Ministry of Defence

de&s

Craft Acceptance Part 2B. Sea Trials. For craft following major equipment changes.

Version 0.1
21 Aug 2019

Prepared by:		
Approved by:		
Authorised for issue by:		

Version Control

Date Issued	Version	Author	Reason for Change

CRAFT ACCEPTANCE

Acceptance of craft from a contractor following a maintenance upkeep period shall be conducted in 2 main stages.

a. Material condition assessment

b. Sea trials.

Craft Material Survey. The CSS Boats officer is to conduct a material state survey of the craft. The documents for this task are:

a. Craft Acceptance Part 1A. Material survey for enclosed craft, open craft and yachts.

b. Craft Acceptance Part 1B. Material survey for RIB and ORC type craft.

Sea Trials. Once the craft has passed the material survey it is to progress on to sea trials. The documents for this task are:

a. Craft Acceptance Part 2A. Sea trials for craft following standard upkeep and repair periods.

b. Craft Acceptance Part 2B. Sea trials for craft following major equipment changes.

(Major equipment changes are to be considered as changes in engines, propulsion and addition of equipment which significantly changes the weight of the craft.)

The trials are to be witnessed by the CSS Boats officer and the representative contractor officer. Copies of the acceptance trials are to be retained by CSS Boats and craft prime contractor.

CRAFT ACCEPTANCE SEA TRIALS

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BOAT DETAIL	
Boat Type and MOD State	
MOD Boat No.	

REASON FOR TRIALS
Acceptance of craft following upkeep period. ☐
Assessment of craft following damage repair ☐
Acceptance of craft following installation of new equipment. ☐
Other reason _____

CONTRACTOR	
Company:	
Contact Name:	
Address:	
Telephone:	
e-mail:	

MOD REPRESENTAIVE	
Name:	
Section:	
Address:	
Telephone:	
e-mail:	

TRIALS PLAN AND PRE-REQUISITES

	TRIALS PLAN AND PRE-REQUISITES	V 1.0 1/9/19

TRIALS PLAN AND PRE-REQUISITES
The following sections are to be used by the CSS Boats officer is to determine the required trials and support for the trials. For craft following standard upkeep periods without significant changes to the craft then the acceptance sea trials should be conducted with the craft fully loaded unless agreed otherwise. For craft that have undergone major changes in equipment such as new engines or significant changes in weight it is recommended sea trials are initially conducted in the Light Operation condition (crew, fuel and equipment but excluding payload) and then the fully loaded condition.

BOAT TECHNICAL DETAILS AS GIVEN IN THE BR (Identifying the craft details from the BR now will assist in establishing the trial loads and required craft speed and endurance performance.)	
Boat Type and MOD State	
Craft BR No.	
PAX	
Weight (Light ship & fully loaded)	
Fuel	
Speed	
Endurance	
Fuel Type	
Engines	Inboard / Outboard
Engine(s) Make:	
Propulsion	Propeller / Water Jet
Propulsion. Water Jet make	

TRIALS TO CONDUCT Select the trials to be conducted. (Bollard Pull and Sea Keeping are normally reserved for when major changes to the craft have been conducted.)	
Maximum average speed	Yes ☐ / No ☐
Acceleration	Yes ☐ / No ☐
Crash Stop	Yes ☐ / No ☐
Turning circles	Yes ☐ / No ☐
Zig Zag	Yes ☐ / No ☐
1 hour endurance	Yes ☐ / No ☐
Bollard Pull	Yes ☐ / No ☐
Sea Keeping	Yes ☐ / No ☐

CRAFT LOADING	
Select the load conditions the Trials are to be conducted under.	
Craft in light ship conditions to be weight prior trial:	Kg
Light Operating condition trials (crew, fuel, equipment but excluding load):	Yes ☐ / No ☐
Fully loaded trials to be conducted:	Yes ☐ / No ☐
Loading using:	
Ballast weights	Yes ☐ / No ☐
Water weights	Yes ☐ / No ☐
Passengers	Yes ☐ / No ☐
Other (Details:)	Yes ☒ / No ☐
Weight of load to be added excluding crew:	Kg
Location of loading:	_____
Total load of craft in Light Operating condition:	Kg
Total load of craft in Fully Loaded condition:	Kg

TRIAL AREA	
State the area required for the trial.	
Open sea:	Yes ☐ / No ☐
Sheltered water:	Yes ☐ / No ☐
Shallow water:	Yes ☐ / No ☐

ENVIRONMENTAL REQUIREMENTS	
State the environmental requirements for the trials.	
Day:	Yes ☐ / No ☐
Night:	Yes ☐ / No ☐
Sea State. Preferred trial conditions	SS 0-1 Calm
Sea state: Operational range 0-4 (0-2.5m)	SS 0-4
Sea State limit:	SS 4
Wind strength. Not to exceed a sustained	kts
Visibility distance	nm
Air temperature:	°C
The preferred trial conditions are for calm water and little wind. It is accepted that this is not always achievable within the time frames available. The trials officer should endeavour to conduct the trials in the best conditions that can be found.	

CRAFT DATA TO BE RECORDED	
Determine what data is to be recorded.	
Speed (SOG):	Yes ☐ / No ☐
Craft motion accelerations / WBV:	Yes ☐ / No ☐
Engine revs:	Yes ☐ / No ☐
Engine temperatures:	Yes ☐ / No ☐
Fuel Consumption:	Yes ☐ / No ☐
Craft pull (Bollard pull):	Yes ☐ / No ☐

Craft trim:	Yes ☐ / No ☐
Video Internal/External:	Yes ☐ / No ☐
Still Photos: Internal/External:	Yes ☐ / No ☐

SUPPORT CRAFT	
Confirm if support craft are required.	
Support craft	Yes ☐ / No ☐
Details of support craft (LCU, LCVP, CSB, RIB, Inflatable, other):	

SPECIALIST EQUIPMENT / SUPPORT REQUIRED
(Detail as required. ie Stop watch, GPS data loggers, load cells, noise meters etc)

COMMUNICATION		
Confirm the communications to be used.		
IMM	Yes ☒ / No ☐	Channel No:
Other (Mil coms/Mobile):	Yes ☐ / No ☐	Details:

TRIAL / CRAFT SOPs and STANDING ORDERS	
Confirm the following.	
The craft will be operated during the trials iaw the craft BR and SOPs:	Yes ☐ / No ☐
Trials will be conducted iaw host unit SOPs & SOs:	Yes ☐ / No ☐
Trials conducted in Military Training Areas will be iaw SOs:	Yes ☐ / No ☐
Trials conducted iaw all relevant legal guidelines and regulations:	Yes ☐ / No ☐

RISK ASSESSMENTS	
Confirm the following.	
All Risk assessments conducted and recorded:	Yes ☐ / No ☐
Reference:	

TRIAL WILL BE CANCELLED ON THE FOLLOWING CONDITIONS	
Confirm the trial will be ceased on the following.	
Sea state exceeds: SS ___ / ____m	Yes ☐ / No ☐
Wind state exceeds: Sustained _ kts	Yes ☐ / No ☐
Loss of safety communications.	Yes ☐ / No ☐
Craft material state failure (inc. engine warnings).	Yes ☐ / No ☐
Craft stability is unacceptable.	Yes ☐ / No ☐
Crew injury or MOB.	Yes ☐ / No ☐

SEA STATEs

The sea state will be assessed against NATO STANAG 4149 Table F-1.

TABLE F-1 – NATO SEA STATE NUMERAL TABLE FOR THE OPEN OCEAN NORTH ATLANTIC

Sea State Number	Significant Wave Height (m)		Sustained Wind Speed (Knots)*		Percentage Probability of Sea State	Modal Wave Period (sec)	
	Range	Mean	Range	Mean		Range**	Most Probable***
0 – 1	0 – 0.1	0.05	0 - 6	0.5	0	–	–
2	0.1 – 0.5	0.3	7 - 10	3.5	7.2	3.3 – 12.8	7.5
3	0.5 – 1.25	0.88	11 - 16	8.5	22.4	5.0 – 14.8	7.5
4	1.25 – 2.5	1.88	17 - 21	19	28.7	6.1 – 15.2	8.8
5	2.5 – 4	3.25	22 - 27	24.5	15.5	8.3 – 15.5	9.7
6	4 – 6	5	28 - 47	37.5	18.7	9.8 – 16.2	12.4
7	6 – 9	7.5	48 - 55	51.5	6.1	11.8 – 18.5	15.0
8	9 – 14	11.5	56 - 63	59.5	1.2	14.2 – 18.6	16.4
>8	>14	>14	>63	>63	<0.05	15.7 – 23.7	20.0

*Ambient wind sustained at 19.5 m above surface to generate fully-developed seas. To convert to another altitude, H_2, apply $V_2 = V_1 (H_2/19.5)^{1/7}$

**Minimum is 5 percentile and maximum is 95 percentile for periods given wave height range.

***Based on periods associated with central frequencies included in Hindcast Climatology.

BRd6600 – Royal Marines Landing Craft & Small Boat Operations Table 4-3, usefully adds descriptive terms to the sea state figures.

