

G16 CM 34 (GCM 34) Gas Engine Sr.No: 58001, Unit-1 Periodic Maintenance Schedule History

TMI Periodical Schedule-Hours	Activity Carried Date	Present Engine Service Meter Units/Hour Meter Reading	Description / Scheduled Works Done	Remarks
Every 24, 150, and 300	Regular		Described and maintained regular as O& M Activity as part of Periodic Scheduled Intervals during engine operation / standby condition. Records and dates available at site	Every 24,150, and 300 Hrs Periodic Maintenance Schedule has been carried as on going activity of O&M during engine operation / standby as per the TMI checks.
N/A	31/08/2007	1371	1. All Cylinder SOGAVs and Connectors replaced with new upgraded version	All necessary Spares have been supplied / procured by CATERPILLAR under product Improvement programme (PIP)
1500	9/12/2007	1630	1. Measured and recorded Ignition transformers primary, secondary voltages 2.Measured and recorded Sparkplug extender resistance values 3.Checked and Adjusted Valve rocker bridge clearances 4. Checked and Adjusted inlet & exhaust Valve clearances 5.Checked measured and recorded rotator projection 6.Replaced LS Alternator DE bearing Oil replaced with new	
	13/9/2007	1640	1. HT & LT circute drained and replaced with new water and added Nalcool2000 2.Oilbath Filtrin Unit cleaned and added required Oil 3.HT & LT PHE's C/W side strainers cleaned 4. Main Gas filter inspeded and cleaned	
	20/9/07	1780	1. Removed all sparkplugs and cleaned the seat with seat cleaning tool 2. Measured and recorded Sparkplug extender resistance values 3. Measured and recorded new sparkplug resistance values 4. All cylinder sparkplugs replaced with new	
	24/09/2007	1879	1. Main Gas filter replaced with New	As condition based / preventive mainteanace
3000	17/11/2007	3047	1. Checked and Adjusted Valve rocker bridge clearances 2. Checked and Adjusted inlet & exhaust Valve clearances	
	14/12/2007	3651	1. Measured and recorded Ignition transformers primary, secondary voltages 2. Measured and recorded Sparkplug extender resistance values 3. Checked and Adjusted Valve rocker bridge clearances 4. Checked and Adjusted inlet & exhaust Valve clearances 5. Checked measured and recorded rotator projection 6. Removed all check valves and cleaned the tubing and surfaces 7. Cleaned all new check valves with cleaning solvent, inspected and replaced 8. Main Gas filter inspected and cleaned	
4500 (1500)	1/2/2008	4719	1. Measured and recorded Ignition transformers primary, secondary voltages 2. Measured and recorded Sparkplug extender resistance values 3. Measured and recorded new sparkplug resistance values 4. All cylinder sparkplugs replaced with new 5. Checked and Adjusted Valve rocker bridge clearances 6. Checked and Adjusted inlet & exhaust Valve clearances 7. Checked measured and recorded rotator projection 8. Inspected Turning device 9. Checked and cleaned IR Starting Air Motors 10. Inspected Timing gear train as visual and found normal 11. Inspected running gear and timing / Pick-up GP as visual and found normal 12. All cylinders Crankcase Explosion Relief valve inspected, cleaned and fixed back 13. Removed all cylinder's combustion sensor and replaced with new after inspection of extenders, connectors and harness 14. Visual inspection done for con-rods, liners, bearings, and camshaft assemblies	As preventive mainteanace

			15. Oil bath Filtering Unit - A & B-Bank Sump cleaned and Oil replaced with new	As condition based maintenance
			16. LT PHE Pressure Plates and C/W Side Strainer cleaned and Fixed Back	As condition based monitoring maintenance
6,000 (1500, 3000)	1/4/2008	5978	1. Measured and recorded Ignition transformers primary, secondary voltages 2.Measured and recorded Sparkplug extender resistance values 3.Measured and recorded new sparkplug resistance values 4. All cylinder sparkplugs replaced with new 5.Checked and Adjusted Valve rocker bridge clearances 6. Checked and Adjusted inlet & exhaust Valve clearances 7.Checked measured and recorded rotator projection 8. Removed all check valves and cleaned the tubing and surfaces 9.Cleaned all new check valves with cleaning solvent, inspected and replaced	
