

OSHKOSH CORPORATION MINE RESISTANT AMBUSH PROTECTED ALL TERRAIN VEHICLE (M-ATV) COMBAT LOAD PLAN

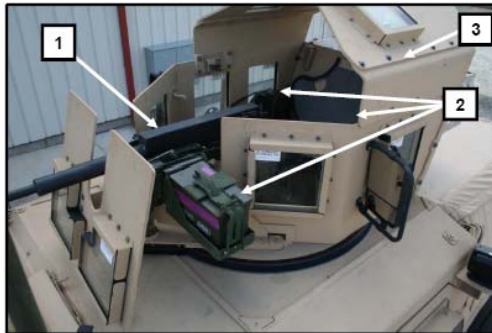


7 October 2009

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C-1

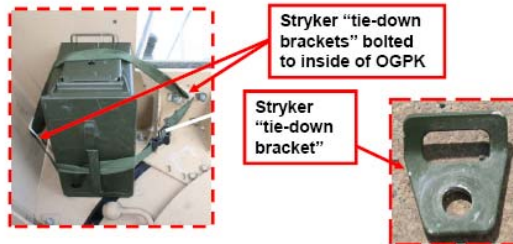
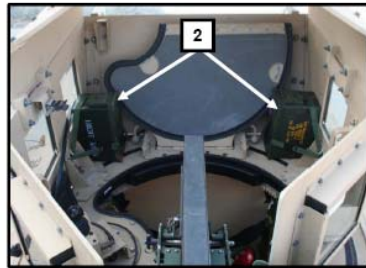
APPENDIX C. COMBAT LOAD PLAN

Oshkosh M-ATV Combat Load Plan Exterior Stowage – Top (M-2 Configuration)



ITEM NO.	NOMENCLATURE	QTY
1	Weapon M-2, .50 cal (mounted on OGPK)	1
2	Ammo, .50 cal (1 can = 100 rds)	3 cans
3	OGPK w/Overhead Cover	1

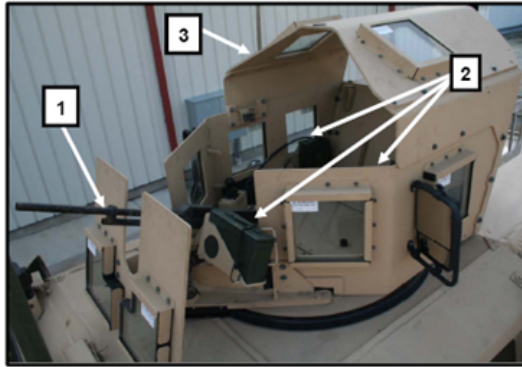
USER COMMENTS: There are no provisions inside or outside the vehicle to stow ammo that is readily accessible to the gunner. A stowage rack or brackets specifically designed to hold ammo cans should be added to the vehicle design. Example temporary field solution: Add "tie-down brackets" (NSN 2590-20-000-0168) to OGPK as shown to secure ammo cans. These brackets (used on Stryker) provide tie-down points for cargo straps and can be installed using existing bolts.



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C-2

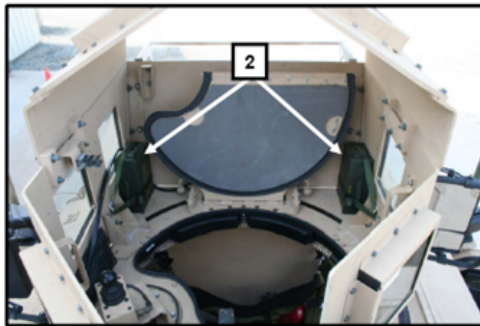
Oshkosh M-ATV Combat Load Plan
Exterior Stowage – Top (M240B Configuration)

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C-3



ITEM NO.	NOMENCLATURE	QTY
1	Machine Gun, M240B, 7.62 mm (mounted on OGPK)	1
2	Ammo, 7.62mm (1 can = 200 rds)	3 cans
3	OGPK w/Overhead Cover	1

USER COMMENTS: There are no provisions inside or outside the vehicle to stow ammo that is readily accessible to the gunner. A stowage rack or brackets specifically designed to hold ammo cans should be added to the vehicle design. Example temporary field solution: Add "tie-down brackets" (NSN 2590-20-000-0168) to OGPK as shown to secure ammo cans. These brackets (used on Stryker) provide tie-down points for cargo straps and can be installed using existing bolts.



