

COMMISSIONING REPORT MASTERVOLT GENERATORS KEEP INSTALLATION- AND USERS MANUAL AT HAND

INSPECTOR		COMPANY	
SIGNATURE	GENERATOR MODEL	SERIAL NUMBER:	
V	OK/ GOOD		
#	NOT SUPPORTED OR RECOMMENDED BY MASTERVOLT		
X	NOT ACCEPTABLE		
	VALUES TO BE REPORTED		

AC-CABLE COMPARISON TABLE

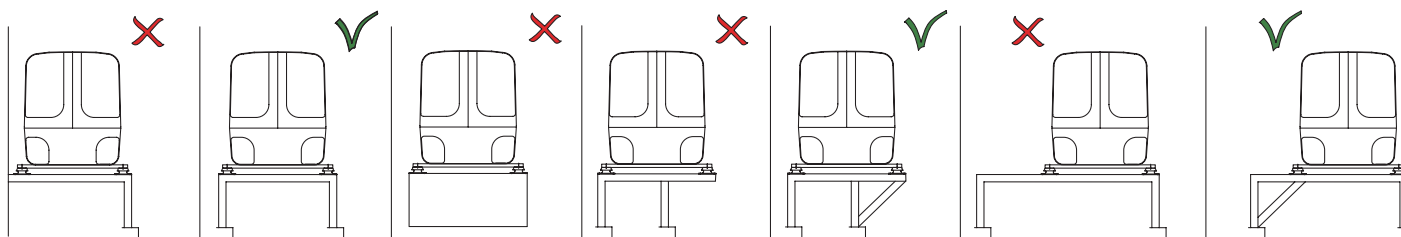
mm2	AWG
1,5 mm2	16
2,5 mm2	14
4 mm2	12
6 mm2	10
10 mm2	6
16 mm2	4
25 mm2	2
35 mm2	2
70mm2	0

EXHAUST DIAMETER TABLE ONLY USE CORRECT DIAMETERS: NOT SMALLER; NOT LARGER !

Whisper 3,5	40 mm =1 5/8 Inch
Whisper 6/8/12 3000 rpm	40 mm =1 5/8 Inch
Whisper 6 Ultra	40 mm =1 5/8 Inch
Whisper 8/10/12 Ultra	51 mm = 2 inch
Whisper 16 ULTRA	51 mm = 2 inch
STARTER BATTERIES MINIMUM SIZE	
Whisper 3,5	55Ah
Whisper 6/8000/12 3000 rpm	85 Ah
Whisper 6/8/10/12 ULTRA	85 Ah
Whisper 16 ULTRA	120 Ah

PRIOR INSPECTION OF THE INSTALLATION

1 Positioning/noise		YES	NO	COMMENT
The generator is on a solid foundation			V	# Is the noise acceptable
The foundation is free of walls, bulkheads and tanks			V	# Is the resonance acceptable
The foundation is supported directly below the mountings.			V	# When not this can cause resonance