Table 4-3. Maritime Forecast Sea State Code

STATE OF SEA CODE FIGURE	DESCRIPTIVE TERMS	METRES	HEIGHT* FEET (APPROX)	
0	CALM (GLASSY)	0	0	* The average wave height as obtained from the larger well formed wave of the wave system being observed. Note. The exact bounding height is to be assigned to the lower code figure e.g. a height of 4 metres is coded as 5.
1	CALM (RIPPLED)	0-0.1	0-1/3	
2	SMOOTH (WAVELETS)	0.1-0.5	1/3-12/3	
3	SLIGHT	0.5-1.25	12/3-4	
4	MODERATE	1.25-2.5	4-8	
5	ROUGH	2.564	8-13	
6	VERY ROUGH	4-6	13-20	
7	HIGH	6-9	20-30	
8	VERY HIGH	9-14	30-45	
9	PHENOMENAL	OVER 14	OVER 45	

PRE-SAILING CHECKS

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	PRE-SAILING CHECKS	V 1.0 1/9/19

CRAFT PRE-SAIL CHECKS		
The craft pre-sailing checks must be conducted iaw the craft's BR. The following lists highlights relevant areas to check.		
		Yes ☒ / No ☐
Hull.	Visual inspection. Check for any sign of damage.	☐
Collar.	Visual inspection. Check the collar is not damaged and secure to the hull. For RIB floatation collars check it is evenly inflated.	☐
Deck.	Visual inspection. Check for damage. Ensure deck is clear and miscellaneous items are stowed away.	☐
Lifting points.	Visual inspection. Check for damage.	☐
Consoles.	Visual inspection. Check console secure to deck and free from damage.	☐
Seating.	Visual inspection. Check seats are securely fixed to the deck. Check condition of foot straps where fitted.	☐
Hatches.	Visual and functional inspection. Check are functional and are secure.	☐
Fire Fighting.	Visual inspection. Check fire alarm system is undamaged and operational. Check fixed and portable fire extinguishers are in date and undamaged.	☐
Bilges.	Visual inspection. Confirm areas clean and free from debris and liquid.	☐
Bilge System.	Visual and functional checks iaw BR.	☐
Fuel and oil systems.	Visual inspection and functional checks iaw BR. Confirm hose fittings and pipework secure. Check for contamination in tanks and filters. Confirm fuel volume carried meets requirement for the trial.	☐
Engines & Gearbox.	Visual inspection and functional checks iaw BR. Confirm in good condition, equipment is secure, and oils topped up as required.	☐
Engine controls and instrumentation.	Visual inspection and functional checks iaw BR. Confirm correct operation of the controls.	☐
Steering.	Visual inspection and functional checks iaw BR. Check that the steering is unobstructed and free to move from hard over port to hard over starboard.	☐
Electrical System.	Visual inspection. Ensure all cabling correctly secured and terminated.	☐
Batteries.	Visual inspection. Check for any signs of damage and lose terminals. Confirm batteries are securely tied down.	☐
Navigation lights.	Visual and function inspection. Check for damage and confirm all functioning correctly.	☐
Compass.	Confirm compass swings completed, deviation card provided.	☐
Navigation system.	Visual inspection and functional checks. Confirm latest charts loaded on chart plotters.	☐

Communications - External	Visual inspection and functional checks of fixed and portable communication equipment. Confirm operating channels and power settings for intended transmission range.	☐
Communications - Internal.	Visual inspection and functional checks of internal communication system.	☐
Mast and antennas.	Visual inspection. Check for damage to mast and antennas. Confirm all antennas secured.	☐

MISCELLANEOUS EQUIPMENT	
The craft iaw its relevant BR must carry emergency and repair equipment. The following list highlights the equipment that should be carried. Confirmation of the full list must be made with reference to the craft BR.	
	Yes ☒ / No ☐
Fire extinguishers x2.	☐
Paddles.	☐
Inflation bellows.	☐
Sea anchor and warp.	☐
Hand-held searchlight/signalling lantern.	☐
Compass.	☐
Mooring warps.	☐
Collar repair kit.	☐
Bilge pump handle.	☐
Emergency steering tiller.	☐
Emergency inflation bladders (2 off).	☐
Rescue throwing lines (2 off).	☐
Lanyard for Deadman's Switch.	☐
Radar reflector.	☐
First aid kit in waterproof case (must reseal after use)	☐
Rescue flares	☐

LIFE JACKETS, PPE AND SAFETY	
Confirm the following:	Yes ☒ / No ☐
Life Jackets. (Confirm all PAX are supplied and wearing appropriate size, type and in-service dated maintained life jackets)	☐
PPE. (Confirm all PAX are aware of the environmental conditions of the trial and wearing appropriate PPE ie Eye protection, & clothing appropriate for weather conditions)	☐
Safety Brief. (Confirm all PAX are briefed on the trial conduct and personal safety (WBV) guidance.)	☐

PAX ON BOARD	
A nominal of those on board the trials craft is to be taken and details held at the trials host base.	
Role	Names
Coxswain:	
Second Coxswain/Crew:	
MOD/PDH representative:	
Contractor support representative / engineer:	
Visitors:	

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SEA TRIALS IN LIGHT SHIP CONDITION

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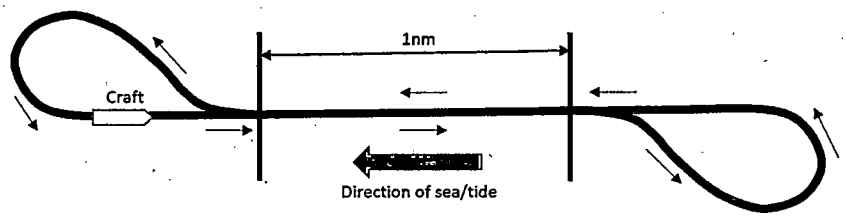
Trial Form No 1A.	**Speed Trial**	V 1.0 1/9/19

Boat Type:	Boat Number:	Trial Date:
Trials Location:		

Sea State:	Wind Force:	Wind Direction:	Air Temperature (°C):	Sea Temperature: (°C):
Craft condition: Light Operating / Fully Loaded	Weight of craft (Kg):	Ballast added (Kg): Type of ballast:		Fuel (ltr):
Time trial started:		Time trial finished:		



Craft engines are to be run in and at operating temperature. The craft is to accelerate up to its speed. The craft is to maintain its maximum speed for a 1nm distance. (Distance to be established using measured mile markers or GPS chart plotters.) The craft is to conduct a total of 3 runs sailing a 1nm transit in to the sea and 3 runs sailing a 1nm transit with the sea. The time to complete each run is to be recorded. The average speed of the craft is to be calculated from the recorded data.

Engine 1 = Single or Port Engine. Engine 2 = STBD Engine		Trial Runs					
		Run 1	Run2	Run 3	Run 4	Run 5	Run 6
Engine 1	RPM						
	Oil (BAR)						
	FW Temp (°C)						
Engine 2	RPM						
	Oil (BAR)						
	FW Temp (°C)						
Time to complete the run (seconds)							
Average Speed (knots)							
Average speed of Runs 1-6 (knots)							

Did the trial speed recorded meet the craft requirements as detailed in the craft's BR	Yes ☐ / No ☐

General trial observations	
Did any mechanical defects or alarms occur during the trial?	Yes ☐ / No ☐
Was the craft stable as it accelerated?	Yes ☐ / No ☐
Was the craft stable on a straight-line transit?	Yes ☐ / No ☐
Was the craft stable as it de-accelerated?	Yes ☐ / No ☐
Were any of the following conditions observed during the trial: *chine walking, craft lol, proposing/ nose diving, excessive slamming, poor trim*?	Yes ☐ / No ☐
Was the craft responsive and controllable during the course changes?	Yes ☐ / No ☐
Was the coxswain able to trim the craft as required for craft performance?	Yes ☒ / No ☐
Was the craft easily controlled by the coxswain without need for significant input of control?	Yes ☐ / No ☐
Were the craft controls and their positions suitable for the coxswain?	Yes ☐ / No ☐
Was the craft considered noisy during the trial	Yes ☐ / No ☐
Were there any WBV issues observed during the trial?	Yes ☐ / No ☐
Detail any observations.	