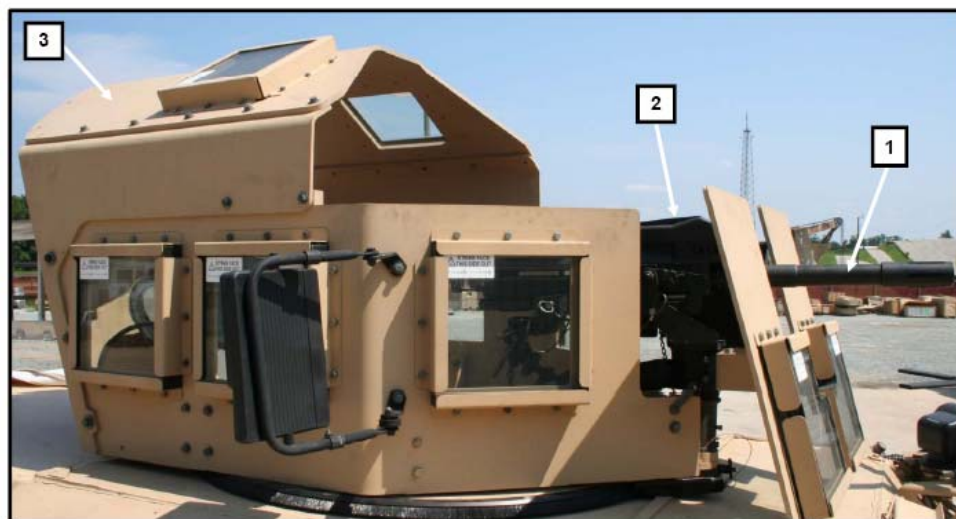
Stryker "tie-down brackets" bolted to inside of OGPK (using existing hardware) to secure ammo cans

Oshkosh M-ATV Combat Load Plan
Exterior Stowage – Top (MK-19 Configuration)

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C-4

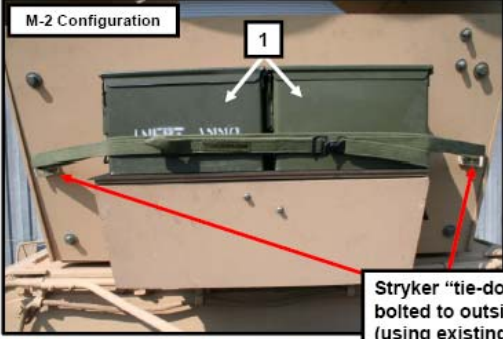
ITEM NO.	NOMENCLATURE	QTY
1	Weapon MK-19, 40 mm (mounted on OGPK)	1
2	Ammo, 40mm (1 can = 32 rds)	1 can
3	OGPK w/Overhead Cover	1

USER COMMENTS: There are no provisions inside or outside the vehicle to stow additional ammo that is readily accessible to the gunner. A stowage rack or brackets specifically designed to hold ammo cans should be added to the vehicle design.



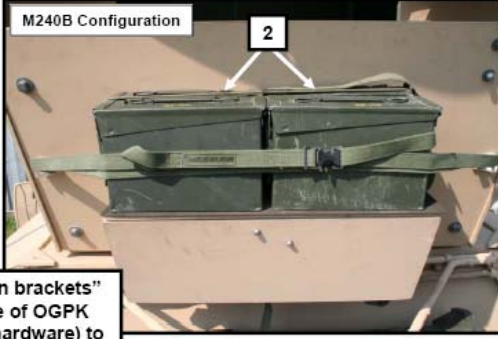
Oshkosh M-ATV Combat Load Plan
Exterior Stowage – Top (Ammunition storage on top of OGPK battery box)

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M-2 Configuration

1



M240B Configuration

2



MK-19 Configuration

3

Stryker "tie-down brackets" bolted to outside of OGPK (using existing hardware) to secure ammo cans

ITEM NO.	NOMENCLATURE	QTY
**1	Ammo, .50 cal for M-2 (1 can = 100 rds)	2 cans
**2	Ammo, 7.62mm for M240B (1 can = 200 rds)	4 cans
**3	Ammo, 40mm for MK-19 (1 can = 32 rds)	1 can

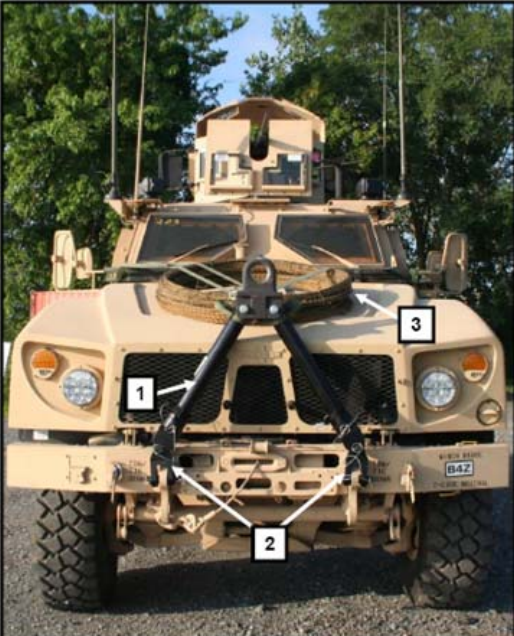
**Only one type of ammunition (.50 cal, 7.62mm, or 40mm) will be stowed. Type is based on the crew served weapon being used.

