Chemistry: $LiSO_2$ (2.4 g Lithium per cell).

No./Size: 2 D size cells.

PHYSICAL

Operating: -20°C to +55°C.

Storage: -30°C to +70°C.

Weight: 555 g (plus 98 g for bracket).

Compass Safe Distance: MT400 - 0.1m
MT401 - 0.7m (incl mounting bracket) from magnetic navigational device when inactive.

Dimensions: 260 mm (H) x 102 mm (W) x 83 mm (D) max. when stowed in bracket.

Materials: UV stabilized plastic chassis.

Performance: IEC 61097; IEC 60945; AS/NZS 4280.1; ETSI EN 300 066.

OTHER FEATURES

Retention Lanyard: Buoyant type approximately 5.5 metres long.

Reflector: SOLAS retro-reflective tape encircling unit above waterline.

Solid-state Strobe: High reliability solid state 3 emitter design exceeds IMO requirements.

Antenna: Flexible self straightening stainless steel design.

Bracket: Quick release mechanism (manual). Retained by four (4) vessel fixing points.

*Standard factory setting. Dealer programmable via external interface.

Specifications are subject to change without notice or obligation.

GME FIVE YEAR WARRANTY

GME limit this warranty to the original Purchaser of the equipment.

GME warrant this product to be free from defects in material and workmanship for a period of 5 years from the date of purchase from the authorised Dealer.

Replacement of batteries due to expiry or usage is excluded from this Warranty.

Should the product require servicing during this period, all labour and parts used to effect repairs will be supplied free of charge. GME reserve the right to determine whether damage has been occasioned by accident, misuse or improper installation, whereby the Warranty could be void.

In the event of a defect occurring during the Warranty period, the original purchaser may return the defective unit along with suitable proof of purchase (i.e. receipt, credit card slip etc.) and a full description of the defect to the Dealer from whom the unit was purchased. The Dealer will forward the unit to an authorised GME Service Depot in your State.

All freight charges incurred for transportation by the Dealer or GME are the Purchasers' responsibility.

NATIONAL AUTHORITY DETAILS

Australia
24 hour Emergency Contact
Phone: 1 800 641 792

Registration
Beacon Registration Section, AusSAR
Australian Maritime Safety Authority
Reply Paid No 81
GPO Box 2181, Canberra ACT 2601
Fax: +61 (0)2 6230 6868
Email: aus_beacon_query@amsa.gov.au
Phone: +61 (0)2 6230 6811

New Zealand
24 hour Emergency Contact
Phone: 0508 4 72269
Fax: +64 (0)4 914 8388

Registration
Rescue Co-ordination Centre New Zealand
PO Box: 30050, Lower Hutt 6009
Fax: +64 (0)4 914 8388
Email: 406registry@msa.gov.nz
Phone: +64 (0)4 914 8383

NATIONAL DISTRIBUTOR DETAILS

Standard Communications PTY LTD.

HEAD OFFICE: Locked Bag 2086, North Ryde, N.S.W. 1670, Australia.
Tel: +61 (0) 2 9844 6666 • Fax: +61 (0) 2 9844 6600

INTERNATIONAL ENQUIRIES
International enquiries should be direccted to:
export@gme.net.au

www.gme.net.au

P/N: 310221 Dwg No: 42210-1

INSTRUCTION MANUAL

OWNER DETAILS

Name:

Address:

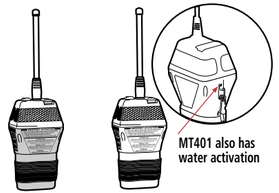
Phone:

Beacon UIN/15-HEX ID:

Congratulations on purchasing your new MT400 series EPIRB. The GME MT400 and MT401 are the most advanced 406 MHz digital satellite beacons available today. Using new digital frequency generation technology, GME have developed and approved world wide, a new family of affordable high performance 406 MHz beacons.

A CAUTIONARY NOTE: The satellite EPIRB is the most significant advance in search and rescue technology in many years. It is not a substitute for a marine radio – mariners should not be over-reliant on any single system. Wise, safe mariners plan carefully, ensure that shore contacts know their sail plan, carry a marine radio and the right range of other safety equipment and operate their craft sensibly to suit conditions at sea.

GENERAL DESCRIPTION



MT400 (orange – chassis) MT401 (yellow – chassis)

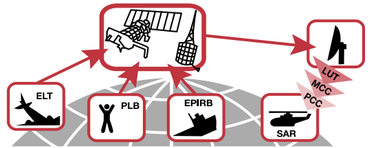
The GME MT400 and MT401 digital Emergency Position Indicating Radio Beacons (EPIRB) are designed for use when the safety of your craft and crew is endangered and you have no other means of communication. The EPIRB can save your life and the lives of others on board by leading an air/sea rescue to your precise location. In the past, extensive and lengthy searches have been carried out for missing craft, sometimes to no avail.

Your GME EPIRB is a self contained 406 MHz radio transmitter that emits an internationally-recognized distress signal on a frequency monitored by the COSPAS-SARSAT satellite system. The MT400 and MT401 contain a unique identity code which can be cross referenced to a database of registered 406 MHz beacons, allowing the beacon's owner or vessel to be immediately identified in the event of an emergency. Both models can be manually activated by the operator in an emergency situation. The MT401 will also automatically activate out of the mounting bracket if it is floated in water. Additionally each includes a ultra high performance solid state strobe and 121.5 MHz VHF homing beacon to assist in leading rescuers to your precise location.

ABOUT THE COSPAS-SARSAT SYSTEM

The COSPAS-SARSAT system is a complete global search and rescue service using geostationary and polar orbiting satellites. Many countries provide ground facilities known as Local User Terminals (LUTs).

Polar orbiting satellites provide complete, although non-continuous, coverage of the earth (due to fact that these satellites can only view a portion of the earth at any given time) and can accurately resolve an active beacons' location. Additionally, geostationary satellites can give an immediate alerting function in many regions of the world.



The basic COSPAS-SARSAT concept is illustrated in the figure above.

ABOUT 406 MHZ BEACONS

406 MHz beacons provide more accurate and reliable alert data to search and rescue agencies than the older 121.5/243 MHz systems presently being phased out. The older 121.5 MHz analogue system required that the satellite be within view of both the beacon and the LUT before it could transmit the beacons' position. This limited the coverage to an area immediately surrounding the LUT. However, the digital nature of the 406 MHz system means that the satellites are able to store the beacons' position and digital message, no matter where in the world it is received. These details are then relayed to the next LUT that comes into range, giving the 406 MHz system true global coverage.

REGISTRATION AND TRANSFER OF OWNERSHIP

Registration of your 406 MHz satellite EPIRB with the Registration Section of your National Authority is important because of the global alerting nature of the COSPAS-SARSAT system.

Owner Registration Forms for registering your beacon may be supplied within the packaging, otherwise, your National Authority will be able to provide the correct forms. Up to date forms are often available online.

