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18 July 1972

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MEMORANDUM FOR: CO, USACDCINA

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SUBJECT: Use of Motorcycles in the Army

JUN 20 1973

ACCESSION NO \_\_\_\_\_

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1. The attached staff study is submitted to establish an INA position on the use of motorcycles in infantry units.
2. Proposed listing of personnel and equipment for cycle employment is included.
3. Recommend the Infantry Agency support the philosophy of the use of cycles to augment, substitute and/or replace present forms of ground mobility used by infantry units in the Recon/Scout elements.

1 Incl

as

BEN S. MALCOM  
Colonel, Infantry  
Chief, D&O Division

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US Army Combat Developments Command  
Infantry Agency  
Fort Benning, Georgia 31905  
✓ 12 July 1972

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SUBJECT: T Use of Motorcycles Within the U.S. Army,

1. STATEMENT OF THE PROBLEM. What type units can use motorcycles and what missions can be best performed by motorcycles.

2. ASSUMPTIONS.

- a. There will be no increase in personnel to accommodate motorcycles.
- b. Where motorcycles are used, some other vehicle can be removed from the TOE.
- c. A high degree of light, cross-country, surface mobility will be required in future conflicts.
- d. Present "state-of-the-art" trail-bikes are capable of meeting the military standards for Reliability, Availability and Maintainability (RAM) with only minor modifications.

3. DISCUSSION.

a. Possible missions of motorcycles in Infantry units:

(1) Reconnaissance - when compared to recon by foot, the motorcycle adds a great advantage of mobility. This mobility is increased when the motorcycle is air transported by helicopter. Two motorcycles can be loaded inside a UH-1H and two on external ramps. Eleven motorcycles can be carried inside the CH-47 helicopter. The performance of the mission would incorporate the same basic tactics/formations as are employed by foot units, i.e., one team crosses open area while the second team observes and covers. Upon contact, the teams dismount and are employed as conventional troops. The major advantage to the motorized cross-country recon capability in an environment such as Europe will be the large area coverage. The second major advantage in a European environment will be the ability to operate in reduced visibility which will greatly supplement the aerial recon when the aircraft are grounded by weather. Motorcycles can be equipped with CW detectors and provide early warning of CW agents use. Major

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disadvantages of the recon mission by motorcycle are - operating in snow, resupply when operating at extended ranges (35 mpg consumption), and communications.

(2) Security - The motorcycle offers a flexible flank, advance and rear security force for any unit on the move. Although limited in firepower, it provides the necessary alert for the decision to bypass or engage with a reaction force. The security force should also be capable of directing indirect fires. The capability to move by leaps and bounds to cover each member of the team provides a greater degree of protection than is available with the present equipment used in such maneuvers as movement to contact and exploitation. Disadvantages of the motorcycle in this role is lack of firepower and adequate communications.

(3) Antiarmor - The use of the motorcycle in the antiarmor role is a logical one; however, this role will require more evaluation. The size and weight of the truly effective antiarmor munitions greatly limit their use by a motorcycle force. A more logical use of motorcycles in the antiarmor role would be in the ambush, using terminally guided munitions. The LAW also could be employed from ambush as the rider would have the necessary speed and mobility to extract himself from the area. The flame munition is also a portable weapons system that could be used in the antiarmor role. Disadvantages of this method of employment are the emplacement of the ambush, resupply if over an extended period of time, and movement in deep snow.

(4) Traffic management - The employment of Infantry units as traffic management is discussed here not as an MP function, but as a command and control function in a fast moving combat situation. The motorcycle units could be used as messengers and control units in event of communications failure to guide motorized elements around roadblocks, barriers, or other obstacles. The one disadvantage of using motorcycle units for this mission is that the unit has a great potential and should be used as traffic management only in an emergency.

b. Assignments and BOI's:

(1) Present Assignments: In the present Infantry organizations (Combat Support Companies) reconnaissance/scout units are the units that normally are tasked with the type missions that motorcycle units could augment or replace. Two recommended proposals were considered. One proposal assigns cycles as a replacement for all 1/4-tons. The second proposal uses a mix of cycles and 1/4-tons.

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(2) Proposals for BOI: Annex A lists the BOI plan and personnel requirements for recon/scout elements of Infantry battalions. This proposal would result in a saving of personnel and equipment. It would increase motorcycle requirements from 0 to a possible 74 in the Infantry units. Considering the cost of replaced items (M151 - \$3,760; M114 - \$42,400), the motorcycles would be cost effective. Even with the addition of motorcycles in the airmobile and light infantry battalions where there are presently no vehicles provided for the recon/scout units, the reduction in personnel and equipment or other type units would still provide a savings. The addition of motorcycles will also give the airmobile and light infantry units a greater coverage with less personnel. The motorcycles would not detract from the complete "air" mobility requirement of these units.

