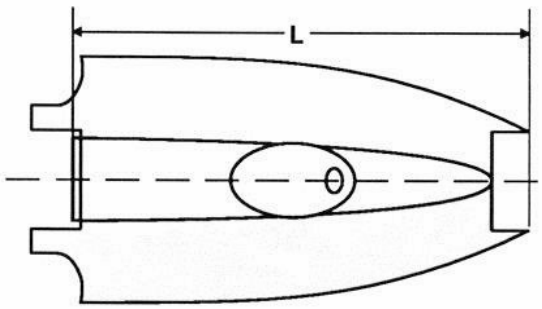
SPORT C STOCK CLASS BASICS

Max. Total Cu. In. Displacement 35.00 Cubic Inches
Min. Boat Length 8’ (14’ Max.)
Min. Boat Width(Beam) 48"(4ft)
Min. Boat Weight 675 Lbs. (including driver, motor, all hardware, etc as raced)
Minimum Driver Age: 14
Motor: Nissan/Tohatsu 2 cylinder 40hp, manufactured 1980's through 2002
(Note these are models M40C, NS40C, NS40C2. The NS40D variants are the 3 cylinder models of D stock standards and DO NOT MEET Sport C 35ci rules.)
Motor Length: the 15" shaft length is recommended, though allowed no boats currently race with the 20" long shaft versions.

SPORT C GENERAL BOAT STANDARDS

1) Trim tabs or afterplanes are allowed, and may be adjustable while the boat is underway; however, hydrofoils shall not be permitted.
2) Power trim is allowed and Recommended. adjustable spoilers shall be allowed.
4) Driver must be seated in a seat, NO seat belt unless full capsule 5 point system used
5) Running surfaces may be altered.
6) Factory or non-factory turn fins or skegs are allowed.
7) Transom adapters for raising, lowering or extending the engine/prop height are allowed, but must be fixed while underway (ie secured with clamping bolts). This is not the same as power trim, which shall be adjustable while racing.

1. The length is to be measured parallel with the fore and aft centerline from the rear of the transom at the point of engine attachment, to the foremost part of the bow. A tolerance of two inches will be allowed in measuring overall boat length dimensions.
2. No add-on extensions to the hull will be permitted to achieve class length. Fins are not included in measurement of boat length (see Figure L)
3. The minimum weight of 675LBS shall include motors, steering systems, motor controls, hardware, instruments, and all securely attached cushions, fuel tanks and brackets, batteries and boxes, fire extinguishers, etc. Any fuel remaining in the tanks at the end of the race will be included in the boat weight. Driver’s weight will be included with life jacket and helmet and clothing as raced. No water will constitute any part of the total class weight, and the weight of lifting straps shall be subtracted from the total weight. Essentially the boat is weighed directly after the race, with anything on/in the boat during the race included.
3.1 All weights other than the driver, engine, and fire extinguishers, must be fastened in such a manner they cannot be relocated during the race. Ballast weights must be securely bolted or fastened in place, no loose wrenches or anchors to bounce around.
3.2 Except in races of longer than one-half hour duration per heat, only ONE fuel tank will be allowed. No weights, other than the engine and its controls, may be fastened in locations external to the hull where they may constitute a hazard upon impact with another object.
5. All boats constructed with false floors, seat box compartment or air filled flotation tanks must be fitted with inspection holes of at least 7/8” diameter such that no point inside said tank is more than 24 inches from inspection hole. These holes may be plugged during competition but must be open for weighing and inspection.
6. There shall be no devices or arrangements specifically to take advantage of external air pressure to produce or assist planing.



FLOTATION

Boats must contain permanently attached flotation foam. Sport C requires a Minimum 4.0 Cubic Feet, typically of the expanding pour type, added into the sponson voids. Two pounds per cubic foot, closed cell, U.S.C.G. approved flotation foam is recommended. Its volume should be easy to measure for purposes of inspection.

COCKPIT STRUCTURE

All Sport C boats are required to have reinforced cockpit sidewalls equal in height to the top of the driver's ear and extending forward of the driver's ear 10". (See Figures D and E.) All boats are required to have a backboard (bulkhead behind seat) of reinforced material equaling the side in height. The reinforcement shall from the bulkhead forward along the entire main cockpit area and conform to the normal sides/shape of the boat, providing protection for all of the driver's body. Typically the cockpit sides are constructed with layers of Kevlar on both sides of 1/2" structural foam. There may be additional fiberglass on either side, and it is common for older boats to have the kevlar and foam built inside their original fiberglass.

