

Telematics enabled data collection and Data Analytics for AL Product Development

REVISION SHEET

Revision	Date	Description	Remarks	Prepared	Checked
0.1	12.7.18	First draft	concept level	Ayyappan R S	
1.0	20.7.18	ACU parameters updated		Ayyappan R S	Vignesh T A
1.1	13.8.18	Added parameters of 1. Albonair ACU 2. Denso ECU 3. Delphi ECU Concept Illustration of data header is included for discussion.	The no of parameters and names provided for Bosch ECU and Cummins ACU in version 1.0 of the document remains unchanged	Ayyappan R S	Vignesh T A

ANNEXURE - DATA SCOPE AND PARAMETER SPECIFICATION

Telematics enabled data collection for BS6		
Scope of Data	No of parameters	Remarks
<u>GPS and Other Parameters</u>	20	

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ANNEXURE_PD_TELEMATICS

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Prepared by: Ayyappan R S

Checked by Vignesh T A

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ANNEXURE – DATA SCOPE AND PARAMETER SPECIFICATION FOR BS6

Common Engine and ACU	30	
Engine Parameters	90	
ACU Parameters	262	
Total Parameters	402	

Common GPS and Other

SI No	Parameter Name	Remarks
1	TimestampLocal	
2	PacketSequenceld	Shall reset to 0 at 99999
3	Latitude	
4	Longitude	
5	Altitude	
6	Heading	
7	PacketStatus	GPS Fix
8	GpsSpeed	
9	NoOfSatellites	
10	Location	
11	GpsOdometer	
12	IgnitionStatus	
13	VehicleBatteryPotential	
14	ECU Make	
15	ACU Make	
16	Common Param Reserved 1	
17	Common Param Reserved 2	
18	Common Param Reserved 3	
19	Common Param Reserved 4	
20	Common Param Reserved 5	

Common Engine and ACU

SI No	Parameter Name	Remarks
1	Accelerator Pedal Position 1	J1939
2	Actual Engine - Percent Torque	J1939
3	Drivers Demand Engine percent Torque	J1939
4	Nominal Friction - Percent Torque	J1939
5	Total Vehicle Distance	J1939
6	Total Engine Hours of Operation	J1939
7	Engine Total Fuel Used	J1939

ANNEXURE – DATA SCOPE AND PARAMETER SPECIFICATION FOR BS6

8	Engine Oil Temperature 1	J1939
9	Engine Coolant Temperature	J1939
10	Engine Fuel Temperature 1	J1939
11	Engine Oil Pressure	J1939
12	Wheel-Based Vehicle Speed	J1939
13	Brake Switch	J1939
14	Clutch Switch	J1939
15	Barometric Pressure	J1939
16	Ambient air temperature	J1939
17	Engine Intake Manifold #1 Pressure	J1939
18	Engine Intake manifold 1 temperature	J1939
19	Engine air inlet pressure	J1939
20	GSAS Compliance	J1939
21	J1939 Param Reserved 1	
22	J1939 Param Reserved 2	
23	J1939 Param Reserved 3	
24	J1939 Param Reserved 4	
25	J1939 Param Reserved 5	
26	J1939 Param Reserved 6	
27	J1939 Param Reserved 7	
28	J1939 Param Reserved 8	
29	J1939 Param Reserved 9	
30	J1939 Param Reserved 10	

Engine Parameters

SI No	XCP/CCP Parameter Name - Bosch	XCP/CCP Parameter Name - Delphi	XCP/CCP Parameter Name - Denso	Remarks
1	Parameter name for Software Version	Parameter name for Software Version	Parameter name for Software Version	Respective parameter name will be updated
2	Parameter name for Calibration Version	Parameter name for Calibration Version	Parameter name for Calibration Version	Respective parameter name will be updated
3	Epm_nEng	IN_Engine_cycle_speed	NE	
4	Rail_pSetPoint	RPD_Rail_pressure_dmnd	PFIN	
5	InjCtl_qSetUnBal	IN_Rail_pressure_feedback	NPC	
6	InjCrv_qPil1Des_mp	RPC_Rail_pressure_error	QFIN	
7	InjCrv_qMI1Des	FQD_Chkd_main_fuel_dmnd	QPRE	
8	InjCrv_phiMI1Des	FQD_Chkd_pilot1_fuel_dmnd	TINTPRE	
9	InjCrv_qPol2Des_mp	FQD_Chkd_pilot2_fuel_dmnd	QFINR	
10	AccPed_trqDes	ITD_Chkd_pilot2_hyd_deg_sep	TQPRF	
11	PthSet_trqlnrSet	FQD_Chkd_inj_fuel_dmnd	QMAIN	

