which there are about 600 left, because they can't even carry underarmor. They are so old, they can't take the weight.

Mr. CONAWAY. The 400 that will be delivered in September, they are ready to go fully up-armored?

General NYLAND. Those are the M1114s. And between now and September, those 400 will be delivered.

Mr. CONAWAY. Where are the 600 you just mentioned? Are they in theater?

General NYLAND. They are in theater. They are Level two armor, and we are slowly replacing them with A2s that we build in the United States, not the ones that we convert over there.

Mr. CONAWAY. So I have got a total of 1,800 HMMWVs.

General NYLAND. Ballpark 2,000 plus or minus.

Mr. CONAWAY. Another 400 on the way in September, so we are really talking about 600 that we got folks at more risk than other—than the folks driving, than the 1,200?

General NYLAND. As they wait for the underbody, correct.

General CATTO. Six hundred forty baseline. The old HMMWVs. Now, what we are doing with those is setting them aside, bringing A2s, which is a better vehicle, can carry more weight, better armor solution; and then, of course, the up-armored HMMWVs M1114s, so by September everybody will be in a MAK kit or the M1114.

Mr. CONAWAY. General Nyland, would you check—tactically are the 600 used differently? It would make sense that you would use those 600 as last resort and in missions that wouldn't expose the troops. Would you check on that?

General NYLAND. Absolutely. I will, sir, but I can tell you for a fact that nothing leaves a forward-operating base or a base that is not at least Level two armored.

Mr. CONAWAY. Thank you, Mr. Chairman. Yield back.

The CHAIRMAN. Thank the gentleman.

The gentlelady from San Diego Mrs. Davis.

Ms. DAVIS OF CALIFORNIA. Thank you, Mr. Chairman. Thank you to all of you for your service, for being here today.

And I think one of my colleagues mentioned the country under World War II and the fact that, you know, the entire country was mobilized, and it is not a surprise that the entire country got the sense of urgency that we did then. And in many ways we are coming to you and sharing our frustration, and some of that could certainly be spread around. I guess we can look in the mirror for that. So I appreciate your comments.

But I wanted to also just reflect on the article that—the IG's article and just the fact that a statement was made that the Marine Corps's current strategy to meet the current and future needs of the force—we are talking about communication needs in Iraq, but communication needs in other conflicts as well. Can you comment on that, and also whether or not we are doing everything that we can to keep communication between the distribution units? I think in testimony you stated that you are going to Iraq partly to see what is—you know, why, perhaps, the needs are not getting to the areas that where the greatest concern is. Why is that not happening anyway?

General NYLAND. Yes, ma'am. I think what the IG's report is stating is that we have found in particular the communication requirements in this conflict are significantly greater than what we had ever anticipated. And so that we can keep the communication to those disparate units, we find that things as common as a guard radio and as complicated as satellite stations, we don't have enough of that kind of equipment if we are going to be operating over those kinds of distances. And so what we have to do as a Marine Corps,

which we have already undertaken, is an evaluation of what do we need for the future, because clearly what we used to think we need, if this war is a harbinger for the future, is inadequate. And so while I think we have the communications in place over there, as you point out, that teach, and talk and communicate with distribution and disparate units, we are doing that at the expense of the rest of the Marine Corps, and what do we really need for the future? And that is what that report is really telling us.

Ms. DAVIS OF CALIFORNIA. I guess what has gotten in the way of that? Is it just the size of the task, or are there other obstacles that you have?

General NYLAND. I think you have hit it.

Ms. DAVIS OF CALIFORNIA. In terms of technology?

General NYLAND. I think it really is the size of the task, and understanding how much equipment, be it the communications, be it weapons, be it rolling stock, it really takes to operate in a sustained theater such as this.

This was not what we had always planned for. We were going to be the mule, we were going to kick down the door and then come out when the larger forces came in. But if this is a message for the future, then I think just the enormity of what it took to make this work and work well, we have to take that to heart and understand and then adapt for the whole of the Marine Corps so that we still provide for the Nation a ready, relevant, combat force that they need.

Ms. DAVIS OF CALIFORNIA. Thank you.

In some ways would you suggest or say that we have downplayed the need?

General NYLAND. I don't think that we downplayed it. I think we went into this making sure that those who went in, who were going to go in harm's way, had what they needed. We didn't realize how much it would be.

And so as we identified it. Then, of course, we will bring that certainly to the committee and to the Congress in the way of the budget and the supplemental for help to make the rest of the Marine Corps whole for this type of theater.

Ms. DAVIS OF CALIFORNIA. Will you also be looking at is different training required at the distribution centers in order to move things quicker; do we not have the—I guess, the sort of some basic training in terms of procurement that is needed?

General NYLAND. I think, as a matter of fact, one of the things that we did when we did our recent force structure review group, one of the first things that we identified and seems like a small number, but was for about 40 field tactical contracting specialists. So we are looking at those kinds of things. How do we do better tactics, techniques and procedures not only in combat, but in moving the logistics and supply that goes with it; the ability to use the radio frequency identification tags and know where everything is in the process so you can get it to the right person at the right time. And we are taking all of that on. We have actually learned a great deal, and we learn every day.

Ms. DAVIS OF CALIFORNIA. Thank you. I wish you a safe trip.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank the gentlelady.

The gentleman from Arizona Mr. Franks.

Mr. FRANKS. Well thank you, Mr. Chairman.

Thank you, gentlemen for being here. After Mr. Kline's comments and Mr. Hunter's comments, it is a little difficult to know what I can add constructively, so with the realization that there is a lot of redundance here, maybe I can just restate some things in a little different way. And I start by reiterating Mr. Kline's comments that all of us on this committee know and feel your own commitment to protecting these young men and women in theater. And we know that you have dedicated your entire lives to the cause of human freedom. So any criticism that is in the air here should be focused on what impact it can have on the future.

And with that said, I guess, if I can just clump three or four questions together here. First of all, I am hearing a strong commitment on your part that, at least as applies to HMMWVs or at least applies to any personnel vehicle that is in danger of these IEDs, which seem to be something we are going to be dealing with for a long, long time, is there—in other words, is there a strong personal commitment on your part?

So I guess my question would be, number one, what is the long-term plan for dealing with this comprehensively? Number two, in the short term we know we must never allow what we cannot do to stop us from doing what we can do. And this gunny has, I think, shown a tremendous example of what we can do even by way of retrofit or doing things in the interim that, you know, give some chance, some hope that some family will not have to hear that knock at the door, or some mother will not have to hear that call that changes their life and soul forever. And I know that you know you understand that part of leadership is being willing to transcend convention when it is appropriate to the primary objective of what the cause is all about.

So having said that, is there also a willingness to allow those in the field, and understand that firsthand, to be able to do these retrofits until all of the armor is set up? And then finally, is there any anything that this committee can do in any way to help you do what you must do?

General NYLAND. Yes, sir. I am trying to get those in order. As far as for the long-term plan, we have recently asked the commander of the ground forces to review his requirement for a basically 100 percent up-armored HMMWV fleet. There are certain vehicles that cannot be the 1114 or the 1116, the tow vehicle, some of the radio vehicles. But to the extent possible, what will it take to give you a 100 percent all up-armored HMMWV fleet, meaning M1114s or M1116s? We have a rough cut on that number right now at about 2,600. We are refining that. And we will certainly be letting the committee know of that requirement as it gets defined, because clearly it will be impacted potentially in the 2006 supplemental.

For the shorter term, and tied into the innovativeness, we have on the ground now today 330 of the full Marine Armor Kits, which will be installed at our facility in Al Taqaddum. We also have 370-some underbodies which have been designed so that they can be installed down at the unit level. So it doesn't mean taking the vehicle offline, sending it to Taqaddum; rather the underbodies will go to

the units, and the great young Marines in the motor pools will be able to install those.

And, sir, for what the committee can do, I don't like to live in the past tense, but I have to thank the committee for all that you have done. And I have heard you loud and clear today that should we find obstacles, legislation, law, or needs, to come back, and I can assure you that we will, sir.

Mr. FRANKS. Thank you, gentleman.

Thank you, Mr. Chairman.

The CHAIRMAN. I thank the gentlemen.

The gentleman from Texas Mr. Reyes.

Mr. REYES. Thank you, Mr. Chairman.

And, Generals, I apologize for having to leave, but I have another hearing going on, so we have to shuttle back and forth.

I was wanting to follow up on my colleague's question. Given what you know about going to all up-armored HMMWVs, over what period of time would this transition occur? Do you have any sense or any idea on that?

General NYLAND. I have a little bit of a sense. And if I am wrong, I will have General Catto correct me, because he does all the buying. But we have about 500 now, and we will have 400 more delivered in September. My understanding on the options that we would have to buy additional of the up-armored HMMWVs starting in the September, October time frame would be that we could potentially, depending on what our final number is, in a period of four to six months, arrive at an all up-armored fleet, knowing, of course, that that is not funded right now, and that would obviously be a great topic for the fiscal year 2006 supplemental. That is the aggregate number. I would ask General Catto if he can——

General CATTO. Congressman Reyes, Armor Holdings, O'Gara-Hess, can do 550 a month now. So it is dependent upon what portion of that production rate they will give the Marine Corps. So with the appropriate funding in the supplemental, if you assume even 300 a month, we can have the numbers we need in less than a year.

Mr. REYES. Less than a year. Are you looking at all at the Stryker and the success that it has had to date? Is that—is the Stryker of any interest to the Marine Corps?

General NYLAND. No, sir. We have not particularly looked at the Stryker because it doesn't fit well inside our expeditionary construct.

Mr. REYES. There is a lot of concern in my trips to Iraq about the rapid rate of deterioration of equipment, vehicles. Are there any evaluations or studies ongoing by the Marine Corps, you know, in a hostile area like the Middle East about the deterioration rate and what we can do about it, how we can maybe improve?

General NYLAND. Yes, sir. In fact, we sent the inspector again with the Marine Corps with a team full of members from all disciplines over there recently, and they have just reported back. The committee staff, I believe, is going to get a briefing on that this Thursday, and he has taken a look at exactly those kinds of things. What is the normal wear and tear? What are we experiencing there? What is the readiness? Is the time at which we rotate vehicles right; should we do it more frequently? It is a very detailed as-

sessment addressing the readiness issues, and I will make sure that we get a copy of that report to you, sir.

Mr. REYES. Thank you.

The last thing is, I guess it is under the categories of lessons learned when we encounter a situation or a threat to our troops—and I am thinking specifically about the HMMWV and the IEDs and then stepping up the power of the IEDs by artillery shells and those kinds of things. In your analysis or in this analysis that you are doing, is there some way to be able to provide perhaps scenarios as they evolve as we deal with things like urban combat and IEDs, and perhaps the next level is going to be an IED with chemical or biological parts to it? Who—is somebody working on those kinds of things so that in the next challenge we are not having to scurry like we have been with the armor issue? Is somebody working on those kinds of things?

General NYLAND. I think to some extent, yes, sir. Clearly we take, on a routine basis, the lessons learned as they exist today, and we incorporate those in our trainings for battalions that are going over. So the tactics, techniques, procedures that the battalions are going to see in Iraq are based on what the battalions that are there are experiencing. And when we run them through our training out on the west coast at 29 Palms and at March, where we train them for about 3 weeks specific to operations in Iraq, those things are all taught. We use artillery shell simulators to replicate IEDs. We have gotten the jammers so that they can train with the jammer. We have gotten armored vehicles so they can drive a vehicle that is not just a regular HMMWV.

So absolutely. We use those lessons learned to improve the training and make sure it is the most current ones the Marines deploy. As far as that next step, to look toward potentially chemical or biological weapons, I think there is some effort in that area. I am not familiar with the total extent of that.

I will let General Catto.

General CATTO. Congressman Reyes, the Expeditionary Fighting Vehicle is designed with overpressure inside specifically to deal with the NBC threat.

Mr. REYES. Very good. Thank you, Generals, and thank you, Mr. Chairman.

The CHAIRMAN. Thank the gentleman.

The gentleman from Michigan Mr. Schwarz.

