



# The Specifications

Version 1 February 2024



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## **1 GENERAL**

The Power Dinghy Racing Club Inc. (hereafter referred to as the Club) has compiled these specifications to be known as the Specifications.

### **1.1 Apply in all Competitions**

These Specifications shall apply to all Club Competitions.

### **1.2 Specifications are part of the Competition Rules**

The Specifications are part of the Competition Rules.

### **1.3 Headings for Specifications**

The headings for these Specifications are for information only and do not form part of the Specification.

### **1.4 Date of effect**

These Specifications shall come into force on the first day of February 2024 and supersedes all previous issues.

### **1.5 Copy of these Specifications to be available**

The Secretary shall have a copy of these Specifications at all meetings and events of the Club.



## **2 ALL CLASSES**

The following is applicable to all classes. Refer to individual classes for class specific requirements.

### **2.1 Registration**

Each craft in an event shall be registered with the government department responsible for licensing marine vessels and comply with their requirements as follows:

- a) the registration number shall be displayed on each external side of the hull adjacent to the transom.
- b) each digit of the registration number shall be black and shall not be less than 150mm in height and not less than 25mm in width.
- c) each digit of the registration number shall be vertical and shall have a 10mm white surround.
- d) the registration sticker shall be affixed to the port side next to the registration number.
- e) the Hull Identification Number plate (HIN plate) shall be affixed to the port (left) side of the transom on the inside of the boat.

### **2.2 Identification Numbers**

Each craft shall display an identification number that shall:

- a) be non-slanting and naturally spaced.
- b) be formed in Helvetica Condensed Bold font size 180 or other Management Committee approved similar font.
- c) be made from black long term adhesive vinyl, 50 micron or Management Committee approved equivalent.
- d) be on a minimum of 400mm wide by 210mm high with a 20mm radius to each corner vinyl or painted background and have a minimum of 10mm of colour showing beyond each number.
- e) not be displayed on a board on the craft.
- f) be clearly visible on both sides of the craft with the entire number on a flat, vertical surface of the craft forward of amidships.
- g) not be wrap around numbers.
- h) for the purpose of g) vertical shall mean within 75 to 105 degrees from a flat bottom which is no more than 60mm either way of vertical over a 210mm height.

### **2.3 Dimensions – Power Dinghies only**

The minimum length of a power dinghy shall be 2450mm. There is no minimum width of a boat.



## **2.4 Tow Point (except Formula 8 see [7.2.6](#))**

Each boat shall have a tow point securely attached in a central fixed position that shall be:

- a) no more than 150mm to the rear of the furthest forward point of the bow.
- b) capable of supporting the craft under tow when it is fully immersed in water.
- c) of a solid structure not less than 5mm and not more than 10mm in thickness, shaped in a closed half circle with not less than 30mm and not more than 60mm internal diameter; or
- d) tow strap type tow point, made from stitched polyester webbing strap no less than 25mm wide with a loop of internal diameter not more than 60mm.

## **2.5 Same craft to be used**

The same craft with the exception of allowable replacement parts shall be used throughout an event.

## **2.6 Motor Restraint**

Each craft shall have a restraint that prevents the motor from tilting above a horizontal plane and complies with Specification section [11.13](#).

# **3 SPORTS CLASS – Class One**

## **3.1 Identification Numbers**

Each craft shall display an identification number that shall be on a canary yellow background either:

- a) painted
- b) long term adhesive vinyl; or
- c) Management Committee approved equivalent.

## **3.2 Design and modification**

There shall be no limit on the design or modification of a boat providing it is not of a dangerous or unsafe design.

### **3.2.1 Aluminium craft not allowed in a river race**

A craft competing in a river race shall not be constructed primarily of aluminium. Aluminium craft shall be allowed to compete in either a circuit race or distance race.

## **3.3 Transom**

The transom height may be adjusted by any means.

## **3.4 Motors**

The combined power of the total number of motors on a craft shall not exceed 10hp.



### **3.4.1 10hp Tohatsu carburettor**

The 22mm Tohatsu carburettor, as fitted on the Tohatsu C and D models, may be used on the Tohatsu D2 motor and the Mercury DT9.9 motor.

### **3.5 Propellers**

Any propeller may be used.

## **4 SUPER STANDARD CLASS – Class Two**

### **4.1 Identification Numbers**

Each craft shall display an identification number that shall be on a sky blue background of either:

- a) painted
- b) long term adhesive vinyl; or
- c) Management Committee approved equivalent.

### **4.2 Design and modification**

There shall be no limit on the design or modification of a boat providing it is not of a dangerous or unsafe design.

#### **4.2.1 Aluminium craft not allowed in a river race**

A craft competing in a river race shall not be constructed primarily of aluminium. Aluminium craft shall be allowed to compete in either a circuit race or distance race.

### **4.3 Transom**

The transom height may be adjusted by any means.

### **4.4 Motors**

The combined power of the total number of motors on a craft shall not exceed 10hp.

#### **4.4.1 Tohatsu and Nissan Motors**

Models C and D of Tohatsu and Nissan motors shall not be used.

#### **4.4.2 Tohatsu / Nissan carburettor**

The 22mm Tohatsu / Nissan carburettor shall not be used.

### **4.5 Propellers**

Aluminium propellers as supplied by the manufacturer or an aftermarket supplier for that make and model of motor may be used.

Solas stainless steel propellers for that make and model motor may be used.

#### **4.5.1 Through hub exhaust design**

Propellers must be through hub exhaust design and not manufactured for racing.

#### **4.5.2 Three blade propellers**

Only three (3) blade propellers may be used.



#### **4.5.3 Branding to be retained**

All hub branding on stainless steel propellers must be retained.

#### **4.5.4 Propeller Modifications**

Propellers may be modified in any way provided the 'through hub exhaust' design feature is retained. Original diameter is not increased, and original construction material is maintained.

#### **4.5.5 Welded tips not permitted**

Welded tips that increase the original size of the propeller are not permitted.

### **5 STANDARD CLASS – Class Three**

#### **5.1 Identification Numbers**

Each craft shall display an identification number that shall be on a white background of either;

- a) painted
- b) long term adhesive vinyl; or
- c) Management Committee approved equivalent.

#### **5.2 Design and modification**

There shall be no limit on the design or modification of a boat providing it is not of a dangerous or unsafe design.

##### **5.2.1 Aluminium craft not allowed in a river race**

A craft competing in a river race shall not be constructed primarily of aluminium. Aluminium craft shall be allowed to compete in either a circuit race or distance race.

#### **5.3 Transom**

The transom height may be adjusted by any means.

#### **5.4 Motor**

The combined power of the total number of motors on a craft shall not exceed 10hp

##### **5.4.1 Tohatsu and Nissan Motors**

Models C and D of Tohatsu and Nissan motors shall not be used.

##### **5.4.2 Tohatsu / Nissan carburettor**

The 22mm Tohatsu / Nissan carburettor shall not be used

#### **5.5 Propellers**

Only aluminium propellers as supplied by the manufacturer or aftermarket supplier for that make and model of motor may be used.

##### **5.5.1 Through hub exhaust design**

Propellers must be through hub exhaust design and not manufactured for racing.



#### **5.5.2 Number of Blades**

Only three (3) blade propellers may be used.

#### **5.5.3 Propeller Modifications**

Propellers may be modified in any way provided the 'through hub exhaust' design feature is retained. Original diameter is not increased, and original construction material is maintained.

#### **5.5.4 Welded tips**

Welded tips that increase the original size of the propeller are not permitted.

### **6 ADVENTURE CLASS - Class Four**

#### **6.1 Identification Numbers**

Each craft shall display an identification number that shall be on a white background of either;

- a) painted
- b) long term adhesive vinyl; or
- c) Management Committee approved equivalent.