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12	CEngDsT_t	FQD_Chkd_after_fuel_dmnd	TFIN
13	Oil_pSwmp	ITD_Chkd_main_hyd_timing	TQMF
14	Oil_tSwmp	IN_Manifold_abs_pressure	QAFTER
15	Air_pCACDs	IN_Amf_feedback	TINTAF
16	Air_tCACDs	IN_Pedal_position	TQAF
17	EnvP_p	T_D_Indicated_torque	QLMT
18	BattU_u	T_D_Max_torque	TRQACCDRVREQ
19	App_r	IN_Battery_voltage	TRQFIN
20	ASMod_dmIndAirRef	IN_Coolant_temperature	THW
21	AirCtl_rCtlVal	ACM_Intake_port_flow_spd	POIL
22	EGRVlv_rAct	ACM_Turbine_flow	THOIL
23	RailP_pFit	ACM_Vgt_turb_mass_flow	PIM
24	InjCrv_phiPil1Des	ACM_Intake_port_air_flow_spd	THA
25	InjVlv_tiET_mp_[3]	ACM_Volumetric_efficiency	PATM
26	InjVlv_tiPil1ET	AFC_Air_fuel_ratio	VB
27	InjVlv_tiMI1ET	IN_Air_mass_flow	ACCPF
28	InjCrv_tiPol2Des	IN_Atmospheric_pressure	AFSEGRT
29	InjVlv_tiET_mp_[1]	IN_Egr_position	AFSCYLEGR
30	EngPrt_qLim	IN_Egrh_position	QBISM
31	EngPrt_trqLim	IN_Ignition_switch	QBISMF
32	SmkLim_qLimSmk	IN_Inlet_air_temperature	AFSREAL
33	CoPT_trqDes	IN_Intake_plenum_temp	LEGRBASEF
34	SmkLim_mAirPerCyl	IN_Intercooler_out_temp	EGRDEL
35	SmkLim_rLamSmkPrs_mp	IN_Throttle_position	AFSAV
36	InjCrv_stInjRlsSet_mp	IN_Vgth_position	LEGRFB
37	AirCtl_rSmkCtlVal_mp	IN_Vgtl_position	LEGRFINO
38	AirCtl_rNmCtlVal_mp	P_L_Aps_sync_tasks_enabled	LEGR
39	AirCtl_rWrmUpCtlVal_mp	P_L_lm_crt_dmnd	VLEGR
40	AirCtl_stAirCtlBits	P_L_lm_crt_fb	TRQFRIC
41	AirCtl_qSmkDiff_mp	ITD_Main_timing_dmnd	TRQLMTF
42	AirCtl_rGovEgr	ITD_Chkd_after_hyd_us_sep	DEGRFV
43	EGRVlv_r	ITD_Chkd_pilot1_hyd_deg_sep	DEGRFF
44	EGRVlv_rDesVal	PSE_Compressor_in_press	ITHROPPIN
45	EGRVlv_rGovDesVal	PSE_Compressor_out_press	ITHROP
46	EGRVlv_rGovDvt	PSE_Intake_manifold_press	XLEGRDYMSW
47	EGRVlv_rActr	PSE_Intercooler_out_press	XLEGRSTASW
48	EGRVlv_rPs	PSE_Exhaust_manifold_press	LEGRSTA
49	EGRVlv_uRaw	PSE_Turbine_in_press_est	LEGRDYM
50	AirCtl_qSmkHys_mp	PSE_Turbine_out_press	MULMDBF
51	InjVlv_tiET_mp_[2]	PSE_Airfilter_press_drop	ISCVF
52	InjCrv_stInjCharActVal_[0]	PSE_Doc_press_drop	TRQDRV
53	Engine Param Reserved 1	PSE_Egrh_cool1_press_drop	MDMAP
54	Engine Param Reserved 2	PSE_Egrh_cool2_press_drop	TRQENG

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55	Engine Param Reserved 3	PSE_Egrl_cool_press_drop	TRQREQ	
56	Engine Param Reserved 4	PSE_Muffler_press_drop	EXO2	
57	Engine Param Reserved 5	PSE_Intercooler_press_drop	AFSCYL	
58	Engine Param Reserved 6	PSE_Scr_press_drop	QFINEMS	
59	Engine Param Reserved 7	PSE_Vgth_position	THABPS	
60	Engine Param Reserved 8	PSE_Vgtl_position	O2TRG	
61	Engine Param Reserved 9	PSE_Vgt_position	MCLD	
62	Engine Param Reserved 10	TSE_Engine_out_temp_est	MDTH	
63	Engine Param Reserved 11	TSE_Combustion_temp	MEGR	
64	Engine Param Reserved 12	TSE_Compressorh_in_temp	CEGR	
65	Engine Param Reserved 13	TSE_Compressorh_out_temp	THF	
66	Engine Param Reserved 14	TSE_Intake_plenum_temp	CEX_CONT	
67	Engine Param Reserved 15	TSE_Intake_port_temp	AIRINTEFF	
68	Engine Param Reserved 16	TSE_Intercooler_out_temp	Engine Param Reserved 1	
69	Engine Param Reserved 17	TSE_Turbine_in_temp	Engine Param Reserved 2	
70	Engine Param Reserved 18	TSE_Turbine_out_temp	Engine Param Reserved 3	
71	Engine Param Reserved 19	T_D_Actual_brake_torque	Engine Param Reserved 4	
72	Engine Param Reserved 20	T_D_Actual_indicated_torque	Engine Param Reserved 5	
73	Engine Param Reserved 21	T_D_Actual_fast_impep	Engine Param Reserved 6	
74	Engine Param Reserved 22	T_D_Actual_slow_impep	Engine Param Reserved 7	
75	Engine Param Reserved 23	T_D_Main_timing_efficiency	Engine Param Reserved 8	
76	Engine Param Reserved 24	T_D_Thermal_efficiency	Engine Param Reserved 9	
77	Engine Param Reserved 25	T_D_Idle_friction_torq_corr	Engine Param Reserved 10	
78	Engine Param Reserved 26	T_D_Pumping_friction_torque	Engine Param Reserved 11	
79	Engine Param Reserved 27	T_D_Rubbing_friction_torque	Engine Param Reserved 12	
80	Engine Param Reserved 28	ACM_Egrh_position_dmnd	Engine Param Reserved 13	
81	Engine Param Reserved 29	ACM_Egrh_position	Engine Param Reserved 14	
82	Engine Param Reserved 30	ACM_Egr_rate	Engine Param Reserved 15	
83	Engine Param Reserved 31	ACM_Egr_rate_dmnd_unlimited	Engine Param Reserved 16	
84	Engine Param Reserved 32	ACM_Egr_rate_smoke	Engine Param Reserved 17	
85	Engine Param Reserved 33	ACM_Egrh_valve_flow	Engine Param Reserved 18	
86	Engine Param Reserved 34	Engine Param Reserved 1	Engine Param Reserved 19	
87	Engine Param Reserved 35	Engine Param Reserved 2	Engine Param Reserved 20	
88	Engine Param Reserved 36	Engine Param Reserved 3	Engine Param Reserved 21	
89	Engine Param Reserved 37	Engine Param Reserved 4	Engine Param Reserved 22	
90	Engine Param Reserved 38	Engine Param Reserved 5	Engine Param Reserved 23	