Observation Summary Of Craft Performance During The Trial			
	Satisfactory	Not Satisfactory	Notes
Craft Stability	☐	☐	
Craft course keeping	☐	☐	
Craft manoeuvrability	☐	☐	
Craft speed performance	☐	☐	
Craft acceleration	☐	☐	
Craft ability to stop	☐	☐	
Sea Keeping	☐	☐	

Trial Form No 2A.	**Acceleration Trial**	V 1.0 1/9/19

Boat Type:	Boat Number:	Trial Date:
Trials Location:		

Sea State:	Wind Force:	Wind Direction:	Air Temperature (°C):	Sea Temperature: (°C):

Craft condition: Light Operating / Fully Loaded	Weight of craft (Kg):	Ballast added (Kg): Type of ballast:	Fuel (ltr):
Time trial started:		Time trial finished:	

Craft maximum average speed as determined in the craft BR - _____ kts

Craft engines are to be run in and at operating temperature. From a standing start the craft is to accelerate as quickly as possible up to its speed maximum average speed given in the BR. The craft is to conduct a total of 3 runs sailing in to the sea and 3 runs sailing with the sea. The time to reach the maximum average speed is to be recorded. The average acceleration of the craft is to be calculated from the recorded data.

Engine 1 = Single or Port Engine. Engine 2 = STBD Engine	Trial Runs					
	Run 1	Run2	Run 3	Run 4	Run 5	Run 6
Time to complete run (s)						
Average time to complete runs 1-6 (s)						
Average acceleration of Runs 1-6 (kts)						

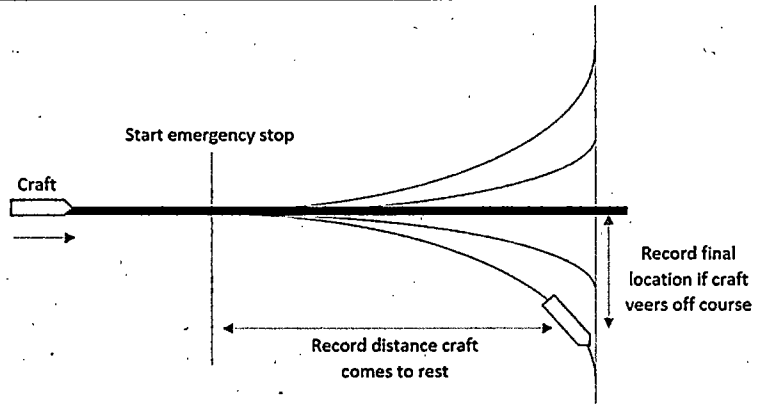
General trial observations	
Did any mechanical defects or alarms occur during the trial?	Yes ☐ / No ☐
Was the craft stable as it accelerated?	Yes ☐ / No ☐
Was the craft stable on a straight-line transit?	Yes ☐ / No ☐
Was the craft stable as it de-accelerated?	Yes ☐ / No ☐
Were any of the following conditions observed during the trial: *chine walking, craft lol, proposing/ nose diving, excessive slamming, poor trim*?	Yes ☐ / No ☐
Was the craft responsive and controllable during the course changes?	Yes ☐ / No ☐
Was the coxswain able to trim the craft as required for craft performance?	Yes ☐ / No ☐
Was the craft easily controlled by the coxswain without need for significant input of control?	Yes ☐ / No ☐
Were the craft controls and their positions suitable for the coxswain?	Yes ☐ / No ☐
Was the craft considered noisy during the trial	Yes ☐ / No ☐
Were there any WBV issues observed during the trial?	Yes ☐ / No ☐
Detail any observations.	

Observation Summary Of Craft Performance During The Trial			
	Satisfactory	Not Satisfactory	Notes
Craft Stability	☐	☐	
Craft course keeping	☐	☐	
Craft manoeuvrability	☐	☐	
Craft speed performance	☐	☐	
Craft acceleration	☐	☐	
Craft ability to stop	☐	☐	
Sea Keeping	☐	☐	

Trial Form No 3A.	**Emergency Stopping Trial**	V 1.0 1/9/19

Boat Type:	Boat Number:	Trial Date:
Trials Location:		

Sea State:	Wind Force:	Wind Direction:	Air Temperature (°C):	Sea Temperature: (°C):
Craft condition: Light Operating / Fully Loaded	Weight of craft (Kg):	Ballast added (Kg): Type of ballast:		Fuel (ltr):
Time trial started:		Time trial finished:		



Craft engines are to be run in and at operating temperature. The craft is to transit at its maximum average speed as given in the BR. The craft is to conduct an emergency stop. The distance the craft takes to stop is to be recorded. The ability of the craft to maintain its original heading during de-acceleration is to be observed and any deviation recorded.
The craft is to conduct the emergency stop with the throttles and then with the Deadmans in to the sea and with the sea.

	Trial Runs			
	Using the throttles		Using the Deadmans	
	Run 1	Run2	Run 3	Run 4
Speed before Emergency stop (kts)				
Distance to stop (m)				
Average distance to Stop (m)				
Drift off course (m)				
Average drift off from course heading (m)				

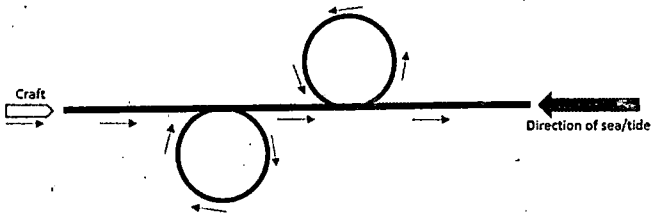
General trial observations	
Did any mechanical defects or alarms occur during the trial?	Yes ☐ / No ☐
Was the craft stable as it accelerated?	Yes ☐ / No ☐
Was the craft stable on a straight-line transit?	Yes ☐ / No ☐
Was the craft stable as it de-accelerated?	Yes ☐ / No ☐
Was any of the following conditions observed during the trial: *chine walking, craft lol, proposing/ nose diving, excessive slamming, poor trim*?	Yes ☐ / No ☐
Was the craft responsive and controllable during the course changes?	Yes ☐ / No ☐
Was the coxswain able to trim the craft as required for craft performance?	Yes ☐ / No ☐
Was the craft easily controlled by the coxswain without need for significant input of control?	Yes ☐ / No ☐
Were the craft controls and their positions suitable for the coxswain?	Yes ☐ / No ☐
Was the craft considered noisy during the trial	Yes ☐ / No ☐
Were there any WBV issues observed during the trial?	Yes ☐ / No ☐
Detail any observations.	

Observation Summary Of Craft Performance During The Trial			
	Satisfactory	Not Satisfactory	Notes
Craft Stability	☐	☐	
Craft course keeping	☐	☐	
Craft manoeuvrability	☐	☐	
Craft speed performance	☐	☐	
Craft acceleration	☐	☐	
Craft ability to stop	☐	☐	
Sea Keeping	☐	☐	

Trial Form No 4A.	**Turning Circles**	V 1.0 1/9/19

Boat Type:	Boat Number:	Trial Date:
Trials Location:		

Sea State:	Wind Force:	Wind Direction:	Air Temperature (°C):	Sea Temperature: (°C):
Craft condition: Light Operating / Fully Loaded	Weight of craft (Kg):	Ballast added (Kg): Type of ballast:		Fuel (ltr):
Time trial started:		Time trial finished:		



Craft engines are to be run in and at operating temperature. On a heading into the sea, the craft is to accelerate to its planning speed as specified in the craft's BR. The craft is to turn to STBD and complete a 360 circle. The craft is to conduct a controlled and safe turn. The diameter of the turn is to be recorded. The speed of the craft when it starts to turn and when it ends the circle are to be recorded. The craft is to accelerate back up to its planning speed. Once back at its planning speed, the craft is to then turn to Port and complete a 360 circle. The diameter is be recorded along with the start and end speeds are to be recorded. The performance and behaviour of the craft during the turn is to be monitored.

The craft is to repeat the trial heading with the sea.

(Note. Some small high speed craft have the ability to conduct very tight violent turns. This trial is not about conducting such violent turns, it is to monitor the crafts ability to conduct a controlled circle.)

Required speed:_____Kts		Against the sea		With the sea	
Engine 1 = Single or Port Engine. Engine 2 = STBD Engine		STBD circle	PORT circle	STBD circle	PORT circle
Engine 1.	RPM				
Engine 2	RPM				
Craft speed at start of circle	kts				
Craft speed at end of circle	kts				
Diameter of completed circle	boat length				

General trial observations	
Did any mechanical defects or alarms occur during the trial?	Yes ☐ / No ☐
Was the craft stable as it accelerated?	Yes ☐ / No ☐
Was the craft stable on a straight-line transit?	Yes ☐ / No ☐
Was the craft stable as it de-accelerated?	Yes ☐ / No ☐
Were any of the following conditions observed during the trial: *chine walking, craft lol, proposing/ nose diving, excessive slamming, poor trim*?	Yes ☐ / No ☐
Was the craft responsive and controllable during the course changes?	Yes ☐ / No ☐
Was the coxswain able to trim the craft as required for craft performance?	Yes ☐ / No ☐
Was the craft easily controlled by the coxswain without need for significant input of control?	Yes ☐ / No ☐
Were the craft controls and their positions suitable for the coxswain?	Yes ☐ / No ☐
Was the craft considered noisy during the trial	Yes ☐ / No ☐
Were there any WBV issues observed during the trial?	Yes ☒ / No ☐
Detail any observations.	