The information provided in the registration is used only for search and rescue purposes. Promptly fill in the owner registration form upon completion of the sales transaction, then mail, fax or email it to your National Authority. If the beacon is to enter service immediately, complete the registration form and fax or email the information.

Should the beacon be transferred to a new owner, as the previous owner you are to inform your National Authority by email, fax, letter or telephone of the name and address of the new owner.

The new owner of the beacon is required to provide their National Authority with the information as shown on the registration form. This obligation transfers to all subsequent owners.

NOTE: Your MT400/401 has been programmed with a unique identifying code which will be transmitted by the beacon in an emergency. Registering your beacon provides the authorities with immediate access to your details when the beacon is detected. This means they will know who you are, who your emergency contacts are and what type of vessel or craft you are in. In situations of accidental activation they can also immediately eliminate your beacon as an emergency situation by contacting you when activation is detected.

PREVENTING ACCIDENTAL ACTIVATION

The signal from an EPIRB is regarded by authorities as an indication of distress and is given an appropriate response. It is the responsibility of every owner of an EPIRB to ensure that it is not activated unintentionally or in situations that do not justify its use.

Most cases of accidental transmission result from poor or inappropriate storage or failure to totally disable an old model EPIRB before disposal. The need to treat EPIRBs responsibly cannot be too highly emphasized.

The MT400/401 will not commence transmitting until approximately 60 seconds after activation, providing a safety period of audible and visual warning. If you hear the beacon beeping while it is being carried or stowed, you may still be able to deactivate it during this time period without actually transmitting a distress signal. If in doubt, report the incident to your local authorities just in case.

To minimize the possibility of accidental activation, EPIRB owners are urged to pay careful attention to the following points:

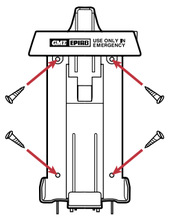
1. Always stow the EPIRB in the mounting bracket and with the switch cover closed. The mounting bracket and switch cover are designed specifically to prevent accidental activation.
2. Avoid stowing the EPIRB where it may lie in water.
3. Avoid mounting the EPIRB where it will be subjected to continuous direct sunlight. This could cause the beacon's internal temperature to exceed the maximum storage temperature of +70°C. Long term stowage under these conditions could result in reduced battery life, poor performance or degradation of the plastics due to excessive U.V. light.
4. Do not allow children to interfere with the EPIRB.

5. Educate others on board your vessel regarding the consequences of activation.

NOTE: (MT401 only): This model should always be stowed in its bracket to minimise the possibility of an accidental automatic activation in the presence of moisture. The yellow collar, provided only with this model's bracket, contains special features which temporarily inhibit automatic water activation of the EPIRB. If transporting the MT401 out of it's mounting bracket, ensure that it remains completely dry at all times.

INSTALLATION

The MT400/401 can be mounted upright or horizontally against a panel or bulkhead. When selecting a location, consider the following:



- Select a location that is readily accessible in an emergency.
- Ensure the unit is protected against the environment. Avoid locations where it will be subject to water spray or continuous sunlight.
- Mount the unit in a location where it will be safe from physical damage.
- The specifications section contains the 'Compass Safe Distance' for your particular model EPIRB. This is the minimum distance that must be maintained between an inactive stowed beacon and any magnetic navigational device.
- Confirm the selected location allows sufficient clearance to remove the beacon from the bracket when required.

Hold the mounting bracket in place (with the EPIRB removed) and mark the location of the mounting holes. Screw the bracket to the panel or bulkhead using the stainless steel screws supplied.

NOTE: The placement of the mounting holes for the mounting bracket are identical to those used on the earlier MT300 EPIRB.

Once the bracket is fixed in place, fit the MT400/401 to the bracket.

IN AN EMERGENCY

If an emergency occurs, you should first try to use your radio to summon assistance.

Distress procedures should only be used where grave and imminent danger threatens your craft and assistance is required. If contact is made, it may not be necessary to use the beacon. Notify the 'Emergency Facility' that you have a beacon and that you will turn it on upon their instructions.

Use the Beacon as a Last Resort.

If dire emergency threatens life and you have been unable to make radio contact or have lost radio contact, use the beacon. The distress signal transmitted by your beacon identifies you as a craft in distress and will initiate an air/sea search and rescue.

BRACKET RELEASE AND STOWAGE

To remove the EPIRB

WARNING: (MT401 only) DO NOT remove the MT401 from its' mounting bracket if the unit is wet, it may automatically activate. Ensure the unit is thoroughly dry before removal.

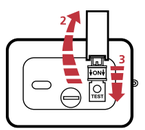
1. With one hand, press down on the tab marked **'RELEASE'** at the base of the bracket.
2. Grasp the EPIRB with the other hand and pull it outwards and downwards.
3. The antenna will release automatically and spring to the upright position.

To re-fit the EPIRB

1. Insert the EPIRB, antenna first, upwards into the bracket.
2. Press the tip of the antenna against the bottom of the three ridges in the antenna slot and slide the EPIRB upwards into the frame of the bracket so that the antenna folds over.
3. Press downwards on the **'RELEASE'** lever and push the EPIRB base firmly into the bracket until the lever clicks upwards.

MANUAL ACTIVATION (MT400 AND MT401)

1. Remove the beacon from the bracket.
2. Lift the switch cover (marked **'LIFT'**).
3. Slide the **'ON'** slider switch fully forward in the direction of the arrows. The unit will initially self test, then after two seconds the flashing strobe and beeps will indicate the beacon is operating.
4. Close the cover to secure the switch.



WATER ACTIVATION (MT401 ONLY)

1. Remove the beacon from the bracket.
2. Deploy the beacon in water if sea conditions permit. The unit will initially self test, then shortly after the flashing strobe and beeps will indicate the beacon is operating.

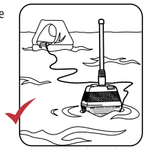
The MT401 has been designed to maintain continuity of operation even when the units sensors leave the water for periods of several seconds at a time. Uninterrupted operation is however always best guaranteed by also manually activating the EPIRB.

If the beacon is to be deployed but not in water the manual activation method must be used.

DEPLOYING THE EPIRB

Unwind the cord and secure the EPIRB to prevent loss.

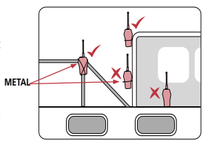
When activated, the MT400/401 will transmit the **strongest signal** to the satellites when:



- It is floating in water.
- It is well clear of surrounding and overhanging objects.
- The antenna is vertical.

In extreme sea conditions, you should not float the EPIRB free of the vessel or the life raft if there is the possibility of loss or damage to the EPIRB.

By observing the following guidelines satisfactory operation should still be achieved when operating the EPIRB out of water.