Rubber mat placed on top of battery box to prevent cans from sliding

There are no tie-down points for the ammo cans. User recommends adding tie-downs by design to the vehicle.

Oshkosh M-ATV Combat Load Plan
Exterior Stowage – Front

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ITEM NO.	NOMENCLATURE	QTY
1	*Tow Bar, Medium-Duty,	1
2	*Adaptors, MTRV, IBIS TEK (additional tow bar accessories placed in bag and stowed on rear deck; contents of bag shown on page 20)	2
3	Concertina wire (roll)	2

* Vehicle unique BII provided by vendor

USER COMMENTS: User recommends adding an additional roll of concertina wire to the load plan. One roll of wire is not sufficient for Traffic Control Points (TCPs). User suggests strapping both rolls of wire to hood (as shown).

There are not adequate tie-down points for the concertina wire. User recommends adding tie-down points for concertina wire to vehicle design.

User recommends replacing tow bar with a tow bar as used on the Abrams Tank. An Abrams tow bar would allow for quicker recovery operations and would reinforce the front bumper.

Oshkosh M-ATV Combat Load Plan
 Exterior Stowage – Left Rear Stowage Box (Contents shown on page 8)

C-7
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ITEM NO.	NOMENCLATURE	QTY
1	*Bag, Stowage	2
2	*Bag, Tool, Satchel (see contents of bag on page 9)	1
3	*Funnel, Steel, Flex Mount	1
4	*Gage, Tire Pressure with Hose	1
5	*Hammer, Hand, Sledge Double-Faced, 10 lbs	1
6	*Jack, Hydraulic, Hand, 20 Ton	1
7	*Max Tool Kit, Combination Tool, Hand (see contents of bag on page 10)	1
8	*Panel Marker Signal, Ground to Air	2
9	*Shackle, 12 Ton	1
10	*Strap, Tie-Down	4
11	*Warning Device Kit, Highway	1
12	*Winch with Bracket and Wire Rope (for Spare Tire)	1
13	*Snatch Block 36K	1
14	*Bar, Socket, Wrench	1
15	*Wrench, Socket	1
*Vehicle unique BII provided by vendor		



Oshkosh M-ATV Combat Load Plan
 Contents of Left Rear Stowage Box

C-8
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Oshkosh M-ATV Combat Load Plan
Contents of Bag, Tool, Satchel



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C-9

ITEM NO.	NOMENCLATURE	QTY
1	*Adapter, Grease Gun	1
2	*Brush, Wire Scratch	1
3	*Extension, Socket Wrench, 5 in. long, 1/2 inch Drive	1
4	*Extension, Socket Wrench, 10 in. long, 1/2 inch Drive	1
5	*Fitting, Lubrication, Straight	1
6	*Hammer, Hand, Machinist's Ball Peen, 2 lb.	1
7	*Handle, Socket Wrench, 1/2 in. Drive	1
8	*Key Set, Socket Head	1
9	*Lubricating Gun, Hand	1
10	*Padlock	2
11	*Pliers, Line mans Side Cutting, 8 in.	1
12	*Pliers, Combination, Slip Joint, 8 in. long	1
13	*Screwdriver, Cross Tip, #3, 8 in. long	1
14	*Screwdriver, Flat Tip, #2, 6 in. long	1
15	*Socket, Socket Wrench, 1/2 inch Drive, 7/16 inch, 12 pt.	1
16	*Socket, Socket Wrench, 1/2 inch Drive, 1/2 inch, 6 pt.	1
17	*Socket, Socket Wrench, 1/2 inch Drive, 9/16 inch, 12 pt.	1
18	*Socket, Socket Wrench, 1/2 inch Drive, 5/8 inch, 12 pt.	1
19	*Socket, Socket Wrench, 1/2 inch Drive, 3/4 inch, 12 pt.	1
20	*Socket, Socket Wrench, 1/2 inch Drive, 7/8 inch, 12 pt.	1
21	*Socket, Socket Wrench, 1/2 inch Drive, 15/16 inch,	1
22	*Socket, Socket Wrench, 1/2 inch Drive, 10 mm, 6 pt.	1
23	*Socket, Socket Wrench, 1/2 inch Drive, 13 mm, 6 pt.	1
24	*Socket, Socket Wrench, 1/2 inch Drive, 14 mm, 6 pt.	1
25	*Socket, Socket Wrench, 1/2 inch Drive, 16 mm, 6 pt.	1
26	*Socket, Socket Wrench, 1/2 inch Drive, 18 mm, 6 pt.	1
27	*Socket, Socket Wrench, 1/2 inch Drive, 19 mm, 6 pt.	1
28	*Wrench, Adjustable, 8 inch	1
29	*Wrench, Adjustable, 12 inch	1
30	*Wrench, Lug Nut - Extension, Socket Wrench, 8 inch, 3/4 inch Drive	1
31	*Wrench, Lug Nut - Handle, Socket Wrench, 19.5 inch Sliding Tee, 3/4 inch Drive	1
32	*Wrench, Lug Nut - Socket, Socket Wrench, 33 mm	1
33	*Wrench, Plier	1