	30/04/2008	6627	1. Wastegate Link-Rods replaced with new	As condition/ monitoring based maintenance
	2/5/2008	6668	1. LS Alternator, DE and NDE side bearing Oil removed, flushed and cleaned the sump. Replaced with new Oil	Every 4,000 Hrs scheduled
	12/5/2008	6822	1.Lube Oil replaced with new Mobil Pegasus- 905 after thorough cleaning of Oil sump 2. Cleaned and inspected LO protective filter 3. Removed duplex filter cartridges and cleaned and fixed back	LO Changed as 7,500 hrs / condition based initial change
	21/06/2008	7546	1.HT PHE Pressure Plates and C/W Side Strainer cleaned and Fixed Back	As condition/ monitoring based maintenance
7,500	23/6/2008	7546	1. Measured and recorded Ignition transformers primary, secondary voltages 2.Measured and recorded Sparkplug extender resistance values 3.Measured and recorded new sparkplug resistance values 4. All cylinder sparkplugs replaced with new 5.Checked measured and recorded rotator projection	
	1/7/2008	7636	1.Checked and Adjusted Valve rocker bridge clearances 2. Checked and Adjusted inlet & exhaust Valve clearances	
7,500	28/7/2008	8210	1.HT & LT circuit drained and replaced with new water and added Nalcool-2000 1. Removed All Cylinder heads and exchanged all inlet, Exh valve cones, guides and seats with new 2. All Cylder Pistons removed and replaced with new pistons including piston pins and ci 3.Replaced all Prechamber lower Part (Combustion Part) replaced with new, Inspection and testing done 4. Exhaust Gas manifold inspection 5. Checked and cleaned IR Starting Air Motors	All necessary Spares have been supplied / procured by CATERPILLAR under PSP (Product Support Program) "
	10/8/2008	8211	9. Hudralic Oil replaced with new-Castroll - GP-Hyspin-68	As 7,500 hrs Scheduled - Castroll - GP-Hyspin-68
	30/8/2008	8479	1. Main gas Filter Replaced with New	As condition based maintenance
9,000 (3000, 4500,1500)	29/9/2008	9124	1. Measured and recorded Ignition transformers primary, secondary voltages 2.Measured and recorded Sparkplug extender resistance values 3.Checked and Adjusted Valve rocker bridge clearances 4. Checked and Adjusted inlet & exhaust Valve clearances 5.Checked measured and recorded rotator projection 9. Removed all cylinder's combustion sensor and replaced with new after inspection of extenders, connectors and harness	
10500 (1,500)	20/11/2008	10198	1. Measured and recorded Ignition transformers primary, secondary voltages 2.Measured and recorded Sparkplug extender resistance values 3.Checked and Adjusted Valve rocker bridge clearances 4. Checked and Adjusted inlet & exhaust Valve clearances	9000 hrs balance jobs and 10,500 hrs

16,500			7. Measured and recorded Ignition transformers primary, secondary voltages	
(1,500)			8. Measured and recorded Sparkplug extender resistance values	
			9. Checked measured and recorded rotator projection	
			10. Removed all sparkplugs and cleaned the seat with seat cleaning tool	
			11. Measured and recorded new sparkplug resistance values	
			12. All cylinder sparkplugs replaced with new	
			13. Removed all check valves and cleaned the tubing and surfaces	
			14. Cleaned all new check valves with cleaning solvent, inspected and replaced	
			15. Checked and Adjusted Valve rocker bridge clearances	
			16. Checked and Adjusted inlet & exhaust Valve clearances	
			17. A3 & A5 Cylinders PCC removed, inspected, tested and fixed back	
	24/09/2009	16246	1. Lube Oil replaced with new Mobil Pegasus-905 after thorough cleaning and inspection of the oil sump	LO Changed as part of 7,500 hrs scheduled / condition monitoring based
			2. Cleaned and inspected LO protective filter	
			3. Removed duplex filter cartridges and cleaned, inspected and fixed back	
			4. Wastegate reconditioning carried out as part of 7,500 hrs	
			5. Forced LO Pump general inspection done	
16,500	26/09/09	16260	1. Checked and Adjusted Valve rocker bridge clearances	
(1,500)			2. Checked and Adjusted inlet & exhaust Valve clearances	
			3. Crankshaft web Hot-Deflection checked and recorded	