Observation Summary Of Craft Performance During The Trial			
	Satisfactory	Not Satisfactory	Notes
Craft Stability	☐	☐	
Craft course keeping	☐	☐	
Craft manoeuvrability	☐	☐	
Craft speed performance	☐	☐	
Craft acceleration	☐	☐	
Craft ability to stop	☐	☐	
Sea Keeping	☐	☐	

Trial Form No 5A.	Zig Zag	V 1.0 1/9/19

Boat Type:	Boat Number:	Trial Date:
Trials Location:		

Sea State:	Wind Force:	Wind Direction:	Air Temperature (°C):	Sea Temperature: (°C):
Craft condition: Light Operating / Fully Loaded	Weight of craft (Kg):	Ballast added (Kg): Type of ballast:		Fuel (ltr):
Time trial started:		Time trial finished:		

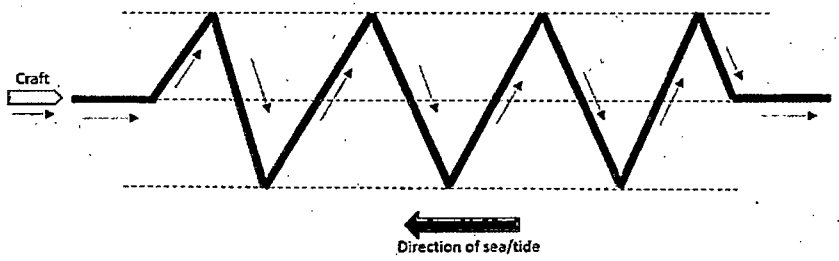


Fig 1.

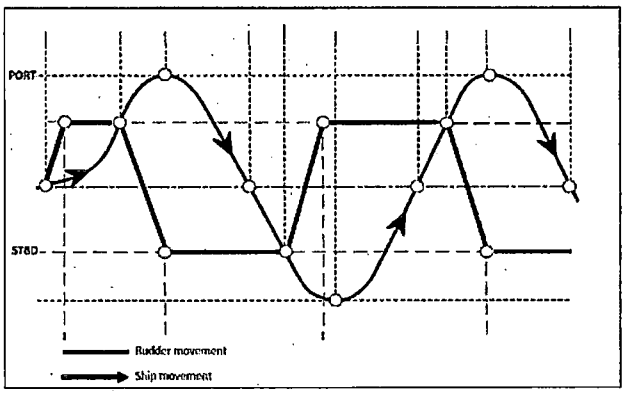


Fig 2.

Craft engines are to be run in and at operating temperature. Ref. Fig 1. On a heading into the sea, the craft is to accelerate to its planning speed as specified in the craft's BR. The craft is to turn to PORT 20° from the original heading. Once stable on the new course the craft is to maintain the heading for 10s then turn to STBD 40°. The craft once stable on the new course craft is again to hold the heading for 10s then tun to PORT 40°. This cycle is to be repeated until the craft has conduct 8 changes in heading. The craft is to repeat the trial heading with the sea.

The performance of the craft during the turns and taking up the new courses is to be monitored.

Note. This trials aim is to monitor the crafts ability to conduct a controlled turn and to take up the new heading as quickly as possible without overshooting or hunting on the new course. It assists in assessing if the craft at speed is safe, stable, manoeuvrable and responsive to the coxswain's commands. (Fig 2 show the overshoot typically associated with larger slower vessels.)

Required speed for trial _____knots

Required Speed _____Kts	Observations	Notes
Speed achieved (Knots)		
Craft response to helm commands	Satisfactory Yes ☐ / No ☐	
Craft control during the turns	Satisfactory Yes ☐ / No ☐	
Craft stability during the turn	Satisfactory Yes ☐ / No ☐	
Any overshoot noticed during the turn	Yes ☐ / No ☐	
Craft ability to take up a new course quickly	Satisfactory Yes ☐ / No ☐	
Any hunting noticed when taking up the new course	Yes ☐ / No ☐	

General trial observations	
Did any mechanical defects or alarms occur during the trial?	Yes ☐ / No ☐
Was the craft stable as it accelerated?	Yes ☐ / No ☐
Was the craft stable on a straight-line transit?	Yes ☐ / No ☐
Was the craft stable as it de-accelerated?	Yes ☐ / No ☐
Were any of the following conditions observed during the trial: *chine walking, craft lol, proposing/ nose diving, excessive slamming, poor trim*?	Yes ☐ / No ☐
Was the craft responsive and controllable during the course changes?	Yes ☐ / No ☐
Was the coxswain able to trim the craft as required for craft performance?	Yes ☐ / No ☐
Was the craft easily controlled by the coxswain without need for significant input of control?	Yes ☐ / No ☐
Were the craft controls and their positions suitable for the coxswain?	Yes ☐ / No ☐
Was the craft considered noisy during the trial	Yes ☐ / No ☐
Were there any WBV issues observed during the trial?	Yes ☐ / No ☐
Detail any observations.	

Observation Summary Of Craft Performance During The Trial			
	Satisfactory	Not Satisfactory	Notes
Craft Stability	☐	☐	
Craft course keeping	☐	☐	
Craft manoeuvrability	☐	☐	
Craft speed performance	☐	☐	
Craft acceleration	☐	☐	
Craft ability to stop	☐	☐	
Sea Keeping	☐	☐	

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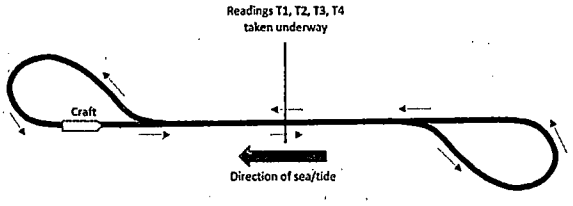
Trial Form No 6A.	**Endurance And Fuel Consumption Trial**	V 1.0 1/9/19

Boat Type:	Boat Number:	Trial Date:
Trials Location:		

Sea State:	Wind Force:	Wind Direction:	Air Temperature (°C):	Sea Temperature: (°C):
Craft condition: Light Operating / Fully Loaded	Weight of craft (Kg):	Ballast added (Kg): Type of ballast:		Fuel (ltr):
Time trial started:		Time trial finished:		



Craft engines are to be run in and at operating temperature. The craft is to accelerate up to its planning speed as given in the BR. The craft is to maintain its planning speed for 1 hour. Readings are to be taken every 15 minutes. Fuel consumption is to be recorded, Endurance and Range of the craft to be calculated.

Craft Planning speed / Endurance speed as given in the BR. _____Kts

Craft range as given in the BR _____nm.

Required speed:_____Kts		Time Record				
Engine 1 = Single or Port Engine. Engine 2 = STBD Engine		Pre start (craft at idle)	T1 (15min)	T2 (30min)	T3 (45min)	(T4 - 60min)
Actual average speed achieved (knots)						
Engine 1	RPM					
	Oil (BAR)					
	FW Temp (°C)					
Engine 2	RPM					
	Oil (BAR)					
	FW Temp (°C)					
Fuel	litres					
Distance covered	nm					

Average speed achieved: _____knots	Fuel used in one hour: _____ltr	Distance covered in one hour: _____nm

The craft fuel tanks hold _____ltr

From the data recorded the nm/ltr of the craft was: _____nm/ltr

For a craft with full fuel tanks this would give the craft a **Range of _____nm.**

From the data recorded the craft used _____ ltr of fuel in one hour.

For a craft with full fuel tanks this would give the craft an **Endurance of _____hrs.**

Are these figures compliant with the craft BR – Yes ☒ / No ☐

General trial observations	
Did any mechanical defects or alarms occur during the trial?	Yes ☐ / No ☐
Was the craft stable as it accelerated?	Yes ☐ / No ☐
Was the craft stable on a straight-line transit?	Yes ☐ / No ☐
Was the craft stable as it de-accelerated?	Yes ☐ / No ☐
Were any of the following conditions observed during the trial: *chine walking, craft lol, proposing/ nose diving, excessive slamming, poor trim*?	Yes ☐ / No ☐
Was the craft responsive and controllable during the course changes?	Yes ☐ / No ☐
Was the coxswain able to trim the craft as required for craft performance?	Yes ☐ / No ☐
Was the craft easily controlled by the coxswain without need for significant input of control?	Yes ☐ / No ☐
Were the craft controls and their positions suitable for the coxswain?	Yes ☐ / No ☐
Was the craft considered noisy during the trial	Yes ☐ / No ☐
Were there any WBV issues observed during the trial?	Yes ☐ / No ☐
Detail any observations.	