*Vehicle unique BII provided by vendor

Oshkosh M-ATV Combat Load Plan
Contents of Max Tool Kit, Combination Tool, Hand



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C-10

ITEM NO.	NOMENCLATURE	QTY
1	*Bag, Carrying	1
2	*Ax, Single Bit	1
3	*Sheath, Ax Head	1
4	*Shovel Attachment	1
5	*Mattock Attachment	1
6	*Pick Attachment	1
7	*Broad Pick Attachment	1
8	*Rake-Hoe Attachment	1
9	*Fastener, Rake-Hoe	1
10	*Lock Pin Set	6

*Vehicle unique BII provided by vendor

Oshkosh M-ATV Combat Load Plan
 Exterior Stowage – Right Rear Stowage Box (Contents shown on page 12)

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C-11

ITEM NO.	NOMENCLATURE	QTY
1	*Chock, Wheel	2
2	*Coupling Assembly, Quick-Disconnect (Emergency)	1
3	*Coupling Assembly, Quick-Disconnect (Service)	1
4	*Shackle, Safety Anchor	4
5	*Snow Chains	4
6	*Spout, Can, Flexible w/Filter Screen, 2-1/2 in. OD, 16 in. lg.	1
*Vehicle unique BII provided by vendor		



Oshkosh M-ATV Combat Load Plan
 Contents of Right Rear Stowage Box

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C-12



Oshkosh M-ATV Combat Load Plan
 Exterior Stowage – Rear Deck (Contents shown on pages 17-19)

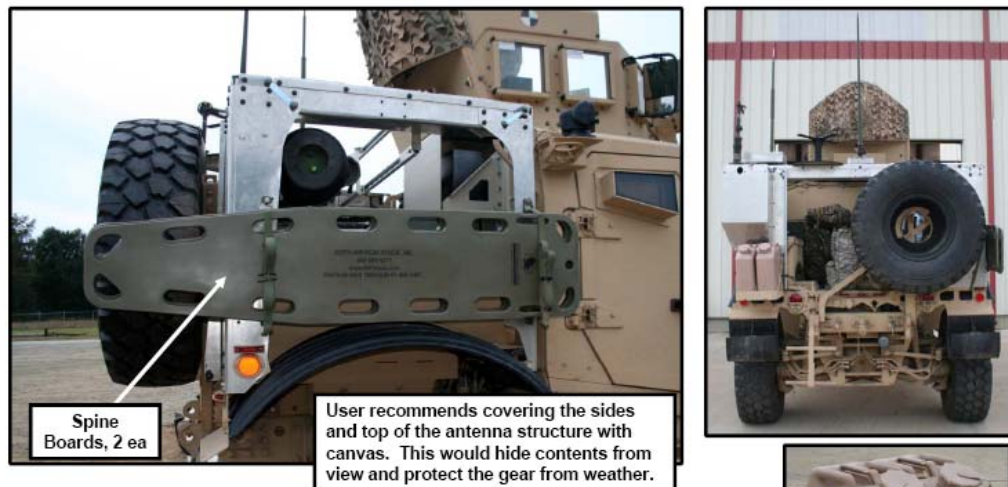
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Stowage brackets for the Javelin and AT-4's should be added to vehicle design. Concept shown uses brackets from a Stryker vehicle and modified for the M-ATV. User recommends removing 1 of 2 Javelin missiles identified on the vehicle load list due to lack of stowage space. Javelin missiles are not carried by all vehicles; mission/role dependent.