#### **6.2 Design and Construction**

The boat must be mass produced, generally available for sale to the public, and not custom made.

##### **6.2.1 Construction material**

The boat may be constructed of any material.

##### **6.2.2 Buoyancy**

Buoyancy may be added to a boat to ensure that it complies with Specification section [9](#).

##### **6.2.3 Allowable Modifications**

Only these listed modifications are allowed:

- a) Straps for paddles, fuel tanks and equipment bags.
- b) Scupper deck drain or similar.
- c) Modification of outboard motor as per Specification section [11](#).
- d) Removal of rowlock holders and other protrusions.
- e) Padding/protection/covering as and where required.
- f) Removal of front seat. (Note specification section [9](#))
- g) Strengthening and repairs may be made while not affecting the overall original design characteristics of the craft.

#### **6.3 Transom**

The transom may be strengthened but shall otherwise be unmodified.





### **6.3.1 Transom height**

The transom height must be fixed.

### **6.3.2 Anti-cavitation plate**

The anti-cavitation plate of the motor must be level with the bottom of the boat or lower.

## **6.4 Motors**

The combined power of the total number of motors on the boat shall not exceed 15hp, with a maximum engine capacity of 300cc.

## **6.5 Propellers**

Only aluminium propellers as supplied by the manufacturer or aftermarket supplier for that make and model of motor may be used.

### **6.5.1 Design of propeller**

Propellers must be of 'through hub exhaust' design and not manufactured for racing.

### **6.5.1 Number of blades**

Only three (3) blade propellers may be used

### **6.5.2 Propeller modifications**

Propellers may be modified in any way provided the 'through hub exhaust' design feature is retained. Original diameter is not increased, and original construction material is maintained.

### **6.5.3 Welded tips not permitted**

Welded tips that increase the original size of the propeller are not permitted.

## **7 FORMULA 8 – Class Five, Six & Seven**

### **7.1 Identification Number**

Each craft shall display an identification number that shall be on a canary yellow background either:

- a) painted
- b) long term adhesive vinyl; or
- c) Management Committee approved equivalent.

The number must be clearly visible on both sides of the craft with the entire number on a flat, vertical surface of the craft behind the driver.

### **7.2 Design**

A Formula 8 shall conform to the shape produced from the original Power Dinghy Racing Club hull and deck moulds.

#### **7.2.1 Hull and deck**

The hull and deck of a Formula 8 shall be made from general purpose fibreglass and polyester or epoxy resin.



### **7.2.2 Internal frame**

The internal frame shall be made of 50mm square and 3mm aluminium tubing. The frame supports shall be made of 18mm round and 1.6mm aluminium tubing. The frame and supports shall conform to the original Formula 8 configuration.

### **7.2.3 Steering wheel**

The steering wheel shall have a minimum diameter of 300mm and a maximum diameter of 350mm.

### **7.2.4 Transom Angle**

The transom angle shall be between ten and fifteen degrees from vertical.

### **7.2.5 Deck to Hull**

The join of the deck to the hull shall be covered by a moulded rubber strip or other similar protective covering.

### **7.2.6 Tow Point**

Each craft shall have a tow point securely attached in a central fixed position that shall be:

- a) no more than 150mm to the rear of the furthest forward point of the bow.
- b) shaped in a closed half circle with dimensions not less than 19mm x 20mm.
- c) capable of supporting the craft under tow when it is fully immersed in water.

### **7.3 Transom**

The transom height is to be fixed with two 8mm bolts and nylock nuts.

### **7.4 Motor**

The combined power of the total number of motors on a craft shall not exceed 8hp.

### **7.5 Propellers**

Any propeller may be used



## **8 BATHTUBS – Class Eight**

### **8.1 Identification Number**

Each craft shall display an identification number that shall be on a canary yellow background either:

- a) painted
- b) long term adhesive vinyl; or
- c) Management Committee approved equivalent.

### **8.2 Design**

A bathtub shall conform to the shape of a tub. A bathtub shall be of a safe construction and design.

#### **8.2.1 Dimensions**

The bathtub shall have a minimum length of 1250mm that shall be measured on a level plane from the highest inside point at the front of the tub to the inside of the transom end of the tub. It shall have a minimum width of 508mm that shall be measured on the inside top of the tub.

#### **8.2.2 Rim of tub to be exposed**

The complete rim of the tub shall be exposed except at the stern.

#### **8.2.3 Tub to be Visible**

At least 150mm of the tub on each side elevation shall be visible and unobstructed from the apex of the rim down. Viewed from above at least 75% of the interior of the tub shall be visible and unobstructed.

### **8.3 Transom**

The transom height is to be fixed with two 8mm bolts with nylock nuts.

### **8.4 Motor**

The combined power of the total number of motors on a craft shall not exceed 10hp.

#### **8.4.1 10hp Tohatsu carburettor – Class 10**

The 22mm Tohatsu carburettor, as fitted on the Tohatsu C and D models, may be used on the Tohatsu D2 motor and the Mercury DT9.9 motor.

### **8.5 Propellers**

Any propeller may be used.



## **9 BUOYANCY**

### **9.1 Minimum amount of buoyancy**

The minimum required amount of buoyancy is:

|              |                    |
|--------------|--------------------|
| Power Dinghy | 0.2 cubic metres   |
| Formula 8    | 0.085 cubic metres |
| Bathtubs     | 0.06 cubic metres  |

### **9.2 Positioning**

The buoyancy shall be positioned so the craft floats when immersed and completely filled with water.

### **9.3 Type**

Buoyancy may be of the following type:

- a) Polystyrene or similar.
- b) Polyurethane or similar.
- c) Closed cell foam (divinicell or similar).
- d) Inner tubes (no more than 20% of total).
- e) Air tanks (no more than 20% except for inflatables).
- f) Cork.

## **10 EQUIPMENT**

### **10.1 Personal Flotation Device (PFD)**

Each craft entered in an event shall have one PFD per competitor that complies with one of the following:

- a) bears the stamp of and conforms to Australian Standard AS1512-4758 or has been approved by the relevant government department as PFD type 1, level 150 and 100.
- b) bears the stamp of and conforms to Australian Standard AS1499 or has been approved by the relevant government department as a PFD type2, level 50.
- c) has been approved by and appears on a list produced by the Management Committee and Rules Committee.

#### **10.1.1 Zips not required on PFDs**

PFDs do not require zips unless original.



## 10.2 Helmet

Each craft entered in an event shall have one helmet per competitor that:

- a) conforms with:
  - Australian Standard (AS)1698:1988.
  - Australian Standard/New Zealand Standard (AS/NZ) 1698:2006.
  - United Nations Economic Commission for Europe (UN ECE) 22.05.
- b) provides protection to the forehead, temples, ears, chin, and mouth and shall be of a full-face design.

## 10.3 Safety Rope

Each craft entered in an event (except a circuit race in closed waters) shall have a poly or nylon safety rope that shall:

- a) not be less than 12 metres in one unbroken length (unless correctly spliced).
- b) not be less than eight (8) mm in diameter.
- c) stowed towards the bow of the boat so as to not cause a hazard at any time.
- d) always be readily accessible.
- e) not be natural fibre rope (manila, sisal, hemp or similar).

## 10.4 Paddles

Paddles shall be carried in a craft as follows

| CRAFT        | RIVER RACE     | CIRCUIT RACE   |
|--------------|----------------|----------------|
| Power Dinghy | Two            | None           |
| Formula 8    | Not applicable | Not applicable |
| Bathtub      | Not applicable | Not applicable |

### 10.4.1 Construction of paddles

Paddles shall be of a strong and safe construction with the following requirements:

- a) The blade shall be securely and safely attached to the shaft.
- b) No part of the paddle shall have sharp edges.
- c) Hollow shafted soft plastic paddles are not allowed.
- d) The blade surface area shall be 300 square centimetres (not including any portion of the shaft).
- e) The shaft length shall be not less than 600mm measured from the top of the shaft to where the blade starts.