Important Note: There are 3 Engine ECU options and the A2L files are different for them. The A2L file name shall be a configurable parameter in the device and back office.

After Treatment Unit (ACU) Parameters

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ANNEXURE – DATA SCOPE AND PARAMETER SPECIFICATION FOR BS6

Para m Index	XCP/CCP Parameter Name - Cummins	XCP/CCP Parameter Name - Albonair	Remarks
1	Calibration_Revision_Number	Calibration Revision Number	Respective parameter name will be updated
2	Calibration_Version_Number	Calibration Version Number	Respective parameter name will be updated
3	AIM_Outlet_Dew_Point	ACM_Egr_rate_inert	
4	ECM_Run_Time	ACM_Egrl_valve_flow	
5	Engine_Speed	ACM_Exh_muffler_flow	
6	Exhaust_Flow	ACM_Fuel_mass_flow	
7	H_HIM_fg_Dosing_Cmd	ACM_Turbine_flow	
8	H_HIM_fn_EffComp	AFC_Air_fuel_ratio_with_post	
9	H_SFD_DPF_Monitor_Inhibit	AFC_Exhaust_air_fuel_ratio	
10	H_SFD_fv_DPF_Filtered	DTI_Dpf_intermediate_heat	
11	H_SFD_tm_DeltaP_High	DTI_Dpf_regen_dmnd	
12	H_SFD_tm_DPF_Rtest_Error	DTI_Dpf_regen_subm	
13	H_SFD_tm_DPF_Rtest_Pass	DTI_Iso_ac_compressor_dmnd	
14	H_SFP_fv_Unfiltered	DTI_Iso_dpf_learn_coef_dmnd	
15	H_SFP_gph_Noxid_Rate	DTI_Iso_dpf_learn_coef_subm	
16	H_SFP_gph_Oxid_Rate	DTI_Iso_dpf_regen_dmnd	
17	H_SFR_Regen_Tactic	DTI_Iso_dpf_rgn_idle_cnt_nv	
18	J39_AFT_Intake_NOx	DTI_Iso_dpf_rgn_idle_comb_active	
19	J39_AFT_Intake_Power_In_Range	DTI_Iso_dpf_rgn_idle_end_fail	
20	J39_AFT_Outlet_NOx	DTI_Iso_dpf_rgn_idle_end_ok	
21	J39_AFT_Outlet_Power_In_Range	DTI_Iso_dpf_rgn_idle_ended_nv	
22	J39_AFT_Outlet_Self_Diag_Feedback_S	DTI_Iso_dpf_rgn_idle_state	
23	Key_Off_Count	DTI_Iso_dpf_rgn_idle_test_ena	
24	Key_Switch	DTI_Iso_dpf_rgn_run_cnt_nv	
25	MIL_Status	DTI_Iso_dpf_rgn_run_end_fail	
26	Module_Off_Time	DTI_Iso_dpf_rgn_run_end_ok	
27	Net_Brake_Torque	DTI_Iso_dpf_rgn_run_ended_nv	
28	OBD_Number_Of_Operation_Cycles	DTI_Iso_dpf_rgn_run_state	
29	OS_Powerdown_Count	DTI_Iso_dpf_rgn_run_test_ena	
30	P_ATD_DPFOutP_ReactRegenTrigger	F_M_Log_index_nv_0	
31	P_ATD_tmh_TimerRegenRqstActive	F_M_Log_index_nv_1	
32	P_ATR_SFM_OperModeRqst	F_M_Log_index_nv_2	
33	P_HIM_DFM_Eff_Avg	F_M_Log_index_nv_3	
34	P_OCD_DosEff_EWMA_Filt_Val	FQD_Chkd_fuel_dmnd_wo_post	
35	P_OCD_fn_CompEff	FQD_Chkd_post2_fuel_dmnd	