Oshkosh M-ATV Combat Load Plan
 Exterior Stowage – Rear Deck (Contents shown on pages 17-19)

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User suggest adding CASEVAC Conversion Kit (CCK) to Load List (kit contents shown on page 22). When stowed, the spine boards (NSN 6530-01-490-2487, qty 2, would be secured to the right side of the antenna structure.

User suggests stowing the fuel cans on the exterior of the vehicle and away from the gear on the rear deck. A fuel can stowage bracket should be added to vehicle design. Field solution: Attach fuel can stowage bracket (NSN 5340-01-556-5767) to left rear corner of the antenna structure as shown.



Oshkosh M-ATV Combat Load Plan
Contents of Rear Deck

C-15
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ITEM NO.	NOMENCLATURE	QTY
1	*Can, Fuel, Military, Tan	2
2	*Key, Door, Blast/Combat Lock	1
3	Bottled Water (12-pack)	6.5
4	Warrior Aid and Litter Kit (WALK)	1
5	Meal Ready to Eat (Box)	4
6	*Can, Water, Military, Plastic, 5-Gallon, Tan	2
7	*Support Plate, Jacking	1
8	AT-4	2
9	Assault Packs	5
10	Spare Barrel w/ bag f/ M240B MG	1
11	Spare Barrel w/ bag f/ M249 SAW	1
12	Spare Barrel w/ bag f/ M2 .50 cal MG	1
13	*Slave Cable	1
14	*Winch Remote Control	1
15	Javelin w/ Command Launch Unit (CLU)	2
16	*Bar, Pinch, 26 in.	1
17	*Crow bar, Pinch Point, 59 - 62 in.	1

Oshkosh M-ATV Combat Load Plan
Contents of Rear Deck (continued)

C-16
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ITEM NO.	NOMENCLATURE	QTY
18	Enemy Prisoner of War (EPW) Kit	1
19	Human Remains Kit	1
20	Breach Kit	1
21	*Tow Bar Accessory Bag (see contents of bag on page 20)	1
22	5.56mm linked ammo for M249 SAW (cans)	2.5
23	Hand Smoke Grenade M18 (2 ammo cans, 8 ea grenades per can)	16
24	Frag Grenades M-67 (2 ammo cans, 8 ea grenades per can)	16
25	Star Cluster Signal Flare (6 ea flares stowed in ammo can)	6
26	5.56mm Small Arms, 10-rnd clipped ammo for M4 Carbine (cans)	2
**27a	.50 cal ammo (M-2 Configuration) (cans) (4 of the 6 cans shown in photo are stowed on rear deck, but the remaining 2 cans are stowed on the OGPk battery box as shown on page 5)	4
**27b	7.62mm ammo (M240B Configuration) (cans) (2 of the 6 cans shown in photo are stowed on the rear deck, but the remaining 4 cans are stowed on the OGPk battery box as shown on page 5)	2
**27c	40mm ammo (MK-19 Configuration) (cans) (2 of the 3 cans shown in photo are stowed on the rear deck, but the remaining 1 can is stowed on the OGPk battery box as shown on page 5)	2
28	Claymore Mine M18A1 (Not shown in photo. Stowed inside assault pack per User)	2
29	C-4 Demo Kit (Not shown in photo; see contents of kit on page 21)	1
30	Spine Boards for the Casualty Evacuation (CASEVAC) Conversion Kit (CCK) (Not shown in photo; see contents of kit on page 22)	2
31	Cooler w/ ice and 12-pack of bottled water (not shown in photo)	1
*Vehicle unique BII provided by vendor		
**Only one type of ammunition (.50 cal, 7.62mm, or 40mm) will be stowed. Type is based on the crew served weapon being used.		

Oshkosh M-ATV Combat Load Plan
 Contents of Rear Deck – .50 caliber M-2 Configuration

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C-17



Note: Javelin missiles are not carried by all vehicles; mission/role dependent.

Oshkosh M-ATV Combat Load Plan
 Contents of Rear Deck – 7.62mm M240B Configuration