## 10.5 Enclosed Footwear

Enclosed Footwear shall be strong and safe and shall not be thongs or sandals.



#### **10.6 Survival kit**

If stated in the Supplementary Regulations each craft entered in an event shall have a survival kit that shall include:

- a) not less than 400g of high calorific value food (e.g., glucose, chocolate, nuts etc.)
- b) a box of waterproof matches and / or cigarette lighter
- c) one compression bandage, one bandage, and 30mls of saline solution (in date)
- d) stored in one waterproof container.

#### **10.7 Mast and flag**

Each craft entered in an ocean event shall have a mast, the top of which shall be a minimum of two (2) metres above the gunwales. It shall be firmly and securely attached to the boat and shall be sufficiently rigid to have no more than one metre of movement at its top. Attached to the top of this mast shall be a flag that is red or orange in colour. The flag may be rectangular, or pennant shaped and shall measure not less than 600mm x 400mm.

#### **10.8 Flares**

Each craft entered in an ocean event shall have two (2) red and two (2) orange flares that shall meet the requirements of the government department responsible for marine safety. The flares shall be stowed so they are easily accessible.

##### **10.8.1 Navigable Waters Regulations Requirement**

52B VESSELS TO BE EQUIPED WITH CERTAIN DISTRESS SIGNALS

The owner of a vessel must ensure that the vessel, while being navigated outside protected waters, is equipped with the following distress signals.

Not less than:

- Two (2) red handheld flares or
- Two (2) parachute distress rockets

And not less than:

- Two (2) handheld orange smoke signals or
- One (1) orange smoke canister

#### **10.9 Safety lanyard**

An aftermarket kill switch / lanyard (approved by the Club) may be used as a replacement to the manufacturer's lanyard.

##### **10.9.1 Maximum length of lanyard**

The maximum length of the lanyard when fully stretched is to be no more than one (1) metre including the device attached to, and forming part of, the engine stop switch. See also Specification [11.11.3](#).



#### **10.10 Carry Bag**

A carry bag (if used) shall have a maximum dimension of 250mm x 100mm and only be of a waist bag or money belt type.

#### **10.11 Replacement Equipment**

The Support Crew should carry the following items of replacement equipment to ensure that the boat meets the requirements of the Specifications on each day of an event:

- a) relevant replacement stickers to repair / replace identification numbers which have been scratched or abraded to the point of illegibility, as determined by the scrutineer.
- b) stick on registration numbers to replace damaged stickers.
- c) safety rope that complies with the Specifications.
- d) a Survival Kit that complies with the Specifications.
- e) paddles that comply with the Specifications.

#### **10.12 Condition of Equipment**

All equipment shall be in good order and repair (buckles, straps etc.). Particular attention should be paid to equipment that may be salt or sun damaged.

#### **10.13 Accessibility**

All equipment in each boat shall be securely stowed and easily accessible.

### **11 OUTBOARD MOTORS**

#### **11.1 Definition of outboard motor**

An outboard motor is defined as all parts including the powerhead, gears, shafts, casings, mounts, covers, handles as supplied by the manufacturer but excluding the propeller. Parts carried in the boat during an event are considered part of the outboard motor for this definition.

#### **11.2 Definition of powerhead**

A powerhead is defined as the internal combustion engine including the block, powerhead, pistons, carburettor, ignition systems, fuel pump, fuel metering devices, crankshaft, camshaft and stop switch as supplied by the manufacturer.

#### **11.3 Horsepower accepted**

The horsepower of the powerhead shall be accepted as that designated by the manufacturer for that model.

#### **11.4 Racing motors**

Motors specially manufactured or assembled for racing or equipped with racing or speed equipment or modifications shall not be used.



**11.5 Modifications not allowed**

Re-shaping, enlarging, polishing, performance or reliability modifications, except as provided in Specification [11.11](#) to any part of the outboard motor shall not be allowed.

**11.6 Exhaust relief porting**

Exhaust relief porting (except where original) shall not be allowed.

**11.7 Accessories**

Accessories listed by the manufacturer for the model and power rating only may be used. Parts and accessories for other models and power ratings, regardless of whether they may fit, shall not be used.

**11.8 Tilt locks must be removed**

Any device or mechanism that locks any part of the outboard motor or prevents it from tilting must be removed and an approved motor restraint strap fitted.

**11.9 Re-tuning**

The re-tuning of a powerhead from one power rating to another power rating shall be effected only by the manufacturers' recommended conversion kit.

**11.10 Standard Manufacturers Parts**

All parts of the Outboard Motor and all parts replaced shall be standard manufacturers' parts for that power rating that have not been altered, except as provided in Specification [11.11](#) and shall meet the specifications for that model and serial number as published in the Technical Specifications or as specified in Competition Rule 9.3.

**11.11 Exceptions**

**11.11.1 Nonstandard gearbox parts**

The following non-standard Mercury/Tohatsu/Osaka gearbox parts may be used:

- a) 350-64301-0 Drive shaft.
- b) 350-64020-0 Bevel gear.
- c) 350-64010-0 Bevel gear.
- d) 362-64211-0 Propeller shaft.
- e) 362-64030-0 Bevel gear.

**11.11.2 Superseded parts**

Manufacturers' superseded parts may be used provided that the manufacturers' original tuning specifications are not altered by the use of the superseded parts. New Technical Specifications shall be provided as per Competition rule 9.3.

**11.11.3 Stop Switch**

The powerhead may be fitted with an alternative to the manufacturer's safety switch assembly (stop switch, kill switch). This stop switch must be of a type that stops/prevents the motor from running when the 'Plug Receptacle Assembly' (lanyard





key) is detached. All parts must be from the same manufacturer and only a single lanyard shall be used. See also Specification [10.9](#).

#### **11.11.4 Modifications and attachments**

The following external modifications and attachments shall be permitted, providing they are not in the form of deletions or removals from the outboard motor, except where stated:

- a) handles.
- b) measuring and testing gauges.
- c) propeller guards.
- d) remote steering mechanisms.
- e) casing guards and strengthening which may be welded, bolted, tied and/or wired on.
- f) powerhead cover straps or locks.
- g) security chains or other securing devices.
- h) transom mounts.
- i) extended skegs.
- j) external polishing of lower housings (includes removal of paint)
- k) external water pickups may be attached to the outboard motor (e.g., remote water pickups, water scoop), providing no modification is made to the gear housing other than holes to mount fittings.
- l) tubes for water pickup may be attached by any means.
- m) motor flush holes for water pickup may be used.
- n) gearbox/gear casing/gear housing guard and/or cover.

#### **11.11.5 Non-standard fixings**

Non-standard bolts, studs, washers, and nuts may be used throughout the outboard motor, excluding internal powerhead components.

#### **11.11.6 Gear and shaft hardness**

The hardness of gears and shafts may be altered.

#### **11.11.7 Spark plugs**

Non-standard spark plugs may be used.

#### **11.11.8 Electric coils**

Any electric coils listed by the manufacturer as being for that model, either as standard, an accessory or as a replacement part may be used.

#### **11.11.9 Cowl**

A non-standard cowl (motor cover) may be used provided it is of similar shape to the manufacturer's original cowl. The cowl does not have to include any standard manufacturer's parts, fittings, or decals. Holes may be drilled through the cowl.



**11.11.10 Carry handle may be removed**

The carry handle of the outboard motor may be removed.

**11.11.11 Holes in casings**

Holes may be drilled in any casing or bracket provided it is not for the purpose of exhaust relief porting.

**11.11.12 Bearing carrier**

The bearing carrier assembly in a gearbox may be secured to the gear housing assembly.

**11.11.13 Carburettor throttle lever sleeve**

A sleeve may be fitted over the carburettor throttle lever on a Mercury powerhead (part number A-86213).