- The EPIRB signal **will not pass through metal** but will pass through fiberglass, wood or fabric with some loss when wet.
- The body of the EPIRB can be attached to metal fittings, but the antenna must be **vertical and clear of the metal**.
- If the cabin is metallic (such as steel or aluminium), the EPIRB should be mounted on a clear space outside with the antenna vertical and clear of surrounding objects.

WARNING: Switching a beacon on and off interferes with the satellites ability to determine your location. Once activated in an emergency allow the beacon to operate without interruption until your rescue.

NOTE: Normal operation of your beacon will cease once battery capacity is depleted. Special circuitry within the MT400/401 however directs any remaining capacity towards extended operation of the homing transmitter. Although the beacon may otherwise have appeared to cease functioning it is likely that a homing signal is still being emitted.

TURNING THE EPIRB OFF

It is important that you turn the EPIRB off as soon as possible **after** being rescued. If you leave the EPIRB running when it is no longer needed it may make it difficult for the satellites to detect other beacons that may be transmitting in the area.

1. Remove beacon from the water.
2. Lift the switch cover (marked 'LIFT').
3. Slide the yellow slider switch fully towards the 'OFF' (MT400) or 'READY' (MT401) position.
4. Close the cover to secure the switch.
5. To cancel Water Activation (MT401 only) dry the beacon or restow the beacon in the bracket. It may take a number of seconds for the EPIRB to de-activate.
6. Check that both the strobe light and the **'beep'** have stopped.

IN THE EVENT OF ACCIDENTAL ACTIVATION

If you suspect that an EPIRB has been activated inadvertently, you MUST turn it off and report it immediately to your National Authority's Rescue Co-ordination Centre to prevent an unnecessary search.

If at sea call your local VHF coast station, or Rescue Co-ordination centre. In international waters contact a Maritime Rescue Co-ordination Centre or Coast Radio Station (CRS) by any available means.

When reporting you should include the following:

1. Your EPIRB's 15 character Unique Identifier Number (UIN), which is marked on the unit body.
2. Date, time and duration of activation.
3. Cause of activation.
4. Location at time of activation.

Search and Rescue authorities will not penalize an EPIRB owner or operator in cases of genuine accidental activation.

BATTERIES AND MAINTENANCE

The MT400/401 is fitted with the very latest in high capacity Lithium battery technology. These batteries are able to operate within a temperature range of -20°C to +55°C.

The full operational capability of your beacon may not be available if the batteries fitted have exceeded their replacement date, as shown on the body of the unit. Prior to reaching this date, make arrangements to have your MT400/401 returned for service.

NOTE: The replacement of batteries due to expiry or usage is not covered by the product's Warranty. EPIRB maintenance operations, including battery replacement, require that the beacon be returned to a manufacturer approved service facility.

Although the MT400/401 is otherwise maintenance free, routinely following these few simple steps will help ensure that your beacon will be operationally ready if called upon:

1. Test the EPIRB at the recommended interval.
2. Confirm the SAFETY SEAL has not been broken.
3. Check that the batteries have not passed their replacement date.
4. Inspect the MT400/401 and bracket for damage or deterioration.
5. Keep the unit clean by wiping over with a damp cloth (warm water and mild detergent are suitable), then dry.
6. Verify that the unit releases correctly from the bracket and is securely retained when returned to it.

If there is any doubt as to the products' serviceability, immediately contact your authorised dealer or service centre for advice.

NOTE: Some installations may be covered by state, national or international carriage requirements. Such legislation may impose additional inspection and maintenance requirements beyond those listed above. Contact the relevant authority for further information.

SAFETY SEAL

The safety seal which covers the tab behind the **'ON'** slider is designed to tear if the unit is switched on. A safety seal that is not broken serves to indicate that the beacon has never been manually activated.

NEVER remove or break the seal unless deploying the EPIRB in an emergency.

If the beacon has been activated for any length of time, the batteries can no longer be guaranteed to have the capacity to operate for the minimum 48 hour period and therefore must be replaced.

TESTING THE EPIRB

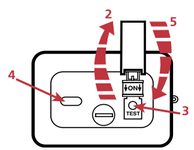
It is recommended that you test the MT400/401 at regular intervals (approximately monthly) to ensure it is fully functional. You should also test the EPIRB prior to an extended journey.

DO NOT over test – testing consumes some battery power.

WARNING: (MT401 only) DO NOT remove the MT401 from its' mounting bracket if the unit is wet, it may automatically activate. Ensure the unit is thoroughly dry before removal.

You may test the EPIRB at any time using the following procedure:

1. Remove the beacon from the bracket. Keep the antenna well clear of metalic objects during testing.
2. Lift the cover marked **'LIFT'**.
3. Briefly press then release the yellow **'TEST'** button.
4. The Strobe light will flash once and the unit will give two quick beeps to show that it is functioning.
5. Close the switch cover and press firmly into place until it clicks.
6. Return the beacon into the bracket.



If the EPIRB fails the testing process you should return it to your Dealer or nearest GME branch office for maintenance.

UNACCOMPANIED TRANSPORTATION

Your MT400/401 EPIRB contains Lithium batteries. Some transportation or courier companies may have special requirements for transporting devices containing Lithium Batteries.

If returning your MT401 to your dealer or GME branch office for repair or scheduled battery replacement, you should inform the transportation company beforehand that your beacon contains Lithium batteries.

DO NOT send your beacon through the postal system.

DISPOSAL

Special precautions must be taken when finally disposing of your beacon at the end of it's useful life. Legislation may determine the specific requirements which apply to you. In the first instance contact your National Authority for advice.

The following information may also be helpful:

- To permanently disable the beacon remove the 4 screws retaining the cover, open unit, unplug battery lead, then reseal.
- Lithium batteries are generally not considered as hazardous waste when fully discharged. Qualified personnel may be able to slowly and safely discharge the cells for you.

DO NOT short circuit the cells or battery. DO NOT incinerate.

SPECIFICATIONS - MT400 AND MT401

MODES OF OPERATION

Activated:	UHF (406) and VHF (homer) complete with high intensity strobe and audible activation alert.
Self test:	Comprehensive internal diagnostics with visual and audible operator feedback. UHF test message (inverted synchronisation compatible with portable beacon testers).

OPERATION

Activation:	MT400/401 - Manually by operator MT401 - Automatic when deployed in water.
Bracket Type:	Manual Release.
Duration:	48 hours minimum.
Transmission Delay:	121.5 and 406 MHz distress signals commence ~ 60 seconds after activation.
Warm Up:	None required (due to digital frequency generation).
VHF:	121.5 MHz, 50 mW ±3 dB, swept tone AM.
UHF:	406.028 MHz*, 5 W ± 2 dB, PSK (digital).
Strobe:	20 flashes/minute at greater than 0.75 cd effective intensity.
COSPAS-SARSAT	Certified to C/S T.001 (Class 2) requirements.
UHF-Protocol/Data:	Serial User*.
Repetition Period:	50 s mean, digitally generated randomization.
VHF:	Satellite compatible phase coherent.