FIG. D

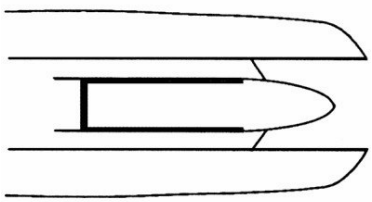
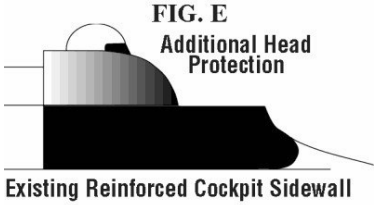


FIG. E

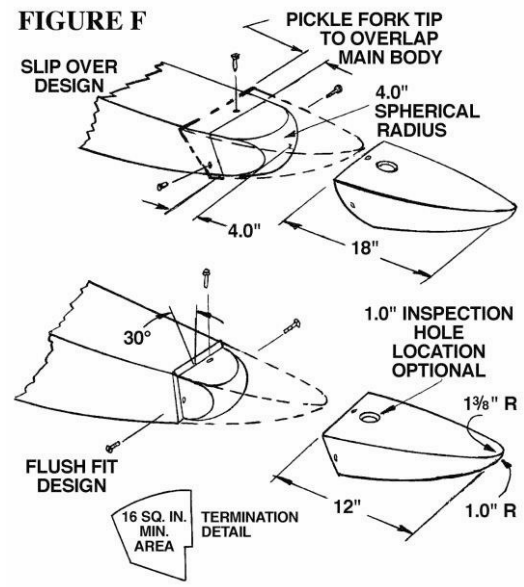


PICKLEFORK TIPS

The front tips of the boat can not be a pointed structural part of the boat. All race boats of the catamaran or tunnel boat type should have a spherical bulkhead at the termination of the bow end of the sponson. For all boats front end of the sponson must be a minimum of 16in^2. This forward bulkhead shall be composed of a minimum of 3/4 in. thick plywood or equivalent material. This bulkhead must be an integral part of the main structure of the sponson. (Note: the purpose of the bulkhead is to cap the ends of the stringers; see Figure F.) The bulkhead must also have an additional rounded area or cap

with a spherical radius of at least 2.5" for Sport C, See Figure F. (note the figure dictates 4.0" radius which is only for larger OPC classes)
Boats may include optional picklefork tips, which must conform to the below.
B. Optional picklefork tip may slide over the sponson as shown in Figure F.
C. Picklefork tip shall have a front-end minimum horizontal radius of 1-3/8 inches.
D. Picklefork tip shall have a front-end minimum spherical radius of one inch (see FigureF).
E. A maximum of 3 in^3 of flotation foam is allowable in the tip of the optional picklefork.
Compliance to the above rules shall be demonstrated by the use of a 1-inch hole to allow inspection of the spherical bulkhead and the interior of the picklefork tip or by removal of the picklefork tip.

Suggested lay-up schedule of the optional picklefork tip:
1) Gelcoat mold
2) Apply 3/4 oz. Mat and 7 to 10 oz. glass cloth. Let harden.
3) Pull and trim to fit.
4) Average lay-up thickness shall not exceed 3/32 inches. Suggested construction of the spherical forward bulkhead:
5.1) The spherical radius can be generated from foam material (maximum of 5 to 6 lbs. per cubic foot density)
2) Shape foam to the approximate dimensions.
3) Apply 3/4 oz. Mat and 7 to 10 oz. glass cloth overlapped onto the sponson or flat bulkhead.
4) Spherical shape or cap may be built in place or produced separately and bonded to the forward bulkhead



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SAFETY DEVICES AND EQUIPMENT

THROTTLE AND SHIFT

All boats must use a foot throttle, no OEM style lever throttles. A suitable arrangement shall be installed capable of closing the throttle(s) when the driver's foot is removed from the throttle pedal, such as a return spring on the foot pedal, and an additional spring added at the motor throttle linkage. Sport C must maintain F-N-R shifting ability, and must be shiftable by the driver from the cockpit seat. This can be done with the OEM shifter hardware, or a simple lever may be fabricated to run a shift cable. This is most helpful when warming the engine before races.