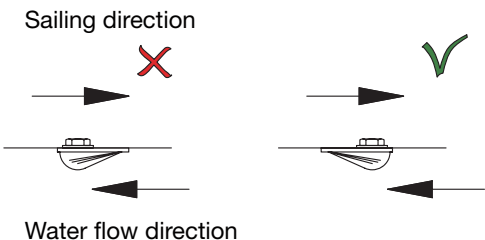


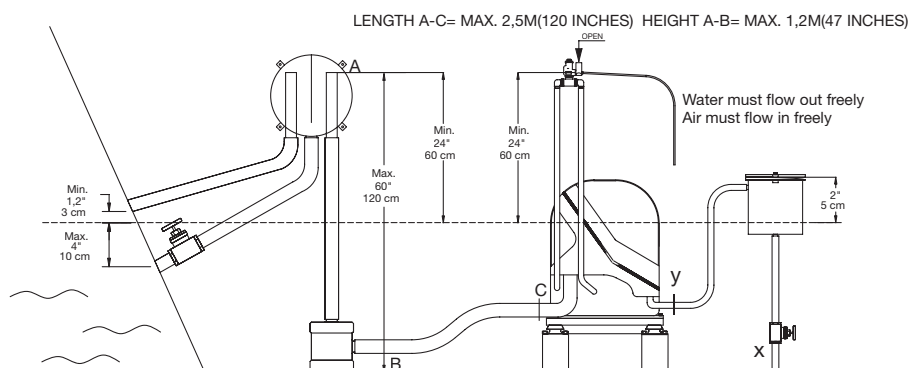
Picture 1 generator free of bulkhead and tank

The foundation should be supported below the mountings

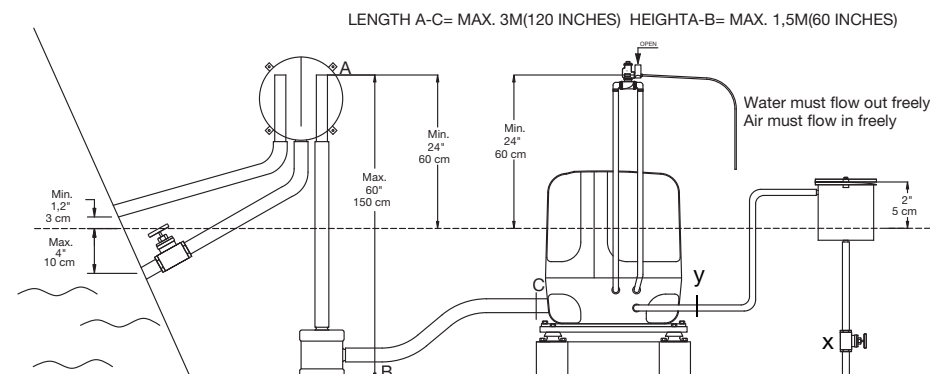
Ventilation	The environment is ventilated sufficiently; the generator requires a 10 cm2 opening to allow combustion air		V	X
Accessibility	The oil dip stick is accessible		V	X The dip stick should be accessible
	The impeller pump is accessible for replacing the impeller		V	X The impeller should be accessible
	The cylinder head is accessible for readjusting valve clearance		V	X The cylinder head should be accessible for adjustment of valve clearance

2 Water inlet system

Is there a water scoop installed as a transom		V	X	The transom should not be sensitive to pressure build up by the speed of the boat
Is the scoop mounted in the correct position (refer to the picture below)		V	X	The scoop should be mounted according to the picture
 <p>Picture 2 inlet scoop against direction of water flow</p>		<p>If it is not possible to check the water scoop make a clear statement below.</p> <div> <p>It is not possible to inspect the waterscoop</p> <p>This should be checked by</p> </div>		
Has the system its own independent water inlet		V	#	A combined water inlet can cause trouble
Has the water inlet an accessible sea cock	inch	V	X	It is dangerous to sail without a sea cock



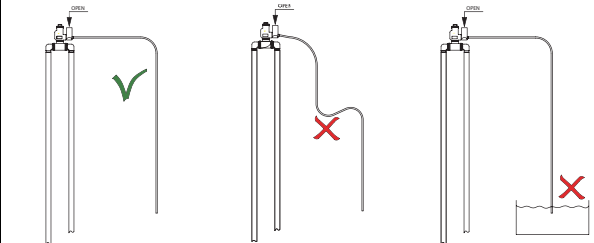
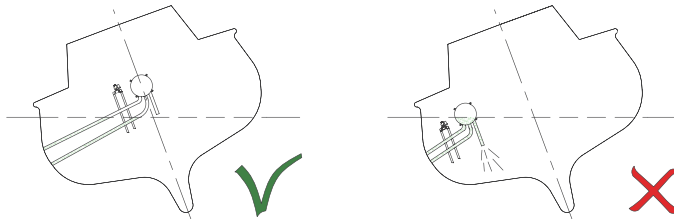
Picture 3 complete installation with dimensions W3,5