BATTERY

Replacement Period:	Prior to expiry date marked on case.
Replacement Method:	Service centre, or factory only (non-user replaceable).

EPIRB Dimensions: 260 mm (h) x 102 mm (w) x 83 mm (d)

Materials: UV stabilized plastic chassis.

Performance: **IEC 61097; IEC 60945;** AS/NZS 4280.1; ETSI EN 300 066

AUTO-RELEASE HOUSING

Release: Automatically before reaching 4 metres water depth or manually by operator.

Protection: Impact resistant housing fully encloses EPIRB for environmental protection.

Mounting: On flat surface fixed at four (4) points to vessel ⚠ Refer to manual for placement.

Housing Weight: 1.1 kg (nominal).

Housing Dimensions: 385.5 mm (h) x 157.5 mm (w) x 102.5 mm (d).

Materials: Marine grade stainless steel and long life UV Polypropylene stabilised enclosure.

Routine Service: Fully user replaceable HRU at 2 year intervals as per applicable authority requirements.

OTHER FEATURES

Retention Lanyard: Buoyant type approximately 5.5 metres.

Reflector: SOLAS retro-reflective tape encircling unit above waterline.

Solid-state Strobe: High reliability solid state 3 emitter design exceeds IMO requirements.

Compass Safe Distance: 0.7 m (EPIRB in Auto-release Housing).

*Standard factory setting. Dealer programmable via external interface.

Specifications are subject to change without notice or obligation.

GME FIVE YEAR WARRANTY

GME limit this warranty to the original Purchaser of the equipment.

GME warrant this product to be free from defects in material and workmanship for a period of 5 years from the date of purchase from the authorised Dealer.

Replacement of batteries due to expiry or usage is excluded from this Warranty.

Should the product require servicing during this period, all labour and parts used to effect repairs will be supplied free of charge. GME reserve the right to determine whether damage has been occasioned by accident, misuse or improper installation, whereby the Warranty could be void.

In the event of a defect occurring during the Warranty period, the original purchaser may return the defective unit along with suitable proof of purchase (i.e. receipt, credit card slip etc.) and a full description of the defect to the Dealer from whom the unit was purchased. The Dealer will forward the unit to an authorised GME Service Depot in your State.

All freight charges incurred for transportation by the Dealer or GME are the Purchasers' responsibility.

NATIONAL AUTHORITY DETAILS

Australia
24 hour Emergency Contact
Phone: 1 800 641 792

Registration
Beacon Registration Section, AusSAR
Australian Maritime Safety Authority
GPO Box 2181, Canberra ACT 2601
Fax: +61 (0)2 6230 6811
Email: ausbeacon@amsa.gov.au
Phone: +61 (0)2 6230 6811

New Zealand
24 hour Emergency Contact
Phone: 0508 4 72269
Fax: +64 (0)4 914 8388

Registration
Rescue Coordination Centre New Zealand
PO Box: 30050, Lower Hutt 6009
Fax: +64 (0)4 914 8388
Email: 406registry@maritimenz.gov.nz
Phone: +64 (0)4 914 8383

INTERNATIONAL DISTRIBUTOR DETAILS

Standard Communications PTY LTD.

HEAD OFFICE: Locked Bag 2086, North Ryde, N.S.W. 1670, Australia.
Tel: +61 (0)2 9844 6666 • Fax: +61 (0)2 9844 6600

INTERNATIONAL ENQUIRIES
International enquiries should be directed to: export@gme.net.au

www.gme.net.au

P/N: 310337 Dwg No: 42723-2

MT401FF
AUTO RELEASE

MT401FG
AUTO RELEASE & INBUILT GPS

406 MHz Homer/Strobe

EPIRB
EMERGENCY POSITION INDICATING RADIO BEACON

INSTRUCTION MANUAL

OWNER DETAILS

Name:

Address:

Phone:

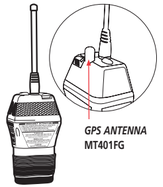
Beacon UIN/15-HEX ID:

Congratulations on purchasing your new MT400 series EPIRB. The GME MT401FF and MT401FG are the most advanced 406 MHz Digital Satellite Beacons available today. Using new digital frequency generation technology, GME have developed and approved world wide, a new family of affordable high performance 406 MHz beacons.

Although the satellite EPIRB is one of the most significant advances in search and rescue technology in many years. It is not a substitute for a marine radio – Mariners should not be over-reliant on any single system. Wise, safe Mariners plan carefully, ensure that shore contacts know their sail plan, carry a marine radio, EPIRB and the right range of other safety equipment, and operate their craft sensibly to suit conditions at sea.

GENERAL DESCRIPTION

The GME MT401FF and MT401FG Digital Emergency Position Indicating Radio Beacons (EPIRB) are designed for use when the safety of your craft and crew is endangered and you have no other means of communication. An EPIRB can save your life and the lives of others on board by leading an air/sea rescue to your precise location. In the past, extensive and lengthy searches have been carried out for missing craft, sometimes to no avail.



Your GME EPIRB is a self contained 406 MHz radio transmitter that emits an internationally-recognized distress signal on a frequency monitored by the COSPAS-SARSAT satellite system. The distress transmission contains a unique identity code which can be cross referenced to a database of registered 406 MHz Beacons, allowing the Beacon's owner or vessel to be immediately identified in the event of an emergency. Both models can be manually activated by the operator in an emergency situation. Each will also automatically activate out of it's housing, if floated in water. The special auto-release housing provided with your MT401FF/FG not only provides day to day protection from the environment, but will automatically deploy the beacon when a predetermined water depth is reached. This combination of automatic deployment and activation may prove to be invaluable in an emergency, where it might otherwise not have been possible to reach and manually remove, then activate, the EPIRB.

Each of these models additionally includes a 121.5 MHz VHF Homing Transmitter and the latest in ultra high performance Solid State Strobe technology, all to assist in guiding rescuers to your precise location.

Furthermore, unique to the MT401FG, is an inbuilt GPS Receiver System. Typically within minutes of activation the MT401FG is able to relay its precise location through the search and rescue satellite system providing nearly instantaneous alert and location information to the Authorities.

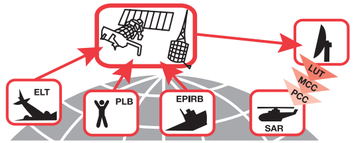
ABOUT THE COSPAS-SARSAT SYSTEM

The COSPAS-SARSAT (C/S) system is a complete global search and rescue service using geostationary and polar orbiting satellites. Many countries provide ground facilities known as Local User Terminals (LUT's).

From their fixed relative position in space C/S geostationary satellites provide a continuous watch over many regions of the world. They are useful in providing an immediate alerting capability, and where an active 406 MHz beacon is also GPS equipped, location information as well to the Authorities.

Each satellite within the constellation of C/S polar orbiting satellites views a smaller area of the earths surface at any instant, but due to their relative movement will achieve complete global coverage over time. These polar orbiting satellites provide both alerting and location information for all types of active 406 MHz beacons to the Authorities.