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36	P_OCD_fn_DOCDD_Eff	FQD_Cumulative_injected_fuel_nv	
37	P_OCD_fn_Dosing_NmlEff	FQD_Post2_closed_loop_en	
38	P_OCL_HC_DesorbRqst	FQD_Post2_doc_out_ctrl	
39	P_OCL_tm_HC_Desorb_Count	FQD_Post2_temp_distrib_comp	
40	P_PFS_DA_Validation_Stat	FQD_Post2_temp_target	
41	P_SCP_tmh_DRP_Timer	IN_Battery_voltage	
42	P_SCR_Ctrl3_pc_CEVariation	IN_Coolant_temperature	
43	P_SCR_DA_Validation_Stat	IN_Doc_in_temp	
44	P_SCR3_vm_ml_DosErr_Intg	IN_Dpf_dp	
45	P_SFP_gpl_DPSLE_Adj	IN_Dpf_dp_filt	
46	P_SFP_gpl_EstAsh_Buffer	IN_Dpf_dp_valid	
47	P_SFP_gpl_Soot_Load_DP	IN_Dpf_in_temp	
48	P_SFP_gpl_Soot_Load_Reset_Val	IN_Dpf_in_temp_valid	
49	P_SFP_Soot_Stage	IN_Engine_cycle_speed	
50	P_SFR_ct_Ineff_Regen_Occr	IN_Exh_gas_density	
51	P_SFR_ct_Ineff_Regen_Occr	IN_Exh_gas_dyn_visc	
52	P_SFR_ct_RegenRestarts	IN_Exh_vol_flow	
53	P_SFR_Regen_Trigger_State	IN_Fuel_tank_level_valid	
54	P_SFR_tm_Ineff_Dosing	IN_Gear_ratio	
55	P_SFR_tmh_ElapsedCleaningTime	IN_Injection_speed	
56	P_SFR_tmh_ReactElapsedCleanTime	IN_Nh3_concentration	
57	P_SFR_tmh_SinceActiveRegen	IN_Nox_concentration	
58	P_SFR_tmh_SinceReactRegen	IN_Nox_sensor_ready	
59	P_UIM_vm_TripUrealnj_Total	IN_Nox_tailpipe_air_fuel_ratio	
60	Powerdown_Data_Lost	IN_Nox_tailpipe_concentration	
61	Poweroff_Command_Ignored	IN_Rail_pressure_feedback	
62	Reset_Count	IN_Scr_in_temp	
63	SRegen_Switch	ITD_Chkd_main_hyd_timing	
64	V_AIM_pc_Urea_TankLvlLearned	ITD_Post1_timing_dmnd	
65	V_AIM_ppm_SCR_Out_NOxSensor	ITD_Post2_timing_dmnd	
66	V_AIM_pr_DPF_DeltaP	P_L_Dpf_dp_cnts	
67	V_AIM_pr_DPF_DeltaP_Status	P_L_Dpf_dp_offset_lm_done_nv	
68	V_AIM_pr_HC_DoserP	P_L_Dpf_dp_offset_lm_status	
69	V_AIM_prg_DPF_OutP	P_L_Nh3_sensor_ready	
70	V_AIM_prg_DPF_OutP_Status	P_T_Comb_mode	
71	V_AIM_prg_UreaPumpP	P_T_Comb_mode_trans_active	
72	V_AIM_SCR_Out_NOxAtTmpt	P_T_Comb_mode_trans_reset	
73	V_AIM_SCR_Out_NOxReadStbl	P_T_Doc_aging_severity	

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74	V_AIM_tm_ModuleOffTime	P_T_Doc_in_volumetric_flow	
75	V_AIM_tm_ModuleOffTime_Status	P_T_Dpf_air_fuel_ratio	
76	V_AIM_trc_DOC_In	P_T_Dpf_ash_learn_failed_nv	
77	V_AIM_trc_DOC_In_Status	P_T_Dpf_ash_learn_normal_end	
78	V_AIM_trc_DOC_Out	P_T_Dpf_ash_learn_request	
79	V_AIM_trc_DOC_Out_Status	P_T_Dpf_ash_learn_start_cond	
80	V_AIM_trc_DPF_Out	P_T_Dpf_ash_learn_start_req	
81	V_AIM_trc_DPF_Out_Status	P_T_Dpf_ash_learn_state	
82	V_AIM_trc_EGTS_PFS_ECU	P_T_Dpf_ash_learn_succeed_nv	
83	V_AIM_trc_SCR_Out	P_T_Dpf_ashes_accu_dist	
84	V_AIM_trc_SCR_Out_Status	P_T_Dpf_ashes_accu_dist_u16	
85	V_AIM_trc_SCR_T1	P_T_Dpf_calc_coef	
86	V_AIM_trc_SCR_T1_Status	P_T_Dpf_channel_length_perc	
87	V_AIM_trc_Urea_TankT	P_T_Dpf_chk_ash_lrn_cond_met	
88	V_AIM_trc_Urea_TankT_Status	P_T_Dpf_chk_end_dly_cond_met	
89	V_ATD_bs_NOx_Out_Errs	P_T_Dpf_chk_regen_cond_met	
90	V_ATD_bs_PFS_SysIO_Errs	P_T_Dpf_chk_regen_dpf_in_mean	
91	V_ATD_bs_PFS_SysIO2_Errs	P_T_Dpf_chk_regen_flow_mean	
92	V_ATD_bs_PFS_SysIO3_Errs	P_T_Dpf_chk_regen_hist_fail_nv_0	
93	V_ATD_bs_PFS_SysPerf1_Errs	P_T_Dpf_chk_regen_hist_fail_nv_1	
94	V_ATD_bs_PFS_SysPerf2_Errs	P_T_Dpf_chk_regen_hist_fail_nv_2	
95	V_ATD_bs_SCR_SysIO1_Errs	P_T_Dpf_chk_regen_hist_fail_nv_3	
96	V_ATD_bs_SCR_SysIO2_Errs	P_T_Dpf_chk_regen_hist_fail_nv_4	
97	V_ATD_bs_SCR_SysPerf_Errs	P_T_Dpf_chk_regen_hist_flow_nv_0	
98	V_ATD_bs_SCR_SysPerf_Update	P_T_Dpf_chk_regen_hist_flow_nv_1	
99	V_ATD_bs_SCR_SysPerf2_Errs	P_T_Dpf_chk_regen_hist_flow_nv_2	
100	V_ATD_DeltaT_Allow_Average	P_T_Dpf_chk_regen_hist_flow_nv_3	
101	V_ATD_DeltaT_State	P_T_Dpf_chk_regen_hist_flow_nv_4	
102	V_ATD_Disable_DEF_Dosing	P_T_Dpf_chk_regen_hist_index_nv	
103	V_ATD_DisableDosing	P_T_Dpf_chk_regen_hist_start_nv_0	
104	V_ATD_DPF_EngOnChkFlag	P_T_Dpf_chk_regen_hist_start_nv_1	
105	V_ATD_DPF_Lamp_State	P_T_Dpf_chk_regen_hist_start_nv_2	
106	V_ATD_DPF_PTD_DecisionMade	P_T_Dpf_chk_regen_hist_start_nv_3	
107	V_ATD_DPF_PTD_OBDState	P_T_Dpf_chk_regen_hist_start_nv_4	
108	V_ATD_DPFOutP_SIR_Decision	P_T_Dpf_chk_regen_hist_stop_nv_0	
109	V_ATD_FT_GreenFilterField	P_T_Dpf_chk_regen_hist_stop_nv_1	
110	V_ATD_fv_DPFOutP_HighLog	P_T_Dpf_chk_regen_hist_stop_nv_2	
111	V_ATD_IceNotSus_PressSensor	P_T_Dpf_chk_regen_hist_stop_nv_3	

