

Marine Gen Drive Engine Application Review Form - May 2025

Application Review Number: _____ SA Job Number: _____

General Information

Customer Name			
Customer is:	☐ End User	☐ Shipyard	☐ Other
Vessel Location			
Technician(name)			
Technician's Company			
Dealer			
Distributor			
Entity Which Sold Engine			
Sea Trial Test Date			
Present at Sea Trial	☐ Customer	☐ Dealer	☐ Builder
	☐ Distributor		
First article app review number (if production sea trial)			

Vessel Information

Vessel Name			
☐ New Build	☐ Repower		
Hull Make/Model			
Hull Build Date			
Hull Material			
Measurements	LOA _____	ft	m
Max Weight (Disp.)	_____	lbs	kg
Full load at sea trial	☐ yes	☐ no	
Loading Comments	_____		

New Engine Information

Model _____	S/N _____	Power _____	hp	kW	RPM _____	M Rating _____
☐ Keel Cooled	☐ Heat Exchanged	Hours on Engine at Time of Sea Trial _____				

Application Information

Emergency use Only	☐ Yes	☐ No
Vessel Type	☐ Fishing ☐ Workboat ☐ Cargo ☐ Barge ☐ Tug/Tow ☐ Passenger ☐ Recreational ☐ Other _____	
Maximum Vessel Electrical Load _____ kWe	Expected Engine Average Load _____ kWe	
Total Number of Generator Sets on Vessel _____		
Maximum Outside Ambient Air Temperature _____	Maximum seawater Temperature _____	

Previous Engine/Generator (If applicable)

Engine Model _____	S/N _____	Prime Power _____	hp	kW	50 hz	60 hz
☐ Keel Cooled	☐ Heat Exchanged	☐ Radiator Cooled				
Generator Make/Model _____	Rating _____	kVA	kWe			

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New Geneset Information

Genset Manufacturer/OEM _____									
Generator Make/Model _____					S/N _____		kWe _____		
☐ 50 hz	☐ 60 hz	Amp Rating _____		kVA _____	Efficiency _____ %	Parallel	☐ Yes	☐ No	
Paralleling Method		☐ Auto	☐ Manual	☐ Either	Controller Make/Model _____				
Throttle Type _____							Generator Mass Elastic Data Included With Report ☐ Yes ☐ No		

Powered Components (including alternator(s)) (AG31)

Make and Model (JD Part Number if Applicable)	Engaged		Max Power Required	Drive Type: Aux/ Pulley/Crank/etc.	Used For
	While Cranking				
	☐ Yes	☐ No	_____ hp	_____	_____
	☐ Yes	☐ No	_____ hp	_____	_____
	☐ Yes	☐ No	_____ hp	_____	_____
	☐ Yes	☐ No	_____ hp	_____	_____

Factory Installed Alternator	☐ Yes	☐ No	Alternator Voltage _____	Alternator Current _____
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Genset Mounting (AG27/AG23.5)

Engine Installation Angle _____ °	☐ Nose Up	☐ Nose Down	Dipstick Re-marked	☐ Yes	☐ No
Type of Mounting	☐ Solid	☐ Isolated	# points _____	Comments _____	

Engine Lift Straps must be removed after engine installation.

Engine Lift Straps Removed?* ☐ Yes ☐ No, Customer Acknowledges and assumes risk of non removal

Customer signature and date if not removed _____

*Technician should use best efforts and strongly encourage removal of lift straps, and inform customer of removal requirement, including the safety reasons for doing so. If customer refuses following instruction, customer shall check "No, Customer Acknowledges and Assumes Risk of Non-Removal" box and then have customer sign and date the form. If customer refuses to sign, technician (and other witness if available) should check the "No" box and hand write "Customer Refuses to allow removal of lift straps" on the form and then list time, date and location of the interaction along with their name (and witness).