The satellite detection of less capable 121.5/243 MHz (only) type beacons is limited, and will be phased out completely over the coming years.



REGISTRATION AND TRANSFER OF OWNERSHIP

Registration of your 406 MHz satellite EPIRB with the Registration Section of your National Authority is important because of the global alerting nature of the COSPAS-SARSAT system.

Owner Registration Forms for registering your beacon may be supplied within the packaging, otherwise, your National Authority will be able to provide the correct forms. Up to date forms are often available online.

The information provided in the registration is used only for search and rescue purposes. Promptly fill in the owner registration form upon completion of the sales transaction, then mail, fax or email it to your National Authority. If the beacon is to enter service immediately, complete the registration form and fax or email the information.

Should the beacon be transferred to a new owner, as the previous Owner you are to inform your National Authority by email, fax, letter or telephone of the name and address of the new Owner.

The new Owner of the beacon is required to provide their National Authority with the information as shown on the registration form. This obligation transfers to all subsequent owners.

NOTE: Your MT401FF/FG has been programmed with a unique identifying code which will be transmitted by the beacon in an emergency. Registering your beacon provides the authorities with immediate access to your details when the beacon is detected. This means they will know who you are, who your emergency contacts are and what type of vessel or craft you are in. In situations of accidental activation they can also immediately eliminate your beacon as an emergency situation by contacting you when activation is detected.

PREVENTING ACCIDENTAL ACTIVATION

The signal from an EPIRB is regarded by authorities as an indication of distress and is given an appropriate response. It is the responsibility of every owner of an EPIRB to ensure that it is not activated unintentionally or in situations that do not justify its use.

The MT401FF/FG will not commence transmitting until approximately 60 seconds after activation, providing a safety period of audible and visual warning. If you hear the beacon beeping while it is being carried or stowed, you may still be able to deactivate it during this time period without actually transmitting a distress signal. If in doubt, report the incident to your local authorities just in case.

To minimize the possibility of accidental activation, EPIRB owners are urged to pay careful attention to the following points:

1. Always stow the EPIRB with the switch cover closed and within the Auto-release housing. The housing and switch cover are designed specifically to prevent accidental activation.
2. Avoid stowing the EPIRB where it may lie in water.
3. Do not allow children to interfere with the EPIRB and/or housing.
5. Educate others on board your vessel regarding the consequences of activation.
6. When it comes time to finally discard the beacon follow the **DISPOSAL** instructions.

NOTE: The Auto-release Housing temporarily inhibits the EPIRB water activation operation – always store the beacon within the housing.

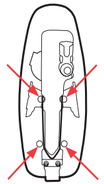
INSTALLATION

The MT401FF/FG can be mounted upright against, or horizontally over, a flat panel or bulkhead. When selecting a location it is vitally important to consider the following:

- Ready access in an emergency and protection from inadvertent damage.
- In the case of an emergency auto-release, the EPIRB must be able to surface freely without becoming trapped by the sinking vessel or entangled with associated external structures. Locate the housing externally to the vessel in a clear open space; and remember that the craft may list or roll during submersion.
- It is recommended to select a location high on the vessel. This will ensure auto-release operation in the event the vessel capsizes without sinking.

- The specified COMPASS SAFE DISTANCE is the minimum allowable separation between the EPIRB/housing and any magnetic navigational device.

To install the Auto-release housing:



1. With the cover and EPIRB removed, hold the housing base in place and mark the positions of the four (4) location points.
2. Using fasteners appropriate for the selected surface (not supplied), securely retain the housing base.
3. Now replace the EPIRB then outer cover, verifying at this time that the cover can be freely removed and replaced (Refer to the 'MANUAL RELEASE AND STOWAGE' instructions).
4. Using a sharp implement mark (x) the Hydrostatic Release Replacement Date label on the front cover with the replacement month and year. This is to be two years from the date of installation.

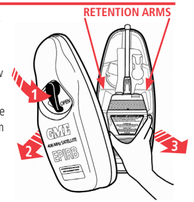
IN AN EMERGENCY

In an emergency you should first try to use your radio to summon assistance. Distress procedures should only be used where grave and imminent danger threatens your craft and assistance is required. Notify the 'Emergency Facility' that you have a beacon and that you will turn it on upon their instruction.

If dire emergency threatens life and you have been unable to make radio contact or have lost radio contact, use the beacon. The distress signal transmitted by your beacon identifies you as a craft in distress and will initiate an air/sea search and rescue. **Use the Beacon as a last resort.**

MANUAL RELEASE AND STOWAGE

To remove the EPIRB from the Auto-release housing:



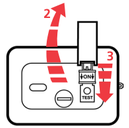
1. Hold the outer cover while using your free hand to rotate the yellow lever anti-clockwise ① as shown.
2. Without releasing the lever, remove the cover ② completely away from the fixed part of the housing that holds the beacon.
3. Now firmly grasp the beacon and withdraw it from the housing. ③

WARNING: DO NOT remove the beacon from its' mounting bracket if wet, it may automatically activate. Ensure the unit is thoroughly dry before removal.

To refit the EPIRB:

1. Orientate the beacon such that the side displaying the 'EMERGENCY ACTIVATION' instructions faces outwards. This is necessary for the EPIRB to engage with the base of the Auto-release housing.
2. Insert the head of the beacon between the two retention arms ensuring that the base of the beacon also engages into the housing supports.
3. Now commence replacement of the outer cover firstly engaging it at the base over the metal retention tongue.
4. Apply firm pressure above the yellow lever to press the cover home. If necessary, partially and momentarily, rotate the yellow lever anti-clockwise whilst applying pressure to ensure full and proper engagement of the cover.
5. Finally, verify that the outer cover is securely retained.

MANUAL ACTIVATION



1. Remove the beacon from the bracket.
2. Lift the switch cover (marked 'LIFT') to open. ②
3. Slide the 'ON' slider switch fully forward in the direction of the arrows. ③ The unit will initially self test, after two seconds the flashing strobe and beeps will indicate the beacon is operating.
4. Close the cover to secure the switch.

WATER ACTIVATION

1. Remove the beacon from the bracket.
2. Deploy the beacon in water if sea conditions permit. The unit will initially self test, then shortly after the flashing strobe and beeps will indicate the beacon is operating.

The EPIRB has been designed to maintain continuity of operation even when the units sensors leave the water for periods of several seconds at a time. Uninterrupted operation is however always best guaranteed by also manually activating the EPIRB.

If the beacon is to be deployed but not in water the manual activation method must be used.

MANUAL DEPLOYMENT

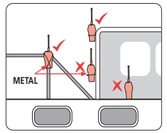
Unwind the cord and secure the EPIRB to prevent loss.

When activated, the beacon will transmit the strongest signal to the satellites when:

- Floating in water.
- Well clear of surrounding and overhanging objects.
- The antenna is vertical.