Observation Summary Of Craft Performance During The Trial			
	Satisfactory	Not Satisfactory	Notes
Craft Stability	☐	☐	
Craft course keeping	☐	☐	
Craft manoeuvrability	☐	☐	
Craft speed performance	☐	☐	
Craft acceleration	☐	☐	
Craft ability to stop	☐	☐	
Sea Keeping	☐	☐	

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Trial Form No 7A.	**Sea Keeping**	V 1.0 1/9/19

Boat Type:	Boat Number:	Trial Date:
Trials Location:		

Sea State:	Wind Force:	Wind Direction:	Air Temperature (°C):	Sea Temperature: (°C):
Craft condition: Light Operating / Fully Loaded	Weight of craft (Kg):	Ballast added (Kg): Type of ballast:		Fuel (ltr):
Time trial started:		Time trial finished:		

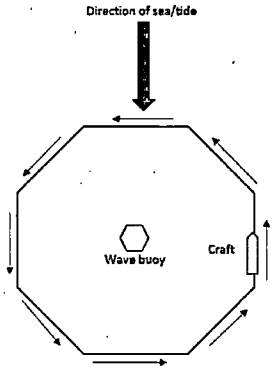


Fig 1

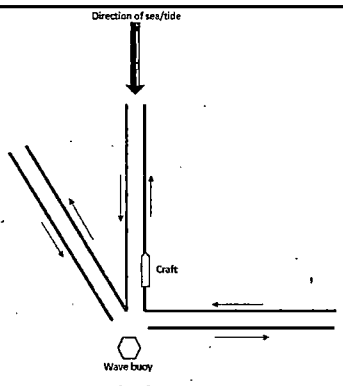


Fig 2

A trials wave buoy should preferably be employed to record sea data. If one is not available, then the nearest fixed national wave buoy should be used. Various sea keeping trials courses are promoted, 2 options are displayed above. Selection is dependent on trial area used and craft. All courses contain a run in to sea, a run with the sea, a run into the sea at 45°, a run with the sea at 45° and a run parallel to the sea. Each leg should be conducted for 5 minutes for Fig 1 and 10 minutes for Fig 2. The performance of the craft during the turn is to be monitored.

Provided the sea state is within the operating boundaries of the craft, the trial should be conducted at the maximum planning speed for the craft. However, depending on the sea conditions it is the responsibility of the coxswain to moderate the craft speed to the safest speed for the craft and passengers.

Required Speed _____Kts	Trial Legs				
	Into sea	With the sea	Into the sea at 45	With the sea at 45	Parallel to the sea
Speed achieved (Knots)					
Craft stability	Satisfactory Yes ☐ / No ☐	Satisfactory Yes ☐ / No ☐	Satisfactory Yes ☐ / No ☐	Satisfactory Yes ☐ / No ☐	Satisfactory Yes ☐ / No ☐
Craft course keeping	Satisfactory Yes ☐ / No ☐	Satisfactory Yes ☐ / No ☐	Satisfactory Yes ☐ / No ☐	Satisfactory Yes ☐ / No ☐	Satisfactory Yes ☐ / No ☐
Craft manoeuvrability	Satisfactory Yes ☐ / No ☐	Satisfactory Yes ☐ / No ☐	Satisfactory Yes ☐ / No ☐	Satisfactory Yes ☐ / No ☐	Satisfactory Yes ☐ / No ☐
Sea keeping	Satisfactory Yes ☐ / No ☐	Satisfactory Yes ☐ / No ☐	Satisfactory Yes ☐ / No ☐	Satisfactory Yes ☐ / No ☐	Satisfactory Yes ☐ / No ☐

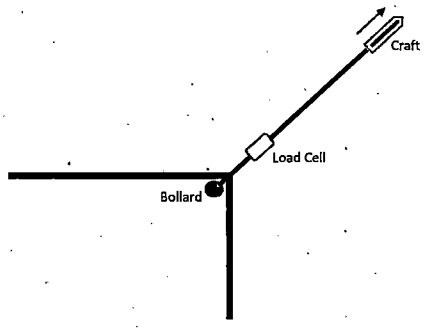
General trial observations	
Did any mechanical defects or alarms occur during the trial?	Yes ☐ / No ☐
Was the craft stable as it accelerated?	Yes ☐ / No ☐
Was the craft stable on a straight-line transit?	Yes ☐ / No ☐
Was the craft stable as it de-accelerated?	Yes ☐ / No ☐
Were any of the following conditions observed during the trial: *chine walking, craft lol, proposing/ nose diving, excessive slamming, poor trim*?	Yes ☐ / No ☐
Was the craft responsive and controllable during the course changes?	Yes ☐ / No ☐
Was the coxswain able to trim the craft as required for craft performance?	Yes ☐ / No ☐
Was the craft easily controlled by the coxswain without need for significant input of control?	Yes ☐ / No ☐
Were the craft controls and their positions suitable for the coxswain?	Yes ☐ / No ☐
Was the craft considered noisy during the trial	Yes ☐ / No ☐
Were there any WBV issues observed during the trial?	Yes ☐ / No ☐
Detail any observations.	

Observation Summary Of Craft Performance During The Trial			
	Satisfactory	Not Satisfactory	Notes
Craft Stability	☐	☐	
Craft course keeping	☐	☐	
Craft manoeuvrability	☐	☐	
Craft speed performance	☐	☐	
Craft acceleration	☐	☐	
Craft ability to stop	☐	☐	
Sea Keeping	☐	☐	

Trial Form No 8A.	**Bollard Pull**	V 1.0 1/9/19

Boat Type:	Boat Number:	Trial Date:
Trials Location:		

Sea State:	Wind Force:	Wind Direction:	Air Temperature (°C):	Sea Temperature: (°C):
Craft condition: Light Operating / Fully Loaded	Weight of craft (Kg):	Ballast added (Kg): Type of ballast:		Fuel (ltr):
Time trial started:		Time trial finished:		



This trial is only for craft which have undergone with changes to new engines, gear boxes or propulsion units or concern that existing power trains are not producing the required thrust.

This trial requires the use of a load cell.

Craft engines are to be run in and at operating temperature. The craft is to slowly take up the slack of the stop with the load cell. The craft is to then apply the RPMs as given in the table below.

(The RPM used below are indicative and may be changed to meet the actual engines parameters)

Engine 1 = Single or Port Engine. Engine 2 = STBD Engine		Engine 1 (RPM)					
		1500	2000	2500	3000	3500	MAX
Load	kg						
		Engine 2 (RPM)					
		1500	1500	1500	1500	1500	1500
Load	kg						
		Engine 1 & 2 (RPM)					
		1500	1500	1500	1500	1500	1500
Load	kg						

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SEA TRIALS IN THE FULLY LOADED CONDITION

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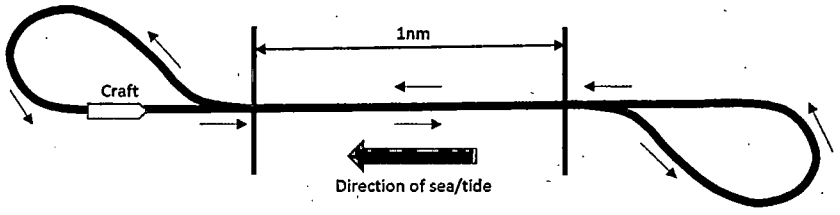
Trial Form No 1B.	**Speed Trial**	V 1.0 1/9/19

Boat Type:	Boat Number:	Trial Date:
Trials Location:		

Sea State:	Wind Force:	Wind Direction:	Air Temperature (°C):	Sea Temperature: (°C):
Craft condition: Light Operating / Fully Loaded	Weight of craft (Kg):	Ballast added (Kg): Type of ballast:		Fuel (ltr):
Time trial started:		Time trial finished:		



Craft engines are to be run in and at operating temperature. The craft is to accelerate up to its speed. The craft is to maintain its maximum speed for a 1nm distance. (Distance to be established using measured mile markers or GPS chart plotters.) The craft is to conduct a total of 3 runs sailing a 1nm transit in to the sea and 3 runs sailing a 1nm transit with the sea. The time to complete each run is to be recorded. The average speed of the craft is to be calculated from the recorded data.