Air Intake/Ventilation (AG03)

Engine Within Enclosure or Engine Room	☐ Yes	☐ No	Air Filter	☐ Standard	☐ Other _____
Total Engine Room Intake Vent Area	_____ in ²	_____ cm ²	Intake Fan	☐ Yes	Rated Flow _____ No
Total Engine Room Exhaust Vent Area	_____ in ²	_____ cm ²	Exhaust Fan	☐ Yes	Rated Flow _____ No
Remote Mounted Air Filter	☐ Yes	☐ No			
Diameter _____ in _____ cm	Pipe length _____ ft _____ m	Number of Elbows: 45° _____ 90° _____			
Verification Method	☐ Full Load Measurement	☐ Calculated*			
Vented Air Required (Calculated)	_____ CFM	_____ m ³ /min			
Minimum Inlet and Exhaust Vent Sizing	_____ in ²	_____ m ²			
Comments _____					

*When using the calculated vented area values, upload the ventilation air calculation excel file with the sea trial

Lube Oil System (AG23.5)

Crankcase Ventilation	☐ Closed System	☐ Open System
Duplex Oil Filter	☐ Yes	☐ No
Remote Mounted Oil Filter	☐ Yes	☐ No
Comments _____		

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Exhaust System (AG17.5)

☐ Dry				☐ Wet			
Adequate Flex		☐ Yes	☐ No	Exhaust Outlet Above Waterline		☐ Yes	☐ No
Exhaust Wrapped		☐ Yes	☐ No	Wet Exhaust Elbow		☐ Deere	☐ Other _____
Muffler	☐ Yes	☐ No	Exhaust Muffler Make/Model _____				
Exhaust Pipe Length		_____ ft	_____ m	Exhaust Pipe Diameter		_____ in	_____ mm
Exhaust Piping Material		_____					
Number of Elbows:		45° _____	90° _____	Turbo Outlet Pipe Support		☐ Yes	☐ No
Exhaust Back Pressure Verification Method		☐ physical	☐ calculated*	Exhaust Back Pressure		_____ psi	_____ kPa
Comments _____							

*When using calculated back pressure, a PDF printout of exhaust back pressure calculation from the marine calculator must be uploaded with the sea trial

Fuel System (AG19)

Pre-Engine Filter/Water Separator		☐ Yes	☐ No	Make/Model _____			
Multiple Fuel Tanks		☐ Yes	☐ No	Total Fuel Capacity		_____ gal	_____ L
Day Tank		☐ Yes	☐ No				
Fuel Level During Sea Trial		_____ %	_____ gal	_____ L	Fuel tank Material _____		
Horizontal Distance Between Inlet and Outlet Fittings on Fuel Tank				_____ in	_____ cm		
Horizontal Distance Between Tank and Engine				_____ ft	_____ m		
Fuel Inlet Line Diameter		_____ in	_____ cm	Length		_____ in	_____ cm
Material		_____					
Vertical distance from suction point in tank to low pressure pump				_____ in	_____ cm		
Fuel Return Line Diameter		_____ in	_____ cm	Length		_____ in	_____ cm
Material		_____					
Unique return line for each engine		☐ Yes	☐ No				
Fuel Return Valve(s) Installed		☐ Yes	☐ No	Valve Type(s) _____			
Fuel Return Monitoring System Installed		☐ Yes	☐ No	Details _____			
Duplex Fuel Filter		☐ Yes	☐ No				
Comments _____							

Engine Electrical System (AG10/AG11/AG11.5-P)

Isolated Ground		☐ Yes	☐ No	Positive Cable Length		_____ ft	_____ m	Size _____
Engine Grounded to Bonding Strip		☐ Yes	☐ No	Negative Cable Length		_____ ft	_____ m	Size _____
# of Batteries		_____	Battery Type		_____	System Voltage		☐ 12 ☐ 24
System CCA		_____	Amps					
Instrument Panel(s)		☐ John Deere	☐ Other	Controller Information _____				
TVP Installed		☐ Yes	☐ No	Comments _____				

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Cooling System (General)

(AG08/AG09.5)

Engine Coolant Type	☐ Cool-Gard II	☐ Other	Block/Coolant Heater	☐ Yes	☐ No	Make/Model	
Coolant Recovery Bottle Volume		☐ qt	☐ L	Remote Top Tank	☐ Yes	☐ No	
Recovery Bottle Relative to Top Tank	☐ Above	☐ Below	Radiator Cap in Use	☐ Yes	Pressure	☐ No	
Height Relative To Top Tank		☐ in	☐ cm	Remote Top Tank Volume		☐ qt	☐ L
Auxiliary Coolant Utilized (i.e. cab heat)	☐ Yes	☐ No	Remote Top Tank relative to Top Tank	☐ Above	☐ Below		
Aux Coolant Line Diameter		☐ in	☐ cm	Height Relative to Top Tank		☐ in	☐ cm
Aux Coolant Location:	Out of Engine		Outlet Line Diameter		☐ in	☐ cm	
Return to Engine			Outlet Line Slope		°		
			Vent Line Diameter		☐ in	☐ cm	
Comments							