Dr. SCHWARZ. General Catto, first I want to say that the frame for the Cougar vehicle is made in Charlotte, Michigan, by Spartan Motors, which is in my district; great little town between Battle Creek and Lansing and the county seat of Eaton County.

I was told about 6 or 8 weeks ago by representatives of the UAW, United Auto Workers, that the capacity to produce HMMWV frames by AM General, I believe, is actually twice what is being produced. They represented to me that they are working a 10-hour shift 4 days a week, an 8-hour shift 1 day a week and 1 Saturday, and producing a certain number of frames, I believe it was 28 per day, but that they could very easily double that if the order came through to do it. They had the personnel to do it, the space to do it, the time to do it.

The response that I received at that time was that they could do it, but the holdup would be at the armorer, because the armorer could only attach the armor to so many vehicles per unit time, and they were pretty well maxed out. Is that correct?

General CATTO. Congressman Schwarz, I don't know if it is the Armor Holdings folks or the guys at O'Gara-Hess that are delaying us. I know that they have gone from about 250 vehicles a month and then ramped up successively to where they are now 550 vehicles a month. So I can't answer your question other than to tell you it has been an iterative process where they have gotten better every month.

Dr. SCHWARZ. Would it be correct to assume—all is a dangerous word. Is it correct to assume that the armorers are working at capacity now?

General CATTO. I cannot answer that. I will have to check and get back to you.

Dr. SCHWARZ. Then to follow up with that, it wouldn't be illogical, then, to ask the question of the armorers, if the manufacturer of the frame could double production very easily, as the UAW that represents the workers in that plant have represented to me, would it be possible for the armorers to up their work, their production, the number of vehicles they put out the door commensurate with the number of vehicles that the frame manufacturers could put out the door? That would be, I think, a logical question.

I would be most appreciative, sir, if you or your Army counterpart or whomever would be the appropriate person to ask that question would ask it. And I will—I tried this morning, and I will call the UAW again, which is—it might seem a little odd for a Republican to be dealing with the UAW, but the UAW is very big in my district, and they are great folks. It might be appropriate for me to keep calling and try to see if those numbers are correct, because it would seem to me that if the armorer can keep upping their output, it wouldn't be inappropriate to ask the manufacturer of the frame to up their output as well.

General CATTO. I will coordinate with Brigadier General Pat O'Riley, who is my counterpart in the Army. He is program executive officer for combat service support, and we will get back to you.

Dr. SCHWARZ. Thank you, sir.

Thank you, Mr. Chairman. I yield back.

The CHAIRMAN. Thank the gentleman.

The gentleman from Kentucky Mr. Davis.

Mr. DAVIS OF KENTUCKY. Thank you, Mr. Chairman.

I think it is an interesting time, sitting here in the committee, to—I am not going to speak as a Congressman, but as an engineer who spoke at the Naval Postgraduate School of Warfare conference, presented technical papers in the years before the war. And so many of expectations that were there, I think sometimes we get involved in a lot of emotional introspection here that misses the point of the successes of services in dealing with a very aggressive, highly adaptive enemy that calls for us to adapt as well.

Just to clarify a point to the gentleman's comments on World War II mobilization, I will point out for the record the U.S. Military, the Army specifically, entered OIF–I with 330 armored HMMWVs in the space of 16 months after the threat was diag-

nosed, had over 33,000 armored vehicles in theater, tremendous manufacturing accomplishment. I recognize the adaptivity of the Marine Corps in dealing with the same thing, and I think it is very important for the record to point that out.

Likewise to the gentleman's comments on V-shaped vehicles, I will speak as an engineer again, it wouldn't matter if that vehicle was sliver-thin, under a 3155 round stacked, the people inside are going to be in a tragedy. General, I appreciate you pointing out the importance of TTPs and doctrines to shape the argument.

One thing I would like to bring up, though, and this is really in light of the Marine Corps' tremendous history in being a leader in doctrinal transformation in 1980's and 1990's with maneuver warfare, one thing that I have wondered if you can comment on in product development—and I don't see this as an individual leadership issue, a people issue or an emotional issue as much as a process issue and procurement itself, and possibly this might be able to be an opportunity to really redefine the process and let the Marine Corps—and this is hard for me to say as an Army guy, but to reassume a great leadership role in a less glamorous area in product development. Toyota Manufacturing, for example, will completely redesign a car bumper to bumper. Its production process, procurement purchase process is every three years. And perhaps these unfortunate circumstances we find out ourselves in with a tremendous amount of initiative on the front lines and motivation with the soldiers and Marines involved in this, it might give an opportunity to really redefine it.

The committee has given you all the resources, certainly given the Army as well, but I was wondering if you could comment on any initiatives; if you have looked into your interest in pursuing that type of a, let's say, more flexible response and process and how we might help you if there are any intransigent agencies that needed a little help from your friends on the committee.

General NYLAND. Sir, I will start and then turn over to our acquisitions specialist, because I am a biology major.We have and we will continue to seek ways to speed up. We have been very successful, as I mentioned some examples where we have been able to identify a requirement, slap the table, put it under contract and deliver it in 30 days. We like working that way. We are also appreciative of the legislation that the committee gave us which allowed us to get the Cougar so rapidly. And so we will continue to look for ways that we can tweak this process, feed the process, and, where we have a speed bump, bring it back to you.

That said, General Catto may be able to elaborate a little bit more on some inside that he has already has knowledge of.

General CATTO. I think our biggest frustration with this whole process, Congressman, is, you know, you start the fight with stuff you have, and where we need to fight with the stuff you have. And where we need to move on now with a new threat is you have got to get new vehicles that are designed for survivability from the ground up. So everything from the different frames to the V-shaped, to blast-attenuating seats, to armor, that is a new design. That the S&T guys help us with so we are not putting three-eighths-thick armor and layers and layers, et cetera.

General CATTO. It is going to take us a while. I think if we go with a COTS vehicle we talked about previously, that it may be as much as 24 months. To develop a vehicle from the ground up with just something that doesn't exist, it is going to take us about 5 years.

Mr. DAVIS OF KENTUCKY. One point, I would just give a humble suggestion that as the Small Wars Manual is reasserting itself now in the time we live, as we are moving back to a more expeditionary type of military like we had 100 years ago, it almost suggests some collaboration or an adaptation of that same doctrine to maybe define a process of continuous improvement that we go to equipment adaptation in theater for specific threats. I know the threats that I saw when I spoke at the mine warfare conference, and also my friends in the Israeli Special Operations Combat Engineers, their equivalent of Rangers, it is a little bit different than ours. They are everywhere around the world this is encountered. There are different types of threats, and rather than being prescriptive, I think having these types of principles that would just help you close that loop faster. That would be good. Just let us know what we can do to help you.

Thank you, Mr. Chairman.

General NYLAND. Yes, sir. We greatly appreciate your support.

The CHAIRMAN. I thank the gentleman.

The gentleman from Missouri had a few comments.

Mr. SKELTON. Let me echo what my colleague from Mississippi said. I don't see a sense of urgency in a lot of what we are doing. This is a hearing with the Marine Corps. We have more soldiers injured and killed than Marines. Is there a coordination between what you are doing and the United States Army?

General NYLAND. Yes, sir. Absolutely. General Catto's organization is not only closely linked in all of the program executive offices, but we are closely linked in our plans policy operations as we look at the forces that are going to deploy, and certainly myself and the Vice Chief of Staff of the Army, General Dick Cody, we talk often about what we are doing and the way ahead. So there is—most of these developments are all done jointly between us and the Army, particularly those that particularly apply to land warfare.

Mr. SKELTON. Would you say that, to your knowledge, the Army is moving to get up-armored vehicles to replace its entire fleet or not?

General NYLAND. I think that they have adjusted—not to speak for them, but they have adjusted their requirement. I have seen in various sets of testimony that it is well over, I believe, 10,000 now. I certainly would not want to speak for what their ultimate number is or whether that would be a 100 percent force.

Mr. SKELTON. From what you see, you all are singing from the same sheet of music on this issue?

General NYLAND. I think we are. We all believe that the M1114 and the 1116 are the vehicle that we need to put out there for our young Marines and soldiers.

Mr. SKELTON. Thank you.

Thank you, Mr. Chairman.

The CHAIRMAN. I thank the gentleman.

And, gentlemen, thank you for being with us today and for reviewing this very critical issue.

General Nyland, you are going to Iraq tomorrow?

General NYLAND. This afternoon, sir.

The CHAIRMAN. This afternoon. When you are you coming back?

General NYLAND. I come back on Sunday night, sir.

The CHAIRMAN. Okay. Let us have another hearing next week, maybe next Thursday or Friday. You are going to be back this coming—you will be going over for two or three days.

General NYLAND. Coming back I was supposed to go on to San Diego that night as well.

The CHAIRMAN. Okay. Let us have another hearing, maybe a classified briefing, when you get back.

General NYLAND. Yes, sir.

The CHAIRMAN. And the Ranking Member suggests we bring the Army with you. Let us see what we can do there. We have, under this rapid acquisition reg that we passed, where the Secretary of Defense can waive all U.S. laws and regulations on acquisition, we are building this jammer that is kind of a major project of this committee, 10,000 in number. We are going to try to flood them into theater as quickly as possible.

Let me make a recommendation that there are certain procedures obviously that accompany that system. If you could get a couple of the prototypes, a couple of the first ones off the line, and start working those so that we don't have, then, a long period of familiarization with that system, I think that would be important so you know what you are getting, you anticipate what you are getting, start figuring out how you are going to use it in mounted and dismounted form, because it is going to be one that can be used by dismounted troops. I think that is important for us.

General NYLAND. This is the Scorpion, which I believe there is some discussion of now changing the name to Warlock Blue, but we are familiar, sir, and your point is spot on.

The CHAIRMAN. We don't care what they call it. We just want it.

General NYLAND. Yes, sir.

The CHAIRMAN. You know, we bolted $50 billion in supplemental money on this authorization bill, and I believe it is bolted on in such a way that it is available upon the signing of the bill by the President. That is obviously a lot of money for recap in terms of producing more up-armored HMMWVs. I am going to ask Mr. Simmons, who has an industrial background, to take a look with your folks in terms of facilitizing to perhaps increase that production of the 1114s. And so let us see what is possible. Let us see if we can surge them.

I think the gentleman from Michigan had a good point. You know, Mr. Simmons and his team from the HASC worked and pulled the schedule to the left considerably on the Warlock just by getting into the subcomponent makers and looking at the long poles and the tent, seeing where they could compress the schedule, and they managed to compress it pretty significantly. Let us work on that. Let us go forward from this meeting and do better. And we have a major problem here. We have this disconnect which I think is fairly apparent. We have got to solve it for the folks that wear the uniform. I know you want to do that.

My last question, you know, we haven't mentioned who this gunny was, but I notice his name is on the front of the briefing. So it is pretty tough to hide it here. It is Gunnery Sergeant—I think it is Hal Kelly, who is a motor transport chief in that particular port of the western area of operation in Iraq. Where is he; do you have any idea?

General NYLAND. I believe he is at 29 Palms, sir. I think he is in 1/7th, the 1st Battalion, 7th Marines, I believe, at 29 Palms.

The CHAIRMAN. Is that right? I think we ought to contact him, and he is the kind of guy we ought to have in one of these deputy acquisition positions in the Pentagon. I think he knows what he is doing. So maybe we will try to—if you could, maybe General Kelly could try to get a call in out there and see if you can locate that fine gentleman, because we would like to let him know that we have been talking about him.

Thanks for being here. This is a serious issue. It is by no means solved. So let us have this first hearing, another hearing as soon as you get back.

And I want to thank the Members for their very thoughtful contribution here and for your testimony today.

And, General Catto, thank you for your testimony. We appreciate it.

The hearing is adjourned.

[Whereupon, at 11:10 a.m., the committee was adjourned.]

# A P P E N D I X

JUNE 21, 2005

## PREPARED STATEMENTS SUBMITTED FOR THE RECORD

JUNE 21, 2005

## OPENING REMARKS OF CHAIRMAN HUNTER

### USMC HMMWV Underbody Kit Production and Installation and the Performance of the Marine Corps Acquisition System

June 21, 2005

The committee will come to order.