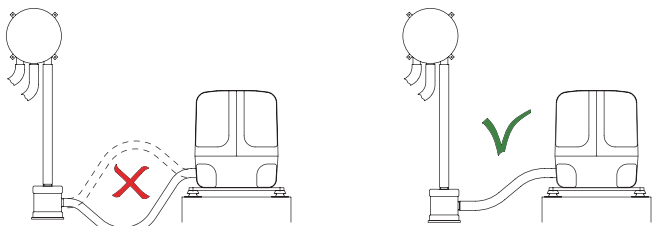
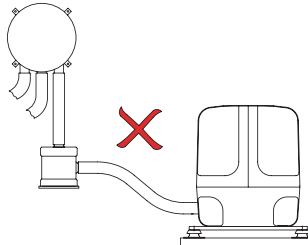
Installation Mitsubishi based Whisper models

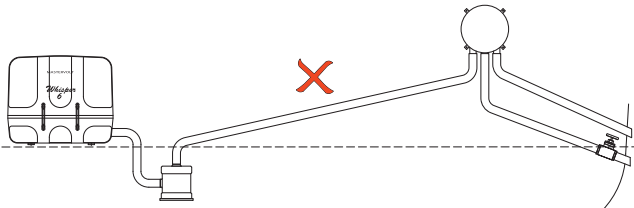
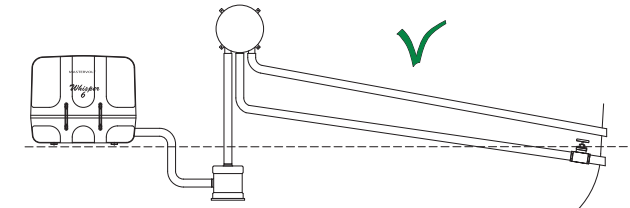
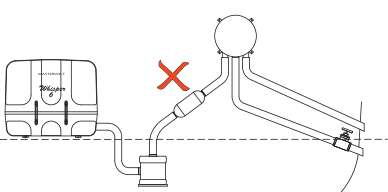
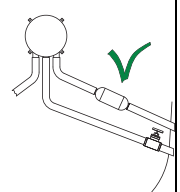
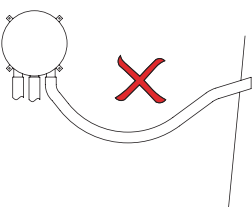
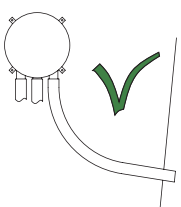
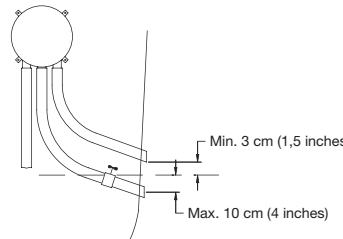
Is the water inlet piping not longer than 3 meters (10 ft) in total (x-y)	m/ft	V	#	When longer this could be critical
Is an independent water strainer fitted of the correct size		V	X	An independent water strainer should be fitted; not too small and not too large.
Is the strainer on the waterline		V	#	We recommend the strainer to be on the waterline
Is the water strainer below the water line.		#	#	We recommend the strainer to be on the waterline
Is the strainer above the waterline	cm/inch	#	#	The strainer being too far above the waterline can cause trouble