Cooling System (Heat Exchanged)

(AG09.5)

SW Discharge Above Waterline	☐ Yes	☐ No	SW Pump Inlet Tube Diameter		☐ in	☐ cm
SW Strainer Hole Diameters	☐ in	☐ cm	SW Discharge Tube Diameter		☐ in	☐ cm
Seacock Installed	☐ Yes	☐ No	Comments			

Cooling System (Keel Cooled)

(AG09.5)

Keel Cooler	☐ Channel	☐ Pipe	☐ Grid	Tube Cross Sectional Area		☐ in ²	☐ cm ²	Length		☐ in	☐ cm
Make/Model if Applicable							Number of Paths or Tubes				
Material			Painted	☐ Yes	☐ No	Keel Cooler Line Size	Inlet		Outlet	☐ in	☐ cm
Comments											
Dual Circuit Keel Cooled (DCKC)	☐ Yes	☐ No	DCKC Make/Model/Serial #								
DCKC Ridid Impeller Pump	☐ Yes	☐ No	DCKC Coolant Type	☐ Cool-Gard II	☐ Other						
Aftercooler Circuit Top Tank Volume		☐ qt	☐ L	Comments							

Cooling System (Radiator Cooled)

(AG09.5/AG04)

Radiator Make/Model			Part Number			Flow	☐ Vertical	☐ Cross	
Deaeration Baffels	☐ Yes	☐ No	Radiator Height		Width		Thickness	☐ in	☐ cm
Fin Density		/	☐ in	☐ cm	Radiator Capacity	☐ gal	☐ L		
Coolant Inlet Diameter		☐ in	☐ cm	Coolant Pipe Outlet Diameter		☐ in	☐ cm		
Cooling Fan Make/Model			Part Number			Blower	☐ Suction	Material	
Fan Diameter	☐ in	☐ cm	Distance From Core	☐ in	☐ cm	Fan Drive Ratio		:1	
Fan Power Included in Powered Components Box Above	☐ Yes	LAT (Reference AG-04 for Test Procedure)					☐ °F	☐ °C	

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Aftercooler (HFM Engines Only) (AG01.5/AG07)

Make/Model _____	Part Number _____
Serial Number _____	
Height _____	Width _____ Thickness _____ in _____ cm
Fin Density _____ / _____ in _____ cm	
Air Duct Diameter _____	_____ in _____ cm

Marine Classification Unit Certification	Yes	No
☐ American Bureau of Shipping (ABS) Installed Components	☐	☐ Double Wall Fuel Lines
☐ Bureau Veritas (BV)	☐	☐ Duplex Fuel Filters
☐ Det Norske Veritas (DNV)	☐	☐ Insulation Blanket
☐ Lloyd's Register (LR)	☐	☐ Isolated ground options
☐ China Classification Society (CCS)	☐	☐ RACOR Low Pressure Fuel System (4045A only)
☐ Other	☐	☐ Metal Fuel Parts
		☐ Metal Oil Filter Cap (6090 Only)
		☐ Metal ECU case (4045T and 6068T only)

Emission Certification Requirements:

☐ Non-regulated	☐ EU Stage V
☐ EPA Tier 2	☐ China Stage 1
☐ EPA Tier 3	☐ China Stage 2
☐ IMO Tier 2	☐ Canada Transport
☐ IMO Tier 3	☐ Other