This morning the committee continues its review of the status of Marine Corps tactical vehicle armoring. Specifically, we will receive testimony on Headquarters Marine Corps' and Marine Corps Systems Command's actions to fulfill urgent force protection needs identified by our Marines serving in Operation Iraqi Freedom, in the fielding of HMMWV (HUM-VEE) underbody armor protection kits.

I would like to welcome back two distinguished officers, representing the United States Marine Corps: General William L. Nyland, Assistant Commandant, and Major General (select) William D. Catto (CAT- o). Gentlemen, thank you for your service to the nation. It is good to see you again.

When, in order to provide for a more secure America, this nation sends its young men and women into harms way, the Members of this committee are entrusted by the American people to provide those young men and women the necessary systems and equipment so that they can be successful in accomplishing their mission at anytime, anywhere in the world, and return home safely. In meeting our responsibilities, this committee and Congress must continue to exercise the required oversight of Department of Defense and the military services acquisition activities to make sure that what we all agree needs to be provided to our service men and women, is not only in fact being provided to them, but is done so in a timely manner.

Early in the global war on terrorism, this committee established force protection and specifically the adequacy of tactical wheeled vehicle protection as a major area of interest, concern and high priority. This is our second hearing on this issue in less than two months.

The terrorists in Iraq continue to adapt to our tactics and force protection initiatives and continue to use deadly improvised explosive devices to attack our troops, averaging about 30 attacks a day. Until we have a better solution, adding armor to our military vehicles in theater must be expeditiously accomplished to protect our personnel from this continuously evolving threat.

We're here today to discuss the Marine Corps acquisition system's actions in meeting the urgent need to fulfill add-on armor requirements for tactical vehicles in Iraq -- specifically HMMWV (HUMVEE) underbody armor protection kits.

In February our staff met with senior Office of the Secretary of Defense officials and the Marine Corps regarding a substantive technical proposal for tactical vehicle underbody armor put forth by a Gunny Sergeant serving in Iraq. In April, after no action resulted from that meeting, I met with General Nyland to discuss the continuing threat to Marines in Iraq from mines and IEDs. We agreed that the availability of steel in Kuwait could be used to satisfy the urgent need to fabricate and field 650 HMMWV

underbody armor kits to the II (Second) Marine Expeditionary Force Forward. We met on April 21, 2005. The contract for the underbody armor kit was signed yesterday. I understand that deliveries of the underbody armor kits will begin in three weeks and "the job will be completed in eight weeks." ["Job" being what? Completion of deliveries or completion of kit installation?]

So, the question is, given the availability of the material necessary to meet the armoring requirement, on-hand in Kuwait in April, is six months a realistic time-frame in satisfying the requirement? We don't think it is. This hearing is not about the incredible commitment and professionalism being demonstrated by our Marines on a daily basis in Iraq. This hearing is about instilling the same sense of urgency, commitment and professionalism back here in Washington within our acquisition community as our Marines demonstrate everyday in Iraq.

I know the Marine Corps is capable of moving out and getting a job done when it makes up its mind to do so. Before the deployment of the First Marine Expeditionary Force to Iraq, the

Corps outfitted over three thousand vehicles with first generation armor within three months. That is what I view as the standard of performance the Corps has established and we applaud the Corps on that effort.

This is why we find it perplexing that it should take at least six months to begin fielding 650 underbody armor kits when the materiel was in theater to begin with.

With lives on the line everyday in Iraq, there is no reason for less than a daily, all out effort here at home to provide the force protection required for our men and women in Iraq.

General Nyland, General Catto, we look forward to learning your assessment of the underbody armor kit situation and any suggestions you may have for enhancing the acquisition process -- particularly the timeliness of meeting requirements. Our troops deserve nothing less.

Gentlemen, we look forward to your testimony today.

I now recognize the committee's ranking Member, my good friend Mr. Skelton, for any remarks he may wish to make.

**[Following Mr. Skelton's remarks]**

Without objection, the witnesses' prepared statements will be entered into the record.

General Nyland, we will start with you. Please begin.

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THE HOUSE ARMED SERVICES COMMITTEE

STATEMENT

OF

GENERAL WILLIAM L. NYLAND
ASSISTANT COMMANDANT OF THE
MARINE CORPS

&

MAJOR GENERAL (SELECT) WILLIAM D. CATTO
COMMANDING GENERAL
MARINE CORPS SYSTEMS COMMAND

BEFORE THE

HOUSE ARMED SERVICES COMMITTEE

ON

MARINE CORPS VEHICLE ARMORING
AND IMPROVISED EXPLOSIVE DEVICE
COUNTERMEASURES

21 JUNE 2005

NOT FOR PUBLICATION UNTIL RELEASED BY THE
HOUSE ARMED SERVICES COMMITTEE

Chairman Hunter, Congressman Skelton, and distinguished members of the committee: I am pleased to appear here today to update you on our Force Protection efforts, in particular, our evolving vehicle armoring and Improvised Explosive Device (IED) countermeasure initiatives. Let me begin by thanking you, Mr. Chairman, and the distinguished members of the committee for your unwavering support of your Corps during this challenging time. Your support of these magnificent young men and women is greatly appreciated by the individual Marine and the leadership of the Corps.

As the committee is well aware, we are at war with a smart, thinking, and adaptive enemy. As LtGen Mattis said when he testified on 5 May, he went 5 1/2 months at the end of OIF-I without loosing a single Marine or sailor, yet during that period, the insurgency was growing. When the Marines returned to Iraq in March 2004, the threat had been evolving; in particular, the IED had become prevalent. The IED threat then was generally 60mm and 81mm mortar rounds – today, because we face this smart, adaptive and thinking enemy, we face munitions like single 122 to 155mm artillery shells, daisy-chained series of shells, triple stacked mines, shape charge-like weapons, and even suicide car bombs. While there is no one absolute armor, technology, tactic, technique, or procedure that can counter these growing threats 100 percent of the time, we too are adapting, and are providing our warfighters more and more effective solutions as the threat changes and we understand what works, and what does not, and why.

**HISTORY OF VEHICLE ARMOR**

From the start of Operation Iraqi Freedom - II (OIF-II) the Marine Corps has had a critical imperative to provide armor protection to all of our rolling stock. The goal was to provide the best level of protection possible to 100 percent of in-theater vehicles. To that end, the Marine Corps has evolved vehicle armor since we have been in combat in OIF II through three generations.

**1st Generation (Level III)**

Before I Marine Expeditionary Force (MEF) relieved the 82nd Airborne in Iraq on March 19, 2004, the Marine Corps provided 1st generation armor components for 100 percent of I

MEF's 3,049 vehicles within 10 weeks of the Corps receiving the order to execute. Level III armor protection or fabricated armor was affixed using a Commercial-Off-The-Shelf combination of appliqué panels, 3/16" "L" shaped doors, ballistic blankets, etc. The 3/16" 1st generation armor was the best materiel solution available at the time to fully meet operational requirements.

In April 2004, in response to an urgent need by the operational forces, 37 export model up-armored HMMWVs were purchased and fielded to I MEF. During this time, we made it clear that we would find more robust armoring solutions as better raw material steel became available. This spiral development, done in concert with the warfighter, has resulted in our 2nd and 3rd generations of armor.

**2nd Generation (Level II)**

As time and raw material availability allowed, we procured more improved armor component systems for HMMWVs and other tactical vehicles. We began fielding of "zonal" armor, which necessitated the identification and reprogramming of funds, to upgrade all armor kits to 2nd generation armor consisting of the Marine depot built 3/8" rolled homogeneous armor (RHA). RHA is defined as Level II because it is "kit" armor. In all, more than 4,100 vehicles were equipped in I MEF with upgraded Level II 3/8 armored "L shaped doors, flanks, underbody, tailgates, rear cab plates, ballistic glass, and gunner shields. In addition, to support our 2nd generation armored vehicles, in a joint effort with the Army, the Marine Corps received a Multi-National Corps-Iraq distribution of 200 Add-on Armor kits and 94 up-armored HMMWV (M1114/M1116) from theater level assets.

As the threat continued to evolve and change, particularly with respect to IEDs, which became increasingly sophisticated and more powerful, it became clear that additional improvements to the "zonal" armor were necessary; thus, the evolution of the Marine Corps' 3rd generation of armor, as designed by the warfighter, Marine Corps Systems Command/Logistics Command, and US Army engineers.

**3rd Generation (Level II+)**

For non-M1114 variant HMMWVs, this 3rd generation armor consists of integrated kits, known as Marine Armor Kits, or MAK. The MAK system is a modular, bolt-on system that can

be installed by Marines at the unit level. MAK systems offer significantly improved protection against the most prevalent threats, including small arms fire, IEDs, and up to 4-pound mine blasts. Because the MAK is kit armor, it is classified as Level II armor, however, it should be noted that it provides significantly greater protection than the 2nd generation "zonal" armor.

# USMC Vehicle Armoring

**Since August 2004 all Marine Corps vehicles operating outside the FOBs have been at Level II or better armor protection.**

| | Vehicle Systems in CENTCOM AOR | OIF O/H | OEF O/H | HOA O/H | Total | Level I | Level II | Level III | Total Unarmored Vehicles not Leaving FOBs |
|---|---|---|---|---|---|---|---|---|---|
| | M1114 | 35 | 0 | 0 | 35 | 35 | | | |
| LTV | HMMWV | 2500 | 85 | 18 | 2603 | 0 | 2438 | 165 | 225 |
| MTV | 5-ton | 173 | 1 | 0 | 174 | 0 | 174 | 0 | 3 |
| | MTVR | 878 | 11 | 0 | 889 | 2 | 887 | 0 | 3 |
| HTV | LVS | 236 | 0 | 0 | 236 | 0 | 236 | 0 | 0 |

Note 1: MNC-I has provided 458 M1114s to II MEF (Fwd) and 36 for ITTs in OIF and 35 in OEF

Note 2: Two of the 37 export model M1114s procured lost to battle damage

Level I: A wheeled vehicle that is manufactured as an armored vehicle

Level II: HQDA and Marine Corps approved Add-on-Armor (AoA) kits

Level III: Hardening of vehicles through fabricated armor (HQDA) approved steel

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As of 15 Jun 05

The MAK is the result of a cooperative engineering design effort between the warfighters, Marine Corps MCLC/MCSC and the U.S. Army, designed to take full advantage of the increased capabilities of the HMMWVA2. It is important to note that the design of the MAK incorporates lessons learned from testing and in-theater operations.

With a Marine Requirement Oversight Council (MROC) overarching goal of 5,550 HMMWV installations, the MROC interim requirement for MAK systems is for 3,100 vehicles. With the recent receipt of the FY05 Supplemental, the Marine Corps has received funding for all 5,550 vehicles.

The most timely and efficient solution to achieve the desired levels of protection quickly was to develop and produce the MAK armor kits through our Maintenance Center at Marine Corps Logistics Base, Albany, GA, which initially began production of the MAK in November 2004. CONUS installation of these kits began in December 2004, to meet 26th Marine Expeditionary Unit (MEU) requirements, while we also created an installation center in theater at Camp Al Taqaddum, Iraq, and began installation of the kits at that site in March 2005. Installation at the Taqaddum center will continue at a rate of at least 200 systems per month as operational tempo, the threat, and combatant commanders allow (over 300 were completed in May). CONUS installation will advance at a rate of approximately 150 systems per month. Production of the entire requirement of 5,550 MAK systems will be completed by December 2005.

Similarly, for our MTVR 7-ton trucks, we have developed what is known as the MTVR Armor System, or MAS. This armor system is a permanent modification to our MTVRs, and is therefore classified as Level I armor. The MAS is capable of withstanding small arms fire, IEDs, and mine blasts up to 12 pounds. It consists of metal/composite panel armor, with separate cab and troop compartment kits, dependent upon cargo or personnel variants of the MTVR.

The MROC's overarching goal for MAS- armored MTVRs is 1,850 vehicles, and our interim requirement is 1,018. The Marine Corps has received all funding required for production of the 1,850 MAS Systems.

