

## DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

**REMOTE MAGNETIC HEADING SYSTEM (RMHS)  
INSTALLATION FOR:  
VESSEL DESIGN LCM-8 MOD-0  
FSN 1905-267-1097**

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**Section I. INTRODUCTION****1. Purpose.**

This bulletin provides information and instructions for installing a Remote Magnetic Heading System (RMHS) into the Landing Craft LCM-8, MOD-O.

**2. Scope.**

This bulletin applies to the 74-foot, steel, Mechanized Landing Craft, Vessel Design LCM-8, MOD-O. Hull

number ranges from LCM-8001 through LCM-8427.

**3. General.**

a. The Remote Magnetic Heading System (RMHS) includes an induction compass transmitter (Flux-Valve), located on the mast, that senses the landing craft's heading relative to magnetic north; and a heading

indicator, located in the pilot house, that indicates the landing craft's heading as determined by the induction compass transmitter.

b. Installation of the RMHS is to provide the LCM8 craft with an accurate and maintainable compass for vessel navigation. The RMHS is reliable and accurate ( $\pm 3$  degrees) under adverse weather conditions, with maximum cargo loads of ferrous material, during day or night operations.

c. Installation of the RMHS may be accomplished at the direct Support (DS level). Refer to TB 746-93-4, March 1970, "Painting of Vessels" for painting instructions.

#### 4. Special Information.

a. Preventive maintenance is the care, inspection, and servicing of the equipment to maintain it in a serviceable condition, prevent breakdowns, and assure maximum operational capability. Preventive maintenance is the responsibility of all categories of maintenance concerned with the equipment.

#### CAUTION

**Do not under any circumstances use DC equipment for testing.**

b. Maintenance of the RMHS (removal and replacement of system components) is authorized at the Direct Support Level.

c. Repair and/or overhaul of the transmitter (table 1, item 59) and the Indicator (item 60) are to be accomplished at the depot level only, on a direct exchange basis. An overhaul program for the above two items is currently being established: during the interim period, all overhaul requirements are to be processed through U.S. Army, TROSCOM, 4300 Goodfellow Boulevard, St. Louis, Mo. 63120. ATTN: AMSTS-MWE.

d. The RMHS transmitter is a magnetic compass (Flux-valve) and is sensitive to ferrous metals and long periods of non-use (excess of three months), which will cause compass error. To preclude this induced compass error, do not store the transmitter within six feet of ferrous metals (steel bins, walls, etc.), and rotate the transmitter 90 degrees every two to three months.

e. Remote Magnetic Heading System will be reflected in the next change or revision to TM 55-1905-202-12, TM 55-1905-202-34, TM 55-1905-202-20P, and TM 55-1905-202-35P.

#### 5. Reporting of Errors.

You can improve this bulletin by calling attention to errors and by recommending improvements using DA Form 2028 (Recommended Changes to Publications), or by a letter, and mail direct to Commander, U.S. Army Troop Support Command, ATTN: AMSTSMP, 4300 Goodfellow Boulevard, St. Louis, Mo. 63120. A reply will be furnished direct to you.

### Section II. INSTALLATION OF THE REMOTE MAGNETIC HEADING SYSTEM

#### 6. Tools and Equipment.

The following tools and equipment are required to perform the Remote Magnetic Heading System installation.

- a. Heli-Arc Welder
- b. Acetylene Torch
- c. Electric drill, with 3/16, 3/8, 7/8, 1-3/8, and 0.1495 (No. 25) inch diameter drill bits.
- d. Cold Chisel.
- e. File
- f. "C" Clamps, 6 and 2 inch.
- g. Center punch
- h. Power/hand Hacksaw
- i. Wire brush
- j. Tap, No. 10-24 NC.
- k. Soldering Iron
- l. Miscellaneous-Hand Tools
- m. Paint and Paint Brushes
- n. Blower, Hot Air