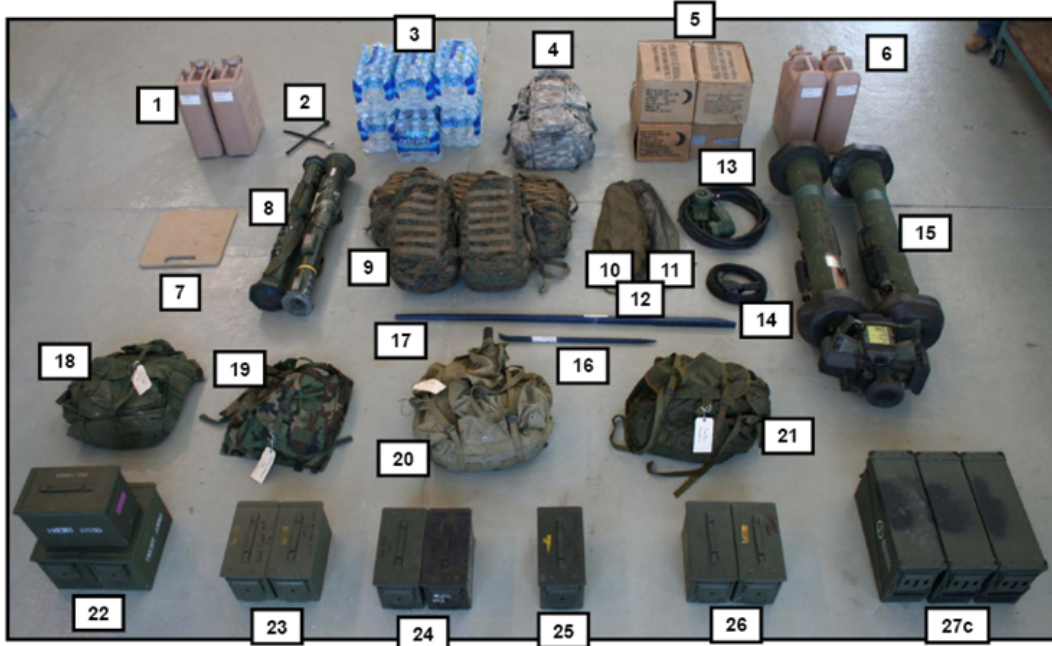
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C-18



Note: Javelin missiles are not carried by all vehicles; mission/role dependent.

Oshkosh M-ATV Combat Load Plan
Contents of Rear Deck – 40mm MK-19 Configuration

C-19
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Note: Javelin missiles are not carried by all vehicles; mission/role dependent.

Oshkosh M-ATV Combat Load Plan
Contents of Bag, Tow Bar Accessories

C-20
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ITEM NO.	NOMENCLATURE	QTY
1	Bag, Stowage	1
2	*Wire Harness Assy, Intervehicular	1
3	*Pin, Klik .31X2.34	1
4	*Adapter, HMMWV Machining	2
5	*Anchor, Shackle	2
6	*Link, Adapter, Tow Bar	2
7	*Chain .62X10.0	1
8	*Pin Assy	2
9	*Pin 1.54X5.13 Tow Bar	2
10	*Pin Assembly	2
11	*Tow Bar Medium Duty (Installed on front of vehicle; see page 6)	1
12	*Adapter, MTRV, IBIS TEK (Installed on front of vehicle with tow bar)	2

*Vehicle unique BII provided by vendor



Oshkosh M-ATV Combat Load Plan
Contents of C-4 Demo Kit

ITEM NO.	NOMENCLATURE	QTY
1	C-4, 1.25 lb blocks	8
2	Non-Electric blasting caps	1 box (10 ea per box)
3	Crimper/Priming tool	1
4	M81 or M60 igniter	2
5	Time fuse	20 feet
6	Det. cord	50 feet
7	2-gallon re-sealable bag	1

C-21
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C4 blocks placed inside .50 cal ammo can(s) and stowed inside assault pack



Crimper/Priming tool stowed inside assault pack



Det. Cord placed inside 2-gallon re-sealable bag and stowed inside assault pack

Non-Electric blasting caps, igniters, and time fuse placed inside 7.62 ammo can and stowed inside assault pack

Assault pack

Oshkosh M-ATV Combat Load Plan
Contents of Casualty Evacuation
(CASEVAC) Conversion Kit (CCK)

ITEM NO.	NOMENCLATURE	QTY
1	Spine Board	2
2	Nylon Straps	8
3	Spring Clamps	16

C-22
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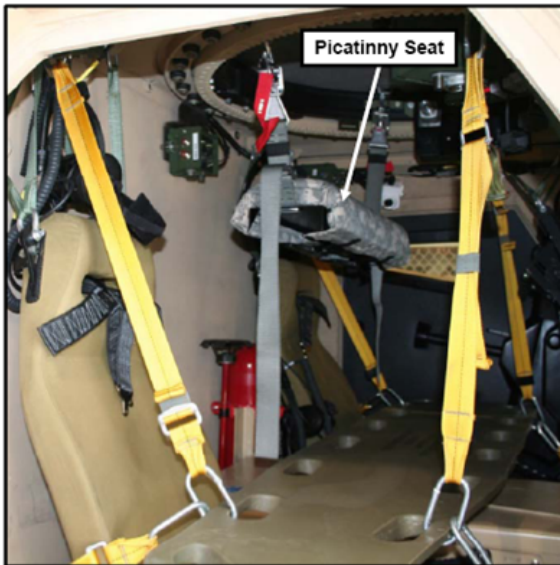
CASEVAC Conversion Kit (CCK) Installed

