SURF LIFE SAVING WESTERN AUSTRALIA

Circular

Title:	**Installation and Recording of IRB Engine Throttle Recoil Mechanism**
Date:	8 November 2023
Document ID:	**35, 2023/2024**
Department:	Lifesaving
From:	Domenic Cowdell - Lifesaving and Education Officer Ph: 08 9207 6666 (SLSWA Office Hours Monday to Friday, 8.30am to 5pm) dcowdell@slswa.com.au
Audience:	Directors of Lifesaving, Power Craft/IRB Officers
Summary:	A 'How To' guide for the fitting of IRB engine recoil mechanism and how to record the information on Surfguard.
Action:	All Inflatable Recue Boat (IRB) engines used by Surf Lifesaving Clubs must have the recoil mechanism installed by 31st December 2023. It is highly recommended that this is documented in Surfguard.
Attachments:	• IRB Motor Safety – Throttle Recoil Mechanism, Throttle Tension Toggle and Standardised Kill Switch • Surfguard Recording of Throttle Recoil Fitted Guide

All Inflatable Recue Boat (IRB) engines used by Surf Lifesaving Clubs must have the throttle recoil mechanism installed by 31st December 2023. Please see attached document: *IRB Motor Safety – Throttle Recoil Mechanism, Throttle Tension Toggle and Standardised Kill Switch*.

If any club has not received their recoil mechanism (spring and bracket) or received enough units, please contact equipment@slsa.asn.au

Members may install the mechanism themselves, or have it installed by an authorised service dealer. If a dealer refuses to install the mechanism, please contact equipment@slsa.asn.au informing them of which dealer so that the issue can be rectified by the manufacturer.

SLSA recommend that, once fitted, this information is recorded in Surfguard (see attachment: *Surfguard Recording of Throttle Recoil Fitted Guide)* or through the SLSA Operations App. For more information on how to gain access and use the Operations App feature see: https://www.manula.com/manuals/slsa/slsa-operations-app-user-guide/1/en/topic/8-1-gear-inspections

If you have any questions or need the 'Gear and Equipment Auditor (Club Endorsed)' award, please contact Domenic Cowdell on 08 9207 6666 or email dcowdell@slswa.com.au.

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Chief Executive Officer

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Surf Life Saving Australia - Circular

Title:	IRB Motor Safety – Throttle Recoil Mechanism, Throttle Tension Toggle and Standardised Kill Switch
Document ID:	Circular 15 / 23-24
Audience:	States/Territory Centres, Branches & Clubs Club Lifesaving Officers IRB Personnel
From:	Coastal Safety Team
Date:	25 August, 2023
Summary:	Notification to all clubs, lifesaving services and IRB operators of changes to the Technical Specifications for IRB Motors – mandating the inclusion of a 'throttle recoil mechanism', removal of throttle tensioning mechanisms, and standardisation of the kill switch component.

BACKGROUND

Surf Life Saving Australia (SLSA) remains committed to the continuous improvement of safety for our members, in 2022 'Circular 49/21-22 – SAFETY ALERT: IRB Throttle Recoil' was issued to all clubs, services and IRB operators. Since this time the National Powercraft Advisory Group under the direction of the National Lifesaving Member Advisory Committee (LMAC) have undertaken an IRB motor safety review. Throughout the review process it was found that not all SLS IRB motor throttles recoiled to low idle when no pressure was being applied by operators, due to the operating environment (dirt, grit, salt, sand, etc.) or poor maintenance. Some of these contributing factors were addressed in Circular 49/21-22. After further investigation and to reduce risk, a trial of a throttle recoil mechanism during the 2022/23 season was endorsed by the LMAC and supported by the SLSA Board.

Throttle Recoil Mechanism

A trial of varying throttle recoil mechanisms was conducted across multiple states to ensure sufficient feedback was provided by operators in differing operating environments and with differing levels of experience. The throttle recoil mechanism was based on an existing mechanism developed by Surf Life Saving New Zealand (SLSNZ), with adaptions made to the mechanism based on feedback of previous trials. This feedback was incorporated into the design of the mechanism trialled in 2022/23 The most recent trails found that there was appropriate balance achieved between recoil tension and operators being able to continue to operate for an extended period of time with minimal forearm fatigue.

SLSA will be implementing the mechanism for the 2023/24 season. It understands the financial implications of this decision and will support the implementation process by funding the supply of throttle recoil mechanisms to clubs.