SAFETY STOP SWITCHES/LANYARDS

All non-driver restrained boats must be equipped with an electrical engine stop switch capable of stopping the engine, and electric fuel pump, if so equipped, if the driver is separated from the boat or leaves the seated position. All boats are required to have a switch which is accessible from the port outside of the boat, that will disable the engine. This can be the same switch, or two separate switches if the tethered switch is difficult to access from outside the boat. A lanyard stop switch must consist of a line with an end of some style (plug, cap, etc.) which must attach to parts (ie a switch) inside the hull to facilitate continuous operation of the engine, using a tether less than four feet in length, with a switch activating force less than 30 pounds. All safety switch tethers must be permanently attached to life jackets by a breakaway device with a pull force greater than the switch operating force. It is suggested to loop a 50lb (standard) zip tie through the D ring on the lift jacket, and secure the tether to this zip tie. This way should the driver leave the boat and snag the tether on the steering wheel, mirror, etc, the zip tie will break instead of tearing the D ring out of the lift jacket.

LIFE JACKETS

During any race, every participant must wear a competition helmet (orange or yellow, Snell 2010 or newer rated) and life jacket as defined in General Safety Rules 3A and 3B. Visit Lifeline Racing, or Security Race Products to order a compliant life jacket.

BOAT NUMBERS

1. Owners are to fasten their numbers to each side of the boat so the number is readily visible to the officials. Numbers must remain intact throughout the race. Black on white, or white numbers on a black background that is approximately elliptical or rectangular in shape, is acceptable. Vertical block characters shall be used and be a minimum of 12" high with a minimum stroke of 2". Less than 12" is acceptable only if the area will not allow otherwise, and the numbers must be as close as possible to the standards. Should the background be the same color as the adjacent section of the boat, a 1/2" contrasting, border is required. Spacing between numbers, and between borders and numbers, must be at least 2". Numbers, as well as the background and borders may not be angled or tilted, no italic scripts.

SPORT C MOTOR STANDARDS

2) Engine cowling must be in place during race. If cowling or engine is repainted it must be repainted to original colors to retain product identification.
3) Tiller arms may be removed.
4) Any reed material will be acceptable, but of the same design/shape/size as OEM.
5) Gearcase outside surfaces may be contoured, but must meet production specifications.
6) Solid or pinned motor mounts allowed.
7) The skeg may be sharpened to a 1/32 radius and the wear plate removed.
8) Sport C engines may have a substitution of a maximum of 2 sleeves (1ea per cylinder, 2 cylinder engine) of any manufacturer with original porting specifications and the same material will be allowed for the repair of damaged cylinders.
The sport C motor may be bored 0.5mm/0.020" oversize and fitted with OEM brand oversize pistons and rings. Weisco or other aftermarket pistons are not allowed. Under no circumstances may the bore be enlarged more than 0.035 inch over the original OEM specified dimension of 2.755"
9) Grinding is permitted to match block casting to the ports/liner. No grinding is permitted beyond 5/8 inch past the liner into the casting of the block. All OPC Technical Specifications must be maintained. This allows the sloppy cast aluminum block passages to be matched to the precision cast iron liner port dimensions.
10) Sport C is to use one 12-volt battery (a lawn mower battery is a common choice)
5. Engines must be bolted to transoms or jack plate brackets, not just clamped.
6. Anyone starting or running any outboard motor over land or dock with the propeller, prop nut, washer(s) or thrust washer on the lower unit may be disqualified for up to thirty (30) days.
0. Tachometer, fuel and water pressure, and temperature gauges may be installed. A visual 1/8" cooling pee tube routed to the cockpit is recommended, and an 8,000rpm tach is suggested.
0. The attachment of a steering bar or its equivalent may be accomplished at any point or points on an engine. Any cowlings or plates removed may be cut, and must be replaced. Any openings created by this operation must be sealed to prevent the engines from pulling in air. Studs or bolts may be exchanged to secure steering bar.
0. Throttle return springs will be allowed on engines; however, no drilling of holes or other modifications to the engine will be permitted to install same. Mounting links may be attached with present fasteners.
0. Any adjustments of mixture control, throttle and shift linkage will be allowed.
0. Safety tilt switches and safety starting switches may be disconnected or bypassed.
0. The attachment of a power trim system may be accomplished at any point or points on an engine. Only those parts of the production motor interfering with the attachment and function of the trim system may be altered or removed.
0. Bead blasting will be allowed at the block and crankcase interface only. No other internal parts may be bead-blasted