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112	V_ATD_IceSus_At_PwrOn	P_T_Dpf_chk_regen_hist_stop_nv_4	
113	V_ATD_prg_DPF_PTD_RngLog	P_T_Dpf_clean_filt_dp	
114	V_ATD_prg_DPFOutP_DiffLog	P_T_Dpf_coef_learn_dp_grad	
115	V_ATD_prg_DPFOutP_HighLog	P_T_Dpf_desox_launched	
116	V_ATD_SCR_TSR_State	P_T_Dpf_doc_heatup_request	
117	V_ATD_tm_DPFOutP_Hi	P_T_Dpf_dp_based_logic_enable	
118	V_ATD_trc_DeltaT_DOC_Average	P_T_Dpf_dp_rel_soot_load	
119	V_ATD_trc_DeltaT_DPF_Average	P_T_Dpf_dp_rel_soot_map_load	
120	V_ATD_trc_SCR_DeltaT_PipeAvg	P_T_Dpf_dp_soot_mass	
121	V_ATD_trc_SCR_DeltaT_ScrAvg	P_T_Dpf_dp_soot_mass_max_nv	
122	V_ATM_fg_HC_Fdbk_Total	P_T_Dpf_engout_soot_mass_int_nv	
123	V_ATM_OBD_Data_Reset	P_T_Dpf_filter_coef_learn_enable	
124	V_ATM_Oper_Mode	P_T_Dpf_freq_rgn_cnt_nv	
125	V_ATP_Allow_Regen_State	P_T_Dpf_green_filter_status_nv	
126	V_ATP_ApplicationLabel	P_T_Dpf_in_trgt_dpf_ctrl	
127	V_ATP_EgtsInfo_Response_ptr	P_T_Dpf_last_end_regen_mile_nv	
128	V_ATP_fg_Exhaust_Total	P_T_Dpf_last_end_regen_time_nv	
129	V_ATP_fg_Turbo_Out	P_T_Dpf_last_regen_mileage_nv	
130	V_ATP_fv_DPF_OutP	P_T_Dpf_learn_timer	
131	V_ATP_Oper_Mode_Permitted	P_T_Dpf_learnt_coef_corr	
132	V_ATP_pc_Urea_TankLvl	P_T_Dpf_learnt_coef_nv	
133	V_ATP_pc_Urea_TankLvl_Status	P_T_Dpf_low_temp_reenab_time	
134	V_ATP_Permit_Switch	P_T_Dpf_mileage_ashes_nv	
135	V_ATP_ppm_PFS_Out_NO2	P_T_Dpf_mileage_learnt_coef_nv	
136	V_ATP_ppm_PFS_Out_NOx	P_T_Dpf_model_contact_time	
137	V_ATP_ppm_SCR_In_NOx	P_T_Dpf_model_rel_soot_load	
138	V_ATP_ppm_SCR_In_NOx_Status	P_T_Dpf_model_soot_burn_rate	
139	V_ATP_ppm_SCR_Out_NOx	P_T_Dpf_model_soot_flow	
140	V_ATP_ppm_SCR_Out_NOx_Status	P_T_Dpf_model_soot_mass_bin9	
141	V_ATP_pr_DPF_Delta	P_T_Dpf_model_soot_mass_nv	
142	V_ATP_prg_DPF_OutP	P_T_Dpf_mon_rgn_hist_index_nv	
143	V_ATP_prg_DPF_OutP_Filtered	P_T_Dpf_mon_rgn_hist_mileage_nv_0	
144	V_ATP_tm_CatOutNOxDiag_Timer	P_T_Dpf_mon_rgn_hist_mileage_nv_1	
145	V_ATP_tm_CatOutO2Err_Timer	P_T_Dpf_mon_rgn_hist_mileage_nv_2	
146	V_ATP_tm_InhibitSw_SootLoad	P_T_Dpf_mon_rgn_hist_mileage_nv_3	
147	V_ATR_DoserAirPurgeRqst	P_T_Dpf_mon_rgn_hist_mileage_nv_4	
148	V_ATR_fgh_TailpipeNOxTrgt	P_T_Dpf_mon_rgn_hist_time_nv_0	