**11.11.14 Mounts may be non-standard**

Non-standard mounts connecting the drive housing (trunk) to the saddle assembly (saddle bracket) may be fitted (e.g., Mercury part number A-79896A1).

**11.11.15 Oversized pistons**

Oversized pistons as supplied by the outboard manufacturer for that make and model only may be used.

**11.11.16 Tuning specifications**

Tuning specifications that are adjustable (ignition, timing, and carburettor butterfly) may be adjusted within limits of their linkage.

**11.11.17 Carburettor filter / Silencer boxes**

Plastic Carburettor Filter/Silencer Boxes may have three 6mm holes drilled into the bottom, for water drainage purposes only. Rubber grommets on the front of the box must remain in place.

**11.11.18 Exhaust adaptor plate**

Mercury Seapro 10hp and Mariner Marathon 10hp cylinder blocks that have rectangular ports and are fitted with carburettor type WMC50, 50A or 50B may be fitted with exhaust adaptor plate – part number 413449 or 41344A6 (including exhaust tube)

**11.11.19 Thermostat**

The thermostat may be removed or a 1/8" bypass hole may be drilled in the thermostat rim, so the tell-tale emits water when the outboard motor is started from cold.

**11.11.20 Exhaust tube**

Exhaust tube part number 41344A3 may be fitted to 8hp Mariner/Mercury outboard motors.

**11.11.21 Tiller handle**

The length of the tiller handle may be extended.



## **11.12 Transom Slide Block Restraint System**

Craft with a movable/removable transom Slide Block must also have a transom Slide Block Restraint System that prevents the transom Slide Block from being removed from the transom Slide.

### **11.12.1 Slide**

The Slide is the fixed, non-moving, part of the transom that carries the Slide Block. The Slide shall incorporate a bar of 3mm minimum thickness attached transversely across the width of the Slide. This bar shall be welded to the Slide or secured by an 8mm bolt or eyebolt on each side of the Slide.

### **11.12.2 Slide Block Restraint (Hydraulic Jack)**

The Slide Block is that part of the transom to which the outboard motor is attached, and which moves up and down in the Slide. When used in conjunction with a hydraulic jack the Slide Block must incorporate two 10mm diameter bolts or eyebolts in the lower half of its height that will strike the transverse bar of the Slide when the Slide Block is raised and prevent the Slide Block from being removed from the Slide. The lower part of the Slide Block, through which the two 10mm diameter bolts or eyebolts pass, must be of minimum dimension 20mm x 20mm.

### **11.12.3 Slide Block Restraint (Rope Pulley)**

Rope pulley sets must be attached by a minimum of three 6mm bolts on each pulley and such that the slide block cannot be removed or by a hydraulic jack slide block restraint system. Ronson pulleys require 8mm and 6mm bolts through each pulley.

### **11.12.4 Motor must be bolted to Slide Block**

A motor must be bolted to the Slide Block with a minimum of two 8mm bolts or 8mm eyebolts. (Note. Minimum 10mm eyebolt if also used to connect restraint strap. Refer specification [11.13.4](#))

### **11.12.5 Hydraulic Jack Handle to be Capped**

If a hydraulic jack is used, the jack handle must be of safe design with no sharp edges with the end of the handle capped.

## **11.13 Motor Restraint System**

All craft must have a motor restraint system that prevents the motor from tilting upwards past horizontal.

### **11.13.1 Motor restraint strap arrangement**

The motor restraint strap shall consist of webbing doubled around the lower trunk/upper gearbox area. To avoid the strap spreading, or any vertical movement, it shall be secured at the front of the motor by a shackle that passes through commercially sewn eyelets. The two strap ends shall be attached separately to the transom, Slide Block, or to an angle welded to the slide, by the shackles or eyebolts or both. These mounting points must be capable of withstanding the load of the engine restraint system.



### **11.13.2 Restraint strap components and manufacture**

All parts of the restraint strap referred to in Specification section 11.13 shall be commercially manufactured to Australian Standards. The webbing shall be 50mm wide polyester with a minimum four tonne breaking strain. Stitching on the webbing shall be polyester twine.

### **11.13.3 Restraint strap Securing shackle**

The securing shackle referred to in Specification [11.13.1](#) shall be 8mm stainless steel.

### **11.13.4 Restraint Strap Eyebolt**

The eyebolt referred to in Specification [11.13.1](#) shall be 10mm stainless steel. The eyebolt shall be secured by a nylock nut backed by a 20mm diameter stainless steel washer.

### **11.13.5 Angle welded to Slide**

Should a section of angle be welded to the Slide it shall be 12mm thick with holes no less than 12mm from the surrounding sides.

## **12 FUEL, FUEL LINES and FUEL TANKS**

### **12.1 No limits on type**

There shall be no limitation on the type or brand of fuel, fuel additives or lubricants used.

Any Supplementary Regulation purporting to limit fuel to any one brand or type shall be invalid.

### **12.2 Fuel tank to be secure**

The fuel tank shall be firmly secured to the boat by non-elastic material so that it cannot move in a swamping or rollover.

### **12.3 Approved fuel tank**

The fuel tank and fuel line shall be of a type approved by the Rules Committee and in good condition and repair.

### **12.4 Fuel connector to be standard**

The fuel connector attached to an outboard motor shall be a standard part, in its standard position, for that model

### **12.5 Fuel line and primer bulb may be nonstandard**

The fuel line attached to the fuel tank and the primer bulb and fuel connectors attached to the fuel line are not part of the motor and may be non-standard parts.

### **12.5 Fuel connector not to be bypassed**

The fuel line from the fuel tank(s) shall be connected to the fuel connector fitted to the outboard motor. This fuel connector shall not be removed or bypassed by connecting the fuel line from the fuel tank direct to the fuel pump, except as an emergency repair.



## **12.6 Fuel filter**

An in-line fuel filter shall not be fitted to an outboard motor under the cowl unless standard as supplied by the manufacturer. An in-line fuel filter or any type may be fitted to the fuel system prior to the motor.

## **13 REPLACEMENT/REPAIRS**

### **13.1 Multistage Events**

In a multistage event (e.g., Nannup Cup, Sunnyside Sprint, Avon Descent, The River Race, Blackwood Classic 250) any part of the motor, except the powerhead (see Specification [11.2](#)), may be replaced or repaired while a craft is being timed. If stated in the Supplementary Regulations this repair/replacement may occur in the pit area while being timed. If the provision concerning replacement in the pit area is not stated in the Supplementary Regulations, then the replacement may occur only while the craft is being timed on the course.

### **13.2 Event comprised of heats**

In an event comprised of heats (e.g. circuit race) any part of the motor, except the powerhead (see Specification [11.2](#)) may be replaced in the pit area between heats without penalty.

### **13.3 Allowable replacement parts may be restricted**

If stated in the Supplementary Regulations, allowable replacement parts may be restricted to:

- a) start rope
- b) spark plugs
- c) propeller nuts, washers, and split pins
- d) shear pins
- e) propellers
- f) Fuel Lines
- g) motor cover (cowling)
- h) gaskets
- i) any bolts, studs, washers and/or nut except internal power head components.

If not stated in the Supplementary Regulations that the replacement of parts is restricted, then the provisions concerning the replacement of parts shall be as described in Specification [13.1](#) for 'point to point' river races and as in Specification [13.2](#) for an Event conducted by heats.

### **13.4 Only allowable replacements to be carried**

Only allowable replacement parts may be carried in the boat. No other parts may be carried.



**13.5 Motor may be repaired by any means**

During an event the motor may be repaired by any means other than welding subject to Specification [13.1](#).

**13.6 Boat may be repaired by any means**

During an event a boat shall not be replaced but may be repaired by any means including welding. Planning surfaces shall not be replaced. Only the original parts of the boat may be repaired.