	30/09/09	16276	1. A4. A6 7 B4 Cynders conn- rodd bearing removed and inspected as per the CATERPILLAR recommendations / guide lines	CATERPILLAR - Preventive Guide lines / Inspection
	7/11/2009	17103	1. LT PHE Pressure Plates and C/W side strainer cleaned and fixed back	
18,000	22/12/2009	18038	1. Measured and recorded Ignition transformers primary, secondary voltages	
(4500,3000&1500)			2. Measured and recorded Sparkplug extender resistance values	
			3. Removed all sparkplugs and cleaned the seat with seat cleaning tool	
			4. Measured and recorded new sparkplug resistance values	
			5. All cylinder sparkplugs replaced with new	
			6. Removed all check valves and cleaned the tubing and surfaces	
			7. Cleaned all new check valves with cleaning solvent, inspected and replaced	
			9. Removed all cylinder's combustion sensor and replaced with new after inspection of extenders, connectors and harness	
18,000	24/12/2009	18039	1. Checked and Adjusted Valve rocker bridge clearances	
			2. Checked and Adjusted inlet & exhaust Valve clearances	
			3. Checked measured and recorded rotator projection	
			4. LS Alternator DE & NDE Bearing Oil replaced with new	Mobile Rarus - SHC -1026 as part of 4000 hrs scheduled
19,500	6/3/2010	19575	1. Checked and Adjusted Valve rocker bridge clearances	
(1,500)			2. Checked and Adjusted inlet & exhaust Valve clearances	
			3. Measured and recorded Ignition transformers primary, secondary voltages	
			4. Measured and recorded Sparkplug extender resistance values	
			5. Checked measured and recorded rotator projection	
			6. Removed all sparkplugs and cleaned the seat with seat cleaning tool	
			7. Measured and recorded new sparkplug resistance values	
			8. All cylinder sparkplugs replaced with new	
			9. Removed all check valves and cleaned the tubing and surfaces	
			10. Lube Oil replaced with new Mobil Pegasus-1005 after through cleaning of Oil sump	LO Changed : Oil grade changed from Mobil Pegasus 905 to 1005
			12. Cleaned and inspected LO protective filter	
			13. Removed duplex filter cartridges and cleaned and fixed back	
	18/03/2010	19866	1. Oil bath Filtering Unit-A Bank Oil removed, cleaned sump and replaced with Shell Tellus- 68 Oil	As condition based monitoring maintenance

			2.15nos of Type K55-6V Pocket filters with new	As condition based monitoring maintenance
			3.CAC Removed and cleaned the core part with cleaning agent and fixed back	
			4. A1, A6,A8,B1,B3,B4,B5,B7 and B8 cylinders SOGAVs replaced with new up graded version	All necessary Spares have been supplied / procured by CATERPILLAR under PSP (Product Support Program)
	26/3/2010	19951	1.Main Gas Filter Replaced with New	As condition based maintenance
	5/4/2010	20170	1. All Cylinder Heads removed and reconditioned with new Valve stems, Guides, and Seat Cones	All necessary Spares have been supplied / procured by CATERPILLAR under PSP (Product Support Program)
			2. All PCC Lower Part (Combustion Part) replaced with new	"
			3. Wastegate reconditioning and Hydraulic Cylinder replaced with new	As part of 7,500 hrs scheduled
			4.CAC Removed and cleaned the core part with cleaning agent and fixed back	As Part of Cylinders high temperature Investigation / finding root cause
	6/4/2010	20170	1. Both Turbochargers removed for cleaning parts, inspection and assesment of cartridges, Job carried under ABB supervision at GFL site (Replaced only O-Ring Service Kit) and fixed back	Cleaning, Inspection and assesment of cartridge by ABB
	3/5/2010	20531	Hydraulic system oil filter replaced with new	As 7500 hrs scheduled
	9/5/2010	20531	CAC replaced with new	As condition based monitoring maintenance
	10/5/2010	20531	OMD Replaced with New	As part of trouble shooting
21,000 (3000&1500)	9/6/2010	21210	1. Measured and recorded Ignition transformers primary, secondary voltages	
			2.Measured and recorded Sparkplug extender resistance values	
			3. Removed all sparkplugs and cleaned the seat with seat cleaning tool	
			4.Measured and recorded new sparkplug resistance values	
			5. All cylinder sparkplugs replaced with new	
			6.Checked and Adjusted Valve rocker bridge clearances	
			7. Checked and Adjusted inlet & exhaust Valve clearances	