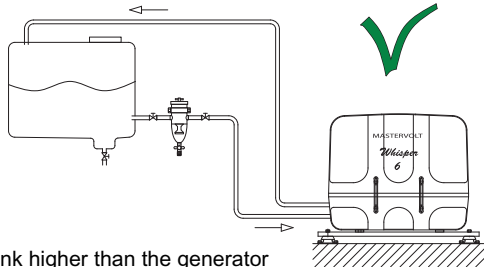
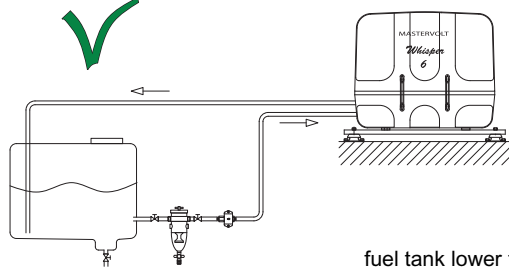
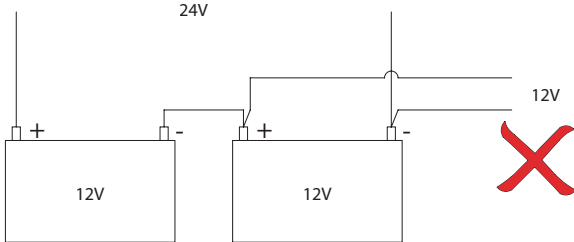
3 Anti siphoning valve

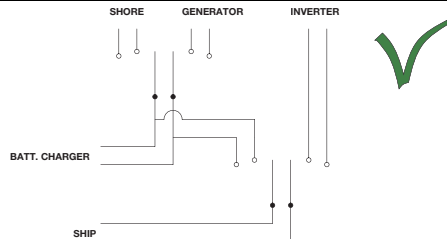
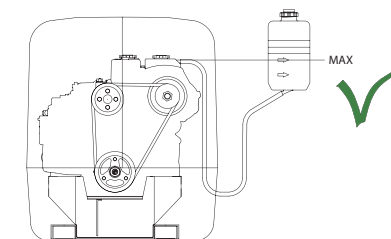
Is the bottom of the generator above the waterline (In all circumstances)	cm/inch			If the bottom is below the waterline a siphon breaker valve is needed.
Is an anti siphoning valve installed		V	X	Only if the bottom of the generator is above the waterline in all circumstances, is a siphon breaker not needed
Is the valve 60 cm above the waterline in all circumstances (heeling)	cm/inch	V	#	If the valve is lower this could be critical 45 cm is the absolute minimum.
Is the siphon breaker in the centre of the boat		V	#	Are you sure that it is 60 cm above the waterline when the boat is heeling
Can water flow out of the drain of the siphon breaker and can air flow into it freely		V	X	No canisters that can fill up and block the drain! No bents that hold water and block the drain.
 <p>Picture 4a Air should flow freely into water drain siphon breaker</p>				
Is the by-pass used to install the siphon breaker		V	X	Use the by pass to install a siphon breaker
 <p>Picture 4b Siphon breaker and water/gas separator above the waterline in all circumstances</p>				

4 Exhaust system

Are all hoses and other exhaust equipment dimensioned according to the manual		40 mm	51 mm	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Only the correct diameter must be used, not smaller, not larger
Is there a water lock and what are its connections		40 mm	51 mm	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	There should be a proper water lock and we recommend it is supplied by Mastervolt
Is the water lock supplied by Mastervolt				<input checked="" type="checkbox"/>	#	Give brand and dimensions
Does the hose from the generator to the water lock slope down				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	The water lock should be below the generator
Is the hose between the generator and the water lock free of bends.				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	The routing should be as straight as possible; bends going up and down are not allowed.
						
Pictures 5 Position of the water lock (water lift)						
Is there a goose neck 60 cm (24 inch) above the waterline			cm/inch	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	If not make sure water cannot enter the exhaust.
Is the goose neck (separator) in the centre of the boat				<input checked="" type="checkbox"/>	#	Are you sure that the goose neck is 60 cm above the waterline when the boat is heeling. (Refer to picture 4b)
Is the lift from the water lock to the goose neck or water/gas separator not more than 120 cm (Refer to pict. 3)			cm/inch	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	The lift should not be more than 120 cm Whisper 3,5 or 150m cm other Whisper models.

Is the length of the hose from the generator via the water lock to the top of the goose neck no more than 3 m / 10 ft	m/ft	V	X	This distance should be no longer than 3 m
				
Picture 6 Keep the line to the goose neck or water/gas separator short				
There are no mufflers in the rising line to the goose neck		V	X	There should be no mufflers in the rising line.
 				