**13.7 Log guards**

A guard (log guard/motor guard) may only be removed in the pit area unless it is damaged so that its removal is necessitated outside the pit area (i.e. while racing) in which case it shall be carried in the boat to the pit area.



# Technical Specifications

## Mercury 10hp Type Dt-9.9

(aka Tohatsu D2)

Authorised date – Aug 2015

| REF | DESCRIPTION   | SPEC   | +/-    | REMARKS   |
|-----|---|--|--------|---|
| B   | Bore  | 55mm   | 0.03mm | 0.5mm oversize  |
| S   | Stroke  | 52mm   |        | Two Stroke  |
| CC  | Capacity per Cylinder   | 123.5cc  | 1.0cc  | Measured at top of spark plug hole when piston is TDC - INDICATOR |
| TC  | Total Cylinder Capacity (swept volume)                            | 247.1cc  | 1.0cc  |   |
| C1  | Cylinder head height  |  |        |   |
| CH  | Cylinder head capacity with spark plug fitted                     | 11.5cc   | 0.5cc  | Use of standard plug B7HS to measure only                         |
| N   | Number of piston rings  | 2  |        |   |
| P1  | Length of Piston (less deflector)                                 | 57mm   | 0.4mm  |   |
| P2  | Length of Piston (including deflector)                            | 59.45mm  | Min    |   |
| P3  | Distant from Little End Centreline to lower edge of piston        | 29mm   | Min    |   |
| P4  | Distant from Little End Centreline to Piston Crown                | 28mm   | 0.3mm  |   |
| P5  | Piston Diameter   | 54.95mm  | Min    |   |
| T   | Distant from Crankshaft Centreline to Top Edge of Transfer Ports  | Main 119.5mm<br>3 <sup>rd</sup> 111.5mm            | 1.0mm  |   |
| E   | Distance from Crankshaft Centreline to Top Edge of Exhaust Ports  | 116mm  | 1.0mm  |   |
| ME  | Distance from Cylinder Block Mating Face to Top off Exhaust Port  | 35.4mm   | 0.5mm  |   |
| D1  | Shape and Size of Transfer Ports                                  | Main<br>23mm x 12mm<br>3 <sup>rd</sup> 19mm x 13mm | 1.5mm  |   |
| D2  | Shape and Size of Exhaust Ports                                   | 34mm x 17mm  | 1.5mm  |   |
| D3  | Number of Transfer Points   | 3  | 0      |   |
| F   | Distance from Crankshaft Centreline to Cylinder Block Mating Face | 152.0mm  | 0.3mm  |   |
| ET  | Exhaust Tube Length   | 266mm  | 2mm    |   |
| ES1 | Exhaust Tube Shape and Size at Open End                           | Circle 36.5mm                                      | 1mm    | Inside  |
| ES2 | Diameter of Top of Bell on Exhaust Tube                           | 30mm   |        | Inside  |
| ES3 | Length of Bell on Exhaust Tube                                    | 40mm   |        |   |
| FW  | Weight of Flywheel  | 4100gm   | Min    |   |
| L   | Reed Stop Setting   | 6.2mm  | Max    | Measured rod (drill bit) not to pass in more than halfway         |
| C   | Carburettor Type  | Butterfly Valve                                    |        | TK Carburettor  |
| J1  | Size of Main Jet  | 110  | Max    |   |
| V   | Venturi Diameter (also known as intake or open end)               | 20mm   |        |   |
| TB  | Throttle Bore (also known as crankcase or Throttle End)           | 27.0mm   | Max    |   |
| W   | Water Pump Impeller Blades  | 8  | 0      |   |
| G1  | Forward Gear Ratio  | 2.1:1  | 0      |   |
| G2  | Reverse Gear Fitted   | Yes  | N/A    |   |
| SB  | Squish Band Compression   | Mm   | N/A    | GUIDE ONLY  |
| C   | Compression Pressure  | HPa  |        | GUIDE ONLY  |



## Tohatsu 10hp Type D2

Authorised date – 6 July 2010

| REF | DESCRIPTION   | SPEC  | +/-    | REMARKS   |
|-----|---|---|--------|---|
| B   | Bore  | 55mm  | 0.03mm | 0.5mm oversize  |
| S   | Stroke  | 52mm  |        | Two Stroke  |
| CC  | Capacity per Cylinder   | 123.5cc   | 1.0cc  | Measured at top of spark plug hole when piston is TDC - INDICATOR |
| TC  | Total Cylinder Capacity (swept volume)                            | 247.1cc   | 1.0cc  |   |
| C1  | Cylinder head height  |   |        |   |
| CH  | Cylinder head capacity with spark plug fitted                     | 11.5cc  | 0.5cc  | Use of standard plug B7HS to measure only                         |
| N   | Number of piston rings  | 2   |        |   |
| P1  | Length of Piston (less deflector)                                 | 57mm  | 0.4mm  |   |
| P2  | Length of Piston (including deflector)                            | 59.45mm   | Min    |   |
| P3  | Distant from Little End Centreline to lower edge of piston        | 29mm  | Min    |   |
| P4  | Distant from Little End Centreline to Piston Crown                | 28mm  | 0.3mm  |   |
| P5  | Piston Diameter   | 54.95mm   | Min    |   |
| T   | Distant from Crankshaft Centreline to Top Edge of Transfer Ports  | Main 119.5mm<br>3 <sup>rd</sup> 111.5mm         | 1.0mm  |   |
| E   | Distance from Crankshaft Centreline to Top Edge of Exhaust Ports  | 116mm   | 1.0mm  |   |
| ME  | Distance from Cylinder Block Mating Face to Top off Exhaust Port  | 35.4mm  | 0.5mm  |   |
| D1  | Shape and Size of Transfer Ports                                  | Main 23mm x 12mm<br>3 <sup>rd</sup> 19mm x 13mm | 1.5mm  |   |
| D2  | Shape and Size of Exhaust Ports                                   | 34mm x 17mm                                     | 1.5mm  |   |
| D3  | Number of Transfer Points   | 3   | 0      |   |
| F   | Distance from Crankshaft Centreline to Cylinder Block Mating Face | 152.0mm   | 0.3mm  |   |
| ET  | Exhaust Tube Length   | 266mm   | 2mm    |   |
| ES1 | Exhaust Tube Shape and Size at Open End                           | Circle 36.5mm                                   | 1mm    | Inside  |
| ES2 | Diameter of Top of Bell on Exhaust Tube                           | 30mm  |        | Inside  |
| ES3 | Length of Bell on Exhaust Tube                                    | 40mm  |        |   |
| FW  | Weight of Flywheel  | 4100gm  | Min    |   |
| L   | Reed Stop Setting   | 6.2mm   | Max    | Measured rod (drill bit) not to pass in more than halfway         |
| C   | Carburettor Type  | Butterfly Valve                                 |        | TK Carburettor  |
| J1  | Size of Main Jet  | 110   | Max    |   |
| V   | Venturi Diameter (also known as intake or open end)               | 20mm  |        |   |
| TB  | Throttle Bore (also known as crankcase or Throttle End)           | 27.0mm  | Max    |   |
| W   | Water Pump Impeller Blades  | 8   | 0      |   |
| G1  | Forward Gear Ratio  | 2.1:1   | 0      |   |
| G2  | Reverse Gear Fitted   | Yes   | N/A    |   |
| SB  | Squish Band Compression   | Mm  | N/A    | GUIDE ONLY  |
| C   | Compression Pressure  | HPa   |        | GUIDE ONLY  |