In extreme sea conditions, you should NOT float the EPIRB free of the vessel or the life raft if there is the possibility of loss or damage to the EPIRB.

By observing the following guidelines satisfactory operation should be achieved when operating the EPIRB out of water.



- The EPIRB signal **will not pass through metal** but will pass through fiberglass, wood or fabric with some loss when wet.
- The body of the EPIRB can be attached to metal fittings, but the antenna must be vertical and clear of the metal.
- If the cabin is metallic (such as steel or aluminium), the EPIRB should be mounted on a clear space outside with the antenna vertical and clear of surrounding objects.

WARNING: Switching a beacon on and off interferes with the satellites ability to determine your location. Once activated in an emergency allow the beacon to operate without interruption until your rescue.

Normal operation of your beacon will cease once battery capacity is diminished. Special circuitry within the MT401FF/FG however directs any remaining capacity towards extended operation of the homing transmitter. Although the beacon may otherwise have appeared to cease functioning, a homing signal will still be emitted for some considerable time.

TURNING THE EPIRB OFF

It is important that you turn the EPIRB off as soon as possible after being rescued. If you leave the EPIRB running when it is no longer needed it may make it more difficult to locate other beacons also transmitting in the area.

1. Remove beacon from the water.
2. Lift the switch cover (marked '**LIFT**').
3. Slide the yellow slider switch fully towards the '**READY**' position.
4. Close the cover to secure the switch.
5. To cancel Water Activation dry the beacon or re-stow the beacon in the bracket. It may take a number of seconds for the EPIRB to de-activate.
6. Check that both the strobe light and the 'beep' have stopped.

IN THE EVENT OF ACCIDENTAL ACTIVATION

If you suspect that an EPIRB has been activated inadvertently, you MUST turn it off and report it immediately to your National Authority's Rescue Coordination Centre to prevent an unnecessary search. If at sea call your local VHF coast station, or Rescue Coordination centre. In international waters contact a Maritime Rescue Coordination Centre or Coast Radio Station (CRS) by any available means.

When reporting you should include the following:

1. Your EPIRB's 15 character Unique Identifier Number (UIN), which is marked on the unit body.
2. Date, time and duration of activation.
3. Cause of activation.
4. Location at time of activation.

Search and Rescue authorities will not penalize an EPIRB owner or operator in cases of genuine accidental activation.

BATTERIES AND MAINTENANCE

The MT401FF/FG is fitted with the very latest in high capacity Lithium battery technology. These batteries are able to operate within a temperature range of -20°C to +55°C.

The full operational capability of your beacon may not be available if the batteries fitted have exceeded their replacement date, as shown on the body of the unit. Prior to reaching this date, make arrangements to have your MT401FF/FG returned for service.

NOTE: The replacement of batteries due to expiry or usage is not covered by the product's Warranty. EPIRB maintenance operations, including battery replacement, require that the beacon be returned to a manufacturer approved service facility.

To ensure reliable operation the Hydrostatic Release Unit (HRU) mechanism within the Auto-release Housing must be replaced within two years of being first placed into service. The replacement date is prominently shown on the front of the housing.

HRU replacement does not require any particular skills or training, and can be completed in situ by the owner in under 5 minutes, simply by following the instructions included within the Float Free Housing Refurbishment Kit available from your Retailer.

Routinely following these few simple steps will help ensure that your beacon will be operationally ready if called upon:

1. Test the EPIRB at the recommended interval.
2. Confirm the SAFETY SEAL has not been broken.
3. Check that the batteries have not passed their replacement date.
4. Inspect the EPIRB and bracket for damage or deterioration.
5. Keep the unit clean by wiping over with a damp cloth (warm water and mild detergent are suitable), then dry.
6. Verify that the unit manually releases correctly from the auto-release housing, and is securely retained when returned to it.

If there is any doubt as to the products' serviceability, immediately contact your authorised Dealer or service centre for advice.

Some installations may be covered by state, national or international carriage requirements. Such legislation may impose additional inspection and maintenance requirements beyond those listed above. Contact the relevant authority for further information.

SAFETY SEAL

The safety seal which covers the tab behind the '**ON**' slider is designed to tear if the unit is switched on. A safety seal that is not broken serves to indicate that the beacon has never been manually activated.

NEVER remove or break the seal unless deploying the EPIRB in an emergency.

If the beacon has been activated for any length of time, the batteries can no longer be guaranteed to have the capacity to operate for the minimum 48 hour period and therefore must be replaced.

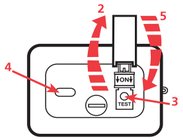
TESTING THE EPIRB

It is recommended that you test the MT401FF/FG at regular intervals (approximately monthly) to ensure it is fully functional. You should also test the EPIRB prior to an extended journey.

DO NOT over test – testing consumes some battery power.

WARNING: DO NOT remove the EPIRB from its' mounting bracket if wet, it may automatically activate. Ensure the unit is thoroughly dry before removal.

You may test the EPIRB at any time using the following procedure:



1. Remove the beacon from the bracket. Keep the antenna well clear of metallic objects during testing.
2. Lift the cover marked '**LIFT**'. ②
3. Briefly press then release the yellow '**TEST**' button. ③
4. The Strobe light will flash once and the unit will give two quick beeps to show that it is functioning. ④
5. Close the switch cover and press firmly into place until it clicks. ⑤
6. Return the beacon into the bracket.

If the EPIRB fails the testing process you should return it to your Dealer or nearest GME branch office for maintenance.

UNACCOMPANIED TRANSPORTATION

Your MT401FF/FG EPIRB contains Lithium batteries. Some transportation or courier companies may have special requirements for transporting devices containing Lithium Batteries.

It is recommended that the original packaging be retained for reuse when returning your EPIRB.

If returning your MT401FF/FG to your Dealer or GME Branch Office for repair or scheduled battery replacement, you should inform the transportation company beforehand that it contains Lithium batteries.

DO NOT send your beacon through the postal system.

DISPOSAL

Special precautions must be taken when finally disposing of your beacon at the end of it's useful life. Legislation may determine the specific requirements which apply to you. In the first instance contact your National Authority for advice.

The following information may also be helpful:

- To permanently disable the beacon remove the 4 screws retaining the cover, open unit, unplug battery lead, then reseal.
- Lithium batteries are generally not considered as hazardous waste when fully discharged. Qualified personnel may be able to slowly and safely discharge the cells for you.

DO NOT short circuit the cells or battery. DO NOT incinerate.