Engine 1 = Single or Port Engine. Engine 2 = STBD Engine		Trial Runs					
		Run 1	Run2	Run 3	Run 4	Run 5	Run 6
Engine 1	RPM						
	Oil (BAR)						
	FW Temp (°C)						
Engine 2	RPM						
	Oil (BAR)						
	FW Temp (°C)						
Time to complete the run (seconds)							
Average Speed (knots)							
Average speed of Runs 1-6 (knots)							

Did the trial speed recorded meet the craft requirements as detailed in the craft's BR	Yes ☐ / No ☐

General trial observations	
Did any mechanical defects or alarms occur during the trial?	Yes ☐ / No ☐
Was the craft stable as it accelerated?	Yes ☐ / No ☐
Was the craft stable on a straight-line transit?	Yes ☐ / No ☐
Was the craft stable as it de-accelerated?	Yes ☐ / No ☐
Were any of the following conditions observed during the trial: *chine walking, craft lol, proposing/ nose diving, excessive slamming, poor trim*?	Yes ☐ / No ☐
Was the craft responsive and controllable during the course changes?	Yes ☐ / No ☐
Was the coxswain able to trim the craft as required for craft performance?	Yes ☒ / No ☐
Was the craft easily controlled by the coxswain without need for significant input of control?	Yes ☐ / No ☐
Were the craft controls and their positions suitable for the coxswain?	Yes ☐ / No ☐
Was the craft considered noisy during the trial	Yes ☐ / No ☐
Were there any WBV issues observed during the trial?	Yes ☐ / No ☐
Detail any observations.	

Observation Summary Of Craft Performance During The Trial			
	Satisfactory	Not Satisfactory	Notes
Craft Stability	☐	☐	
Craft course keeping	☐	☐	
Craft manoeuvrability	☐	☐	
Craft speed performance	☐	☐	
Craft acceleration	☐	☐	
Craft ability to stop	☐	☐	
Sea Keeping	☐	☐	

Trial Form No 2B.	**Acceleration Trial**	V 1.0 1/9/19

Boat Type:	Boat Number:	Trial Date:
Trials Location:		

Sea State:	Wind Force:	Wind Direction:	Air Temperature (°C):	Sea Temperature: (°C):
Craft condition: Light Operating / Fully Loaded	Weight of craft (Kg):	Ballast added (Kg): Type of ballast:		Fuel (ltr):
Time trial started:		Time trial finished:		

Craft maximum average speed as determined in the craft BR - _____ kts

Craft engines are to be run in and at operating temperature. From a standing start the craft is to accelerate as quickly as possible up to its speed maximum average speed given in the BR. The craft is to conduct a total of 3 runs sailing in to the sea and 3 runs sailing with the sea. The time to reach the maximum average speed is to be recorded. The average acceleration of the craft is to be calculated from the recorded data.

Engine 1 = Single or Port Engine. Engine 2 = STBD Engine	Trial Runs					
	Run 1	Run2	Run 3	Run 4	Run 5	Run 6
Time to complete run (s)						
Average time to complete runs 1-6 (s)						
Average acceleration of Runs 1-6 (kts)						

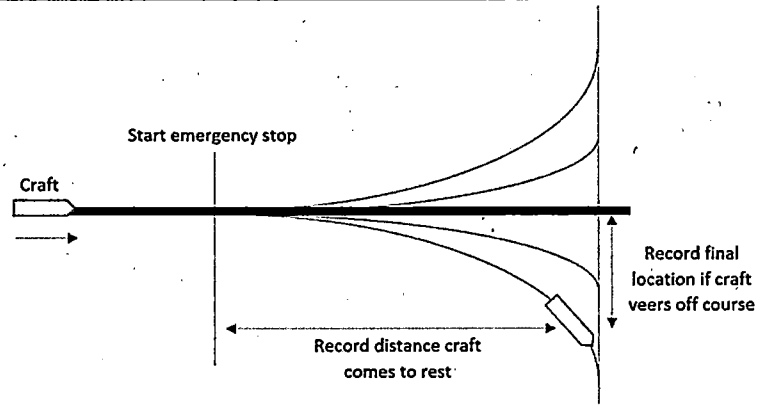
General trial observations	
Did any mechanical defects or alarms occur during the trial?	Yes ☐ / No ☐
Was the craft stable as it accelerated?	Yes ☐ / No ☐
Was the craft stable on a straight-line transit?	Yes ☐ / No ☐
Was the craft stable as it de-accelerated?	Yes ☐ / No ☐
Were any of the following conditions observed during the trial: *chine walking, craft lol, proposing/ nose diving, excessive slamming, poor trim*?	Yes ☐ / No ☐
Was the craft responsive and controllable during the course changes?	Yes ☐ / No ☐
Was the coxswain able to trim the craft as required for craft performance?	Yes ☐ / No ☐
Was the craft easily controlled by the coxswain without need for significant input of control?	Yes ☐ / No ☐
Were the craft controls and their positions suitable for the coxswain?	Yes ☐ / No ☐
Was the craft considered noisy during the trial	Yes ☐ / No ☐
Were there any WBV issues observed during the trial?	Yes ☐ / No ☐
Detail any observations.	

Observation Summary Of Craft Performance During The Trial			
	Satisfactory	Not Satisfactory	Notes
Craft Stability	☐	☐	
Craft course keeping	☐	☐	
Craft manoeuvrability	☐	☐	
Craft speed performance	☐	☐	
Craft acceleration	☐	☐	
Craft ability to stop	☐	☐	
Sea Keeping	☐	☐	

Trial Form No 3B.	**Emergency Stopping Trial**	V 1.0 1/9/19

Boat Type:	Boat Number:	Trial Date:
Trials Location:		

Sea State:	Wind Force:	Wind Direction:	Air Temperature (°C):	Sea Temperature: (°C):
Craft condition: Light Operating / Fully Loaded	Weight of craft (Kg):	Ballast added (Kg): Type of ballast:		Fuel (ltr):
Time trial started:		Time trial finished:		



Craft engines are to be run in and at operating temperature. The craft is to transit at its maximum average speed as given in the BR. The craft is to conduct an emergency stop. The distance the craft takes to stop is to be recorded. The ability of the craft to maintain its original heading during de-acceleration is to be observed and any deviation recorded.
The craft is to conduct the emergency stop with the throttles and then with the Deadmans in to the sea and with the sea.

	Trial Runs			
	Using the throttles		Using the Deadmans	
	Run 1	Run2	Run 3	Run 4
Speed before Emergency stop (kts)				
Distance to stop (m)				
Average distance to Stop (m)				
Drift off course (m)				
Average drift off from course heading (m)				

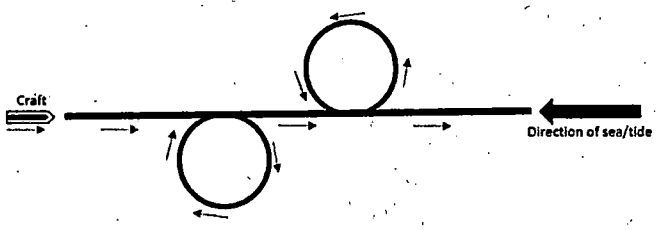
General trial observations	
Did any mechanical defects or alarms occur during the trial?	Yes ☐ / No ☐
Was the craft stable as it accelerated?	Yes ☐ / No ☐
Was the craft stable on a straight-line transit?	Yes ☐ / No ☐
Was the craft stable as it de-accelerated?	Yes ☐ / No ☐
Was any of the following conditions observed during the trial: *chine walking, craft lol, proposing/ nose diving, excessive slamming, poor trim*?	Yes ☐ / No ☐
Was the craft responsive and controllable during the course changes?	Yes ☐ / No ☐
Was the coxswain able to trim the craft as required for craft performance?	Yes ☐ / No ☐
Was the craft easily controlled by the coxswain without need for significant input of control?	Yes ☐ / No ☐
Were the craft controls and their positions suitable for the coxswain?	Yes ☐ / No ☐
Was the craft considered noisy during the trial	Yes ☐ / No ☐
Were there any WBV issues observed during the trial?	Yes ☐ / No ☐
Detail any observations.	

Observation Summary Of Craft Performance During The Trial			
	Satisfactory	Not Satisfactory	Notes
Craft Stability	☐	☐	
Craft course keeping	☐	☐	
Craft manoeuvrability	☐	☐	
Craft speed performance	☐	☐	
Craft acceleration	☐	☐	
Craft ability to stop	☐	☐	
Sea Keeping	☐	☐	

Trial Form No 4B.	**Turning Circles**	V 1.0 1/9/19

Boat Type:	Boat Number:	Trial Date:
Trials Location:		

Sea State:	Wind Force:	Wind Direction:	Air Temperature (°C):	Sea Temperature: (°C):
Craft condition: Light Operating / Fully Loaded	Weight of craft (Kg):	Ballast added (Kg): Type of ballast:		Fuel (ltr):
Time trial started:		Time trial finished:		



Craft engines are to be run in and at operating temperature. On a heading into the sea, the craft is to accelerate to its planning speed as specified in the craft's BR. The craft is to turn to STBD and complete a 360 circle. The craft is to conduct a controlled and safe turn. The diameter of the turn is to be recorded. The speed of the craft when it starts to turn and when it ends the circle are to be recorded. The craft is to accelerate back up to its planning speed. Once back at its planning speed, the craft is to then turn to Port and complete a 360 circle. The diameter is be recorded along with the start and end speeds are to be recorded. The performance and behaviour of the craft during the turn is to be monitored.