## Tohatsu 10hp Type C & D

Authorised date – 6 July 2010

| REF | DESCRIPTION   | SPEC          | +/-   | REMARKS   |
|-----|---|---------------|-------|---|
| B   | Bore  | 54.9mm        |       | 0.25&0.5mm oversize allow seeP5                                 |
| S   | Stroke  | 52mm          |       | Two Stroke  |
| CC  | Capacity per cylinder   | 12.5cc        | 0.5cc | Measured at top of spark plug hole when piston is TDC-INDICATOR |
| TC  | Total Cylinder Capacity (Swept Volume)                            | 123.5cc       |       | GUIDE ONLY  |
| C1  | Cylinder Head Height  | 21.75mm       | 0.1mm |   |
| CH  | Cylinder head capacity with spark plug fitted                     | 10.5cc        |       | Use of standard plug B7HS to measure only                       |
| N   | Number of Piston Rings  | 2             |       |   |
| P1  | Length of piston (less deflector)                                 | mm            | Min   |   |
| P2  | Length of Piston (including deflector)                            | mm            | Min   |   |
| P3  | Distant from Little End Centreline to lower edge of piston        | mm            | Min   |   |
| P4  | Distant from Little End Centreline to Piston Crown                |               |       |   |
| P5  | Piston Diameter   |               |       |   |
| T   | Distant from Crankshaft Centreline to Top Edge of Transfer Ports  | mm            |       |   |
| E   | Distance from Crankshaft Centreline to Top Edge of Exhaust Ports  | mm            |       |   |
| ME  | Distance from Cylinder Block Mating Face to Top off Exhaust Port  | 40.5 mm       | 0.1mm |   |
| D1  | Shape and Size of Transfer Ports                                  |               | Max   |   |
| D2  | Shape and Size of Exhaust Ports                                   | 34mm x 17mm   | 1.5mm |   |
| D3  | Number of Transfer Points   | 3             | 0     |   |
| F   | Distance from Crankshaft Centreline to Cylinder Block Mating Face | 152.0mm       | 0.2mm |   |
| ET  | Exhaust Tube Length   | 266mm         | 2mm   |   |
| ES1 | Exhaust Tube Shape and Size at Open End                           | Circle 36.5mm | 1mm   |   |
| ES2 | Diameter of Top of Bell on Exhaust Tube                           |               |       | Inside  |
| ES3 | Length of Bell on Exhaust Tube                                    |               |       |   |
| FW  | Weight of Flywheel  | G             | Min   |   |
| L   | Reed Stop Setting   | 6.2mm         | Max   | Measured Rod (drill bit) not to pass in more than halfway       |
| C   | Carburettor Type  |               |       |   |
| J1  | Size of Main Jet  | 1.16mm        | Max   |   |
| V   | Venturi Diameter (also known as intake or open end)               | 22mm          |       |   |
| TB  | Throttle Bore (also known as crankcase or Throttle End)           | 27.00mm       | Max   |   |
| W   | Water Pump Impeller Blades  | 8             | 0     |   |
| G1  | Forward Gear Ratio  | 2.1.1         | 0     |   |
| G2  | Reverse Gear Fitted   | Yes           | N/A   |   |
| SB  | Squish Band Clearance   | Mm            | N/A   | GUIDE ONLY  |
| C   | Compression Pressure  | HPa           |       | GUIDE ONLY  |

## Mariner 10hp / 95, Mariner Marathon 10,

## Mercury Seapro 10

Authorised date – 2 March 2006

| REF | DESCRIPTION   | SPEC                            | +/-   | REMARKS   |
|-----|---|---------------------------------|-------|---|
| B   | Bore  | 60.33mm                         |       |   |
| S   | Stroke  | 45.72mm                         |       | Two Stroke  |
| CC  | Capacity per Cylinder   | 13.3mm                          |       | Measured at top of spark plug hole when piston is THC - INDICATOR |
| TC  | Total Cylinder Capacity (swept volume)                            | 131cc                           |       | GUIDE ONLY  |
| C1  | Cylinder head height  | N/A                             | N/A   |   |
| CH  | Cylinder head capacity with spark plug fitted                     | N/A                             | N/A   | Use of standard plug to measure only                              |
| N   | Number of piston rings  | 2                               | 0     |   |
| P1  | Length of Piston (less deflector)                                 | Mm                              | Min   |   |
| P2  | Length of Piston (including deflector)                            | Mm                              | Min   |   |
| P3  | Distant from Little End Centreline to lower edge of piston        | Mm                              | Min   |   |
| P4  | Distant from Little End Centreline to Piston Crown                | Mm                              |       |   |
| P5  | Piston Diameter   |                                 |       |   |
| T   | Distant from Crankshaft Centreline to Top Edge of Transfer Ports  | Mm                              |       |   |
| E   | Distance from Crankshaft Centreline to Top Edge of Exhaust Ports  | Mm                              |       |   |
| ME  | Distance from Cylinder Block Mating Face to Top off Exhaust Port  |                                 |       |   |
| D1  | Shape and Size of Transfer Ports                                  | Square<br>H:15.9 W:24mm         | 0.1mm |   |
| D2  | Shape and Size of Exhaust Ports                                   | Square H: 16.1<br>W:24.4-23.1mm | 0.1mm | Measure each port separately                                      |
| D3  | Number of Transfer Points   | 3                               | 0     |   |
| F   | Distance from Crankshaft Centreline to Cylinder Block Mating Face | N/A                             | N/A   |   |
| ET  | Exhaust Tube Length   | 341mm                           | 2mm   |   |
| ES1 | Exhaust Tube Shape and Size at Open End                           | 36.36mm                         | 0.5mm |   |
| ES2 | Diameter of Top of Bell on Exhaust Tube                           |                                 |       | Inside  |
| ES3 | Length of Bell on Exhaust Tube                                    |                                 |       |   |
| FW  | Weight of Flywheel  | 9                               | 0.01  |   |
| L   | Reed Stop Setting   | 7.6mm                           | Max   | Measured rod (drill bit) not to pass in more than halfway         |
| C   | Carburettor Type  | WM 50A, B & c                   |       |   |
| J1  | Size of Main Jet  | 0.52"                           | Max   |   |
| V   | Venturi Diameter (also known as intake or open end)               | 20mm                            | 0.1mm |   |
| TB  | Throttle Bore (also known as crankcase or Throttle End)           |                                 |       |   |
| W   | Water Pump Impeller Blades  | 6                               | 0     |   |
| G1  | Forward Gear Ratio  | 2.00:1                          | 0     |   |
| G2  | Reverse Gear Fitted   | Yes                             | N/A   |   |
| SB  | Squish Band Clearance   | N/A                             | N/A   | GUIDE ONLY  |
| C   | Compression Pressure  | HPa                             |       | GUIDE ONLY  |