ANNEXURE – DATA SCOPE AND PARAMETER SPECIFICATION FOR BS6

149	V_ATR_NonMissionRegenActive	P_T_Dpf_mon_rgn_hist_time_nv_1	
150	V_HIM_bs_DiagStatus	P_T_Dpf_mon_rgn_hist_time_nv_2	
151	V_HIM_DFSOV_Cmd	P_T_Dpf_mon_rgn_hist_time_nv_3	
152	V_HIM_DFSOV2_Cmd	P_T_Dpf_mon_rgn_hist_time_nv_4	
153	V_OCD_trc_DOC_DeltaT_Filter_Val	P_T_Dpf_mon_rgn_post1_qty	
154	V_OCL_HC_Desorb_Request	P_T_Dpf_mon_rgn_post1_qty_nv	
155	V_OCL_fg_HC_Final_Limit	P_T_Dpf_mon_rgn_post2_qty	
156	V_OCL_ppm_HC_Inlet_Hi_Rqst	P_T_Dpf_mon_rgn_post2_qty_nv	
157	V_OCL_TransRateLimitActive	P_T_Dpf_regen_cond_enable	
158	V_OCM_fg_HC_Cmd	P_T_Dpf_regen_ctrl_active	
159	V_OCM_fg_HC_In	P_T_Dpf_regen_dti_failed	
160	V_OCM_ppm_DOC_HC_Out_HiCmd	P_T_Dpf_regen_end_dly_time	
161	V_OCP_Expected_HC_ConvEff	P_T_Dpf_regen_env_cond_bitfield	
162	V_OCP_Expected_Therm_ConvEff	P_T_Dpf_regen_env_cond_enable	
163	V_OCP_ppm_DOC_Out_NO2	P_T_Dpf_regen_env_start_bitfield	
164	V_OCP_trc_Bed	P_T_Dpf_regen_env_start_cond	
165	V_OCR_fg_HC_Cmd	P_T_Dpf_regen_failed	
166	V_OCR_fg_HC_Corr	P_T_Dpf_regen_low_temp	
167	V_OCR_fg_HC_Nominal	P_T_Dpf_regen_low_temp_ext	
168	V_OCR_fg_HC_PreCorr	P_T_Dpf_regen_low_temp_reenab	
169	V_OCR_fg_HC_TransComp	P_T_Dpf_regen_req_state	
170	V_OCR_trc_T_Cmd	P_T_Dpf_regen_request	
171	V_PFS_DA_Decision	P_T_Dpf_regen_stop_cond_state	
172	V_PFS_DA_EGTS_DataStat	P_T_Dpf_regen_time	
173	V_PFS_DA_EGTS_ReturnVal	P_T_Dpf_regen_time_active	
174	V_PFS_tm_DA_InitChkTimer_Out	P_T_Dpf_regen_time_dti	
175	V_RDM_bs_Sys_Errs	P_T_Dpf_regen_time_max_reached	
176	V_RDM_FdbkState	P_T_Dpf_regen_time_temp_raising	
177	V_RDM_State_Rqst	P_T_Dpf_regen_total_time_dti_nv	
178	V_SCD_pc_SCR_NOx_Conversion	P_T_Dpf_regen_total_time_nv	
179	V_SCD3_tm_InLp_UsedUp	P_T_Dpf_regen_trig_ext	
180	V_SCD3_tm_InLp_UsedUp_Diag	P_T_Dpf_regen_wait_end_regen	
181	V_SCL_flm_UrealnJCmd	P_T_Dpf_rel_soot_load	
182	V_SCL_flm_UrealnJCmd_Rlimited	P_T_Dpf_rel_soot_load_start	
183	V_SCL_flm_UrealnJCmd_SatLim	P_T_Dpf_rel_soot_load_stop	
184	V_SCL_Regen_VarANRCmd_Val	P_T_Dpf_reset_model	
185	V_SCL_Urealmplim_Flag	P_T_Dpf_rgn_exit_early_start_rst	
186	V_SCM_flm_UrealnJCmd_Fdbk	P_T_Dpf_rgn_start_cond_state_nv	