There shall be no alterations of parts with the exception of spark plugs, carburetor jets, and propellers, or except specific parts approved by the Technical Committee and approved by the Commission. The intention is to race the engine exactly as manufactured and without special performance boosting accessories. The gearcases on motors raced in Stock classes must have either the same surface coating or paint as supplied by the manufacturer, or with no surface coating or paint over part or all of the

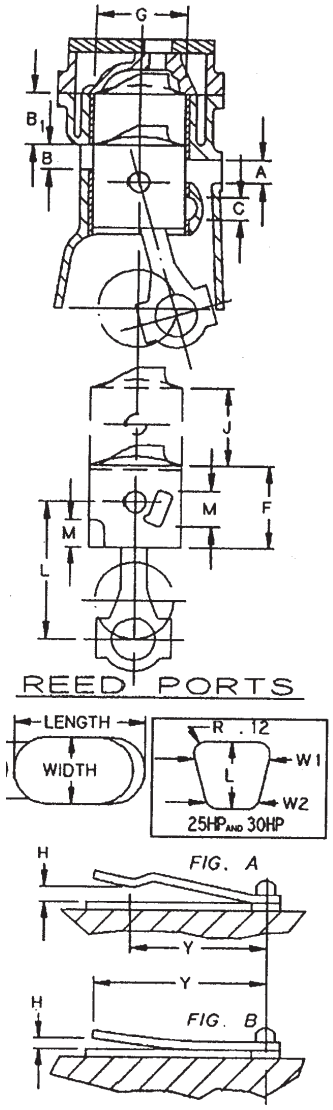
surface of the gearcase casting, but the smoothness of the metal surface must under no circumstances be better than that supplied by the manufacturer.
D. In all classes the trim tab, thrust and locking washers may be altered or removed from the lower unit to permit the use of any propeller, thrust washer or nut.

Engine components are of two categories: primary and secondary parts.
1) Primary components are: Block and crank case assembly; cylinder head; crankshaft; connecting rods; pistons; wrist pins; induction system; cooling system (must retain original cooling concept); midsection; exhaust; and gear case assembly. No alterations of these components are allowed unless specifically specified in the class rules. Primary parts must be OEM for the model.
2) Secondary components are: Bearings; seals; impellers; cylinder sleeves; gaskets (must be same design and thickness); fuel lines and fitting; ignition wires (high tension) and caps or boots. Secondary parts may be of any manufacture and must be of same design intent and configuration as the OEM parts

5. Motor Fuel: Only motor fuel consisting of, or compounded of, standard pump or racing gasoline, shall be used, recommended to be of 91 or higher octane rating. Petroleum-based and/or synthetic 2 stroke oils may be added to the fuel, typically at a ratio of 33:1 for Sport C motors. Standard pump gas of 10% ethanol content is allowed at most races, however verify with the inspector or race director before the race.

Date: 2-25-2015
Model Year:

RACE CLASS: SPORT-C Tohatsu / Nissan



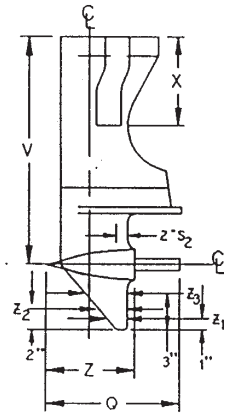
MANUFACTURER						NISSAN / TOHATSU			
ADVERTISED SALES NAME						NS40C			
DISPLACEMENT MAX					in^3	30.1			
NUMBER OF CYLINDERS						2			
MIN. VOLUME OF COMBUSTION CHAMBER INC'L SPARK PLUG HOLE)					cm^3	26.5			
CARBURETOR		VENTURI		±.015	in	1.259			
		BORE		±.015	in	1.574			
		QUANTITY PER ENGINE				1			
POWERHEAD SPECIFICATIONS	G	CYLINDER BORE		±.003	in	2.755			
	J	PISTON STROKE		±.011	in	2.519			
	L	ROD LENGTH		±.006	in	4.566			
	K	DECK HEIGHT		±.012	in	7.12			
	F	PISTON LENGTH		±.030	in	2.637			
	M	PORT HEIGHT		±.030	in	--			
	NUMBER OF PORTS PER CYLINER	A	TRANSFER			3			
		B	EXHAUST			1			
		C	PISTON			2			
	PORT HEIGHT	A	TRANSFER	±.035	in	0.531			
		B	EXHAUST	±.035	in	1.062			
		B_1	EXHAUST	±.035	in	1.456			
		C	PISTON	±.035	in	--			
	PORT TIMING	A	TRANSFER	±2°	ATC	120°			
		B	EXHAUST	±2°	ATC	93°			
		C	PISTON	±2°	ATC	--			
	REED BLOCK (ONE CYLINDER)	# OF PORTS				6/CYLINDER			
		LENGTH x WIDTH SIZE OF PORTS		MAX	in	3 @ 1.000, 3 @ .890x0.640			
		REED MAT'L				Any Material			
		REED THICKNESS		±.001	in	X			
		H	REED STOP HGT.	MAX	in	.250			
		Y	CHECKING DIS.	±.030	in	1.098			
	WEIGHT (ONE SET)	FLYWHEEL		MIN	lbs	7.5			
		PISTONS, RINGS, ROD, WRIST PIN, SPACERS, BEARINGS		MIN	lbs	14.0			

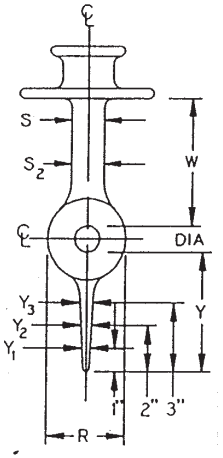
Flat Plate Volume- Cylinder head removed from block, sparkplug hole volume included.
Clearance Volume- Cylinder head on motor piston @ TDC, sparkplug hole volume included

WARNING! FOR INSPECTION ONLY! These specifications are not intended as a guide for modification or "blueprinting" and are subject to change as needed.

Date: 2-25-2015
Model Year:

RACE CLASS: SPORT-C





MANUFACTURER						Nissan/Tohatsu			
GEARCASE MODEL IDENTIFICATION						NS40C			
ADVERTISED SALES NAME						NS40C			
GEARCASE SPECIFCATIONS	GEAR RATIO					13:25			
	X	EXHAUST TUBE LENGTH- POWERHEAD BASE TO PRIMARY TUBE END		±.25	in	S=12.10 L=14.10			
	Q	TORPEDO LENGTH (W/ PROPSHAFT)		MAX	in	14.370			
	R	TORPEDO WIDTH		MIN	in	3.425			
	S	STRUT WIDTH		MIN	in	1.496			
	S_2	STRUT WIDTH (2" FORWARD OF TRAILING EDGE		MIN	in	--			
	W	DIS. FROM PROPSHAFT TO CAVITATION PLATE		±.2	in	5.944			
	Y	LENGTH OF SKEG FROM PROPSHAFT		±.2	in	5.875			
	Z	TORPEDO LENGTH		±.2	in	8.74			
	V	PROPSHAFT CENTERLINE TO POWERHEAD BASE	LONG SHAFT	±.2	in	29.467			
			SHORT SHAFT	±.2	in	24.467			
	Y_1	SKEG THICKNESS		MIN	in	.25			
	Y_2	SKEG THICKNESS		MIN	in	--			
	Y_3	SKEG THICKNESS		MIN	in	.49			
	Z_1	SKEG CORD LENGTH		±.2	in	3.25			
	Z_2	SKEG CORD LENGTH		±.2	in	--			
	Z_3	SKEG CORD LENGTH		±.2	in	6.0			
	DIA	PROPSHAFT DIA		±.1	in	.748			

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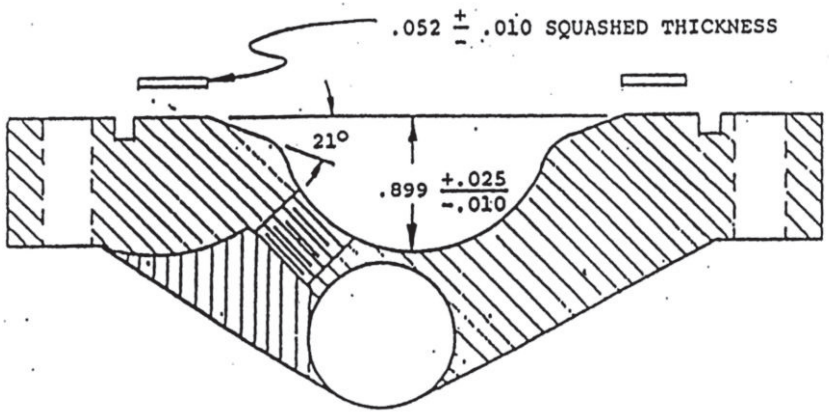
Date: 2-25-2015
Model Year:

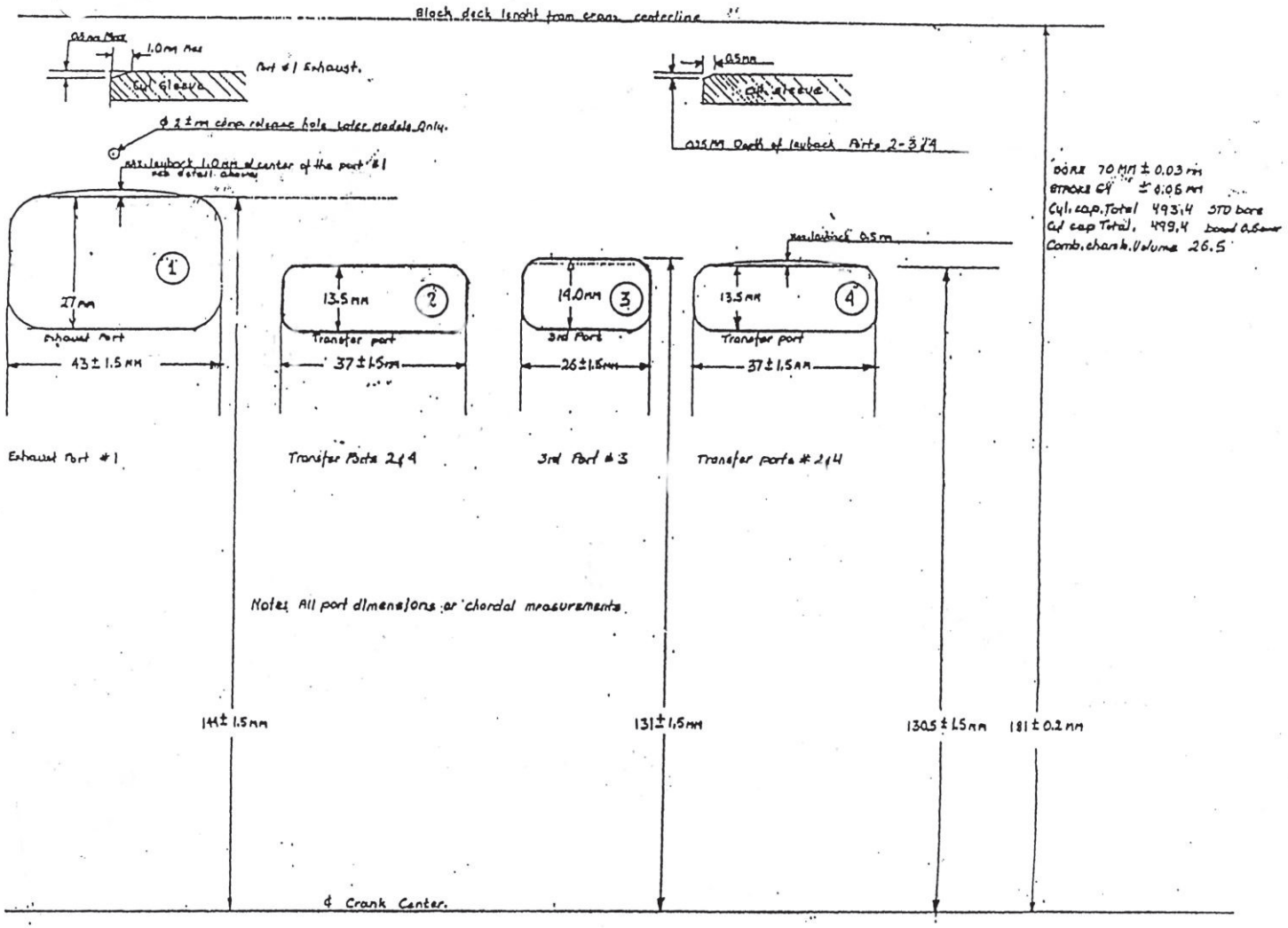
SPORT-C NOTES: NISSAN/TOHATSU



1. Dimension for exhaust pipe and adapter measured in place on the motor are as follows: 12.5 in. for short and 14.5 in for long.
2. Timing stop boss may not be altered or removevd.
3. OEM carburetor airbox and front plug may not be altered or removed.
4. Grinding will be permitted to match to block casting to the ports/liner. No grinding is permitted beyond 5/8 inch past the liner into the casting of the block.
5. The Only Approved Aftermarket ignition parts are CDI Electronics (RaPair) CD Box # R346-06260-2
6. It is permissible to add additional support to the electric starter.
7. **When measuring cylinder block deck height use the "K" dimension from the Engine Specification Sheet.**
8. **Tohatsu has superseded the flywheel, CDI and coil assemblies used on the Sport C engine, the old parts are no longer available. The new style flywheels (P/N 361-060910M) have "FP5506" stamped into the top of them. The newer style flywheel has been shown to work with the older style ignition system. Flywheels marked "FP5506" with a minimum weight of 7 lb. 3oz. are legal; all others must weight 7 lb. 8 oz. as currently listed on the Engine Inspection Sheet. The newer CDI and coil assemblies can be used on any motor with either flywheel,**

Date: 2-25-2015
Model Year:

SPORT-C NOTES: NISSAN/TOHATSU

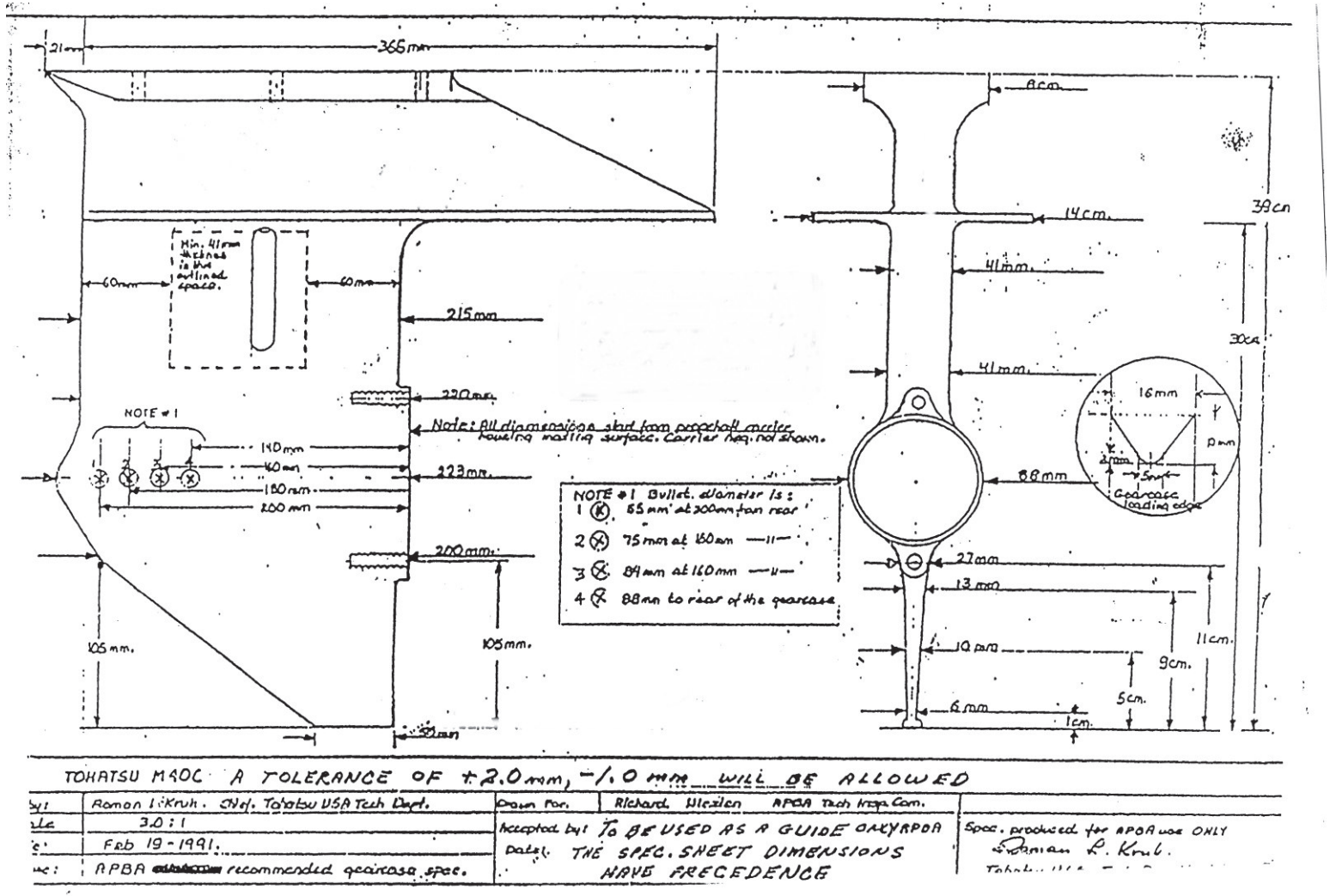


M 40C TOHATSU. Port layout dimensions. APBA Inspection sheet.
Port layback specifications details

Prepared Jan 17.1991 by Roman L KRUK CHIEF. TOHATSU USA TECH. DEPT

Date: 2-25-2015
Model Year:

SPORT-C NOTES: NISSAN/TOHATSU



TOHATSU M40C A TOLERANCE OF +2.0mm, −1.0 mm WILL BE ALLOWED

By:	Ramon L. Kruh. Mgr. Tohatsu USA Tech Dept.	Drawn For:	Richard Wiesler APBA Tech Insp. Com.
Scale	3.0 : 1	Accepted by:	TO BE USED AS A GUIDE ONLY APBA
Date:	Feb 19-1991.	Date:	THE SPEC. SHEET DIMENSIONS
Use:	APBA ~~[illegible]~~ recommended gearcase spec.		HAVE PRECEDENCE

Spec. produced for APBA use ONLY
Damian L. Kruh.

WARNING! FOR INSPECTION ONLY! These specifications are not intended as a guide for modification or "blueprinting" and are subject to change as needed.

Date: 2-25-2015
Model Year:

Sport C Technical Standards

Max. Total Cu. In. Displacement	Minimum Boat length	Minimum Weight	Class type
35.00 CI	8' (14' Max.)	675 Lbs.	Pure Stock

Minimum age requirements 14

	Total Cu. Ft. of Foam in Boat, Including Cockpit	Cu. Ft. of Foam in Reinforced Cockpit Structure,If So Equipped
Sport C	**4.0 CF**	**2.0 CF**

Sport C Boat Standards (see also Rule Rule 18)

(1) Boat must be of vee, flatbottom, modified vee, or tunnel design; no hydros.
(2) Driver must be seated in a seat.
(3) Running surfaces may be altered.
(4) Factory or non-factory turn fins or skegs are allowed.
(5) Super Stock and Altered engines are not eligible in OPC Sport classes.