Production of the MAS began in April 05 and is estimated to continue at a sustained rate of 22 systems per week. OCONUS installation of the MAS began in-theater last month at the same location as the MAK.

**MECHANISMS**

The 3rd generation vehicle armor currently being fielded was developed in an aggressive, integrated program. Specific to armor, in designing, developing, and testing the MAK and MAS, the Marine Corps reached out to industry, and our sister services, for assistance and expertise. Not only has it been a Joint-Service process, but the Marine Corps has also leveraged off of many different communities for development support. Input from industry was used in particular for the development of the MAS. This input was critical to initiating integration of armor protection capabilities onto the MTVR.

The U.S. Army's testing expertise, along with independent civilian testing facilities, has constantly been engaged with testing and performance validation of our proposed armor solutions. Each successive generation of armor protection has undergone durability and ballistics testing through the U.S. Army's Aberdeen Proving Ground or through independent civilian testing facilities. As our proposed systems were tested under simulated operational environments, we constantly asked the testers to tell us what they found worked well, as well as identify areas they felt performance and level of protection provided could be improved, with their own expert recommendations for making these improvements without degrading another critical performance capability. For example, direct input from Aberdeen's test experts led to the use of the mild steel appliqués. They recommended taking advantage of the increased payload capacity of the HMMWVA2 by adding additional protection in the most likely hit areas – doors and rocker panels. In fact, an additional layer of mild steel, which is cheaper and more readily available, provides the same level of protection as RHA steel when laid over the top of the base RHA armor component. In testing the MAKs, ballistic and IED protection levels of the side armor has been demonstrated to be slightly better than that afforded by the M1114. In addition, while the underbody protection provided by MAKs is somewhat less than that of the M1114, we believe fielding of this MAK armor was a necessary interim solution in order to provide protection to a greater number of vehicles rapidly.

Feedback from combat forces has been a critically important part of development of all of our armoring efforts. It was the warfighters who identified a requirement for installation of "L" shaped armored doors on our HMMWVs. This "L" shape provides additional protection to the

rider by shielding his neck and head from exposure over that of a traditional window, while still providing some open area through which to return fire or simply to monitor activities outside the confines of the vehicle. A more recent evolution of our MAK system offers these same "L" shaped armored doors with additional protection via ballistic glass windows that can be opened, thus retaining the warfighter's capability for visibility and return fire.

In order to provide added protection to our explosive ordnance disposal teams and combat engineers, we also pursued the recent procurement of the Joint Explosive Ordinance Disposal Rapid Response Vehicle (JERRV), commonly referred to as the Cougar. The Cougar was the first Hardened Engineer Vehicle delivered to the Marine Expeditionary Forces and has dramatically improved the protection levels for Marines involved in highly dangerous activities such as detection and removal of IEDs used by insurgents. This vehicle is designed to withstand mine and IED blasts. The Marine Corps recently purchased 27 Cougars, of which 18 have already been fielded to the operating forces. The Cougar has been proven under the most extreme conditions and as a result, the Joint IED Defeat IPT identified the Cougar/HEV (Hardened Engineer Vehicle) to meet its requirement to produce and field 122 JERRVs. The Marine Corps will receive 38 of these 122 Cougars. This development will meet the needs of the operating forces of all Services in OIF and OEF by increasing their survivability against IEDs.

Assessing feedback and incorporating input from lessons learned from returning OEF and OIF forces is critical to our ability to initiate innovative and rapid modifications to our equipment to meet evolving threats as well as future challenges.

Recent and ongoing events in Iraq require us to continue to shape and refine our requirements. We have determined that the M1114/M1116 Up-Armored HMMWV (UAH) is the best available, most survivable asset that meets our evolving vehicle underbody protection requirements. In order to meet the Marine Corps' immediate requirement and provide the range and depth to support force requirements, we are in the process of identifying the requirement for M1114/M1116 vehicles. This requirement is being refined today by the warfighter, MARCENT, and Headquarters Marine Corps.

Most recently, because of the growing threat of mines and IEDs, the Marines have increased delivery of MAK underbodies for installation at the unit level on 400 HMMWVs. Production of all 400 MAK underbodies is complete. As of 12 June, 140 have been delivered to our forces in Iraq, with the balance due to arrive via military air no later than 22 June.

We are also making very good progress on the production of underbodies to upgrade the armor on our 5-ton medium trucks and Logistics Support Vehicles (LVS) in Iraq. Production of (124) 5-ton truck underbodies will be completed by the end of July. The (243) LVS kits will be completed by the end of August. It is taking us a little longer because we are adding MAK- style doors and air conditioning to the LVSs. Both the 5-ton and LVS kits will be shipped in-theater via military air.

In addition to other Marine Corps armor initiatives, on 28 April 05 the Marine Corps Systems Command (MCSC) advised Marine Corps Logistics Command (MCLC) that there were 6'x6' 10 mm sheets of Rolled Homogeneous Armor (RHA) steel in the Defense Logistics Agency's (DLA) possession in Kuwait. The Marine Corps Logistics Command was tasked to determine how best to exploit this additional opportunity to increase armor protection within the MARCENT Area of Responsibility. MCLC, in conjunction with MCSC, developed a recommendation that making rocker panels for base model HMMWVs was the best and quickest option for use of this steel.

On 10 May, the Marine Corps purchased 450 sheets of steel from DLA's Defense Supply Center Philadelphia (DSCP), and the Army Material Command (AMC) in Kuwait agreed to cut the steel to prototype the rocker panel to "fit check" the design and determine the precision of cutting with hand- held plasma torches. This method was AMC's primary means of cutting steel, because AMC does not possess the facilities to execute large scale RHA steel cutting. AMC delivered the first cut panels to the Marine Corps on 18 May. These panels were in turn shipped via convoy to Camp Al Taqaddum (see below) for installation and arrived on 28 May.

The Marine Corps has subsequently worked with AMC in-theater contracting assets, adjusted the template from their AMC experience, and aggressively canvassed the in-theater industrial base to find RHA cutting capability to meet the dual parameters of speed and precision. Four options were locally available: continue manual plasma cutting, water jet, automated CNC plasma cutting and standard plasma cutting. MCLC and MCSC recommended we move forward with the automated CNC plasma bid due to the need to complete this effort quickly. Deliveries are expected to begin within three weeks with the job to be completed within eight weeks.

The Marine Armor Installation Site (MAIS) at Camp Al Taqaddum provides a forward location for units to come in and install armor without having to drive or ship their vehicles back

to Kuwait. The MAIS site is a culmination of a 13-month effort to bring the HMMWV armor program to its most mature capability – consisting of perimeter, overhead, and mine protection; with a suspension and air conditioning package to enhance performance. The MAIS is a forward deployed installation site that is responsible for armoring the HMMWVA2s and the MTVRs and LVSs with their armor. Because of its proximity to the warfighter, it alleviates some of distance and therefore exposure of forward deployed vehicles to dangerous convoys.

**HISTORY OF IED COUNTERMEASURES**

IEDs/VBIEDs (Vehicle-borne Improvised Explosive Devices) continue to be a significant threat. These threats are not decreasing and have a major physical and psychological effect on troops. We are attacking this threat along several axes. First, we are full members on the Joint Improvised Explosive Device Defeat (JIEDD) Integrated Process Team (IPT), which reviews and seeks solutions to this vulnerability. We are also rapidly fielding technologies designed to detect and trigger these IEDs prior to contact with the troops. These technologies are primarily designed to trigger and/or obstruct electronic triggering devices. For this purpose, the Marine Corps selected IED Countermeasures Equipment (ICE) because it proved successful in terms of performance against the threats, and could be procured and fielded most expeditiously. The OIF requirement for 1,066 ICE systems is fully funded: 1,053 systems have been delivered in theater, 10 systems are being used for CONUS based training and three systems are being used as test systems. Although 1,066 systems was the initial requirement, we are procuring an additional 2,000 ICE systems with the $30M received in FY-05 Supplemental funding in an attempt to better support OIF II.

The initial threat from Remote Control (RC) initiated IEDs came from low-frequency, low-power devices such as cheaply made, mass produced garage door openers, key fobs, and doorbells. ICE and similar systems use relatively low-power RF energy to jam the signals of RC initiators and prevent them from functioning at a distance, thereby enabling adequate protection. These jammers are intentionally low power to preclude interference between an RF emitter (the jammer) and our own communications systems such as Single Channel Ground and Airborne Radio Systems (SINCGARS) radios and Blue Force communications. Secondly, high power jammers cause greater interference and require more power to operate. Increasing the power

amplifier on the jammer also draws more power from vehicle generators, detracting from other vehicle systems. We are striving to balance the best jammers with the least impact on friendly communications while not degrading vehicle performance.

When the enemy began using low frequency, high-power RC initiators, a developmental effort began to address the threats by enhancing the ICE. The Hard-to-Kill (H2K) upgrade provides a countermeasure suite that combats the high-power threats that are prevalent in-theater without procuring a new system. The H2K device components will be integrated into an enclosure assembly and mounted to the current unit. H2K tests are ongoing that should enable production by the end of September 2005. All 3,066 systems will need the H2K upgrade to address the range of threats currently being encountered in Iraq. The FY05 supplemental for the H2K cards ($12.6M) procures 434 of that total. In an effort to provide an interim upgrade to fielded units, the U.S. Army spearheaded an initiative that would provide operating forces with the capability to combat the Family of Radio Systems (FRS) threat. The interim upgrade, known as (m) ICE, has been tested and has been approved for procurement by PM CREW. The Joint IED Defeat Task Force has agreed to fund this initiative for all fielded units, to include the 3,066 USMC systems. Total amount funded by the JIEDD TF is $15.3M.

Cellular, Satellite, Long Range Cordless Telephone and FRS Radio Jammer have become the worldwide number one initiator of IEDs. To date there has been very little high frequency communications threat in Operation IRAQI FREEDOM. We believe that threat will increase with the expansion of the cell phone infrastructure within Iraq. Cell phones have been identified as the emerging threat as RC initiators of IEDs in the world. $2.1M to test current domestic and foreign jamming technology has been funded by the Assistant Secretary of the Navy for Research, Development, and Acquisition. $3M of USMC funds has been advanced to purchase the initial allotment of the winning system. $30M was received in the FY 05 Supplemental to support the I MEF "1,000 system" req. Testing was conducted 28 February 2005 – 1 April 2005. The Final Test Report was received on 31 May 2005. Final consideration of test results and recommendation for future acquisition activities will be provided by 30 June 2005.

**ACQUISITION MEASURES**

The FY05 National Defense Authorization Report, Subtitle B, Amendment to the General Contracting Authorities, Procedures and Limitations, section 811 for Rapid Acquisition

Authority to Respond to Combat Emergencies has been useful to the Marine Corps with the recent procurement of the JERRV, described above. The authority, once signed by the Deputy Secretary of Defense on 21 April, permitted a contract to be executed on 15 May 2005, two days after receipt of funds. Once the Joint IED Defeat IPT identified that the JERRV met the joint requirement, the Marine Corps Systems Command awarded the contract on behalf of OSD. This is a clear example of accelerated acquisition. Key to its success was a clear combat emergency/requirement, a viable contractor able to produce the vehicle, the availability of funds in OSD to resource the program, and regulation relief that enabled the acquisition program to react quickly.

We believe a key element of any successful acquisition is clarity of requirements, coupled with adequate funding and clear lines of accountability to manage the program. Delegation of rapid acquisition authority to a level below the Secretary of Defense should be reviewed as a possible alternative.Additionally, the flexibility to reprogram funds using below threshold reprogramming authority in time of war and for combat emergencies, in excess of the current financial levels and percentages, should be reviewed. If the responsible acquisition professionals could make financial adjustments to their programs of record with greater flexibility this would accelerate emergency acquisition. Similarly, above threshold reprogramming thresholds and staffing requirements should also be reviewed.