The craft is to repeat the trial heading with the sea.

(Note. Some small high speed craft have the ability to conduct very tight violent turns. This trial is not about conducting such violent turns, it is to monitor the crafts ability to conduct a controlled circle.)

Required speed:_____Kts		Against the sea		With the sea	
Engine 1 = Single or Port Engine. Engine 2 = STBD Engine		STBD circle	PORT circle	STBD circle	PORT circle
Engine 1.	RPM				
Engine 2	RPM				
Craft speed at start of circle	kts				
Craft speed at end of circle	kts				
Diameter of completed circle	boat length				

General trial observations	
Did any mechanical defects or alarms occur during the trial?	Yes ☐ / No ☐
Was the craft stable as it accelerated?	Yes ☐ / No ☐
Was the craft stable on a straight-line transit?	Yes ☐ / No ☐
Was the craft stable as it de-accelerated?	Yes ☐ / No ☐
Were any of the following conditions observed during the trial: *chine walking, craft lol, proposing/ nose diving, excessive slamming, poor trim*?	Yes ☐ / No ☐
Was the craft responsive and controllable during the course changes?	Yes ☐ / No ☐
Was the coxswain able to trim the craft as required for craft performance?	Yes ☐ / No ☐
Was the craft easily controlled by the coxswain without need for significant input of control?	Yes ☐ / No ☐
Were the craft controls and their positions suitable for the coxswain?	Yes ☐ / No ☐
Was the craft considered noisy during the trial	Yes ☐ / No ☐
Were there any WBV issues observed during the trial?	Yes ☒ / No ☐
Detail any observations.	

Observation Summary Of Craft Performance During The Trial			
	Satisfactory	Not Satisfactory	Notes
Craft Stability	☐	☐	
Craft course keeping	☐	☐	
Craft manoeuvrability	☐	☐	
Craft speed performance	☐	☐	
Craft acceleration	☐	☐	
Craft ability to stop	☐	☐	
Sea Keeping	☐	☐	

Trial Form No 5B.	**Zig Zag**	V 1.0 1/9/19

Boat Type:	Boat Number:	Trial Date:
Trials Location:		

Sea State:	Wind Force:	Wind Direction:	Air Temperature (°C):	Sea Temperature: (°C):
Craft condition: Light Operating / Fully Loaded	Weight of craft (Kg):	Ballast added (Kg): Type of ballast:		Fuel (ltr):
Time trial started:		Time trial finished:		

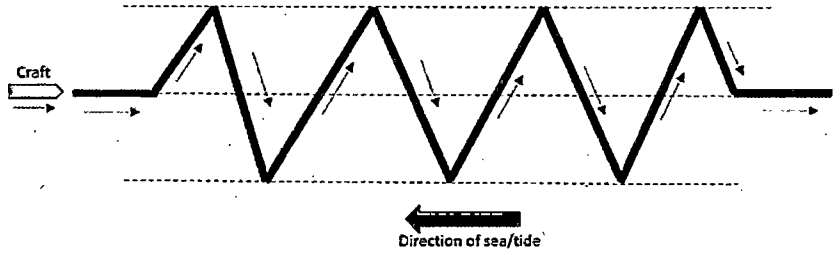


Fig 1.

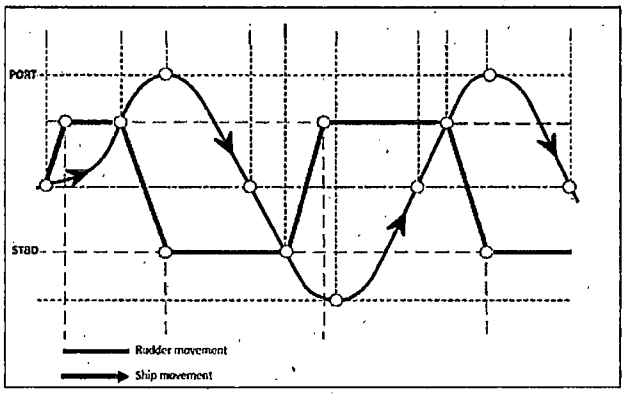


Fig 2.

Craft engines are to be run in and at operating temperature. Ref. Fig 1. On a heading into the sea, the craft is to accelerate to its planning speed as specified in the craft's BR. The craft is to turn to PORT 20◦ from the original heading. Once stable on the new course the craft is to maintain the heading for 10s then turn to STBD 40◦. The craft once stable on the new course craft is again to hold the heading for 10s then tun to PORT 40◦. This cycle is to be repeated until the craft has conduct 8 changes in heading. The craft is to repeat the trial heading with the sea.

The performance of the craft during the turns and taking up the new courses is to be monitored.

Note. This trials aim is to monitor the crafts ability to conduct a controlled turn and to take up the new heading as quickly as possible without overshooting or hunting on the new course. It assists in assessing if the craft at speed is safe, stable, manoeuvrable and responsive to the coxswain's commands. (Fig 2 show the overshoot typically associated with larger slower vessels.)

Required speed for trial _____knots

Required Speed _____ Kts	Observations	Notes
Speed achieved (Knots)		
Craft response to helm commands	Satisfactory Yes ☐ / No ☐	
Craft control during the turns	Satisfactory Yes ☐ / No ☐	
Craft stability during the turn	Satisfactory Yes ☐ / No ☐	
Any overshoot noticed during the turn	Yes ☐ / No ☐	
Craft ability to take up a new course quickly	Satisfactory Yes ☐ / No ☐	
Any hunting noticed when taking up the new course	Yes ☐ / No ☐	

General trial observations	
Did any mechanical defects or alarms occur during the trial?	Yes ☐ / No ☐
Was the craft stable as it accelerated?	Yes ☐ / No ☐
Was the craft stable on a straight-line transit?	Yes ☐ / No ☐
Was the craft stable as it de-accelerated?	Yes ☐ / No ☐
Were any of the following conditions observed during the trial: *chine walking, craft lol, proposing/ nose diving, excessive slamming, poor trim*?	Yes ☐ / No ☐
Was the craft responsive and controllable during the course changes?	Yes ☐ / No ☐
Was the coxswain able to trim the craft as required for craft performance?	Yes ☐ / No ☐
Was the craft easily controlled by the coxswain without need for significant input of control?	Yes ☐ / No ☐
Were the craft controls and their positions suitable for the coxswain?	Yes ☐ / No ☐
Was the craft considered noisy during the trial	Yes ☐ / No ☐
Were there any WBV issues observed during the trial?	Yes ☐ / No ☐
Detail any observations.	

Observation Summary Of Craft Performance During The Trial			
	Satisfactory	Not Satisfactory	Notes
Craft Stability	☐	☐	
Craft course keeping	☐	☐	
Craft manoeuvrability	☐	☐	
Craft speed performance	☐	☐	
Craft acceleration	☐	☐	
Craft ability to stop	☐	☐	
Sea Keeping	☐	☐	

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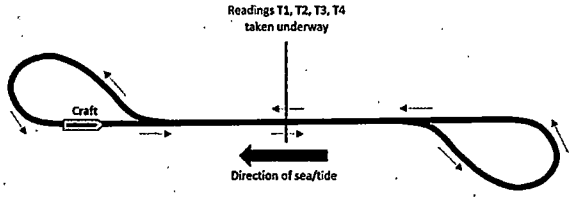
Trial Form No 6B.	**Endurance And Fuel Consumption Trial**	V 1.0 1/9/19

Boat Type:	Boat Number:	Trial Date:
Trials Location:		

Sea State:	Wind Force:	Wind Direction:	Air Temperature (°C):	Sea Temperature: (°C):
Craft condition: Light Operating / Fully Loaded	Weight of craft (Kg):	Ballast added (Kg): Type of ballast:		Fuel (ltr):
Time trial started:		Time trial finished:		



Craft engines are to be run in and at operating temperature. The craft is to accelerate up to its planning speed as given in the BR. The craft is to maintain its planning speed for 1 hour. Readings are to be taken every 15 minutes. Fuel consumption is to be recorded, Endurance and Range of the craft to be calculated.

Craft Planning speed / Endurance speed as given in the BR. _____Kts

Craft range as given in the BR _____nm.

Required speed:_____Kts		Time Record				
Engine 1 = Single or Port Engine. Engine 2 = STBD Engine		Pre start (craft at idle)	T1 (15min)	T2 (30min)	T3 (45min)	(T4 - 60min)
Actual average speed achieved (knots)						
Engine 1	RPM					
	Oil (BAR)					
	FW Temp (°C)					
Engine 2	RPM					
	Oil (BAR)					
	FW Temp (°C)					
Fuel	litres					
Distance covered	nm					

Average speed achieved: _____knots	Fuel used in one hour: _____ltr	Distance covered in one hour: _____nm

The craft fuel tanks hold _____ltr

From the data recorded the nm/ltr of the craft was: _____nm/ltr

For a craft with full fuel tanks this would give the craft a **Range of _____nm.**

From the data recorded the craft used _____ ltr of fuel in one hour.