(6) Power trim and/or adjustable spoilers shall be allowed in Sport classes.
(7) Transom adapters for raising, lowering or extending the engine will be allowed, but must be fixed while underway.

Sport C Motor Standards (see also Rule 20)

(1) Engine cowling must be in place during race. If cowling or engine is repainted it must be repainted to original colors to retain product identification.
(2) Tiller arms may be removed.
(3) Any reed material will be acceptable.
(4) Gearcases may have their outside surfaces contoured, however, they must meet production specifications.
(5) Solid or pinned motor mounts allowed.
(6) Allow the sharpening of the skeg to a 1/32 radius and remove wear plate.
(7) Sport C engines may have a substitution of a maximum of 2 sleeves of any manufacturer with original porting specifications and the same material will be allowed for the repair of damaged cylinders.
(8) Grinding will be permitted to match to block casting to the ports/liner. No grinding is permitted beyond 5/8 inch past the liner into the casting of the block.

WARNING! FOR INSPECTION ONLY! These specifications are not intended as a guide for modification or “blueprinting” and are subject to change as needed.

Date: 2-25-2015
Model Year:

(9) All specifications of OPC Technical specs must be maintained
(10) It is permissible to add additional support to the electric starter.

REVISIONS:

Rev: 2.25.2015 Note #7 added to clarify inspection of "K" dimension. Note #8 added to include superseded flywheel and coil assemblies.