Throttle Tension Toggle Mechanisms

In recent years, *Tohatsu* and *Mercury* introduced a throttle tension toggle in the throttle arm design as a feature to enable recreational boat users to tension the throttle control to allow for activities such as cruising and trolling. This has emerged as a potential point of risk due to the build-up of matter leading to the stiffening of the throttle arm and recoil without frequent maintenance or a risk of IRB operators inadvertently tightening the toggle and increasing the tension on the throttle.

The throttle tension toggle has therefore been identified as a potential causal factor for throttle recoil not being effective and given it does not serve any functional purposes of benefit to SLS operations, it has been determined that they will be removed from motors used in surf lifesaving.

Standardised Hybrid Kill Switch with Lanyard

As surf lifesaving operate across regions and borders, resource sharing is common during natural disasters and community or sport events; it is important to ensure consistency for our operators. Historically, the factory standard stop buttons with lanyards have typically been removed at pre-delivery stage and replaced with one of two toggle switches which allowed for a simple "on/off" function to electronically kill the IRB motor. Note, the standard factory stop buttons require a lanyard fitting to be inserted correctly for a motor to be started so that the lanyard can be used to kill the motor.

It has been determined that the standardisation of the kill switch component will ensure consistency for operators particularly for training and in emergency situations. As such, SLSA has worked with the approved IRB motor manufacturers to implement a standardised hybrid kill switch with an on/off shroud that allows a lanyard option to be utilised if deemed appropriate. The implementation of this component will continue SLSA's commitment to demonstrating 'best practice', ensure ongoing compliance with regulatory authorities, and assist in the development of risk frameworks for potential future lanyard use under certain circumstances. Note, these switches do not require the lanyard fitting to be inserted for the kill switch to function normally.

The use of a lanyard is not mandatory in lifesaving operations, and this is not changing at this time. However, **please do not discard any of the parts** of the hybrid kill switch provided.

Unlike the previous two components listed in this Circular (the throttle recoil and throttle tension toggle mechanisms), this switch will not be a requirement to retrofit or removal. This component will be phased in through natural attrition but are available for purchase via manufacturers. IRB motor manufacturers will install these switches moving forward as a part of pre-delivery as a standard component. Only authorised IRB motor suppliers are approved to supply these components (*Appendix 3*) as replacement parts.

DECISION

1. All SLSA affiliated clubs and services must have an approved IRB throttle recoil mechanism correctly fitted to all operational IRB motors from 1 January 2024.
2. SLSA is to supply one IRB motor throttle recoil mechanism per IRB motor for each club/service* (i.e., if your club has 3 operational IRB motors, your club will be supplied with 3 IRB motor throttle recoil mechanisms).
   **Determined by gear and equipment data recorded in Surfguard.*
3. 'Technical Specification - Inflatable Rescue Boat (SLSA IRB-2015) V2.0', Section 3 – Outboard Motors, sub-section 3.4 – Addition of components, to be updated to include the throttle recoil mechanism in due course but shall be taken as modified in conjunction with this circular.
4. All Throttle tension toggle mechanisms to be removed from IRB motors by 1 January 2024.
5. IRB motor manufacturers to remove throttle tension toggle mechanisms from motors sold for SLS operation at pre-delivery stage moving forward.
6. The approved hybrid kill switch to be phased in through natural attrition – newly purchased IRB motors and replacement parts.
7. Lanyards to remain optional for surf lifesaving operations.

TIMEFRAMES

Throttle Recoil Mechanism – Installation

- Mandatory installation of the throttle recoil mechanism on all operational IRB motors will take effect from **1 January 2024**, this includes the retrofit to all operational IRB motors clubs/services currently have on hand.
- SLSA is working with suppliers to ensure that mechanisms are delivered to each club to allow sufficient time to install the device.
- SLSA will continue to supply clubs/services with a throttle recoil mechanism for each new IRB motor throughout the 2023/24 season, including any IRB motor currently on order and not yet delivered.

Throttle Tension Toggle Mechanism – Removal

- Throttle tension toggles must be removed from all operational IRB motors by **1 January 2024**.
- IRB motor manufacturers have commenced removing throttle tension toggles for all IRB motors purchased by SLS services.

Standardised Hybrid Kill Switch – Implementation

- The standardised hybrid kill switch implementation has commenced and will continue by attrition.
- IRB motor manufacturers and approved IRB accessory suppliers will fit the component pre-delivery for new motors, and only stock and supply this component as a replacement accessory.
- When replacing existing motor on/off switch components clubs must only purchase an approved hybrid kill switch as a replacement from the date of this Circular.