For a craft with full fuel tanks this would give the craft an **Endurance of _____hrs.**

Are these figures compliant with the craft BR – Yes ☒ / No ☐

General trial observations	
Did any mechanical defects or alarms occur during the trial?	Yes ☐ / No ☐
Was the craft stable as it accelerated?	Yes ☐ / No ☐
Was the craft stable on a straight-line transit?	Yes ☐ / No ☐
Was the craft stable as it de-accelerated?	Yes ☐ / No ☐
Were any of the following conditions observed during the trial: *chine walking, craft lol, proposing/ nose diving, excessive slamming, poor trim*?	Yes ☐ / No ☐
Was the craft responsive and controllable during the course changes?	Yes ☐ / No ☐
Was the coxswain able to trim the craft as required for craft performance?	Yes ☐ / No ☐
Was the craft easily controlled by the coxswain without need for significant input of control?	Yes ☐ / No ☐
Were the craft controls and their positions suitable for the coxswain?	Yes ☐ / No ☐
Was the craft considered noisy during the trial	Yes ☐ / No ☐
Were there any WBV issues observed during the trial?	Yes ☐ / No ☐
Detail any observations.	

Observation Summary Of Craft Performance During The Trial			
	Satisfactory	Not Satisfactory	Notes
Craft Stability	☐	☐	
Craft course keeping	☐	☐	
Craft manoeuvrability	☐	☐	
Craft speed performance	☐	☐	
Craft acceleration	☐	☐	
Craft ability to stop	☐	☐	
Sea Keeping	☐	☐	

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Trial Form No 6B.	**Sea Keeping**	V 1.0 1/9/19

Boat Type:	Boat Number:	Trial Date:
Trials Location:		

Sea State:	Wind Force:	Wind Direction:	Air Temperature (°C):	Sea Temperature: (°C):
Craft condition: Light Operating / Fully Loaded	Weight of craft (Kg):	Ballast added (Kg): Type of ballast:		Fuel (ltr):
Time trial started:		Time trial finished:		

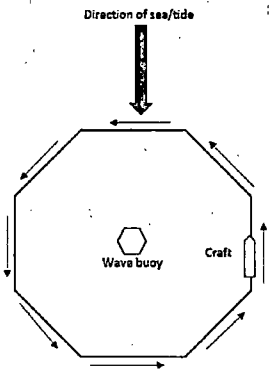

Fig 1

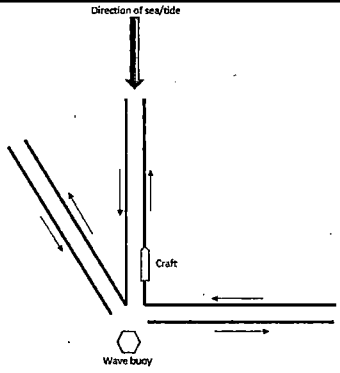

Fig 2

A trials wave buoy should preferably be employed to record sea data. If one is not available, then the nearest fixed national wave buoy should be used. Various sea keeping trials courses are promoted, 2 options are displayed above. Selection is dependent on trial area used and craft. All courses contain a run in to sea, a run with the sea, a run into the sea at 45°, a run with the sea at 45° and a run parallel to the sea. Each leg should be conducted for 5 minutes for Fig 1 and 10 minutes for Fig 2. The performance of the craft during the turn is to be monitored.

Provided the sea state is within the operating boundaries of the craft, the trial should be conducted at the maximum planning speed for the craft. However, depending on the sea conditions it is the responsibility of the coxswain to moderate the craft speed to the safest speed for the craft and passengers.

Required Speed _____Kts	Trial Legs				
	Into sea	With the sea	Into the sea at 45	With the sea at 45	Parallel to the sea
Speed achieved (Knots)					
Craft stability	Satisfactory Yes ☐ / No ☐	Satisfactory Yes ☐ / No ☐	Satisfactory Yes ☐ / No ☐	Satisfactory Yes ☐ / No ☐	Satisfactory Yes ☐ / No ☐
Craft course keeping	Satisfactory Yes ☐ / No ☐	Satisfactory Yes ☐ / No ☐	Satisfactory Yes ☐ / No ☐	Satisfactory Yes ☐ / No ☐	Satisfactory Yes ☐ / No ☐
Craft manoeuvrability	Satisfactory Yes ☐ / No ☐	Satisfactory Yes ☐ / No ☐	Satisfactory Yes ☐ / No ☐	Satisfactory Yes ☐ / No ☐	Satisfactory Yes ☐ / No ☐
Sea keeping	Satisfactory Yes ☐ / No ☐	Satisfactory Yes ☐ / No ☐	Satisfactory Yes ☐ / No ☐	Satisfactory Yes ☐ / No ☐	Satisfactory Yes ☐ / No ☐

General trial observations	
Did any mechanical defects or alarms occur during the trial?	Yes ☐ / No ☐
Was the craft stable as it accelerated?	Yes ☐ / No ☐
Was the craft stable on a straight-line transit?	Yes ☐ / No ☐
Was the craft stable as it de-accelerated?	Yes ☐ / No ☐
Were any of the following conditions observed during the trial: *chine walking, craft lol, proposing/ nose diving, excessive slamming, poor trim*?	Yes ☐ / No ☐
Was the craft responsive and controllable during the course changes?	Yes ☐ / No ☐
Was the coxswain able to trim the craft as required for craft performance?	Yes ☐ / No ☐
Was the craft easily controlled by the coxswain without need for significant input of control?	Yes ☐ / No ☐
Were the craft controls and their positions suitable for the coxswain?	Yes ☐ / No ☐
Was the craft considered noisy during the trial	Yes ☐ / No ☐
Were there any WBV issues observed during the trial?	Yes ☐ / No ☐
Detail any observations.	

Observation Summary Of Craft Performance During The Trial			
	Satisfactory	Not Satisfactory	Notes
Craft Stability	☐	☐	
Craft course keeping	☐	☐	
Craft manoeuvrability	☐	☐	
Craft speed performance	☐	☐	
Craft acceleration	☐	☐	
Craft ability to stop	☐	☐	
Sea Keeping	☐	☐	

	Overview Of Trials	V 1.0 1/9/19

Boat Type:	Boat Number:	Trial Date:

Trials Conducted In Light Operating Condition	
Trial 1A. Speed Trial	Yes ☐ / No ☐
Trial 2A. Acceleration	Yes ☐ / No ☐
Trail 3A. Emergency Stopping	Yes ☐ / No ☐
Trial 4A. Turning Circles	Yes ☐ / No ☐
Trial 5A. Zig Zag	Yes ☐ / No ☐
Trial 6A. Endurance and Fuel Consumption	Yes ☐ / No ☐
Trial 7A. Sea Keeping	Yes ☐ / No ☐
Trial 8. Bollard Pull	Yes ☐ / No ☐

Craft Performance In Light Operating Condition			
	Satisfactory	Not Satisfactory	Notes
Craft Stability	☐	☐	
Craft course keeping	☐	☐	
Craft manoeuvrability	☐	☐	
Craft speed performance	☐	☐	
Craft acceleration	☐	☐	
Craft ability to stop	☐	☐	
Sea Keeping	☐	☐	

Trials Conducted In Fully Loaded Condition	
Trial 1B. Speed Trial	Yes ☐ / No ☐
Trial 2B. Acceleration	Yes ☐ / No ☐
Trail 3B. Emergency Stopping	Yes ☐ / No ☐
Trial 4BA. Turning Circles	Yes ☐ / No ☐
Trial 5B. Zig Zag	Yes ☐ / No ☐
Trial 6B. Endurance and Fuel Consumption	Yes ☐ / No ☐
Trial 7B. Sea Keeping	Yes ☐ / No ☐

Craft Performance In Loaded Condition			
	Satisfactory	Not Satisfactory	Notes
Craft Stability	☐	☐	
Craft course keeping	☐	☐	
Craft manoeuvrability	☐	☐	
Craft speed performance	☐	☐	
Craft acceleration	☐	☐	
Craft ability to stop	☐	☐	
Sea Keeping	☐	☐	

Defects

Detail any defects noted during the trial:
Declaration
The above boat has completed the trials contained within document and the information contained is a true record of the Boats performance on the date shown. The craft **is /is not** in a safe and seaworthy condition for acceptance and return to service.

Trial witnessed by Contractor representative			
Signature	Name	Company	Date
Trial witnessed by MOD representative			
Signature	Name	MOD DE&S Section	Date