#### 7. Installation Kit. (FSN 6605-B73-6193, P/N 4008338-902, FMC 07187)

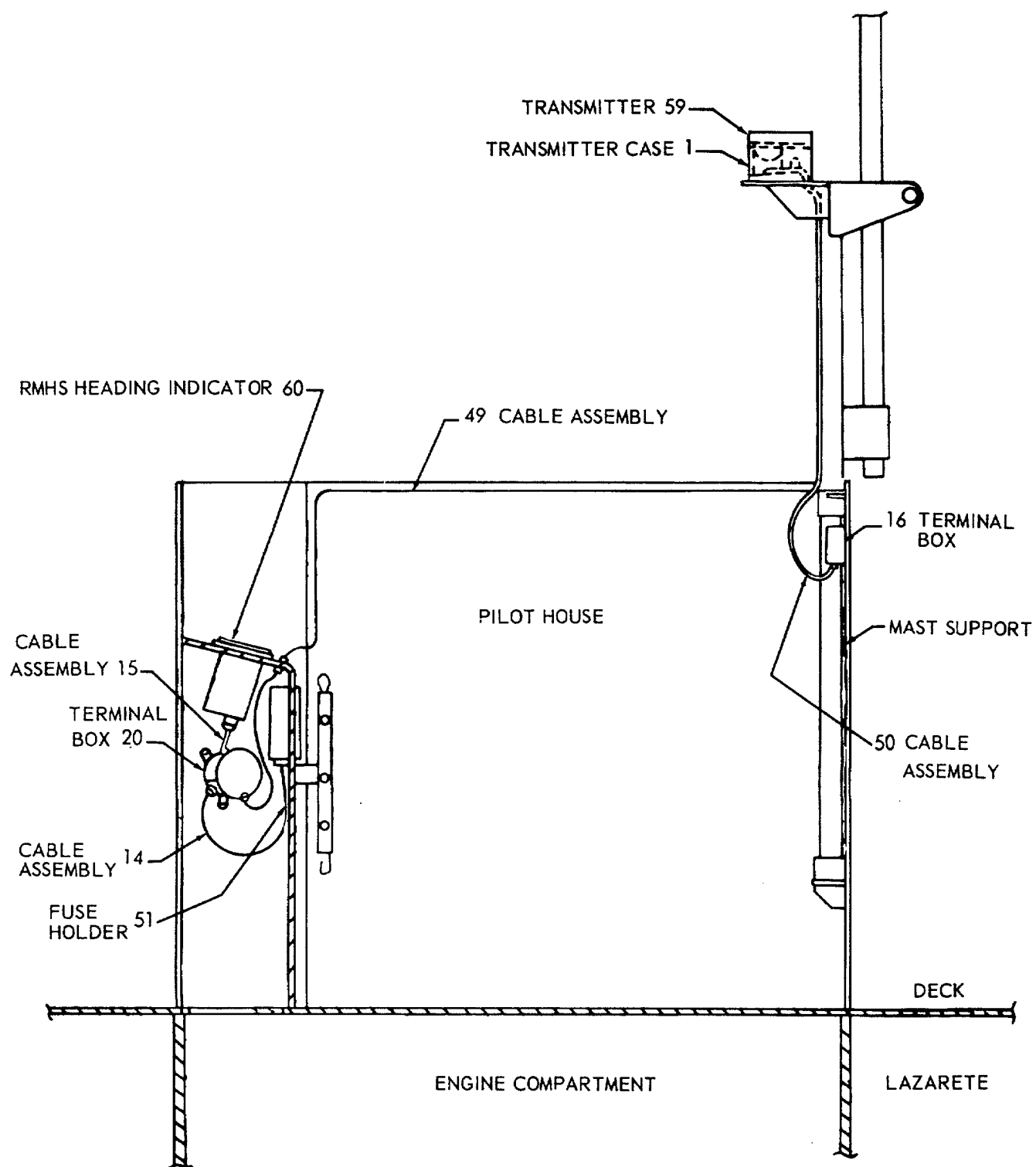
The installation kit for the Remote Magnetic Heading System consists of the components (item 1 through 60) listed in table 1 below. These components comprise all hardware required for one complete installation of the RMHS into the LCM-8 MOD-O craft. Items numbers are keyed to the installation instructions and to the figure callout labels for each component.

#### 8. Vessel Preparation (Magnesyn Compass System).

Refer to figure 1. Remove Magnesyn Compass System including all mounting hardware and all interconnecting wiring except for power wire coming from the Control and Distribution Panel. The power wire is to be re-terminated on the RMHS power Fuseholders later in the installation.