INSTRUCTIONS

Please see *Appendix 1* for instructions on installation of the throttle recoil mechanism.

It is **recommended** that throttle tension toggles are removed by an authorised marine dealer/mechanic. Please see *Appendix 2* for instructions for removal of the throttle tension toggles.

FURTHER INFORMATION

Should further information be required please contact the Coastal Safety Team at: equipment@slsa.asn.au

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Level 1, 1 Notts Ave
PO BOX 7773
BONDI BEACH NSW 2026
Phone: (02) 9215 8000

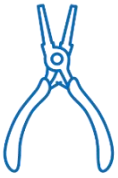
APPENDICES

Appendix 1: Installation Guide – Throttle Recoil Mechanism,
Appendix 2: Removal Guide – Throttle Tension Toggle Mechanism
Appendix 3: Approved Hybrid Kill Switches – Mercury and Tohatsu

APPENDIX 1: INSTALLATION GUIDE – THROTTLE RECOIL MECHANISM

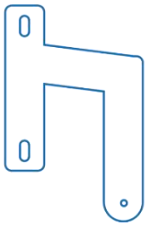
Required Tools

8mm

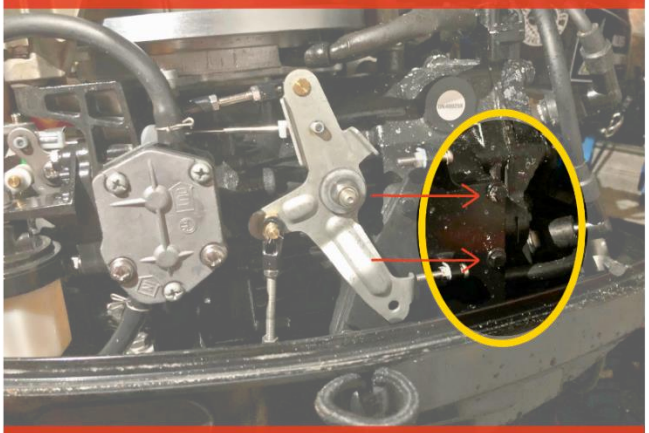


Long nose pliers

Parts



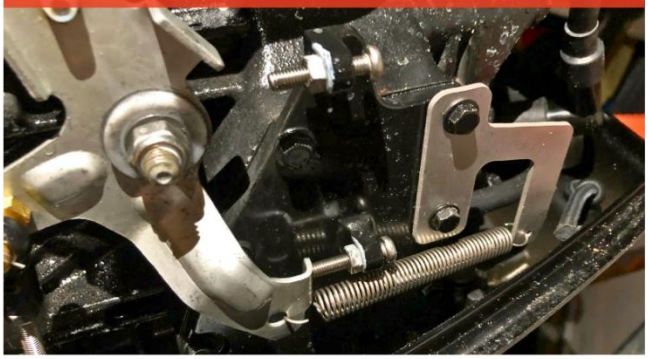
1. Remove 2 x bolts from casting (8mm)



2. Insert throttle return bracket as shown and screw in bolts.

3. Hook one end of the spring to the return bracket.

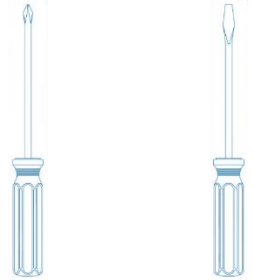
4. Hook the opposite end of the spring to the advancer arm.



APPENDIX 2: REMOVAL GUIDE – THROTTLE TENSION TOGGLE MECHANISM

Surf Life Saving Australia **recommends** that throttle tension toggles are removed by an authorised marine dealer/mechanic.