The Marine Corps Urgent Universal Need Statement (UUNS) process has worked well for us in responding to the emergent needs of the warfighters because we were able to rapidly make decisions on validating a program's requirements and deciding on funding offsets. We often made requirement, funding and program decisions within days of getting a validated UUNS from the Fleet. We also enjoy a close and effective working relationship between our Combat Development Center for requirements development, the Systems Command for acquisition and the funding authority provided by the Deputy Commandant for Programs and Resources. These three organizations all fall under the purview of the MROC and we can commit to any acquisition decision required of the Marine Corps. UUNS have been very successful in providing quick reaction (contract in days and weeks in many cases) to meet the wartime needs of our operating forces.

**THE ROAD AHEAD**

Recognizing that our enemy is constantly evolving and changing his tactics, we are looking toward the future of vehicle armoring not just to combat his current capabilities, but also to prepare ourselves for future adaptations in the enemy's tactics.

First and foremost, we will continue to execute the armoring of our current MROC requirement of 5,550 HMMWVs with the MAK, and the 1,850 MTVRs with the MAS. We have also begun replacing 875 base model HMMWVs with HMMWVA2s fitted with our MAK systems later this month.

As we continue to counter an adaptive enemy, we are in the process of identifying the requirement for more M1114 vehicles. Additional vehicles may be needed in response to the recent Operating Force/MROC deliberations.

Furthermore, the Marine Corps has a budget line item that enables us to continue developing advanced armoring solutions for our rolling stock.

At the same time, the Marine Corps is conducting an expeditionary armored force capability needs assessment. We are also developing a ground mobility integration plan to ensure the future Marine Air/Ground Task Force is able to perform mounted armored combat operations across the spectrum of military operations. These studies and plans, along with our current vehicle armoring efforts, should position us well for any fight in the future.

With our Next Generation Survivability Development Program Plan, we are looking at designing and building the next generation of tactical vehicles with survivability in mind from the ground up, as opposed to "plugging in" protection solutions on the existing generation of vehicles. Should this plan be formalized with requirements, and appropriately funded, we will be able to initiate a development effort for procurement. I am confident that this effort will be conducted in concert with the U.S. Army, as we work together wherever feasible.

**CONCLUSION**

Our Marines and Sailors are our most precious assets, and the preservation of their lives through better and more capable equipment has been, and will always be, a top priority for the

Marine Corps. We will continue to make every effort to maximize whatever assets are in theater for all of our Operating Forces.

Since February, we have established the Marine Armor Installation Site (MAIS) at Camp Al Taqqadum. To date, we have installed 645 MAKs in-theater. We are over a third of the way done and at this rate will easily meet our 1695 goal by December 2005. We have 238 new HMMWVA2s with MAK in transit to the CENTCOM area of responsibility by surface vessel, and another 150 are at Charleston, South Carolina awaiting shipment later this month. This is almost half of our requirement to replace 850 base model HMMWVs.

The first MAS installation was completed on 31 May. We have completed another one since then and have ample kits on the ground in order to sustain the desired installation goal of 40 kits per month. With the installation of the MAS, the armor level protection of our MTVRs will be upgraded from Level II to Level I.

Because of the increased mine threat, we are expediting the shipment of 400 MAK underbodies, 124 5-ton underbodies, and 243 new LVS kits (underbody and MAK style doors). II MEF (Fwd) will install these three enhancements at the unit level.

In addition, we have fielded armor kits to the 13th MEU in preparation of their pending deployment, and will be fielding kits to the 22nd MEU in July.

In closing, I would like to thank you again, Mr. Chairman, and the distinguished, dedicated members of this committee, for all you have done in support of our Marines and service members deployed in harm's way. With your continued support, we will ensure our Marines are ready and well equipped for any fight. We will supply our warfighters with whatever it takes to win. Thank you.

USMC Timeline for II MEF Armor Initiative

| | |
|---|---|
| April 21 | Meeting |
| May 10 | USMC purchase of 450 sheets of steel from DLA (19 days from meeting) |
| May 18 | Army Material Command-Kuwait prototype rocker panel delivery, numbers unknown, to USMC-Kuwait (27 days) |
| May 28 | Prototypes arrive Taqaddum-II MEF (37 days) |
| July 11 | 1st deliveries of production versions (80 days) |
| August 15 | completion (115 days) |

**Marine Corps Vehicle Hardening Snapshot dtd 15 Jun 05**

| OIF | | | | | |
|---|---|---|---|---|---|
| **Vehicle Type** | **Number** | **Armor Level** | **Underbody** | **Unarmored** | **Comments** |
| HMMWV (Base Model) | 640 | II | No | 206 | 850 A2s w/ MAK to be rotated into theater by Dec 05; first 84 in KU moving north; 144 enroute; ~172 to ship ALD 17 Jun; ~150 to ship ALD 13 Jul |
| HMMWV | 165 | III | No | | Unknown whether base model or A2s |
| HMMWVA2 | 1050 | II | No | 0 | 140 MAK underbodies delivered; 260 enroute; underbodies to installed at organizational complete MAK installed by Dec 05 |
| HMMWVA2 w/ MAK | 645 | II | Yes | 0 | |
| M1114 | 494 | I | Yes | N/A | MNC-I provided to II MEF (Fwd) and ITTs; 498 being produced Jun-Sep; delivery in-theater complete by Dec 05 |
| Export M1114 | 35 | I | Yes | N/A | |
| 5-Ton | 173 | II | No | 0 | 124 underbody kits to be produced (TBP) by 31 Jul |
| LVS | 236 | II | No | 0 | 243 underbody kits & MAK style doorsTBP by 31Aug |
| MTVR | 2 | I | Yes | 0 | |
| MTVR | 876 | II | No | 0 | In-theater install requirement ~900 to be completed by Sep 06; includes OEF and FIS |
| Cougar | 13 | I | Yes | N/A | 2 to ship in Jun; 12 TBP by Aug 05 |
| | | | | | |
| **OEF** | | | | | |
| HMMWV | | | | 19 | Do not leave FOBs |
| HMMWVA2 | 77 | II | Yes | | Will rotate 74 A2s w/ MAK; first 10 enroute; ship 3 partial MAKs for installtion in-theater |
| HMMWVA2 w/ MAK | 8 | II | Yes | 0 | |
| M1114 | 35 | I | N/A | 0 | |
| 5-Ton | 1 | II | Yes | 3 | Do not leave FOBs |
| MTVR | 11 | II | Yes | 3 | Do not leave FOBs |
| | | | | | |
| **HOA** | | | | | |
| HMMWVA2 | 18 | II | Yes | 0 | Will conduct rotation after completion of OIF and OEF |
| | | | | | |
| **26 MEU** | | | | | |
| HMMWVA2 w/ MAK | 150 | II | Yes | 0 | |
| LVS | 5 | II | Yes | 0 | |
| MTVR | 43 | II | Yes | 0 | |
| 5-Ton | 6 | II | Yes | 0 | |
| | | | | | |
| **13 MEU** | | | | | |
| HMMWVA2 w/ MAK | 144 | II | Yes | 0 | |
| LVS | 4 | II | Yes | 0 | |
| MTVR | 40 | II | Yes | 0 | |
| | | | | | |
| **22 MEU** | | | | | |
| HMMWVA2 w/ MAK | 143 | II | Yes | 0 | Installation to begin Jul 05 |
| LVS | 12 | II | Yes | 0 | Installation to begin Jul 05 |
| MTVR | 64 | I | Yes | 0 | Will deploy w/ the MAS |

LVS%20ARMOR%20MSG%203
R 271728Z APR 05 CG II MEF FWD G4(uc)

TO  COMUSMARCENT G4(mc)
CC  CG MARCORSYSCOM QUANTICO VA(uc)
    CG MARCORLOGCOM ALBANY GA(uc)
    CG 2ND MARDIV IRAQ G4(uc)
    CG 2MAW FWD G4(uc)
    CMDR 2ND FSSG FWD G4(uc)
    II MHG FWD(uc)
    2ND MP BN(uc)
    5THCIVAFFAIRSGRU(uc)
    CG II MEF FWD G4(uc)

0123456789012345678901234567890123456789012345678901234567890123456
REF/A/E-MAIL/II MEF FWD/G4/MTO/022035MAR05 REF/B/E-MAIL/MCSC/WATCH
OFFICER/290050DMAR05 REF/C/E-MAIL/II MEF FWD/G4/MTO/291451DMAR05
REF/D/E-MAIL/MCSC/WATCH OFFICER/202132DAPR05 REF/E/E-MAIL/II MEF
FWD MTO/211150DAPR05
REF/F/E-MAIL/MARCORLOGCOM/210024DAPR05
POC/WALKER RE/MAJ/II MEF FWD G4/MTO/DSN: 318-3401-424// POC/SMITH
PJ/MGYSGT/II MEF FWD G4/MTC/DSN: 318-3401-424// RMKS/1. REF A IS
AN EMAIL FROM THE II MEF FWD MTO IDENTIFYING THE INTENT TO REQUEST
UNDERBODY ARMOR FOR THE LVS AND 5-TON.  REF B IS AN EMAIL FROM THE
MCSC WATCH OFFICER CONFIRMING II MEF FWD'S PREVIOUS STATED INTENT
TO APPLY UNDERBODY ON THE LVS AND 5-TON.  REF C IS THE II MEF FWD
MTO'S INITIAL ESTIMATE OF QUANTITIES REQUIRED.  REF D IS AN EMAIL
FROM THE MCSC WATCH OFFICER REQUESTING RESOLUTION OF THE QUANTITIES
TO BE SOURCED.  REF E IS AN EMAIL FROM THE II MEF FWD MTO
IDENTIFYING THE APPROXIMATE QUANTITIES OF ARMOR TO BE REQUESTED,
PENDING OUTCOME OF THE II MEF FWD POST-TOA EDL VALIDATION, AND
INFORMING MCSC THAT ACTUAL QUANTITIES WOULD BE IDENTIFIED AT THE
CONCLUSION OF THE POST-TOA EDL CONFERENCE.  REF F IS AN EMAIL FROM
MARCORLOGCOM IDENTIFYING THE COST ESTIMATE FOR THE PRELIMINARY
QUANTITY OF LVS COMPLETE KITS REQUESTED, AND IDENTIFYING AN IMPROVED
DOOR FOR THE LVS KIT.
2.  BASED ON INFORMATION FROM THE POST-TOA EDL CONFERENCE HELD AT
CAMP FALLUJAH DURING THE PERIOD OF 21-23 APR 05, AND GUIDANCE FROM
THE II MEF FWD CG, THE FOLLOWING QUANTITIES OF LOGCOM 3/8" ARMOR
ARE REQUESTED:
--D0209/MK48: THE CURRENT FLEET OF LOGISTICS VEHICLE SYSTEMS
IN IRAQ ARE OPERATING WITH BALLISTIC WINDSHIELDS AND 3/8"
L-SHAPED DOORS.  IOT FULLY ARMOR THE LVS FLEET II MEF FWD
REQUESTS 243 COMPLETE KITS OF THE EXISTING LOGCOM 3/8" LVS
"MEU PACKAGE" (UNDERBODY, REAR CAB, AND SIDE PANELS), AND 243
SETS OF THE NEW LVS MAK STYLE DOORS. THE QUANTITIES OF LVS ARMOR
PROTECTION REQUESTED INCLUDE THE FIVE (5) D0209/MK48S IN THE FIS.
--D1059/M923: 5 UNDERBODY KITS
--D1061/M927: 2 UNDERBODY KITS
--D1072/M929/30: 52 UNDERBODY KITS
--D1134/M931: 41 UNDERBODY KITS
--D1158/D1159/M1123/M1043/45:  400 MAK UNDERBODY KITS (100 4DR
KITS/300 2DR KITS ARE REQUIRED AS AN INTERIM SOLUTION UNTIL
IN-THEATER MAK INSTALLATION/CONUS MAK'D A2 SOURCING IS COMPLETE).
--D1212/M936: 24 UNDERBODY KITS
3.  THE FOLLOWING REQUEST IS SUBMITTED FOR TACON USA/USANG UNIT
M900 SERIES TRUCKS OPERATING IN SUPPORT OF II MEF FWD:
        --D1059/M923/5: 74 UNDERBODY KITS (155TH BCT: 67; 224 EN: 7)
        --D1072/M929/30: 43 UNDERBODY KITS (983RD EN: 25; 224 EN: 18)
        --D1134/M931: 52 UNDERBODY KITS (155TH BCT: 50; 224 EN: 2)
        --D1212/M936: 12 UNDERBODY KITS (155TH BCT: 11; 983RD EN: 1)
USA TAMCN/NOMENCLATURE DOES NOT NECESSARILY AGREE WITH THE
TAMCN/NOMENCLATURE LISTED ABOVE; USMC TAMCN/NOMENCALTURE IS
SUBMITTED FOR PRODUCTION CLARITY PURPOSES. MNC-I C4 AOA ACTION

LVS%20ARMOR%20MSG%203

OFFICERS ARE AWARE OF THIS REQUEST. REQUEST MARCENT COORDINATION WITH ARCENT IOT ARRANGE TRANSFER OF FUNDS IN SUPPORT OF THIS REQUEST.