Picture 7 no muffler in rising line				
Is there a water/gas separator		V	#	When no water/gas separator is used one should apply a goose neck
Is separator dimensioned at the proper diameter	40 mm 51 mm	V	X	Use the proper dimension
Is the water/gas separator supplied by Mastervolt		V	#	Give brand and dimensions
Is the gas outlet hose sloping down to the outlet transom		V	X	The gas outlet should slope down and should not go up again.
 				
Picture 8 No bends in the gas outlet that can hold water				
Does the gas outlet end up minimum 5 cm(2 inch) above the waterline	cm/inch	V	X	The gas outlet should not be below the waterline
Does the water drain have the correct diameter is 40 mm (1 5/8 inch)	mm	V	X	The water drain should not be smaller than 40 mm (1 5/8 inch)
Does the water drain go straight to the water outlet without too many bends		V	X	The water drain should release the water easily without too many restrictions.
Does the waterdrain end up less than 10 cm below the water line	cm/inch	V	X	The outlet of the water drain should not release the water too deep.
				
Picture 9 Dimensions outlets water gas separator				
The outlet of the water drain cannot build up pressure from the speed of the boat		V	X	It should not build up pressure.
Can the water drain be shut of by a sea cock		V	X	It should have a sea cock

5 Fuel supply system					
Is the fuel tank (fuel level) above the generator and does the fuel return line end at the top	cm/inch				The fuel return should end on top of the tank
Is the fuel tank (fuel level) below the generator and does the fuel return line end at the bottom	cm/inch				The fuel return should end on bottom of the tank
					
Picture 10 fuel tank higher than the generator		fuel tank lower than the generator			
Is the lift of the fuel less than one meter/3 ft	cm/inch		V	X	The fuel lift pump cannot lift the fuel more than one meter.
Is there an extra water separator in the fuel supply			V	#	An extra water separator is recommended
Is there a shut off valve in the supply line			V	X	There should be a shut off valve in the supply line
Is there a water drain on the tank			V	X	There should be a water drain on the tank
6 Battery connection					
Does the generator have its own independent starter battery			V	#	We strongly recommend an independent starter battery.
The starter battery should not be one of two in series that is also used for 24 V supply			V	X	Tapping 12V from two batteries in series will damage the batteries
					
Picture 11 tapping 12V from two batteries in series will cause serious damage					
Is the battery capacity in accordance with the installation instructions	Ah		V	X	
Is the battery within the distance of the standard supplied cables	cm/inch		V	#	If the distance is larger the cables should be replaced by thicker cables.
Is the battery properly stored			V	X	The battery should be stored for sea going conditions
Is the battery of the dry type gel battery			V	#	A Mastervolt gel battery is recommended
Is the battery of the wet type lead/acid type			#		There should be ventilation for the hydrogen gasses.
Is there sufficient ventilation for a wet type lead/acid battery			V	X	There should be ventilation for the hydrogen gasses.
Is there a battery switch			V	#	We recommend the installation of a battery switch
Is there a battery charger			V	#	We recommend the installation of a battery charger
Is the battery minus connected to the minus of other batteries (battery sets) on board			V	#	When not this can cause trouble with electronic devices.