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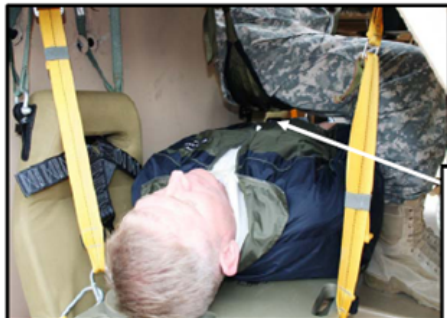
C-23



The CCK uses 2 ea spine boards; the lower to serve as a shelf and the upper to move the patient into the vehicle by sliding the upper board across the lower board. Nylon straps (2 on each side) are used to secure the two spine boards together after the patient is loaded.



Picatinny Seat



There is limited clearance between the gunner and the litter patient when using the M1114 gunner's sling that is provided with the M-ATV

When the CCK is installed the User recommends using the rigid Picatinny Seat (PN 13014413, Cage 4GTZ) instead of the soft gunner's sling that comes with the M1114 Gunner's Restraint System (GRS), which is the GRS provided with the M-ATV. The Picatinny seat is rigid, and therefore provides more clearance between the seat and the litter patient.

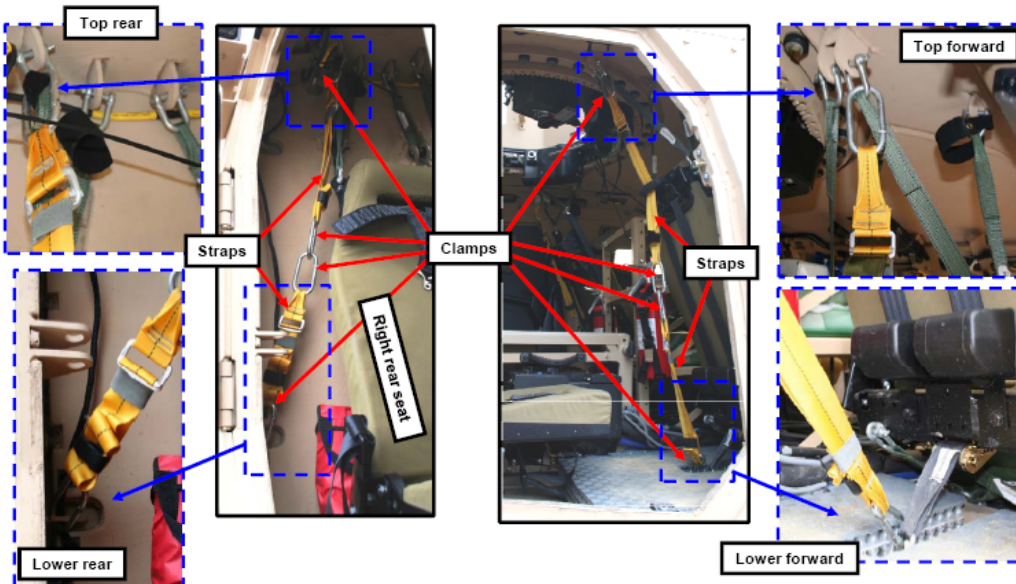
CCK Nylon Strap and Spring Clamp Attachment Points

Photos show the stowed position of the right side nylon straps and spring clamps only. The left side straps/clamps are mirrored.

The top forward and top rear spring clamps (with nylon straps) are attached to the ceiling-mounted outboard seat strap shackles. The lower forward spring clamps are attached to the floor-mounted front seat ratchet strap shackles. The lower rear spring clamps are attached to gussets in the left and right rear corners of the crew compartment.