#### 4. CONCLUSIONS.

- a. The concept of utilizing motorcycles as a combination supplement/replacement for recon/scout units in the Infantry battalion is feasible.
- b. The present recon/scout units do not have complete cross-country mobility with the 1/4-tons. The airmobile and light infantry have no ground transportation.
- c. Recon/scout units can cover greater ranges, complete all assigned missions, and perform more economically with motorcycles than with present vehicular equipment.
- d. The use of motorcycles in airmobile units would give a much greater recon/scout mission capability in periods of reduced visibility when the aircraft are grounded because of reduced visibility.
- e. Two proposals for assignment of motorcycles in Infantry units for efficient use of resources are shown by TOE in Annex A.
- f. Recommended Proposal II offers the best mobility for all missions. The addition or retention of the 1/4-ton for hauling POL and other equipment of the cycle squad/section is a necessity. It will also be used as a mobile refueling point when air resources are not available.

#### 5. RECOMMENDATIONS.

- a. That the Infantry Agency support further evaluation of motorcycle uses in Infantry units.

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b. That the Infantry Agency be assigned proponentcy for motorcycle doctrine, tactics, and organization.

c. That a type unit shown in Recommended Proposal II, Annex A be recommended for evaluation by MASSTER.

BEN S. MALCOM  
Colonel, Infantry  
Chief, D&O Division

Annex A - Proposed Recon/Scout Platoon  
Personnel and Vehicles

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PROPOSED RECON/SCOUT PLATOON PERSONNEL AND VEHICLES

TOE 7-28H (Infantry)

PRESENT

Plt Hg

Plt Ldr  
Plt Sgt  
Sct Dvr

---

1 1/4-ton

4 Sqds

Sqd Ldr  
Asst Sqd Ldr  
Observers (2)  
Sct Dvr (2)

---

2 1/4-ton

RECOMMENDED  
PROPOSAL I

Plt Hg

Plt Ldr  
Plt Sgt  
Cycle Mech/Dvr

1 1/4-ton  
1 cycle

1/4-ton Sec

Sec Ldr  
Sqd Ldr  
Asst Sqd Ldr (2)  
Observers (4)  
Sct Dvr (4)  
(4 ea 3-man teams)

---

4 1/4-ton

Cycle Section

Sec Ldr  
Sqd Ldr  
Asst Sqd Ldr (2)  
Sr Observers (4)  
Observers (4)  
(4 ea 3-man teams)

---

12 cycles

RECOMMENDED  
PROPOSAL II

Plt Hg

Plt Ldr  
Plt Sgt  
Sct Dvr  
Cycle Mech  
Cycle Mech

---

1 1/4-ton  
2 cycles

Cycle Section

Sec Ldr  
Sqd Ldr  
Tm Ldr (6)  
Sr Observers (6)  
Observers (6)  
(6 ea 3-man teams)

---

20 cycles

Totals

27 personnel  
9 1/4-ton

Totals

27 personnel  
5 1/4-ton  
13 cycles

Totals

25 personnel  
1 1/4-ton  
22 cycles

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TOE 7-38H (Airborne Infantry)

<u>PRESENT</u>	<u>RECOMMENDED PROPOSAL I</u>	<u>RECOMMENDED PROPOSAL II</u>
<u>Plt Hq</u> Plt Ldr Plt Sgt Sct Dvr <hr/>	<u>Plt Hq</u> Plt Ldr Plt Sgt Cycle Mech <hr/>	<u>Plt Hq</u> Plt Ldr Plt Sgt <u>Cycle Mech</u> <hr/>
1 1/4-ton	3 cycles	1 1/4-ton 1 cycle
<u>2 Sqds</u> Sqd Ldr Asst Sqd Ldr Observers (2) Sct Dvr (2) <hr/>	<u>2 Sqds</u> Sqd Ldr Asst Sqd Ldr Sr Observer (2) Observer (2) (4 ea 3-man teams) <hr/>	<u>2 Sqds</u> Sqd Ldr Asst Sqd Ldr Sr Observer (2) Observer (2) (4 ea 3-man teams) <hr/>
2 1/4-ton	6 cycles	12 <del>3</del> cycles
<u>Totals</u> 15 personnel 5 1/4-ton	<u>Totals</u> 15 personnel 15 cycles	<u>Totals</u> 15 personnel 1 1/4-ton 13 cycles

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TOE 7-48H (Mechanized Infantry)