ANNEXURE – DATA SCOPE AND PARAMETER SPECIFICATION FOR BS6

187	V_SCM_ppm_SCR_Out_NOx	P_T_Dpf_rgn_start_forc_hist_cond	
188	V_SCM_ppm_SCR_Out_NOx_PreClamp	P_T_Dpf_soot_ash_dp	
189	V_SCM_OutNOx_Sensor_Status	P_T_Dpf_soot_ash_dp_filt	
190	V_SCP_Fuel_Rate_Per_Min	P_T_Dpf_soot_ash_load_index_nv	
191	V_SCP_trc_SCR_Bed	P_T_Dpf_soot_cake_dp	
192	V_SCP_vs_SCR_Catalyst	P_T_Dpf_soot_index_const1	
193	V_SCR_ANR_Fdbk	P_T_Dpf_soot_index_const2	
194	V_SCR_Ctrl3_ANR_FFCmd	P_T_Dpf_soot_load_index_2	
195	V_SCR_Ctrl3_CEFdbkRelaySwMode	P_T_Dpf_soot_load_index_nv	
196	V_SCR_Ctrl3_CERef_Dip_Active	P_T_Dpf_soot_mass	
197	V_SCR_Ctrl3_CEVatTermUpdateEnbl	P_T_Dpf_soot_mass_def_mode	
198	V_SCR_Ctrl3_Final_ANR_Cmd	P_T_Dpf_soot_o2_burn_rate	
199	V_SCR_Ctrl3_fim_DDC_CompCmd	P_T_Dpf_soot_regen_active	
200	V_SCR_Ctrl3_OK_to_RunClosedLoop	P_T_Dpf_temp_out_est	
201	V_SCR_Ctrl3_pc_CE_for_Ctrl	P_T_Dpf_trgt_temp_soot_load	
202	V_SCR_Ctrl3_pc_FF_CETrgt_Adj	P_T_Dpf_crit_request	
203	V_SCR_Ctrl3_pc_Final_CETrgt	P_T_Dpf_high_o2_request	
204	V_SCR_Ctrl3_ppm_TailpipeNOxTrgt	P_T_Dpf_std_request	
205	V_SCR_DA_Decision	P_T_Normal_active	
206	V_SCR_DA_EGTS_DataStat	P_T_Nox_concentration	
207	V_SCR_DA_EGTS_ReturnVal	P_T_Nox_concentration_est	
208	V_SCR_fim_UrealnjCmd	P_T_Nox_concentration_est_raw	
209	V_SCR_mol_dt_NOx_In	P_T_Nox_model_main_retard	
210	V_SCR_tm_DA_InitChkTimer_Out	P_T_Scr_aging_severity	
211	V_SCR3_Feedback_ANR_Cmd	P_T_Scr_capacity	
212	V_SCR3_vm_ml_DDC_TrgtDEF	P_T_Scr_gas_space_velocity	
213	V_SFD_FlwResist_DPF_Actual	P_T_Scr_in_nox_conc	
214	V_SFD_FlwResist_MissDPF_Lim	P_T_Scr_mass_flow	
215	V_SFD_Soot_Load_Severe_Flag	P_T_Scr_nh3_flow	
216	V_SFP_Ash_Adj_Slope_Average	P_T_Scr_nh3_inj_scaler_nv	
217	V_SFP_fv_DPF	P_T_Scr_nh3_slip	
218	V_SFP_Expected_HC_ConvEff	P_T_Scr_no2_nox_ratio	
219	V_SFP_gph_Oxid_Hi_Rate	P_T_Scr_nox_cl_conds_met	
220	V_SFP_gpl_Filter_Oper_Range	P_T_Scr_nox_cl_enabled	
221	V_SFP_mg_Soot_Load_Comb	P_T_Scr_nox_conv_efficiency	
222	V_SFP_mg_Soot_Load_DP	P_T_Scr_nox_eff_error	
223	V_SFP_gpl_Soot_Load_DP_NoClamp	P_T_Scr_nox_eff_scaler_nv	
224	V_SFP_GreenFilter	P_T_Scr_real_nox_eff_filt_nv	

ANNEXURE – DATA SCOPE AND PARAMETER SPECIFICATION FOR BS6

225	V_SFP_gpl_Soot_Load_Comb	P_T_Scr_stored_nh3	
226	V_SFP_gpl_Soot_Load_DP	P_T_Scr_stored_nh3_target	
227	V_SFP_pr_Delta	P_T_Scr_urea_mass_flow	
228	V_SFR_Ineff_Regen_Detected_Flag	P_T_Ssmd_mil_soot_mass_nv	
229	V_SFR_Ineff_Regen_React	P_T_Ssmd_offset_1_nv	
230	V_SFR_IneffNMRegen	P_T_Ssmd_offset_nv	
231	V_SFR_ppm_Max_Inlet_HC	PSE_Atmospheric_pressure	
232	V_SFR_Regen_Stage	PSE_Dpf_out_press	
233	V_SFR_Regen_Trigger	PSE_Exhaust_manifold_press	
234	V_SFR_trc_Cmd	PSE_Intake_manifold_press	
235	V_SFR_trc_Regen_Trgt	PSE_Intercooler_out_press	
236	V_UDD_FCV_Cmd	SMC_Engine_running_time	
237	V_UIM_flm_EstUrealnjRate	SMC_Engine_state	
238	V_UIM_flm_InjRateCmd	T_D_Actual_fast_imep	
239	V_UIM_FT_UreaPumpState	T_D_Engine_power	
240	V_UIM_pc_Tank_Heater_State	T_D_Engine_power_filtered	
241	V_USM_bs_Sys_Errs	T_D_Idle_target_wo_dti	
242	V_USM_bs_Sys1_Errs	TSE_Ambient_air_temp	
243	V_USM_Doser_Off_Err	TSE_Doc_bed_temp	
244	V_USM_FCV_Cmd	TSE_Doc_in_temp	
245	V_USM_flm_DosingCmd	TSE_Doc_in_temp_est	
246	V_USM_flm_DosingFdbk	TSE_Doc_out_temp	
247	V_USM_MasterState	TSE_Doc_out_temp_est	
248	V_USM_OpState	TSE_Dpf_in_temp	
249	V_USM_pc_Pump_Cmd	TSE_Dpf_out_temp	
250	V_USM_pr_UreaPumpP	TSE_Inlet_air_temp	
251	V_USM_SysStateFdbk	TSE_Intake_port_temp	
252	V_UTM_bs_Sys_Errs	TSE_Scr_bed_temp	
253	V_UTM_bs_Sys1_Errs	TSE_Scr_in_temp	
254	ACU Param Reserved 1	TSE_Scr_in_temp_est	
255	ACU Param Reserved 2	TSE_Scr_in_temp_meas	
256	ACU Param Reserved 3	TSE_Scr_out_temp	
257	ACU Param Reserved 4	TSE_Turbine_in_temp	
258	ACU Param Reserved 5	ACU Param Reserved 1	
259	ACU Param Reserved 6	ACU Param Reserved 2	
260	ACU Param Reserved 7	ACU Param Reserved 3	
261	ACU Param Reserved 8	ACU Param Reserved 4	
262	ACU Param Reserved 9	ACU Param Reserved 5	

