

# PLANNED MAINTENANCE CHECKLIST STANDARD INSPECTION

CUSTOMER DETAILS											
CUSTOMER:						DATE:					
ADDRESS:						SERVICE ORDER #:					
						FA JOB ID:					
SITE NAME:						TECHNICIAN:					
CONTACT NAME:						CONTACT EMAIL:					
ASSET NAME:						CONTACT TEL:					
		PROD	UCT DETAILS		SECONDARY PRODUCT DETAILS:						
PRODUCT MANUFACTURER:						MANUFACTURER:					
PRODUCT MODEL:						MODEL:					
PRODUCT SERIAL:						SERIAL:					
PROD HOURS / MILES / KM:						HOURS / MILES / KM:					
PASS	N/A	NEEDS ATTN									
		7(111	A. PRE-OPERATIONAL CHECKS								
			B. BATTERIES AND BATTERY CHARGER								
			Battery install date:	Sattery install date:			Float Volts: Current:				
			Record highest and lowest specific		gravit	y measured:		]			
		High:				Low:					
	Battery load test:			Test CCA:			Ambient temp:				
			Battery 1: Float Volts:			Hold Volts:		Pass/Fail:			
			Battery 2: Float Volts:			Hold Volts:		Pass/Fail:			
			Battery 3: Float Volts:			Hold Volts:		Pass/Fail:			
			Battery 4: Float Volts:			Hold Volts:		Pass/Fail:			
	C. COOLING SYSTEM										
			Last coolant fill date: Last coolant maint date								
			Jacket water temp:		(Belts, hoses, coolant):  °F Cooling system pressure: PSI						
			Coolant Properties:		. Sooming System processes.						
			·			DCA Concentration: PH level:					
		Sulfates:						Appearance:			
			LTA Coolant:								
	Freeze point:				Appearance:		PH level:				

PASS	N/A	NEEDS ATTN									
			D. GENSET CONTROLS AND ACCESORIES								
			E. MAIN ALTERNATOR								
			F. FUEL SYSTEM								
			Main tank fuel level: Second Main tank fuel le					fuel level:			
			Day tank fuel	Day tank fuel level:				1			
			Fuel pres	ssure:	: Ru			:			
	G. INTAKE AND EXHAUST SYSTEMS										
	H. ENGINE AND LUBRICATION SYSTEM										
	I. GENERATOR OPERATIONS										
	K. TRANSFER SWITCH / SWITCHGEAR										
	Measure and record utility / source one voltage:										
L. SYSTEM OPERATIONAL TEST											
	Genset test without load, load test not permitted by:										
			_	ecord engine and load data:							
			Oil pressure:		Oil Temperature:			Coolant temp:			
В			Battery Voltage:		Engin	Engine speed:		Exhaust temp:			
,			Coolant press:		Blowby flow:			LTA temp:			
			Genset Voltage:		Genset freq/Hz			Load PF:			
Cu			Current:		В:			C:			
			Load kW:		La	Load kVA:					
					Minutes			Load kVAR:			
			Duration system test:		Minutes	S 					
M. SITE PREDEPARTURE VERIFICATION  Comments:											
	10:		1 <sup>st</sup> Trip	2 <sup>nd</sup> Trip		3 <sup>rd</sup> Trip		4 <sup>th</sup> Trip			
Start Odometer Readin			-								
Stop Odometer Reading											
Total Mileage				TECHNICIAN NAME:			TECHNICIAN SIGNATURE:				
			CUSTOMER NAME:	CUSTO	CUSTOMER SIGNATURE:						



# PLANNED MAINTENANCE CHECKLIST STANDARD INSPECTION

Below is the scope of work performed during the above planned maintenance checklist. Any additional repairs, parts, or service which are required will be brought to the attention of the owner. Repairs will only be made after proper authorization from the owner is given to Cummins Sales and Service. Any additional repairs, maintenance or service performed by Cummins Sales and Service for a Planned Maintenance Agreement holder will be at Cummins Sales and Service labor rates.