SPECIFICATIONS - MT401FF AND MT401FG

MODES OF OPERATION

Activated:	UHF (406) and VHF (homer) complete with high intensity strobe and audible activation alert.
Self test:	Comprehensive internal diagnostics with visual and audible operator feedback. UHF test message (inverted synchronisation compatible with portable beacon testers).
	Full carrier unmodulated VHF test burst

OPERATION

Compliance:	GMDSS Compatible and meets the latest IMO A810-19 requirements
Activation:	Auto or Manual
Duration:	48 hours minimum
Transmission:	121.5 MHz and 406 MHz
Delay:	Signals commence ~ 60 seconds after activation
Warm Up:	None required (due to digital frequency generation)
VHF:	121.5 MHz, 50 mW ±3 dB, swept tone AM
UHF:	406.028 MHz, 5 W ± 2 dB, PSK (digital)
Strobe:	20 flashes/minute at greater than 0.75 cd effective intensity
UHF-Protocol/Data:	Serial Number*, Radio Call Sign, and MMSI
Repetition Period:	50 s mean, digitally generated randomization
VHF:	Satellite compatible phase coherent

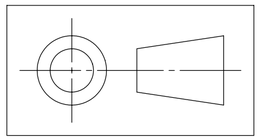
BATTERY

Replacement Period:	Prior to expiry date marked on EPIRB case.
Replacement Method:	Authorised Service Centre
Chemistry:	LiSO2 (2.4 g Lithium per cell)
No./Size:	2 D size cells

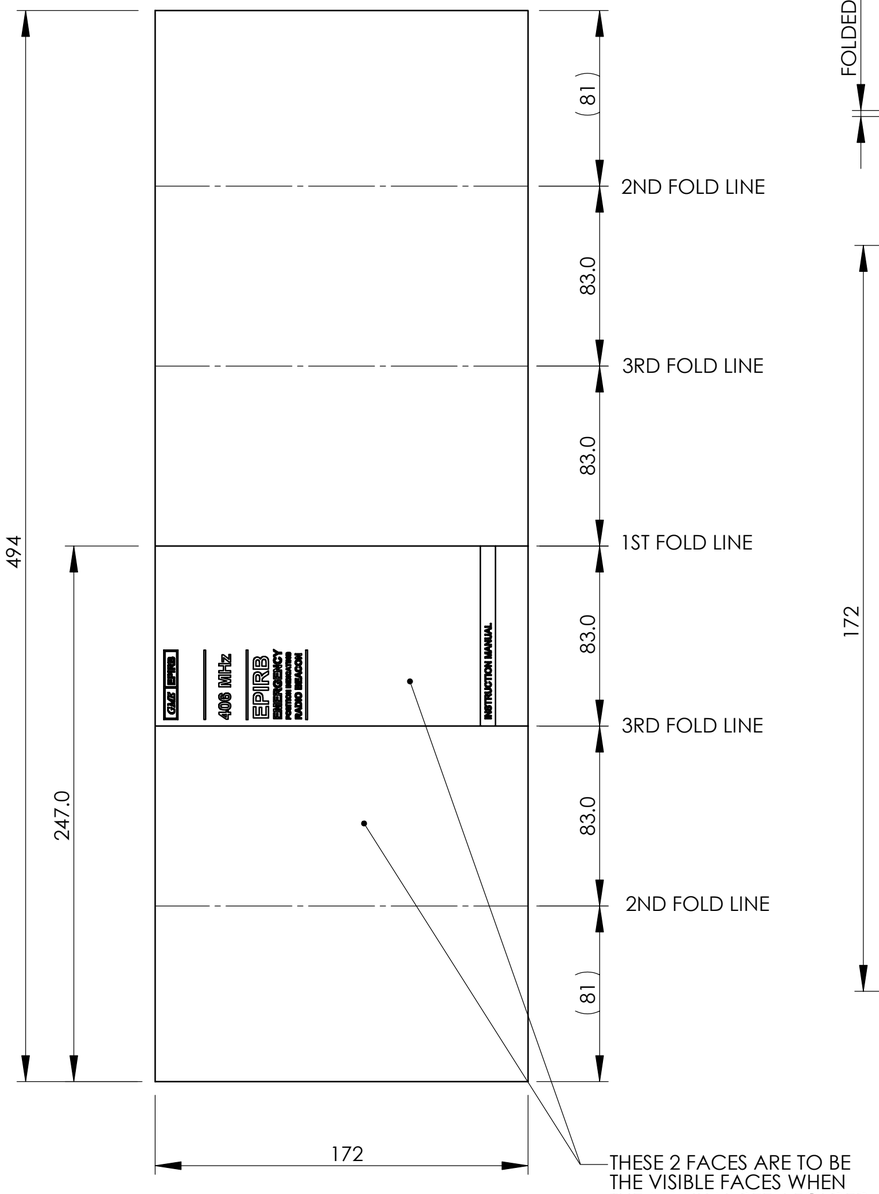
PHYSICAL

Operating:	-20 °C to +55 °C.
Storage:	-30 °C to +70 °C.
EPIRB Weight:	555 g (nominal)
Antenna:	Flexible self straightening stainless steel design

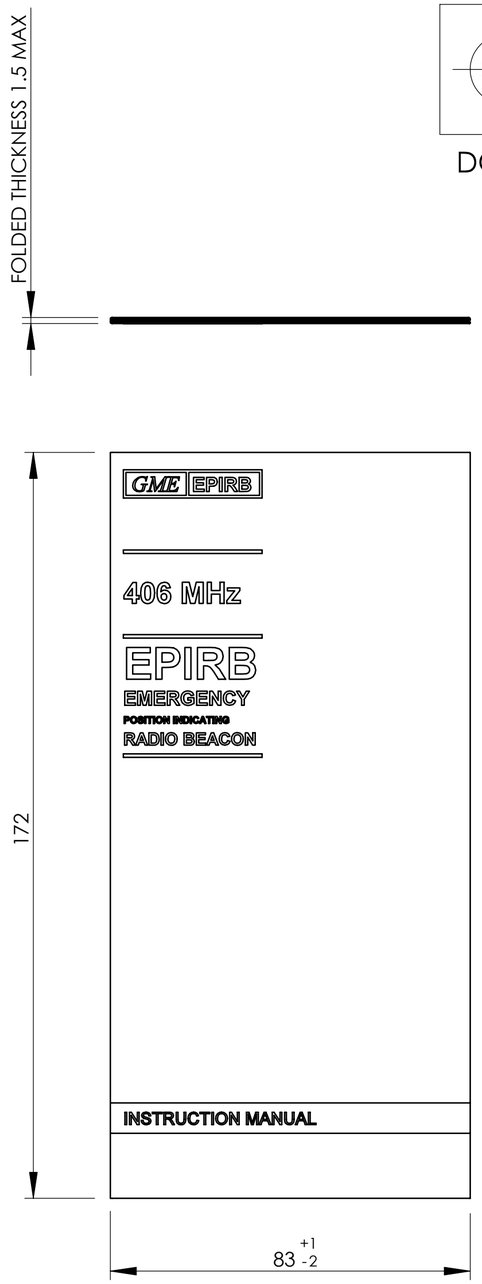
REV	ECO No	DETAILS	BY	DATE
A	-----	ORIGINAL ISSUE	C.M.	30/11/04
1	4470	RAISED TO NUMERIC ISSUE	C.M.	27/01/05
2	4608	P/N 310337 ADDED	C.M.	19/07/05