## Mariner 10hp/94, Mariner Marathon 10,

## Mercury Seapro 10

Authorised date – 2 March 2006

| REF | DESCRIPTION   | SPEC                      | +/-   | REMARKS   |
|-----|---|---------------------------|-------|---|
| B   | Bore  | 60.3mm                    |       |   |
| S   | Stroke  | 45.72mm                   | 0.1mm | Two Stroke  |
| CC  | Capacity per Cylinder   | 12.2mm                    |       | Measured at top of spark plug hole when piston is TDC - INDICATOR |
| TC  | Total Cylinder Capacity (swept volume)                            | 131cc                     |       | GUIDE ONLY  |
| C1  | Cylinder head height  | N/A                       | N/A   |   |
| CH  | Cylinder head capacity with spark plug fitted                     | N/A                       | N/A   | Use of standard plug to measure only                              |
| N   | Number of piston rings  | 2                         | 0     |   |
| P1  | Length of Piston (less deflector)                                 | mm                        | Min   |   |
| P2  | Length of Piston (including deflector)                            | mm                        | Min   |   |
| P3  | Distant from Little End Centreline to lower edge of piston        | mm                        | Min   |   |
| P4  | Distant from Little End Centreline to Piston Crown                | mm                        |       |   |
| P5  | Piston Diameter   |                           |       |   |
| T   | Distant from Crankshaft Centreline to Top Edge of Transfer Ports  | mm                        |       |   |
| E   | Distance from Crankshaft Centreline to Top Edge of Exhaust Ports  | mm                        |       |   |
| ME  | Distance from Cylinder Block Mating Face to Top off Exhaust Port  |                           |       |   |
| D1  | Shape and Size of Transfer Ports                                  | Circle<br>H:63 W:84mm     | 0.1mm |   |
| D2  | Shape and Size of Exhaust Ports                                   | Circle H:64<br>W: 95-87mm | 0.1mm |   |
| D3  | Number of Transfer Points   |                           | 0     |   |
| F   | Distance from Crankshaft Centreline to Cylinder Block Mating Face |                           | Min   |   |
| ET  | Exhaust Tube Length   | 341mm                     | 2mm   |   |
| ES1 | Exhaust Tube Shape and Size at Open End                           | 36.86mm                   | 0.5mm |   |
| ES2 | Diameter of Top of Bell on Exhaust Tube                           |                           |       | Inside  |
| ES3 | Length of Bell on Exhaust Tube                                    |                           |       |   |
| FW  | Weight of Flywheel  | g                         | 0.01  |   |
| L   | Reed Stop Setting   | 7.6mm                     | Max   | Measured rod (drill bit) not to pass in more than halfway         |
| C   | Carburettor Type  | WM 42mm                   |       |   |
| J1  | Size of Main Jet  | 0.64"                     | Max   |   |
| V   | Venturi Diameter (also known as intake or open end)               | 25.4mm                    |       |   |
| TB  | Throttle Bore (also known as crankcase or Throttle End)           |                           |       |   |
| W   | Water Pump Impeller Blades  | 6                         | 0     |   |
| G1  | Forward Gear Ratio  | 2.00:1                    | 0     |   |
| G2  | Reverse Gear Fitted   | Yes                       | N/A   |   |
| SB  | Squish Band Compression   | mm                        | N/A   | GUIDE ONLY  |
| C   | Compression Pressure  | HPa                       |       | GUIDE ONLY  |

## Suzuki 10hp

Authorised date – 2 March 2006

| REF | DESCRIPTION   | SPEC                                 | +/-   | REMARKS   |
|-----|---|--------------------------------------|-------|---|
| B   | Bore  | 59MM                                 |       | 0.25 & 0.5mm oversize allow see p5                                |
| S   | Stroke  | 52mm                                 | 0.1mm | Two Stroke  |
| CC  | Capacity per Cylinder   | cc                                   |       | Measured at top of spark plug hole when piston is TDC - INDICATOR |
| TC  | Total Cylinder Capacity (swept volume)                            | 142cc                                | 0.5cc | GUIDE ONLY  |
| C1  | Cylinder head height  | 21mm                                 | 0.1mm | INDICATOR   |
| CH  | Cylinder head capacity with spark plug fitted                     | 17cc                                 |       | Use of standard plug BR6HS to measure only                        |
| N   | Number of piston rings  | 2                                    |       |   |
| P1  | Length of Piston (less deflector)                                 | mm                                   | Mmm   |   |
| P2  | Length of Piston (including deflector)                            | N/A                                  | N/A   |   |
| P3  | Distant from Little End Centreline to lower edge of piston        | mm                                   | Min   |   |
| P4  | Distant from Little End Centreline to Piston Crown                | mm                                   |       |   |
| P5  | Piston Diameter   |                                      |       |   |
| T   | Distant from Crankshaft Centreline to Top Edge of Transfer Ports  | mm                                   |       |   |
| E   | Distance from Crankshaft Centreline to Top Edge of Exhaust Ports  | mm                                   |       |   |
| ME  | Distance from Cylinder Block Mating Face to Top off Exhaust Port  | 35.2mm                               | 0.1mm |   |
| D1  | Shape and Size of Transfer Ports                                  | H:12.7 W:t-28.5<br>BP W:21.2<br>H:15 | 0.1mm | BP=Boost Port   |
| D2  | Shape and Size of Exhaust Ports                                   | H:18mm<br>W:35.5mm                   | 0.1mm |   |
| D3  | Number of Transfer Points   | 3                                    | 0     |   |
| F   | Distance from Crankshaft Centreline to Cylinder Block Mating Face | 148.5mm                              | 0.2mm |   |
| ET  | Exhaust Tube Length   | 285mm                                | 2mm   | Cast  |
| ES1 | Exhaust Tube Shape and Size at Open End                           | 36mm                                 | 1mm   | Inside Measurement  |
| ES2 | Diameter of Top of Bell on Exhaust Tube                           |                                      |       | Inside  |
| ES3 | Length of Bell on Exhaust Tube                                    |                                      |       |   |
| FW  | Weight of Flywheel  | 9                                    | Min   |   |
| L   | Reed Stop Setting   | 4.6mm                                | Max   | Measured rod (drill bit) not to pass more than halfway            |
| C   | Carburettor Type  | Mikuni 931D1                         |       |   |
| J1  | Size of Main Jet  | 1.10mm                               |       | Type 110  |
| V   | Venturi Diameter (also known as intake or open end)               | 15mm                                 | 0.1mm |   |
| TB  | Throttle Bore (also known as crankcase or Throttle End)           |                                      |       |   |
| W   | Water Pump Impeller Blades  | 6                                    | 0     |   |
| G1  | Forward Gear Ratio  | 1.92:1                               | 0     |   |
| G2  | Reverse Gear Fitted   | Yes                                  | N/A   |   |
| SB  | Squish Band Compression   | mm                                   | N/A   | GUIDE ONLY  |
| C   | Compression Pressure  | HPa                                  |       | GUIDE ONLY  |

## Mariner 8hp, Type 1, Mariner 8hp, Mercury 8hp

Authorised date – 1 February 2024

| REF | DESCRIPTION   | SPEC              | +/-    | REMARKS   |
|-----|---|-------------------|--------|---|
| B   | Bore  | 53.98MM           |        |   |
| S   | Stroke  | 45.7mm            | 0.1mm  | Two Stroke  |
| CC  | Capacity per Cylinder   | cc                |        | Measured at top of spark plug hole when piston is TDC - INDICATOR |
| TC  | Total Cylinder Capacity (swept volume)                            | 210cc             |        | GUIDE ONLY  |
| C1  | Cylinder head height  | N/A               | N/A    | INDICATOR   |
| CH  | Cylinder head capacity with spark plug fitted                     | N/A               | N/A    | Use of standard plug to measure only                              |
| N   | Number of piston rings  | 2                 | 0      |   |
| P1  | Length of Piston (less deflector)                                 | mm                |        |   |
| P2  | Length of Piston (including deflector)                            | mm                |        |   |
| P3  | Distant from Little End Centreline to lower edge of piston        | mm                |        |   |
| P4  | Distant from Little End Centreline to Piston Crown                | mm                |        |   |
| P5  | Piston Diameter   | mm                |        |   |
| T   | Distant from Crankshaft Centreline to Top Edge of Transfer Ports  | mm                |        |   |
| E   | Distance from Crankshaft Centreline to Top Edge of Exhaust Ports  | mm                |        |   |
| ME  | Distance from Cylinder Block Mating Face to Top off Exhaust Port  | mm                |        |   |
| D1  | Shape and Size of Transfer Ports                                  | Circle<br>14.70mm | 0.05mm |   |
| D2  | Shape and Size of Exhaust Ports                                   | Circle<br>14.70mm | 0.05mm |   |
| D3  | Number of Transfer Points   | 3                 | 0      |   |
| F   | Distance from Crankshaft Centreline to Cylinder Block Mating Face | N/A               | N/A    |   |
| ET  | Exhaust Tube Length   | 341mm             | 2mm    |   |
| ES1 | Exhaust Tube Shape and Size at Open End                           | 36.86mm           | 0.5mm  |   |
| ES2 | Diameter of Top of Bell on Exhaust Tube                           | mm                | mm     | Inside  |
| ES3 | Length of Bell on Exhaust Tube                                    | mm                | mm     |   |
| FW  | Weight of Flywheel  | g                 | Min    |   |
| L   | Reed Stop Setting   | 5.56mm            | Max    | Measured rod (drill bit) not to pass more than halfway            |
| C   | Carburettor Type  |                   |        |   |
| J1  | Size of Main Jet  | 0.046mm           | only   |   |
| V   | Venturi Diameter (also known as intake or open end)               | 17.2mm            | 0.1mm  |   |
| TB  | Throttle Bore (also known as crankcase or Throttle End)           | mm                | mm     |   |
| W   | Water Pump Impeller Blades  | 6                 | 0      |   |
| G1  | Forward Gear Ratio  | 2.08:1            | 0      |   |
| G2  | Reverse Gear Fitted   | Yes               | N/A    |   |
| SB  | Squish Band Compression   | N/A               | N/A    | GUIDE ONLY  |
| C   | Compression Pressure  | HPa               |        | GUIDE ONLY  |