Table 1. Parts .for Installation Kits

| Item No.      | MILSTD Part No | Speery      | Federal Stock No | Description           | Qty Each |
|---------------|----------------|-------------|------------------|-----------------------|----------|
| 1             |                | 4010408     |                  | Case, Transmitter     | 1        |
| 2             |                | 4010409     |                  | Plate-Keying          | 1        |
| 3             |                | 4010410     |                  | Cover, Access         | 1        |
| 4             |                | 4013390     |                  | Instr, Instl          | 1        |
| 5             |                | 4010412     |                  | Gasket, Case          | 1        |
| 6             |                | 4010413     |                  | Bakt, Conn            | 1        |
| 7             | MS35338-137    | 0164-8      | 53109338119      | Washer, Lock          | 15       |
| 8             |                | 4013123     |                  | Clamp                 | 15       |
| 9             |                | 4013247-2   |                  | Nut, Welding          | 15       |
| 10            |                | 4010425     |                  | Plate                 | 1        |
| 11            |                | 4010426     |                  | Gast, Ind             | 1        |
| 12            |                | 4010427     |                  | Gasket                | 1        |
| 13            |                | 4010428     |                  | Cov, Ind prot         | 1        |
| 14            |                | 4013076     |                  | Cable JB to FH        | 1        |
| 15            |                | 4010445     |                  | Cable, Ind to JB      | 1        |
| 16            |                | 4010451-3   |                  | Box, Term             | 1        |
| 17            |                | 4013073     |                  | Gasket                | 1        |
| 18            |                | 2501698-4   |                  | Washer, Shldr         | 2        |
| 19            |                | 2501698-3   |                  | Washer, Shldr         | 4        |
| 20            |                | 4010451-4   |                  | Box Term              | 1        |
| 21 (Not Used) |                |             |                  |                       |          |
| 22            | M19622/1-002   | 4010456-2   | 5975-296-4093    | Stfg Tube, Size 2     | 5        |
| 23            | M19622/3-002   | 4010457-2   | 5975-808-4064    | Stfg, Tube, NPT 2     | 2        |
| 24 (Not Used) |                |             |                  |                       |          |
| 25            | M19622/17-01   | 4010511-1   | 5975-202-2586    | Packing-3251D         | 7        |
| 26            | MS3367-2-9     | 2504695-2   | 5975-156-3253    | Strap, Tiedown        | 8        |
| 27            | MS35691-15     | 0424-21     | 5310-849-6895    | Nut, 5/16-24          | 6        |
| 28            | MS20365D440A   | 0436-8      |                  | Nut, 4-40 N Mag       | 4        |
| 29            | MS20365D524A   | 0436-21     |                  | Nut, 5/16-24 N Mag    | 3        |
| 30            | MS15795-805    | 0770-7      | 5310-722-5998    | Wshr, F1 No. 6        | 12       |
| 31            | MS15795-807    | 0770-8      | 5310-880-5978    | Wshr, F1 No.9         | 12       |
| 32            | MS15795-812    | 0770-12     | 5310-625-5756    | Wshr, F1 5/16         | 10       |
| 33            | MS15795-903    | 0771-5      | 5310-045-5202    | Wshr, F1 No. 4 N Mag  | 12       |
| 34            | MS15795-905    | 0771-7      | 5310-045-5203    | Wshr, F1 No. 6 N Mag  | 4        |
| 35            | MS15795-912    | 0771-12     | 5310-045-5212    | Wshr, F1 5/6 N Mag    | 3        |
| 36            | MS35308-336    | 0918-336    | 5306-021-3915    | Scr, 5/1624 x 1.25 L  | 8.       |
| 37            | MS51957-30     | 0919-30     | 5305-054-6654    | Scr, No 632 x.50 L    | 4        |
| 38            | MS51957-35     | 0919-35     | 5305-054-6659    | Scr, No. 632 x 1.25 L | 8        |
| 39            | MS51957-48     | 0919-48     | 5305-054-6673    | Scr, No. 832 x 8.75 L | 16       |
| 40            |                | 2500188-132 |                  | Scr, 440 x .50 N Mag  | 12       |
| 41            |                | 2500188-227 |                  | Scr, 6-32 x .56N Mag  | 4        |
| 42            | MS21083-N08    | 2501590-4   | 5310-941-6019    | Nut, 8-32             | 16       |
| 43            | MS21083-N5     | 2501590-7   | 5310-660-3881    | Nut, 5/16-24          | 8        |
| 44            |                | 4013124     |                  | Coupling, Pipe        | 1        |
| 45            | MIL-F-15160/60 | 738186-5    |                  | Fuse-5A               | 2        |
| 46            |                | 2932532-12  |                  | Sleeving, HT Shrink   | 12 In    |
| 47            |                | 4013072     |                  | Plate, Index          | 1        |
| 48            |                | 4013071     |                  | Index Bracket         | 1        |
| 49            |                | 4013075     |                  | Cable, JB to JB       | 1        |
| 50            |                | 4013077     |                  | Cable, FV to JB       | 1        |
| 51            | FHN23W         | 632779      | 5920-687-1896    | Fuse, Holder          | 2        |
| 52            |                | 4013018     |                  | Plate, adaptor        | 1        |
| 53            |                | 4013129-5   |                  | Clip, Tube            | 6        |
| 54            | MS35214-62     | 2503429-327 |                  | Screw, Brass          | 12       |
| 55            | MS35338-119    | 4013125-5   | 5310-271-7454    | Washer, Lock          | 16       |
| 56            |                | 4005346-122 |                  | Screw                 | 4        |
| 57            | MS20365D428A   | 0436-019    |                  | Nut, Self Lock        | 4        |
| 58            | MS51957-42     | 0453-272    |                  | Screw                 | 15       |
| 59            |                | 2590057-901 | 6605-106-9562    | Transmitter           | 1        |
| 60            |                | 2593843-901 | 6605-106-9560    | Indicator-RMHS        | 1        |



ME 1905-202-34/1/1

Figure 1. System layout.