DO NOT SCALE



FLAT FORM SIZE & FOLD
LINES OF MANUAL
SCALE 1:2



FINISHED FOLDED SIZE
OF MANUAL

PART No	DESCRIPTION	ARTWORK
310221	INSTRUCTION MANUAL MT400/MT401 (ENGLISH)	42210
310337	INSTRUCTION MANUAL MT401FF/MT401FG (ENGLISH)	42723

NOTES

1. MATERIAL: 115 GSM GLOSS ART PAPER
2. PRINTING DETAIL: DOUBLE SIDED 2 COLOUR LITHOGRAPHIC PRINT WITH A GLOSS AQUEOUS VARNISH PER ARTWORK REFERENCED IN ABOVE TABLE. INK COLOURS - RED (PANTONE 185) AND BLACK.
3. FOLDING DETAIL: FOLD IN HALF WITH THE TITLE PANEL ON THE OUTSIDE, THEN FOLLOW WITH THE 2ND THEN 3RD FOLDS FINISHING WITH THE TITLE PANEL SHOWING - SEE VIEW SHOWING FINISHED FOLDED SIZES.

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DRAWING TO AUSTRALIAN STANDARD AS1100

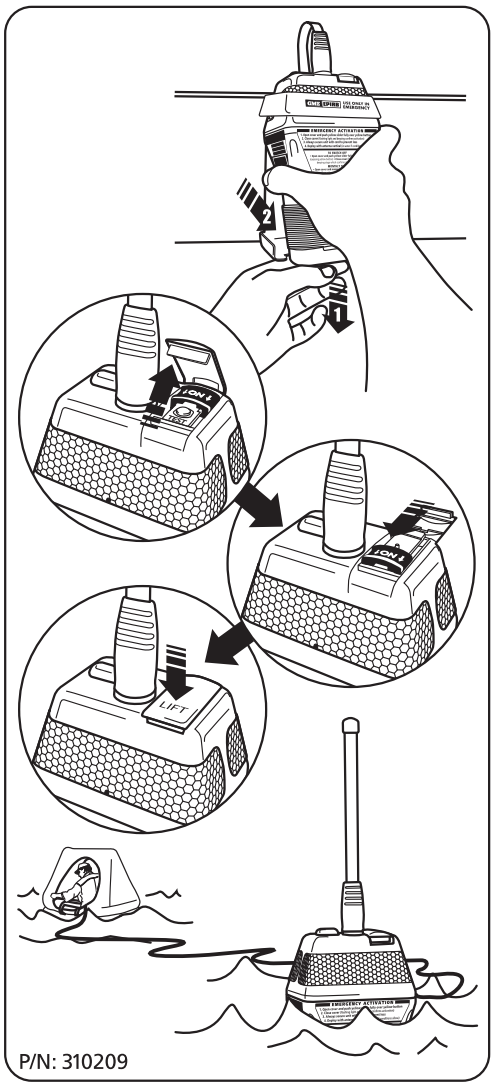
UNLESS OTHERWISE STATED
ALL DIMENSIONS ARE IN MILLIMETRES
LINEAR TOLERANCE:- WHOLE NUMBERS +/- 1.0
DECIMAL NUMBERS +/- 0.5
ANGULAR TOLERANCE:- IN DEGREES +/- 1°
TOLERANCES TO BE NON-CUMULATIVE
MATERIAL SPEC CONTROLS STOCK TOLERANCE
LIMITS APPLY AFTER PLATING AND BEFORE PAINTING

DRAWN BY C.MADDOX 30/11/04
CHECKED BY C.DUNCAN 27/01/05
APPROVED BY C.DUNCAN 27/01/05
CONTRACTOR
CONTRACTOR PART NO

STANDARD COMMUNICATIONS PTY LTD
6 Frank St Gladesville NSW Australia 2111 ACN: 000 346 814

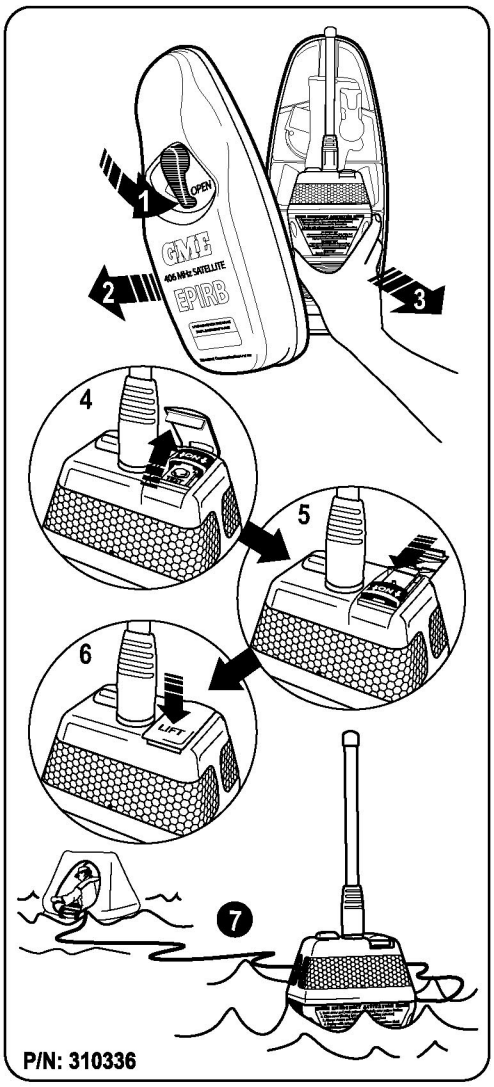
TITLE
INSTRUCTION MANUAL
MT400 SERIES EPIRB'S

PART NO	SCALE	DRAWING NO	
SEE TABLE	1:1	42383-2	A2
NEXT ASSY:	SHEET 1 OF 1	FILE: 42383-2	



SCALE 1:1

Standard Communications PTY. LTD. **Locked Bag 2086, NORTH RYDE 1670**			
DESCRIPTION MT400 Plaque			
Drawn By. CM	Do NOT scale print	Third Angle	
Date. 141103	Part No. 310209	Units.	Sheet of. 1/1
	Drawing No. 41974	Size	Scale 1:1
App.	Development No. 1	Drawing No. 41974	Issue No. - 1
Disk File: RIP	File Name: 41974-1 MT400 Plaque.eps		



SCALE 1:1

Standard Communications PTY. LTD. **Locked Bag 2086, NORTH RYDE 1670**			
DESCRIPTION Instruction Placard - MT401FF			
Drawn By. AP	Do NOT scale print	Third Angle	
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	Drawing No. 42719	Size	Scale 1:1
App.	Development No.	Drawing No. 42719 -	Issue No. 1

Disk File: EPS/PDF | File Name: 42719-1 MT401 Plaque.eps