			8.Checked measured and recorded rotator projection	
			9.Cleaned all new check valves with cleaning solvent, inspected and replaced	
	25/6/2010	21585	Hydraulic Oil removed cleaned sump thoroughly and replaced with new	As 7,500 hrs Scheduled
22,500 (4,500)	23/08/10	22683	1. Measured and recorded Ignition transformers primary, secondary voltages	Balance of 22,500 hrs as 4,500 hrs
			2.Measured and recorded Sparkplug extender resistance values	
			3. Removed all sparkplugs and cleaned the seat with seat cleaning tool	
			4.Measured and recorded new sparkplug resistance values	
			5. All cylinder sparkplugs replaced with new	
			6.Checked and Adjusted Valve rocker bridge clearances	
			7. Checked and Adjusted inlet & exhaust Valve clearances	
			8.Checked measured and recorded rotator projection	
			9. Removed all cylinder's combustion sensor and replaced with new after inspection of extenders, connectors and harness	
23,000 (1,500)	4/11/2010	24282	1. Measured and recorded Ignition transformers primary, secondary voltages	
			2.Measured and recorded Sparkplug extender resistance values	
			3. Removed all sparkplugs and cleaned the seat with seat cleaning tool	
			4.Measured and recorded new sparkplug resistance values	
			5. All cylinder sparkplugs replaced with new	

24,500 (3000&1500)	10/11/2010	24411	1.Cleaned all new check valves with cleaning solvent, inspected and replaced	Balance of 24,000 hrs
	13/11/2010	24412	1. LS Alternator, DE and NDE side bearing Oil removed, flushed and cleaned the sump. Replaced with new Oil	Mobile Rarus - SHC -1026, as part pf 4000 hrs scheduled
26000 (1,500)	4/4/2011	26601	1. Measured and recorded Ignition transformers primary, secondary voltages 2.Measured and recorded Sparkplug extender resistance values 3. Removed all sparkplugs and cleaned the seat with seat cleaning tool 4.Measured and recorded new sparkplug resistance values 5. All cylinder sparkplugs replaced with new	
	6/4/2011	26601	1.Checked and Adjusted Valve rocker bridge clearances 2.Checked and Adjusted inlet & exhaust Valve clearances 3.Checked measured and recorded rotator projection	
	7/5/2011	26670	LT PHE Pressure Plates cleaned with cleaning agent Z-76 - Descaler Powder	As condition based monitoring maintenance
	8/5/2011	26670	1. Oil bath Filtering Unit-B Bank Oil removed, cleaned sump and replaced with Shell Tellus- 68 Oil	As condition based monitoring maintenance
	24/05/2011	26752	1. 15 nos pockets filters replaced with cleaned one	
27,000 (3000&4500)	26/7/21011	27583	1.Cleaned all new check valves with cleaning solvent, inspected and replaced for cylinders A1,A2,A3,A4	As per the customer request/ instructed engine started and loaded as per the demand from the Plant
	2/8/2011	27753	1.Cleaned new check valves with cleaning solvent, inspected and replaced for balance of the cylinders	Balance 27,000 of Maintenance Scheduled Jobs
28500 (1500)	19/8/2011	28122	1.Checked and Adjusted Valve rocker bridge clearances 2. Checked and Adjusted inlet & exhaust Valve clearances 3.Checked measured and recorded rotator projection 4. Removed all cylinder's combustion sensor and and cleaned connectors, harness pins, extenders and measured the values 5. Removed all cylinder's combustion sensor and replaced with new after inspection	
	7/9/2011	28562	1. Measured and recorded Ignition transformers primary, secondary voltages 2.Measured and recorded Sparkplug extender resistance values 3. Removed all sparkplugs and cleaned the seat with seat cleaning tool 4. Measured and recorded new sparkplug resistance values 5. All cylinder sparkplugs replaced with new	Balance 28,500 of Maintenance Scheduled Jobs
	25/10/2011	29025	1. LS Alternator, DE and NDE side bearing Oil removed, flushed and cleaned the sump. Replaced with new Oil	Mobile Rarus - SHC -1026 as part of 4000 hrs scheduled
	4/1/2012	29059	1.Lube Oil replaced with new Mobil Pegasus-1005 after thorough cleaning ans inspection of the oil sump 2. Cleaned and inspected LO protective filter 3. Removed duplex filter cartridges removed, cleaned and fixed back	LO Changed : Mobil Pegasus 1005