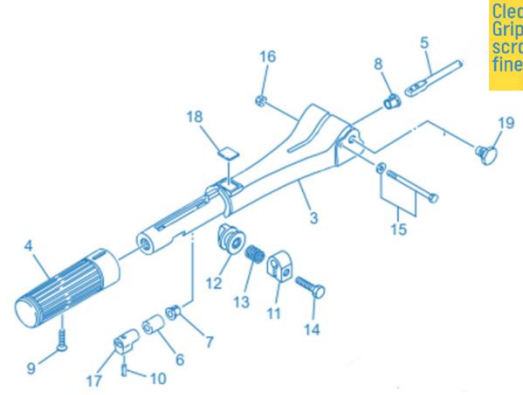
Required Tools



Phillips head screwdriver

Flat blade screwdriver

Technical Drawing

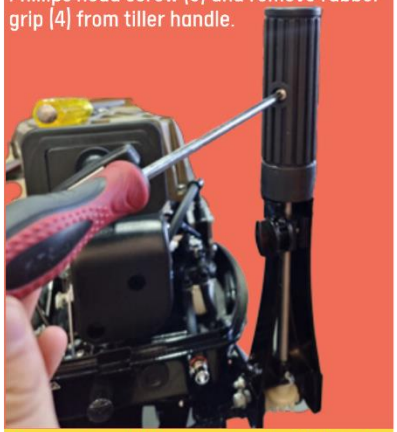


Key

Steps to complete removal of throttle tensioning mechanism.

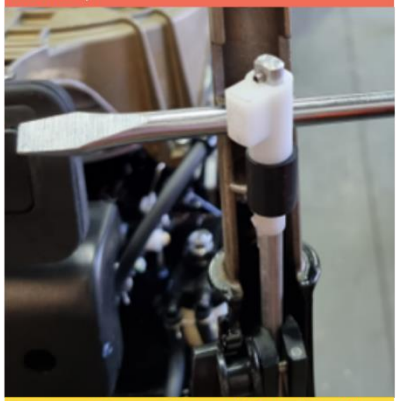
Suggested maintenance that can be completed during this process.

Step 1
Raise tiller handle and remove retaining Phillips head screw (9) and remove rubber grip (4) from tiller handle.



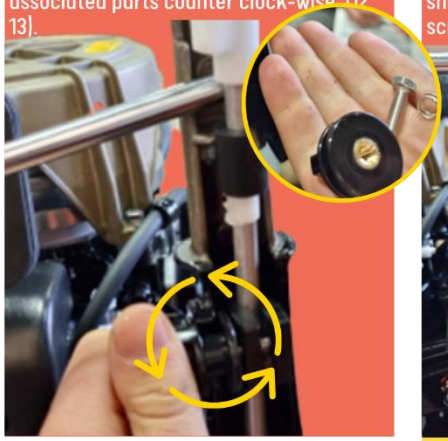
Clean sand and old grease from inside Throttle Grip. If the inside surface of the Throttle Grip is scratched, it can be smoothed off by using a fine Emery Paper.

Step 2
Using a suitable lever, carefully pry the throttle shaft away from the handle assembly.

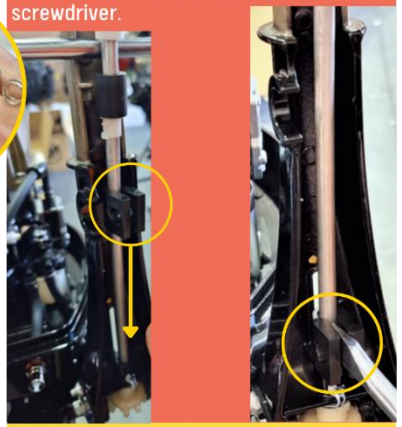


Check condition of bushings (7&8). Bushing (8) may be 'black' in colour, this may cause greater friction in the throttle. The previous, 'white' bushing, is available as a replacement.

Step 3
Turn throttle friction nut (14) and associated parts counter clock-wise. (12 13).

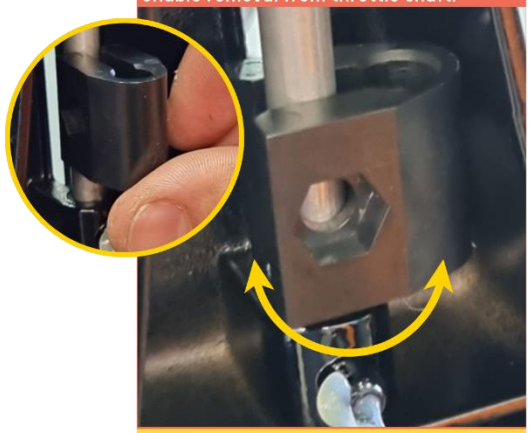


Step 4
Slide throttle friction clamp (11) down the shaft and spread clamp using flat blade screwdriver.



Check and clean throttle shaft (5) after removing throttle friction clamp.

Step 5
Rotate the throttle friction clap (11) to enable removal from throttle shaft.



Apply grease to bushings and throttle shaft.

Step 6
Reposition the throttle shaft into the throttle handle, ensure flange of the white bush (7) is positioned above the locating casting.

Be careful not to damage the spring pin (10) during this process by applying too much force in reassembly.