4. ADDITIONALLY, 30TH NCR DESIRES TO PURCHASE THE MAK KIT FOR THEIR HMMWV FLEET OPERATING IN THE II MEF FWD AOR, AND SIXTEEN (16) ADDITIONAL RED DOT A/C KITS (W/V-BELT PULLEY SYSTEM). QUANTITIES OF THE MAK REQUESTED ARE AS FOLLOWS:

--D1158/M1123: 20 FOUR DOOR MAK KITS

--D1159/M1043/45: 16 ARMAMENT VARIANT MAK KITS

THE 30TH NCR VEHICLES RECEIVING MAK WILL BE ROTATED THROUGH THE MAIS BY THE II MEF FWD G4 MT MAIS LNO. USN TAMCN/NOMENCLATURE DOES NOT NECESSARILY AGREE WITH THE TAMCN/NOMENCLATURE LISTED ABOVE; USMC TAMCN/NOMENCALTURE IS SUBMITTED FOR PRODUCTION CLARITY PURPOSES. REQUEST MARCENT COORDINATION WITH NAVCENT IOT ARRANGE TRANSFER OF FUNDS IN SUPPORT OF THIS REQUEST.

5. II MEF FWD WILL COORDINATE INSTALLATION OF THE ARMOR WITH RECEIVING MSC.

6. REQUEST THE LVS KITS AND UNDERBODY KITS BE SHIPPED TO THE 2D FSSG FWD MAGTF DISTRIBUTION CENTER (MDC) FOR FURTHER DISTRIBUTION TO THE GAINING UNIT RUC LINE. II MEF FWD G4 MT/SUPPLY WILL WORK IN CONJUNCTION WITH THE MDC IOT PROVIDE THE DISTRIBUTION PLAN FOR THE KITS.//BT

## DOCUMENTS SUBMITTED FOR THE RECORD

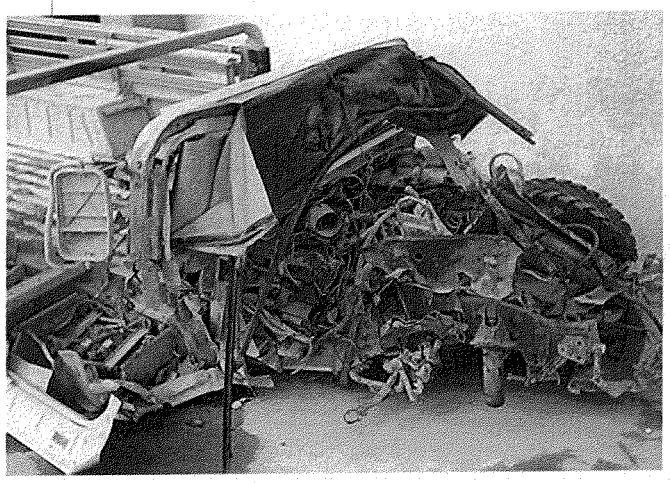
JUNE 21, 2005

# Add On Under Armor
# For Light Skin HMMWV's

# Mine Strike
# M1043 HMMWV No Fender Well Armor

Passenger sustained heavy injuries including loss of limbs

# Double Stack Mine Strike
# M1123 HMMWV No Fender Well Armor

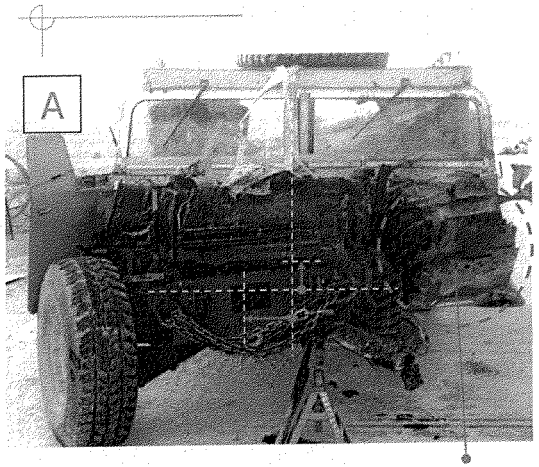


Passenger KIA, Driver sustained heavy injuries

# Double Stack Mine Strike
# M1123 HMMWV With Fender Well Armor

Driver; broken leg, Passenger; missing two teeth,
Gunner in bed of vehicle; minor scratches

# Side by Side



Vehicle frame
Bent horizontally approx. 10″
And vertically 5″

Fender well
intact

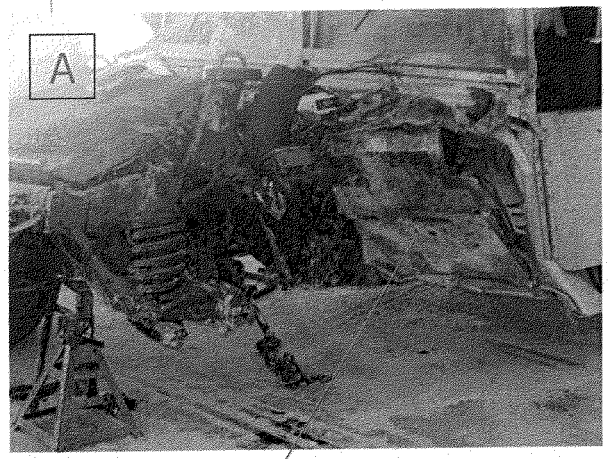
Fender well
missing

Vehicle frame
Bent horizontally approx. 4″
And vertically 1″

Vehicle centerline slightly off center due to camera angle

# Side by Side

(Continued)




Vehicle Fender Well with Fabricated Armor Crushed but still in tact

Vehicle Fender Well without Fabricated Armor completely missing

# Side by Side

(Continued)

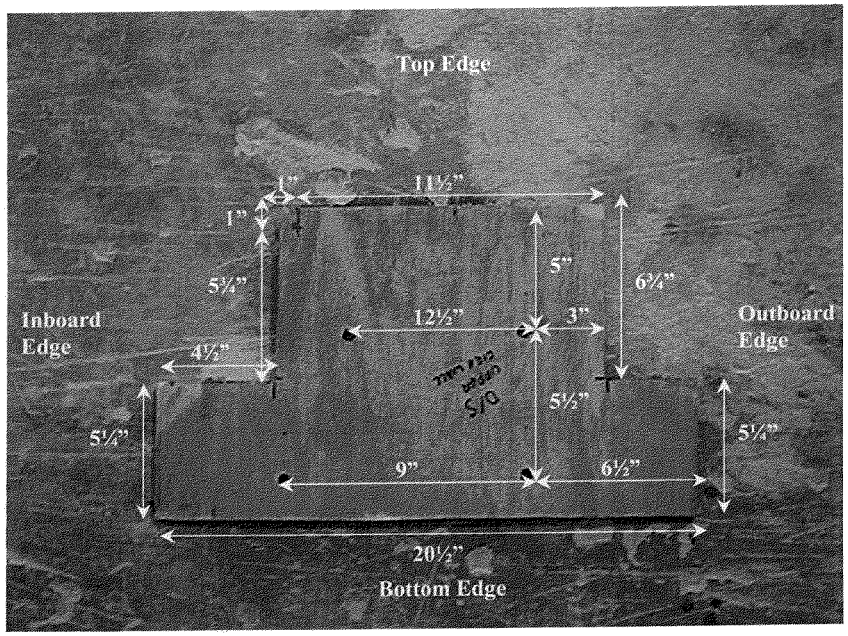
Fender Well Crushed: but Intact stopping explosion and shrapnel

Fender Well Missing: Aluminum Body could Not withstand explosion turning into shrapnel

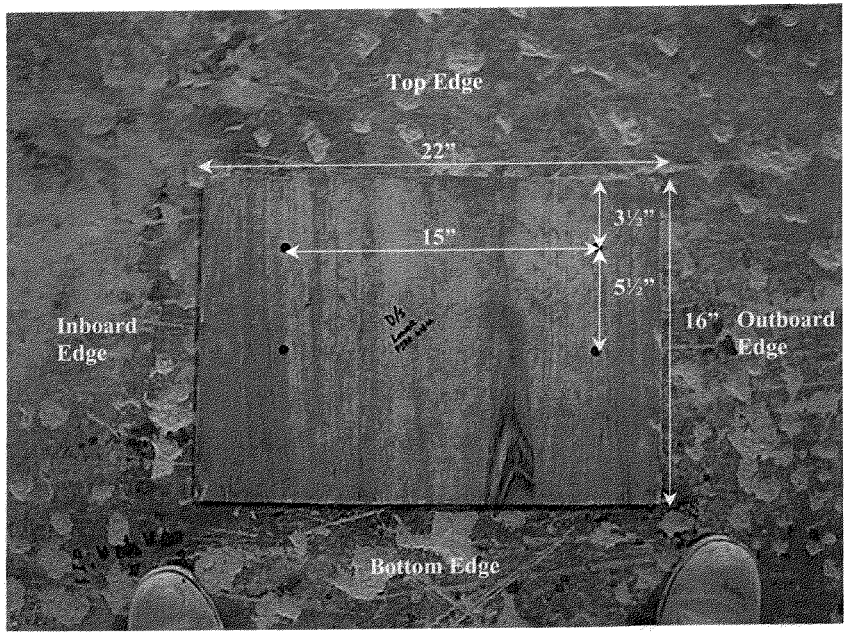
# Conclusion

- Vehicle A: Sustained more structural and mechanical damage (Most likely due to larger explosive charge). However the fabricated under armor kept blast and shrapnel out of passenger compartment limiting injuries
  - Personnel Injuries:
    - Driver: Broken Ankle and Leg
    - Passenger: Missing two teeth
- Vehicle B: Sustained Less overall damage. However the aluminum vehicle body could not withstand the blast thus allowing shrapnel and the explosion into the passenger compartment inflicting injuries
  - Personnel Injuries:
    - Passenger: Loss of both legs and one eye

# Drivers Side Upper Fender Well



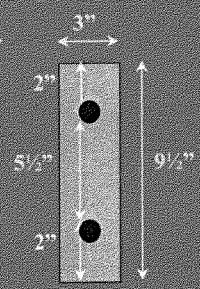
# Drivers Side Lower Fender Well

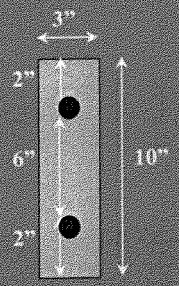


# Mounting Brackets

Brackets are placed inside vehicle for Fender Well Panels and Floor Panels to ensure mounting bolts stay secured during impact