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C-24



Oshkosh M-ATV Combat Load Plan
Interior Stowage – Driver Station

**Warning: Do not stow items under any seats.
Area beneath blast seats should remain clear.**

ITEM NO.	NOMENCLATURE	QTY
1	Incendiary Grenade	1
2	*Flashlight MX 991U	1

*Vehicle unique BII provided by vendor

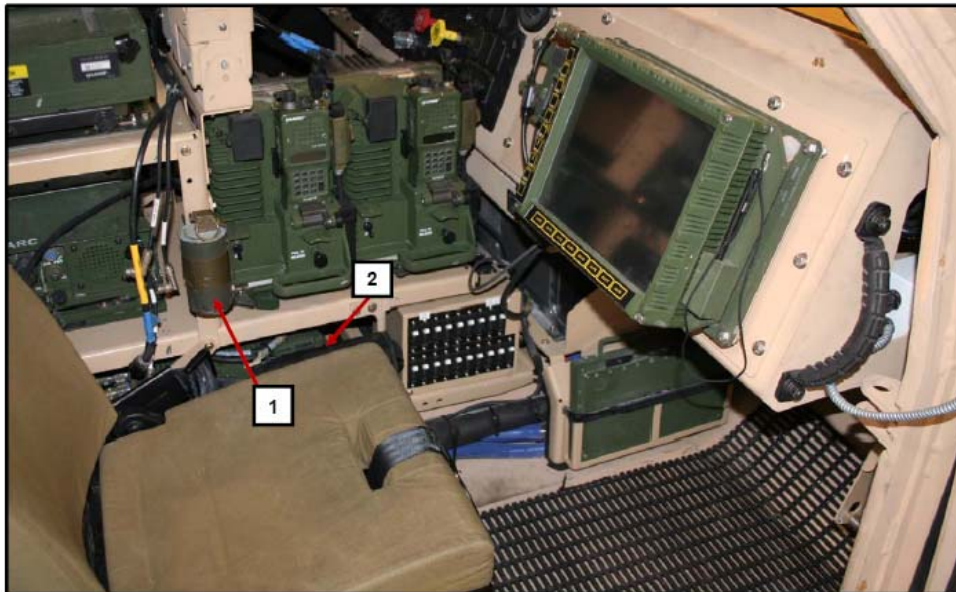


C-25
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Oshkosh M-ATV Combat Load Plan
Interior Stowage – Assistant Driver Station

User recommends adding brackets to stow individual weapons at each seat position

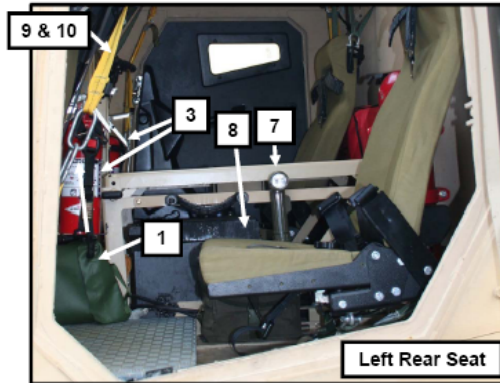
ITEM NO.	NOMENCLATURE	QTY
1	Incendiary Grenade	1
2	Binoculars, stabilized, M25	1



C-26
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Oshkosh M-ATV Combat Load Plan
Interior Stowage – Passenger Area

C-27
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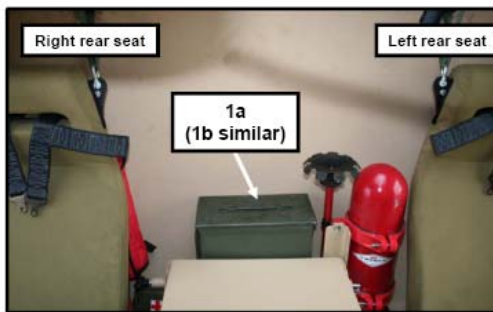


ITEM	NOMENCLATURE	QTY
1	*Bag, Assembly, Pamphlet w/ Binder, LL, 3-ring, Folder Equip Record and Operator's manual	1
2	*Fire Blankets	2
3	*Extinguisher, Fire, Portable, CO2, 5 lbs	2
4	*First Aid Kit, General Purpose (not visible in photo)	1
5	Pen Flares (box) (not visible in photo)	1
6	Chem Lights (Box) (not visible in photo)	1
7	*Flashlight MX 991U	1
8	Combat Life Saver (CLS) Bag	1
9	CCK Nylon Straps (4 ea side) (detailed on page 24)	8
10	CCK Spring Clamps (8 ea side) (detailed on page 24)	16

*Vehicle unique BII provided by vendor

Oshkosh M-ATV Combat Load Plan
Interior Stowage – Turret Gunner Area

C-28
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ITEM NO.	NOMENCLATURE	QTY
**1a	50 cal ammo for M-2 (can)	1
**1b	7.62mm ammo for M240B (can)	1
**1c	40mm ammo for MK-19 (can)	1

**Only one type of ammunition (.50 cal, 7.62mm, or 40mm) will be stowed. Type is based on the crew served weapon being used.

There are no provisions inside the vehicle to stow or tie down ammo cans. User recommends adding storage bracket on rear wall to vehicle design. The shelf should be hinged to permit it to be stowed when the CASEVAC Conversion Kit is employed. Concept shown below with 40mm ammo can and gunner in place.

Field solution: Secure ammo can to gunner's stand support bracket using strap.