Step 7
Refit the rubber grip (4) and secure with the retaining screw (9).

Apply a light film of gearbox oil inside the Throttle Grip; and Apply grease to the retaining Phillips head screw.

APPENDIX 3: Approved Hybrid Kill Switches – Mercury and Tohatsu

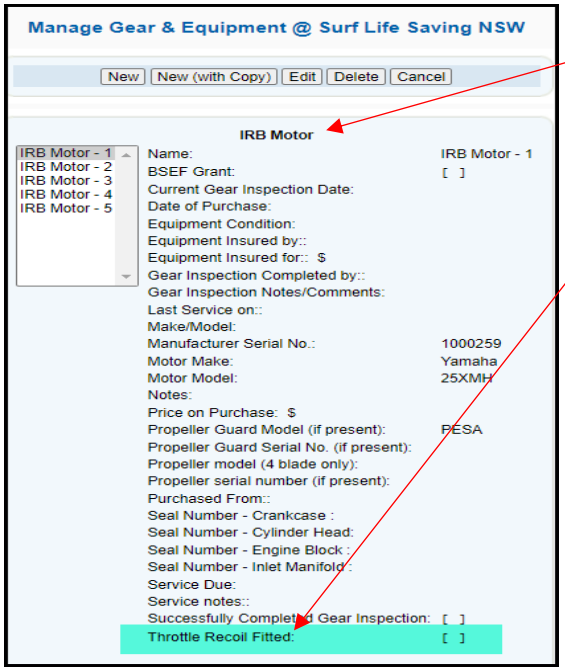
MERCURY approved Hybrid Kill Switch
Part No.: 826677S

TOHATSU approved Hybrid Kill Switch
Part No.: TOH-398-06831-SURF

HOW TO GUIDE:
Surfguard – Throttle recoil fitted option.

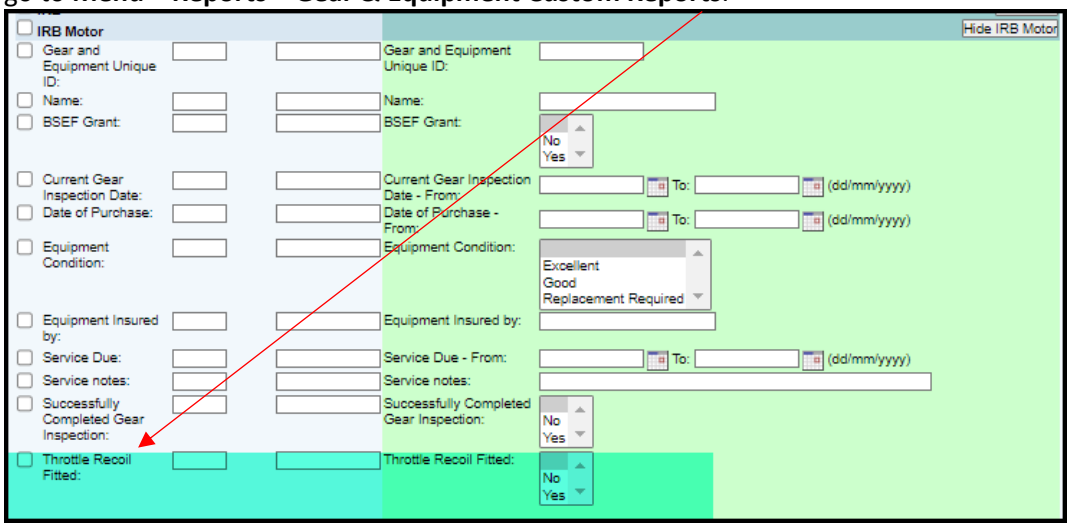
Please refer to Circular around information on the Throttle Recoil Mechanism found on the Members Area.

Throttle recoil fitted option in Surfguard:



Clubs will now be able to edit and update Surfguard to replicate if they have fitted or not fitted the Throttle Recoil Mechanism:

The **Gear & Equipment Custom Report** has been updated with the new field. To access this report, go to **Menu > Reports > Gear & Equipment Custom Reports**.



Example of report for Test NSW Club:

Branch	Club	Gear and Equipment Unique ID	Name	Current Gear Inspection Date	Throttle Recoil Fitted
Test NSW Branch	Test NSW Club	68632	IRB Motor - 1	2/09/2020	No
Test NSW Branch	Test NSW Club	68942	Test - 1 YR	1/10/2020	Yes