7 AC connections					
Is the generator connected to the ship AC grid with the cable supplied with the generator	mm2	V	#	A proper flexible multi string cable should be used.	
Is there a main switch installed to disconnect generator and the ships grid		V	#	There should be a way to switch off the generator	
A separate two pole switch is used		V	#	Always use a two pole switch	
A circuit breaker is used (Check the Amps)	Amps	V	X	According to CE regulations a circuit breaker has to be installed	
A two pole manual shore/generator selection switch is used		V	X	A single pole switch must never be used	
A Mastervolt Masterswitch is used		V	#	when not give brand and specifications	
An other brand transfer switch is used		#	#	This switch should be two pole and properly designed	
 <p>Picture 12 switching between generator shore and inverter</p>					
Two two-pole selection switches are used to select generator/shore/inverter		V	#	Check if the switches are wired correctly	
Applications					
Are there motors to be started				This requires extra starting power.	
Are there sensitive users that cause problems		#	X	Check whether these motors can be started without problems. Check if there are such devices and test if they give trouble	
8 Expansion tank					
(not for Whisper 3,5)					
Is the tank mounted at the correct level (refer to picture)		V	X	The tank should be mounted at the correct level.	
 <p>Picture 13 expansion tank</p>					
Is the transparent hose routed through the green lower part of the sound shield		V	X	The hose should not be routed through the white cover or through the slit between the white covers	

PREPARATIONS PRIOR TO RUN

		OK	NOT OK
1 Inspection			
Open sound cover and inspect for mechanical damage or misalignment, check V-belt tension.		V	X Correct or repair any misalignment before starting.
2 Oil			
Is the oil according to the specifications: (15W40 API CC or CD)		V	# Give the specifications used
Is the oil level correct		V	X Fill up to correct level
3 Coolant			
Is the engine filled with coolant up to the correct level (Whisper 3,5 has only oil)		V	X Check both tank and manifold. Fill up when necessary
Is it filled with fresh water			X We recommend the use of special coolant liquid for engines
Is it filled with fresh water with anti freeze		V	# We recommend the use of special coolant liquid for engines
Is it filled with coolant liquid for engines.		V	
4 AC Power			
Switch off the AC main switch or circuit breaker		V	
5 DC battery			
Switch on the battery switch		V	
6 Fuel			
Open fuel valve and press glow shortly priming fuel,		V	Refer to users manual if any problem arises.
ventilate air when necessary; fuel lift pump produces clicking noises.		V	To bleed system push an hold start button on local control panel (refer to users manual)
7 Water inlet and outlet			
Open seawater cock; the strainer to fill up with raw water, check strainer and piping for leaks.		V	
Open water drain water/gas separator and inspect for leaks.		V	

FIRST TEST RUN

			DONE
1 Starting			
Push start button to initiate starting procedure		V	
2 Immediate checks			
First check raw water	Feel water pump become cold indicating water is flowing and look for water leaks	V	X If water is not flowing shut down immediately and investigate
Listen for strange noises		V	X Hearing strange noises stop and check for the cause
3 Further checks			
Check no load frequency (between 51,5 and 52,5 Hz) (62,5 and 61,5)	Hz	V	Use independent measurement instruments
Check no load voltage (max. 243V 50Hz) (max. 260V /130V 60 Hz)	Volts	V	Use independent measurement instruments
Wait for 10 minutes to run engine at working temperature			
4 Repeat inspections for leaks; stop the engine, check oil and coolant levels again and start it again.		V	Fill up when necessary
5 Switch on generator to ships grid.		V	
6 Switch on loads and check the performance up to 70 %		V	
Measure frequency under 70 % load (min. 50 Hz/ 60 Hz)	Hz	V	
Measure voltage under 70 % load (min. 220V 50 Hz model; 230/115V 60 Hz model)	Volts	V	
7 Run for 10 minutes and check the performance up to full load		V	
Measure frequency under full load (min. 49 Hz / 59 Hz)	Hz	V	
Measure voltage under full load (min. 215V 50 Hz model; 220/110V 60 Hz model)	Volts	V	
8 Check performance with different consumers; especially critical consumers		V	
9 Stop generator and check again for leaks		V	
10 Close the sound shield canopy and start again and check the noise level and check for vibrations		V	# When noise level is too high find the cause or consult Mastervolt
11 Leave the generator:			
Close fuel valve		V	
Close sea cock		V	
Close water drain of water/gas separator		V	
Switch off circuit breaker or main switch		V	
Switch off battery switch		V	

IF THE GENERATOR IS NOT IN GOOD ORDER LABEL IT AS FAULTY AND NOT TO BE USED