#### A. PRE-OPERATIONAL CHECKS

- 1. All equipment automated, no alarms or faults on controls
- Check fluid levels and observe for leaks. Oil, Fuel and Coolant
- Verify battery chargers, component heaters and accessories are operational
- Safety Audit, Lock Out/ Tag Out Procedures Followed, Safe Service Operations

#### **B. BATTERIES AND BATTERY CHARGER**

- Check battery charger functions and record voltage and current
- 2. Cable connections, termination cleanliness and security
- Check electrolyte level, vent caps and specific gravity of all cells in the starting battery system
- 3.a Record highest and lowest specific gravity measured.
- Perform Battery load test on all starting batteries and record cca, ambient temperature, float volts, hold volts, and if the battery passed or failed testing.

### C. ENGINE COOLING SYSTEM

- 1. Inspect all hoses and clamps for leaks and condition
- 2. Inspect radiator cap and filler neck condition
- 3. Inspect drive belts, observe alignment and deflection
- Confirm proper coolant heater operation and record jacket water temperature
- Verify Coolant properties and record the freeze point, DCA concentration, PH level, Sulfates, Chlorides, and appearance.
- Inspect radiator surfaces, shrouds and barriers for obstruction, build up and mechanical damages
- Verify LTA coolant properties and record the freeze point, PH level, and appearance (if applicable)
- 8. Optional coolant sampling

# D. GENSET CONTROLS AND ACCESSORIES

- 1. Check all engine mounted wiring, senders and devices
- 2. Check all control mounted components and wiring
- 3. Check all connecting plugs
- 4. Check all accessory components and wiring
- 5. Function test lights and indicators

## E. MAIN ALTERNATOR

- 1. Remove covers and inspect terminals, wiring and component
- 2. Visually inspect main rotor and stator
- Visually inspect exciter components and PMG (where equipped)
- Manually operate generator main breaker(s) open and closed

# F. FUEL SYSTEM

- Check main and secondary (if applicable) tank fuel and record levels
- 2. Check day tank fuel and record level (if applicable)
- Check day tank controls and pumps. Test operate day tank controls where available (if applicable)
- 4. Check all fuel hose, clamps, pipes, components and fittings
- $5. \ \mbox{Check}$  fuel pressure and record readings running and loaded
- 6. Check governor linkage (if applicable)

- Water in Fuel Test Sub-base, day tanks or as noted on agreement
- 8. Rupture/ Containment Basin Inspection (if applicable)

#### G. INTAKE AND EXHAUST SYSTEMS

- 1. Check air cleaner element
- 2. Check intake system
- 3. Check exhaust system and rain cap
- 4. Check louver operations (if applicable)

### H. ENGINE AND LUBRICATION SYSTEM

- 1. Check lubrication system
- 2. Check crankcase ventilation system
- 3. Check spark ignited ignition system (if applicable)

#### I. GENERATOR OPERATIONS

- 1. Start and observe generator and equipment operations
- 2. Verify engine and generator safeties as applicable

### K. TRANSFER SWITCH/ SWITCHGEAR

- 1. Inspect all power and control wiring
- 2. Inspect switch mechanism and enclosure
- 3. Inspect controls and time delay settings
- 4. Check exercise clock
- 5. Verify remote start control operation
- 6. Measure and record utility/ source one voltage

### L. SYSTEM OPERATIONAL TESTS

- Genset test with or without load, if not allowed document decision maker
- During test without load record engine oil pressure, oil temperature, coolant temperature, battery voltage, engine speed, exhaust temperature, coolant pressure, blowby flow, LTA temperature. Also record generator voltage on all phases, frequency, current on all phases, load PF, load KW Load KVA, and Load KVAR.
- 3. Record duration of system test in minutes

#### M. SITE PRE-DEPARTURE VERIFICATION

- 1. All applied energy source lock out devices removed
- 2. All controls and components in AUTO/REMOTE
- All GENSET breakers ON/CLOSED (except power operated paralleling breakers)
- 4. Battery Charger operational/ breaker ON
- 5. Component heaters enabled/ breaker ON
- 6. Site Cleanup