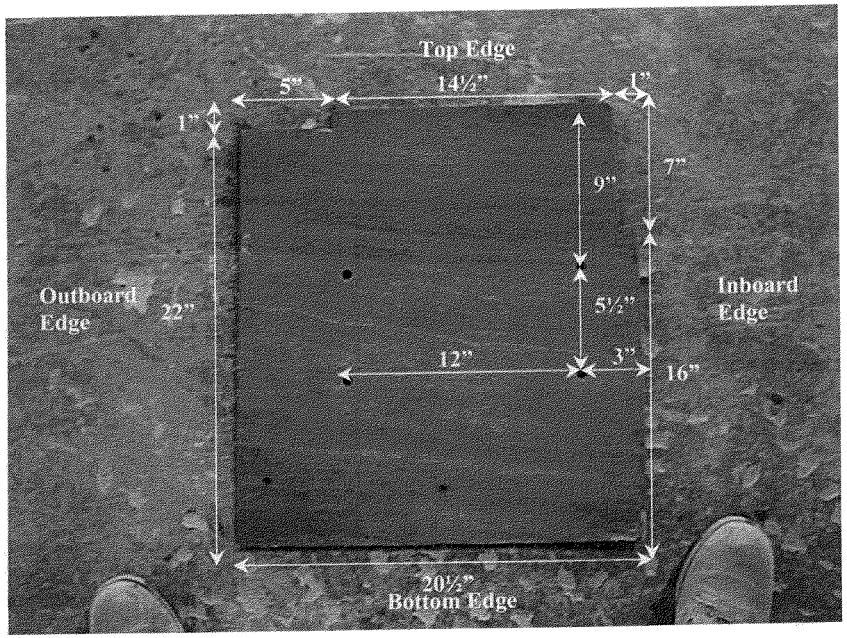
Passenger & Drivers Side Lower Fender Well Bracket (4 Per Vehicle)



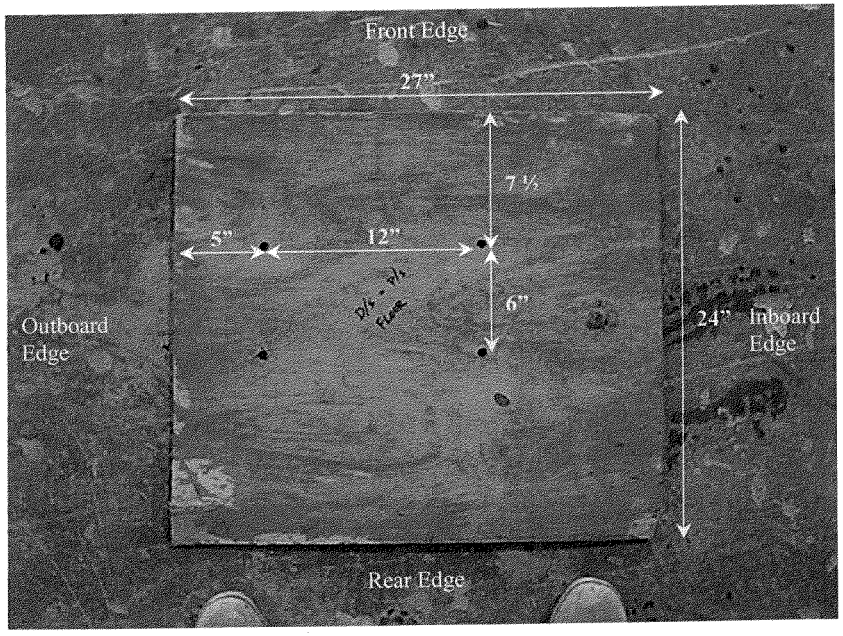




Passenger & Drivers Side Floor Panel Bracket (4 Per Vehicle)

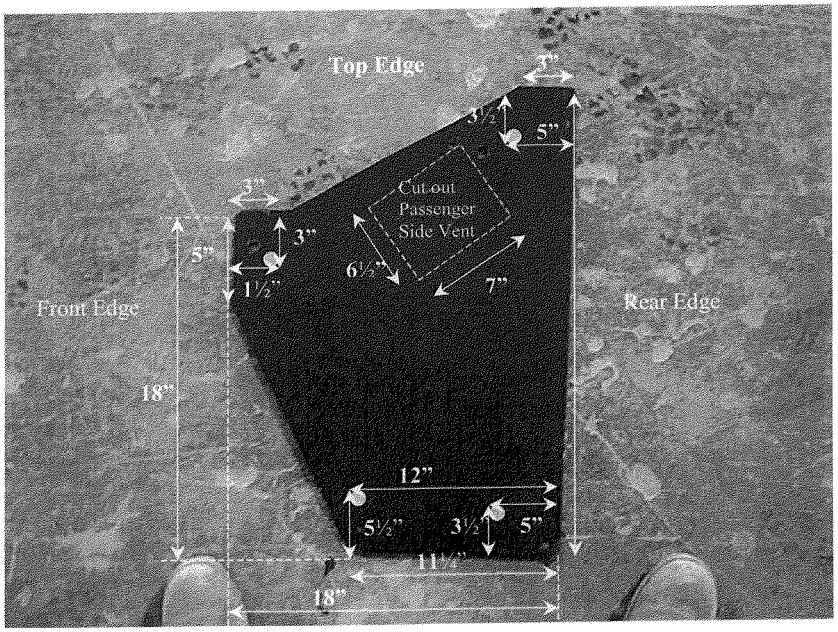
# Passenger Side Fender Well



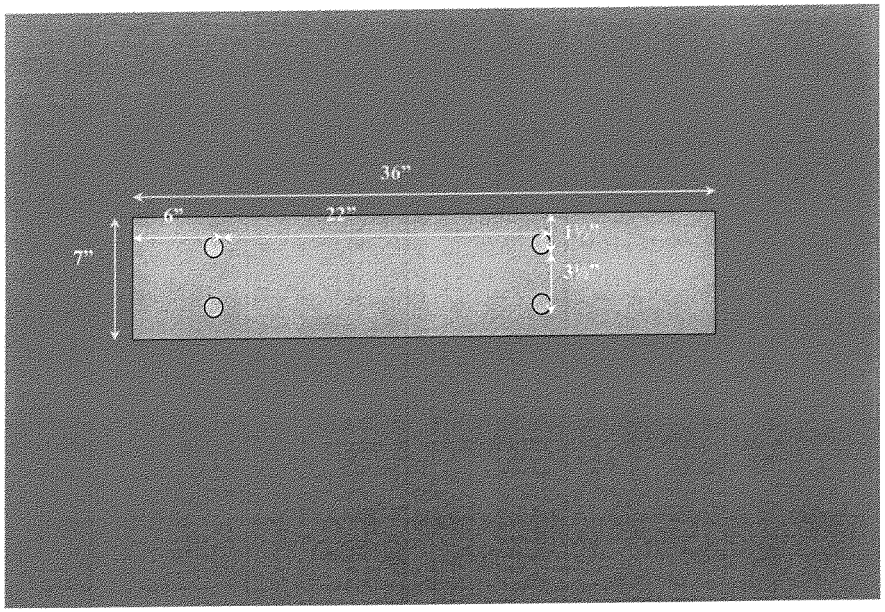
# Passenger Side Floor
# (Reverse for Drivers Side)



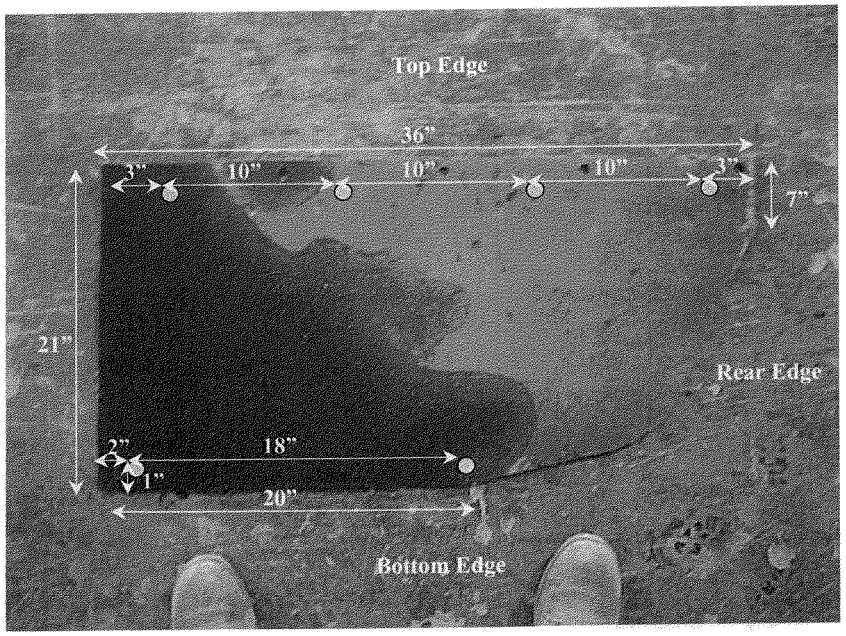
# Drivers Side Front Quarter panel
## (Reverse & Cut Vent For Passenger Side)