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Engine Load Using Load Bank or Incremental Load Using Vessel Electronics	Units				25%	50%	75%	100%	110%	Limits
Ambient Air Temperature		°F		°C						N/A
Vessel Speed (for keel cooled gensets)	Knots									N/A
Generator Output	kWe									N/A
Analog Input 1: Coolant Pump Inlet Press.		psi		kPa						
Analog Input 3: Exhaust Back Pressure		psi		kPa						
Analog Input 4: Fuel Inlet Pressure		psi		kPa						
Analog Input 5: Fuel Return Pressure		psi		kPa						
Analog Input 7: Auxiliary Temp. 1 (Temp. at Air Cleaner)		°F		°C						Ambient + 17°C/30°F
Analog Input 8: Air Inlet Restriction		psi		kPa						
Analog Input 9: Auxiliary Temp. 2 (Engine Room Temp.)		°F		°C						
Barometric Air Pressure*		psi		kPa						N/A
Engine Coolant Temperature*		°F		°C						
Engine Oil Pressure*		psi		kPa						____ Ref
Fuel Usage Rate*+		gph		Lph						N/A
Manifold Air Pressure--Actual/Boost Press.*		psi		kPa						____ Ref
Manifold Air Temperature*		°F		°C						
TC 1: Coolant Pump Inlet Temperature		°F		°C						N/A
TC3: Exhaust Temperature		°F		°C						____ Ref
TC4: Fuel Return Temperature		°F		°C						
Sea Water Temperature		°F		°C						N/A DCKC 22°C/72°F
Analog Input 2: Sea Water Pump Inlet Press (HE Only) (CAC Circuit Coolant Pump Inlet Press. (DCKC Only) (CAC Delta Pressure (HFM Only))		psi		kPa						
Analog Input 6: Sea Water Pump Inlet Temp. (HE Only) (CAC Circuit Coolant Inlet Temp. (DCKC Only)) (CAC Outlet Temperature (HFM Only))		°F		°C						N/A DCKC: 27°C/81°F
TC2: Sea Water Return Temperature (HE Only) (CAC Circuit Coolant Outlet Temp. (DCKC Only)) (Engine Coolant Out Temp (HFM Only))		°F		°C						N/A

Key  -Measured on all coolant system types

 -Measured on heat exchanged or dual circuit keel cooled engines only

* Denotes a parameter that can be monitored via Service ADVISOR™

+Denotes a parameter that is not monitored on mechanical eng

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Serviceability Checklist

Inspect all items below and determine if servicability/access of the item is acceptable in the currently installed condition. If not, notify vessel representative to aid in ease of service at a later date.

<u>N/A</u>	<u>Yes</u>	<u>No</u>	<u>Daily Maintenance & Checks</u>
	☐	☐	Check oil level
	☐	☐	Add oil
	☐	☐	Check coolant level
	☐	☐	Add coolant
	☐	☐	Check & drain fuel water separator
	☐	☐	Adjust hose clamp tension
☐	☐	☐	Close seacock
☐	☐	☐	Clean sea water strainer
☐	☐	☐	Fuel return valve open
☐	☐	☐	Access to hand primer
	<u>Yes</u>	<u>No</u>	<u>General</u>
	☐	☐	Operator manual reviewed with customer

<u>N/A</u>	<u>Yes</u>	<u>No</u>	<u>Regular Maintenance</u>
	☐	☐	Change engine oil
	☐	☐	Replace oil filters
	☐	☐	Replace air cleaners
	☐	☐	Replace fuel filters
	☐	☐	Adjust valve lash
	☐	☐	Change engine coolant
	☐	☐	Replace vibration damper
☐	☐	☐	Service crankcase vent system
☐	☐	☐	Replace zinc anodes
☐	☐	☐	Replace raw water pump impeller
☐	☐	☐	Clean & remove heat exchanger core
☐	☐	☐	Clean and remove CAC core
☐	☐	☐	Adjust all belt tension

Sea Trial and Serviceability Comments and Recommendations

By signing on the next page, all parties are indicating that the information in the application review form is accurate to the best of their knowledge and any data points not meeting John Deere requirements have been noted and communicated to the vessel representative with the understanding that those points not meeting John Deere requirements could lead to reliability issues.

Configurable Engine Derates & Shutdowns Sheet (details on page 2)**General Information**

Configuration Date:			
Engine Serial Number:			
Engine Location:	Center	Port	Starboard
Configuration:	Initial	Periodic Inspection	Adjusted

Vessel Information

Vessel Name:
Vessel Owner:
Vessel Representative:
Vessel Rep. Title:

John Deere Authorized Technician Information

Authorized Tech. Name:		
Company:		
Type of Company:	Dealer	Distributor

If Adjusted from prior settings, brief description of reason for changes:

Derate and shutdown information can be found in service advisor by the following steps:

1. Connect to Service Advisor
2. From the Home icon, pick 'Reprogramming'
- If the payload is already downloaded on your laptop, proceed to step 6 ----
3. Select 'Engine', pick 'Action' pull-down, click 'Go'
4. From the Options window, select 'Reprogramming current ECU', click 'Done'
5. The current payload will be downloaded to the computer, Select 'Back'
6. Select 'Engine', from the Action pull-down, pick 'Start Reprogramming'
- If the EDL is connected, pick which type you are using, select 'Go'
7. The changes can be made before connecting to the engine by picking "Proceed".
Otherwise, an EDL needs to be connected and selected from the options pull-down
8. Trim page is available for review/editing
9. Use the final 'Report' tab to print out the revised settings (if desired)

By signing below, all parties are indicating that the information included above is accurate, been reviewed and approved by Vessel Representative

Signatures

	<u>Company</u>	<u>Date</u>	<u>Signature</u>
John Deere Authorized Tech.			 Authorized Representative
Dealer Representative			 Authorized Representative
Vessel Representative			 Authorized Representative
Distributor Representative			 Authorized Representative

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Configurable Engine Derates & Shutdowns

Parameter	Factory Settings		Settings TODAY		DTC	Default Lamp Color
	Derates	Shutdowns	Derates	Shutdowns		
Water-in-Fuel ¹	Enabled	Disabled	Enabled Disabled ²	Enabled Disabled	97.00	Red
Oil Pressure ¹		Disabled		Enabled Disabled	100.01	Red
Manifold Air Temperature ¹		Disabled		Enabled Disabled	105.00	Red
Coolant Temperature ¹		Disabled		Enabled Disabled	110.00	Red
Fuel Rail Pressure ¹		Disabled		Enabled Disabled	157.01	Red
		Not Available		Not Available	157.03	Red
		Not Available		Not Available	157.04	Red
Fuel Temperature ¹		Disabled		Enabled Disabled	174.00	Red
Low Coolant Level ^{1,4}		Disabled		Enabled Disabled	111.01	Red
Engine Overspeed	Enabled ³	Disabled ³	Enabled Disabled	Enabled Disabled	190.00	Red

¹Denotes parameters considered part of the same group

²Disabling will cause all grouped parameters denoted with

^{1,3}Engine overspeed is *either* Derate OR Shutdown

⁴Optional switch needed, reference switch configuration settings below

Optional Switch Settings

Parameter	Equipped with Optional Switch	Switch Status TODAY	Diagnostic Trouble Code	Default Lamp Color	Lamp Setting TODAY
Air Filter	Yes No	Enabled Disabled	107.31	Amber	Amber
Low Coolant Level	Yes No	Enabled Disabled	111.01	Red	Red
Fuel Leak Switch	Yes No	Enabled Disabled	1239.31	Amber	Amber Red

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Optional Sensor Settings

Parameter	Equipped with Optional Switch	Factory Shutdown	Shutdown Setting TODAY	Severity	DTC	Default Lamp Color	Lamp Setting TODAY
Transmission Oil Pressure ⁵	Yes No	Disabled	Disabled	Most High	127.00	Red	Amber Red
				Most Low	127.10	Red	Amber Red
				Moderately High	127.16	Amber	Amber Red
				Moderately Low	127.18	Amber	Amber Red
				Voltage Out of Range High	127.30	Red	Amber Red
				Voltage Out of Range Low	127.40	Amber	Amber Red
Exhaust Temperature ⁵	Yes No			Most High	173.00	Red	Amber Red
				Moderately High	173.16	Amber	Amber Red
Transmission Oil Temperature ⁵	Yes No			Most High	177.01	Red	Amber Red
				Moderately High	177.16	Amber	Amber Red
Oil Temperature High ⁵	Yes No	Disabled	Enabled Disabled	Moderately High	175.00	Amber	Amber Red
		Disabled	Enabled Disabled	Most High	175.16	Red	Amber Red

*Note: There are no derate options for these sensors

⁵Available as a John Deere offered optional sensor

Auxiliary Input Settings

Parameter	Equipped w/ Aux. Input	Type of Measurement	Measurement Description	Factory Settings		Setting TODAY		DTC	Default Color
				Derates	Shutdowns	Derates	Shutdowns		
Auxiliary Shutdown	Yes No	Temperature Pressure Flow Speed Other: _____		N/A	Disabled	N/A	Enabled Disabled	970.31	Red
Auxiliary Derate	Yes No	Temperature Pressure Flow Speed Other: _____		Disabled	N/A	Enabled Disabled	N/A	970.31	Red