<u>PRESENT</u>	<u>RECOMMENDED PROPOSAL I</u>	<u>RECOMMENDED PROPOSAL II</u>
<u>Plt Hg</u> Plt Ldr Observer Carr Dvr <hr/> 1 M114	<u>Plt Hg</u> Plt Ldr Observer Carr Dvr <hr/> 1 M114	<u>Plt Hg</u> Plt Ldr Observer Carr Dvr <hr/> 1 M114
Plt Sgt Observer Carr Dvr <hr/> 1 M113	Plt Sgt Observer Carr Dvr <hr/> 1 M113	Plt Sgt Cycle Mech Carr Dvr <hr/> 1 M113 1 cycle
<u>2 Sections</u> Sec Ldr Sqd Ldr Asst Sqd Ldr (2) Observers (4) Carr Dvr (4) <hr/> 4 M114	<u>Armd Section</u> Sec Ldr Sqd Ldr Asst Sqd Ldr (2) Observers (4) Carr Dvr (4) <hr/> 4 M114	<u>Armd Section</u> Sec Ldr Sqd Ldr Asst Sqd Ldr (2) Observers (4) Carr Dvr (4) <hr/> 4 M114
	<u>Cycle Sqd</u> Sec Ldr Cycle Mech Tm Ldr (3) Sr Observers (3) Observers (3) (3 ea 3-man teams) <hr/> 11 cycles	<u>Cycle Sec</u> Sec Ldr Sqd Ldr Asst Sqd Ldr (2) Sr Observers (4) Observers (4) (4 ea 3-man teams) <hr/> 12 cycles
<u>Totals</u> 30 personnel 1 M113 9 M114	<u>Totals</u> 29 personnel 1 M113 5 M114 11 cycles	<u>Totals</u> 30 personnel 1 M113 5 M114 13 cycles

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TOE 7-58H (Airmobile Infantry)

<u>PRESENT</u>	<u>RECOMMENDED PROPOSAL I</u>	<u>RECOMMENDED PROPOSAL II</u>
<u>Plt Hq</u> Plt Ldr Plt Sgt RTO <hr/>	<u>Plt Hq</u> Plt Ldr Plt Sgt Cycle Mech <hr/>	<u>Plt Hq</u> Plt Ldr Plt Sgt Cycle Mech <hr/>
	3 cycles	1 1/4-ton 1 cycle
<u>3 Sqds</u> Sqd Ldr Asst Sqd Ldr Sr Observers (4) Observers (4) <hr/>	<u>2 Sqds</u> Sqd Ldr Asst Sqd Ldr Sr Observers (2) Observers (2) <hr/>	<u>2 Sqds</u> Sqd Ldr Asst Sqd Ldr Sr Observers (2) Observers (2) <hr/>
	6 cycles	6 cycles
<u>Totals</u>	<u>Totals</u>	<u>Totals</u>
33 personnel :	15 personnel 15 cycles	15 personnel 13 cycles 1 1/4-ton

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TOE 7-178H (Light Infantry)

<u>PRESENT</u>	<u>RECOMMENDED PROPOSAL I</u>	<u>RECOMMENDED PROPOSAL II</u>
<u>Plt Hq</u> Plt Ldr RTO Plt Sgt RTO <hr/>	<u>Plt Hq</u> Plt Ldr Plt Sgt Cycle Mech <hr/>	<u>Plt Hq</u> Plt Ldr Plt Sgt Cycle Mech <hr/>
	3 cycles	1 cycle 1 1/4-ton
<u>3 Sqds</u> Sqd Ldr Asst Sqd Ldr Sr Observers (4) Observers (4)	<u>2 Sqds</u> Sqd Ldr Asst Sqd Ldr Sr Observers (2) Observers (2) <hr/>	<u>2 Sqds</u> Sqd Ldr Asst Sqd Ldr Sr Observers (2) Observers (2) <hr/>
	6 cycles	6 cycles
<u>Totals</u> 34 personnel	<u>Totals</u> 15 personnel 15 cycles	<u>Totals</u> 15 personnel 13 cycles 1 1/4-ton

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SUMMARY

<u>TOE</u>	<u>PERSONNEL</u>	<u>1/4-TON</u>	<u>CYCLES</u>	<u>M113</u>	<u>M114</u>
7-28H					
(Present)	27	9	--	--	--
(Recm Pro I)	27	5	13	--	--
(Recm Pro II)	25	1	22	--	--
7-38H					
(Present)	15	5	--	--	--
(Recm Pro I)	15	--	15	--	--
(Recm Pro II)	15	1	13	--	--
7-48H					
(Present)	30	--	--	1	9
(Recm Pro I)	22	1	11	1	5
(Recm Pro II)	30	--	13	1	5
7-58H					
(Present)	33	--	--	--	--
(Recm Pro I)	15	--	15	--	--
(Recm Pro II)	15	1	13	--	--
7-178H					
(Present)	34	--	--	--	--
(Recm Pro I)	15	--	15	--	--
(Recm Pro II)	15	1	13	--	--

TOTALS:

(Cost in thousands)

(Present)	139 (456K)	14 (56K)	0 (0)	1 (40K)	9 (360K)
(Recm Pro I)	101 (333K)	6 (24K)	69 (69K)	1 (40K)	5 (200K)
(Recm Pro II)	100 (330K)	4 (16K)	74 (74K)	1 (40K)	5 (200K)

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