# Drivers Side Rocker Panel
# (Reverse For Passenger Side)

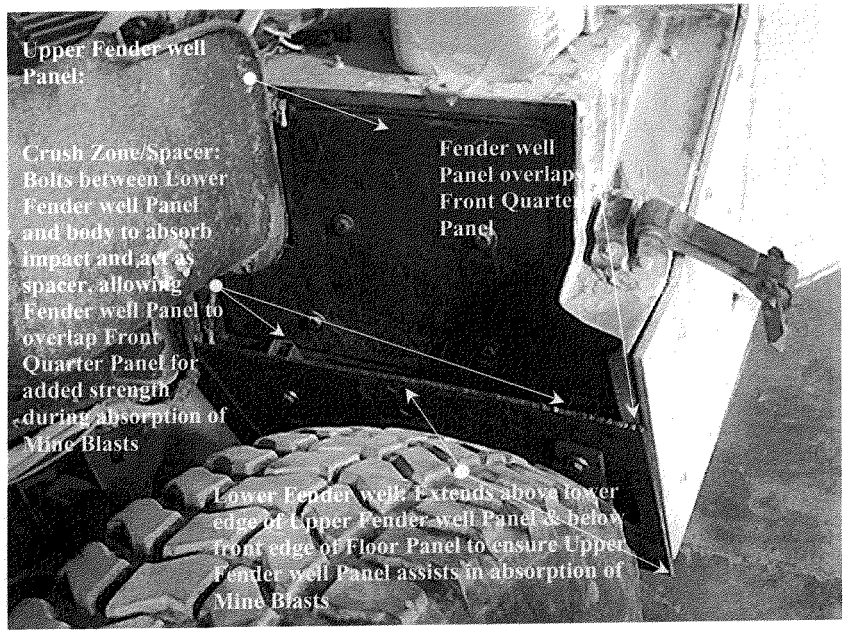


# Drivers Side Lower Side Flank
# (Reverse for Passenger Side)

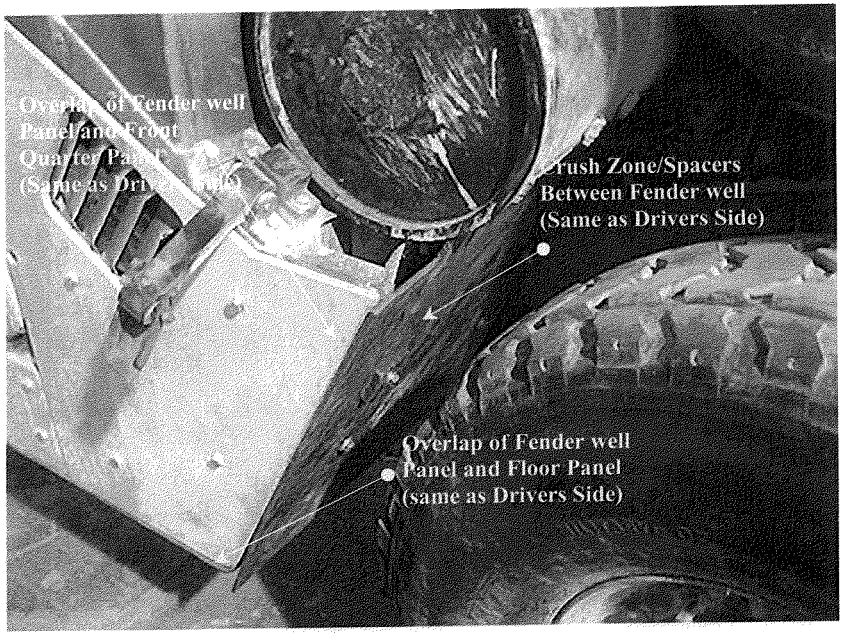


# Crush Zone / Spacer (Aluminum Cot Leg)

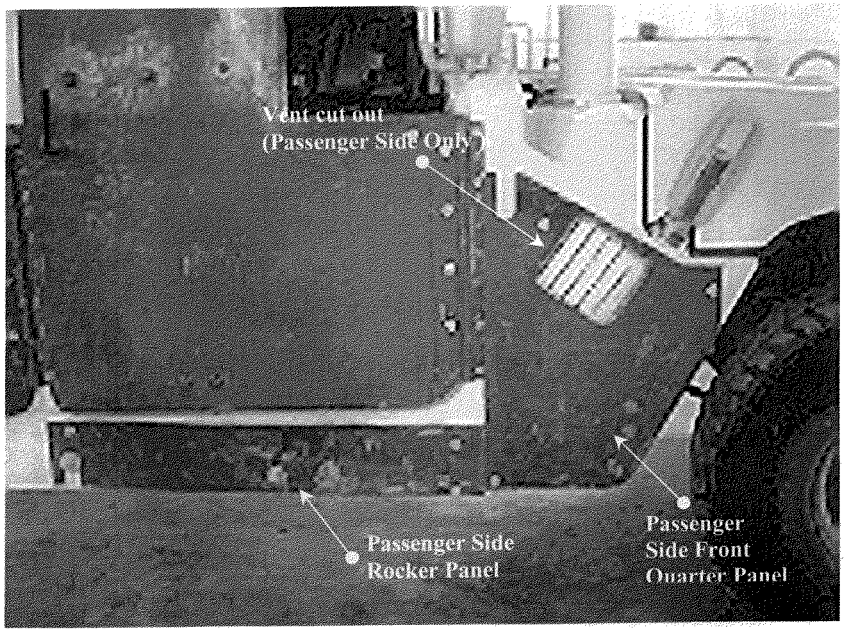
# Driver Side Fender Well



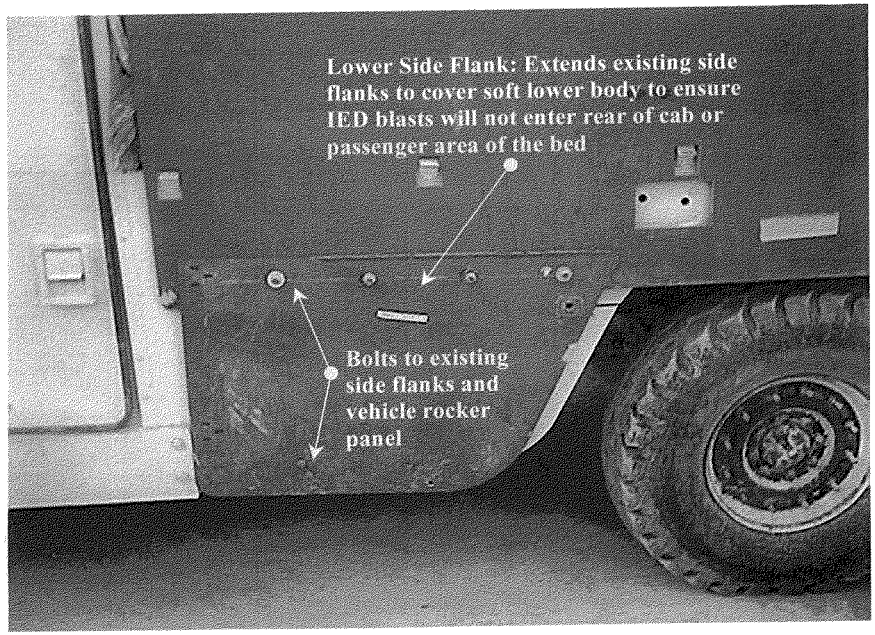
# Passenger Side Fender Well



# Passenger Side



# Lower Side Flank



# Required Tools

- Plasma Cutter
  - ESAB (Brand Name) PCM-875 (Model Number) Fed Log Part Number 0558001167 (or comparable plasma cutter)
- Air Compressor
- Safety Equipment
  - Cutting Goggles
  - Welding Gloves
  - Welding Apron
- Replacement Consumables for Plasma Cutter
  - ESAB Spare Parts Kit Part Number 821623 (not a Fed Log Item) each parts kit will cut approximately 15-20 vehicle kits
- Miscellaneous Hand Tools From General Mechanic Tool Boxes or Common #1 Tool Box
  - Hammer, Chisel, Wrenches, Clamps, Wire Brush

# Required Fasteners and Spacers

- **Drivers Side Upper Fender Well**
  - 4) 7/16″ X 1 1/2″ Bolts with washers and self locking nuts
- **Drivers and Passenger Side Lower Fender Wells**
  - 8) 7/16″ X 2 1/2″ Bolts with washers and self locking nuts
  - 4) Crush Zone/Spacers 12″ Lengths of Aluminum Cot Legs
- **Drivers and Passenger Side Floor Panels**
  - 8) 7/16″ X 2 1/2″ Bolts with washers and self locking nuts
- **Drivers and Passenger Side Front Quarter Panels**
  - 8) 7/16″ X 1 1/2″ Bolts with washers and self locking nuts
- **Drivers and Passenger Side Rocker Panels**
  - 8) 7/16″ X 1 1/2″ Bolts with washers and self locking nuts
- **Drivers and Passenger Lower Side Flanks**
  - 8) 7/16″ X 1 1/2″ Bolts with washers and self locking nuts
  - 4) 7/16″ X 2 1/2″ Bolts with washers and self locking nuts

# Required Fasteners and Spacers Continued

- **Totals**
  - Bolts; 28) 7/16" X 1 1/2",
  - Bolts; 20) 7/16" X 2 1/2"
  - Self Locking Nuts; 48)
  - Washers; 96)
  - Crush Zone/Spacers; 4)

# Steel

- All Panels were fabricated from unserviceable and obsolete add-on armor
  - First & Second Generation HMMWV L-Shaped Doors
  - MTVR & HMMWV Side Flanks
- Due to the Hardness of this armor all bolt holes in the panels must be cut using the plasma cutter (Drill bits will not effectively cut the armor)

TIMELINE FOR TACTICAL VEHICLE UNDERBODY ARMOR KIT SOLUTION

# FEBRUARY 2005

| | |
|---|---|
| **February 15, 2005** | **Meeting with Congressman Culberson, HASC Staff, Senior level OSD Staff, and Marine Corps officials to discuss Gunny Sergeant's underbody armor kit proposal to meet intensifying threat from stacked mines** |

TIMELINE FOR TACTICAL VEHICLE UNDERBODY ARMOR KIT SOLUTION

# MARCH 2005

TIMELINE FOR TACTICAL VEHICLE UNDERBODY ARMOR KIT SOLUTION

# APRIL 2005

| | |
|---|---|
| **April 21, 2005:** | **Chairman Hunter and HASC staff meet with General Nyland to readdress Gunny Sergeant's underbody armor kit solution** |
| **April 22, 2005:** | **HASC staff locates excess armor panels at Army depot in Kuwait. Notifies Marine Corps** |

TIMELINE FOR TACTICAL VEHICLE UNDERBODY ARMOR KIT SOLUTION

# MAY 2005

TIMELINE FOR TACTICAL VEHICLE UNDERBODY ARMOR KIT SOLUTION

# JUNE 2005

**June 20, 2005:** **Marine Corps awards contract for fabrication of underbody armor kits / rocker panels**

TIMELINE FOR TACTICAL VEHICLE UNDERBODY ARMOR KIT SOLUTION

# AUGUST

**August 20th, 2005** **Contract completion**

TIMELINE FOR TACTICAL VEHICLE UNDERBODY ARMOR KIT SOLUTION

# CONCLUSION

- **TWO MONTHS – For Marines to agree to purchase armor for proposed and proven interim underbody armor kit solution**

- **SIX MONTHS – 1st deliveries of production contract are received in theater from original notification of interim solution**

## QUESTIONS SUBMITTED FOR THE RECORD

JUNE 21, 2005

## QUESTIONS SUBMITTED BY MR. HUNTER

The CHAIRMAN. Was there an Urgent Universal Need Statement sent from II MEF requesting underbody armor? If yes when was it sent and what was USMC time on sending it through the system?

General CATTO. There was not a specific UUNS submitted. That said, we have been iterating armor requirements directly with the warfighter since the beginning of our return to Iraq and II MEF (Fwd) sent a message (271728Z Apr. 05) that delineated this requirement.

The CHAIRMAN. Did the USMC look into the feasibility of using a "task order" to speed up the process of acquiring armor?

General CATTO. MCSC did not consider a task order for either the MAK or MAS because there was no extent task order for either the HMMWV or MTVR that met our requirements.

- MAK: While MCSC was still fielding first generation armor, PM MT was already in contact with Aberdeen regarding the best HMMWV kit protection available at that time. It was the Army Research Laboratory (ARL) kit. However, since we had preponderantly HMMWVA2s, we opted to enhance the protection, and thereby developed the MAK. The most expeditious means of producing it was through the depot at Albany. To date, MAK is probably the best add-on HMMWVA2 protection available.
- MAS: MCSC initiated an ECP with OTC in November 2003 to develop a kit for the MTVR, leveraging off the vehicle's capabilities. The MTVR is a Marine-unique piece of equipment, therefore there was no "task order" or extent contract from which to leverage MTVR armor. OTC solicited participation from the civilian sector and only three vendors responded.

Obviously, it was going to be a "bottom up" effort, not "adapt-a-kit." We opted to develop and test a high-end and low-end solution. The resultant contract with Plasan Sasa through OTC is unique to the MTVR.

The CHAIRMAN. How many rocker panels are we purchasing in the contract?

General CATTO. Approximately 650 rocker panels will be produced from the 450 sheets of 6′ x 6′ 10 mm sheets of rolled homogeneous armor steel purchased from Defense Logistics Agency in Kuwait. The rocker panels will be installed on base model HMMWVs. Rocker panels were chosen vice underbodies because the base model HMMWV with the current level II armor package cannot readily accept the additional 850 pound under body without exceeding its gross vehicle weight. In addition, AMC is not facilitized to perform the precision cutting required for underbody kits.

The CHAIRMAN. Is the USMC requirement for under body armor 675?

General CATTO. The II MEF (Fwd) requirement is for 400 MAK underbodies to be installed on HMMWVA2s. All 400 underbodies have been produced; as of 15 June, 140 have been delivered with the remaining 260 enroute via military air. The 650 rocker panel requirement is based off the number of base model HMMWVs that will be rotating in/out out of theater coupled with normal MAK installs, the 400 MAK underbodies, and what II MEF (Fwd) could reasonably install based off operational tempo and manpower availability at the organizational level.

The CHAIRMAN. Is the contract we completed two days ago using the steel in Kuwait only to fill the requirement or are we using steel from other places?

General CATTO. The contract was signed on 20 June. The steel procured in Kuwait is being used only for the rocker panel effort. The steel for the (400) MAK, (124) 5-ton, and (243) LVS underbodies was procured in CONUS. The MAK effort was completed by Maintenance Center Albany who is also producing the LVS kits; the 5-ton effort is being produced by Maintenance Center Barstow.

**Underbody Steel Current Status:** Per Marine Corpse Systems Command (MCSC), overall plan is for contractor to fabricate 650 steel rocker panels for II MEF forward and units to install on base model HMMWV's in Iraq. USMC has purchased steel (450 plates, RHA ⅜ inch x 6 feet x 6 feet) and is expecting contract award on 20 June. Deliveries of panels are expected in three weeks and complete 8 weeks after contract award.

**Ballistic Glass Current Status:** Per MCSC, II MEF forward has submitted an urgent needs statement for ballistic glass to be incorporated into the HMMWV/MTVR cargo flanks and gunner shields. MCSC immediately began work on the ballistic glass design into HMMWV cargo flank. First prototype has been produced; 25 prototypes will be produced and sent to II MEF for evaluation. In addition, Marine Corps has engaged OSHKOSH troop company to incorporate ballistic glass into the MTVR. Incorporating ballistic glass into the gunner shields will take a deliberate engineering effort as there is no readily available COTS solution. Survivability, weight, balance and durability will be a challenge.

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