## Mariner 8hp, Type 2, Mariner 8hp, Mercury 8hp

Authorised date – 1 February 2024

| REF | DESCRIPTION   | SPEC              | +/-    | REMARKS   |
|-----|---|-------------------|--------|---|
| B   | Bore  | 53.98MM           |        |   |
| S   | Stroke  | 45.7mm            | 0.1mm  | Two Stroke  |
| CC  | Capacity per Cylinder   | cc                |        | Measured at top of spark plug hole when piston is TDC - INDICATOR |
| TC  | Total Cylinder Capacity (swept volume)                            | 210cc             |        | GUIDE ONLY  |
| C1  | Cylinder head height  | N/A               | N/A    | INDICATOR   |
| CH  | Cylinder head capacity with spark plug fitted                     | N/A               | N/A    | Use of standard plug to measure only                              |
| N   | Number of piston rings  | 2                 | 0      |   |
| P1  | Length of Piston (less deflector)                                 | mm                |        |   |
| P2  | Length of Piston (including deflector)                            | mm                |        |   |
| P3  | Distant from Little End Centreline to lower edge of piston        | mm                |        |   |
| P4  | Distant from Little End Centreline to Piston Crown                | mm                |        |   |
| P5  | Piston Diameter   | mm                |        |   |
| T   | Distant from Crankshaft Centreline to Top Edge of Transfer Ports  | mm                |        |   |
| E   | Distance from Crankshaft Centreline to Top Edge of Exhaust Ports  | mm                |        |   |
| ME  | Distance from Cylinder Block Mating Face to Top off Exhaust Port  | mm                |        |   |
| D1  | Shape and Size of Transfer Ports                                  | Circle<br>14.70mm | 0.05mm |   |
| D2  | Shape and Size of Exhaust Ports                                   | Circle<br>14.70mm | 0.05mm |   |
| D3  | Number of Transfer Points   | 3                 | 0      |   |
| F   | Distance from Crankshaft Centreline to Cylinder Block Mating Face | N/A               | N/A    |   |
| ET  | Exhaust Tube Length   | 341mm             | 2mm    |   |
| ES1 | Exhaust Tube Shape and Size at Open End                           | 36.86mm           | 0.5mm  |   |
| ES2 | Diameter of Top of Bell on Exhaust Tube                           | mm                | mm     | Inside  |
| ES3 | Length of Bell on Exhaust Tube                                    | mm                | mm     |   |
| FW  | Weight of Flywheel  | g                 | Min    |   |
| L   | Reed Stop Setting   | 7.6mm             | Max    | Measured rod (drill bit) not to pass more than halfway            |
| C   | Carburettor Type  |                   |        |   |
| J1  | Size of Main Jet  | 0.046mm           | Max    |   |
| V   | Venturi Diameter (also known as intake or open end)               | 17.2mm            |        |   |
| TB  | Throttle Bore (also known as crankcase or Throttle End)           | mm                | mm     |   |
| W   | Water Pump Impeller Blades  | 6                 | 0      |   |
| G1  | Forward Gear Ratio  | 2.00:1            | 0      |   |
| G2  | Reverse Gear Fitted   | Yes               | N/A    |   |
| SB  | Squish Band Compression   | N/A               | N/A    | GUIDE ONLY  |
| C   | Compression Pressure  | HPa               |        | GUIDE ONLY  |

## Suzuki 8hp

Authorised date – 1 February 2024

| REF | DESCRIPTION   | SPEC              | +/-   | REMARKS   |
|-----|---|-------------------|-------|---|
| B   | Bore  | 54 MM Std         |       |   |
| S   | Stroke  | 46mm              | 0.1mm | Two Stroke  |
| CC  | Capacity per Cylinder   | 14.1mm            |       | Measured at top of spark plug hole when piston is TDC - INDICATOR |
| TC  | Total Cylinder Capacity (swept volume)                            | 105.5cc           |       | GUIDE ONLY  |
| C1  | Cylinder head height  | 16.3mm            | 0.1mm | INDICATOR   |
| CH  | Cylinder head capacity with spark plug fitted                     | 13.1mm            | 0.5mm | Use of standard plug to measure only                              |
| N   | Number of piston rings  | 2                 | 0     |   |
| P1  | Length of Piston (less deflector)                                 | mm                |       |   |
| P2  | Length of Piston (including deflector)                            | mm                |       |   |
| P3  | Distant from Little End Centreline to lower edge of piston        | mm                |       |   |
| P4  | Distant from Little End Centreline to Piston Crown                | mm                |       |   |
| P5  | Piston Diameter   | mm                |       | 0.25 & 0.5mm oversize allowed                                     |
| T   | Distant from Crankshaft Centreline to Top Edge of Transfer Ports  | mm                |       |   |
| E   | Distance from Crankshaft Centreline to Top Edge of Exhaust Ports  | mm                |       |   |
| ME  | Distance from Cylinder Block Mating Face to Top off Exhaust Port  | 34.5mm            | 0.1mm |   |
| D1  | Shape and Size of Transfer Ports                                  |                   |       |   |
| D2  | Shape and Size of Exhaust Ports                                   | Circle<br>14.70mm | Max   |   |
| D3  | Number of Transfer Points   |                   | 0     |   |
| F   | Distance from Crankshaft Centreline to Cylinder Block Mating Face | 130.7mm           | 0.2mm |   |
| ET  | Exhaust Tube Length   | 260mm             | 2mm   |   |
| ES1 | Exhaust Tube Shape and Size at Open End                           | 29.6mm            | 0.5mm |   |
| ES2 | Diameter of Top of Bell on Exhaust Tube                           | mm                | mm    | Inside  |
| ES3 | Length of Bell on Exhaust Tube                                    | mm                | mm    |   |
| FW  | Weight of Flywheel  | g                 | Min   |   |
| L   | Reed Stop Setting   | 7.8mm             | Max   | Measured rod (drill bit) not to pass more than halfway            |
| C   | Carburettor Type  | 1324-15           |       |   |
| J1  | Size of Main Jet  | 1.05mm            |       |   |
| V   | Venturi Diameter (also known as intake or open end)               | 17.2mm            |       |   |
| TB  | Throttle Bore (also known as crankcase or Throttle End)           | mm                | mm    |   |
| W   | Water Pump Impeller Blades  | 6                 | 0     |   |
| G1  | Forward Gear Ratio  | 2.077:1           | 0     |   |
| G2  | Reverse Gear Fitted   | Yes               | N/A   |   |
| SB  | Squish Band Compression   | N/A               | N/A   | GUIDE ONLY  |
| C   | Compression Pressure  | HPa               |       | GUIDE ONLY  |