Important Note: There are 2 ACU options and the A2L files are different for them. The A2L file name shall be a configurable parameter in the device and back office.

Note: J1939 Specification and A2L files shall be shared separately

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Illustration of Data Header –

Provided below is a concept proposal from AL. The telematics service provider shall come up with best suited data structure proposal to accommodate 3 ECU x 2 ACU combinations.

Parameter 1	Common GPS and Other		
..			
Parameter 20			
Parameter 21	Common Engine and ACU (J1939)		
..			
Parameter 50			
Parameter 51	Bosch Engine ECU CCP/XCP parameters	Delphi ECU CCP/XCP parameters	Denso ECU CCP/XCP parameters
..			
Parameter 140			
Parameter 141	Cummins ACU CCP/XCP/J1939 parameters	Albonair ACU CCP/XCP parameters	
..			
Parameter 402			

SI No	Parameter Header Template	Illustration of Parameter Header - Bosch ECU and Cummins ACU	Illustration of Parameter Header - Denso ECU and Albonair ACU
1	TimestampLocal	TimestampLocal	TimestampLocal
2	PacketSequenceId	PacketSequenceId	PacketSequenceId
3	Latitude	Latitude	Latitude
4	Longitude	Longitude	Longitude
5	Altitude	Altitude	Altitude
6	Heading	Heading	Heading
7	PacketStatus	PacketStatus	PacketStatus
8	GpsSpeed	GpsSpeed	GpsSpeed
9	NoOfSatellites	NoOfSatellites	NoOfSatellites
10	Location	Location	Location
11	GpsOdometer	GpsOdometer	GpsOdometer
12	IgnitionStatus	IgnitionStatus	IgnitionStatus
13	VehicleBatteryPotential	VehicleBatteryPotential	VehicleBatteryPotential
14	ECU Make	ECU Make	ECU Make
15	ACU Make	ACU Make	ACU Make
16	Common Reserved 1	Common Reserved 1	Common Reserved 1
17	Common Reserved 2	Common Reserved 2	Common Reserved 2
18	Common Reserved 3	Common Reserved 3	Common Reserved 3
19	Common Reserved 4	Common Reserved 4	Common Reserved 4
20	Common Reserved 5	Common Reserved 5	Common Reserved 5

ANNEXURE – DATA SCOPE AND PARAMETER SPECIFICATION FOR BS6

21	Accelerator Pedal Position 1	Accelerator Pedal Position 2	Accelerator Pedal Position 2
22	Actual Engine - Percent Torque	Actual Engine - Percent Torque	Actual Engine - Percent Torque
23	Drivers Demand Engine percent Torque	Drivers Demand Engine percent Torque	Drivers Demand Engine percent Torque
24	Nominal Friction - Percent Torque	Nominal Friction - Percent Torque	Nominal Friction - Percent Torque
25	Total Vehicle Distance	Total Vehicle Distance	Total Vehicle Distance
26	Total Engine Hours of Operation	Total Engine Hours of Operation	Total Engine Hours of Operation
27	Engine Total Fuel Used	Engine Total Fuel Used	Engine Total Fuel Used
28	Engine Oil Temperature 1	Engine Oil Temperature 2	Engine Oil Temperature 2
29	Engine Coolant Temperature	Engine Coolant Temperature	Engine Coolant Temperature
30	Engine Fuel Temperature 1	Engine Fuel Temperature 2	Engine Fuel Temperature 2
31	Engine Oil Pressure	Engine Oil Pressure	Engine Oil Pressure
32	Wheel-Based Vehicle Speed	Wheel-Based Vehicle Speed	Wheel-Based Vehicle Speed
33	Brake Switch	Brake Switch	Brake Switch
34	Clutch Switch	Clutch Switch	Clutch Switch
35	Barometric Pressure	Barometric Pressure	Barometric Pressure
36	Ambient air temperature	Ambient air temperature	Ambient air temperature
37	Engine Intake Manifold #1 Pressure	Engine Intake Manifold #1 Pressure	Engine Intake Manifold #1 Pressure
38	Engine Intake manifold 1 temperature	Engine Intake manifold 1 temperature	Engine Intake manifold 1 temperature
39	Engine air inlet pressure	Engine air inlet pressure	Engine air inlet pressure
40	GSAS Compliance	GSAS Compliance	GSAS Compliance
41	J1939 Reserved 1	J1939 Reserved 1	J1939 Reserved 1
42	J1939 Reserved 2	J1939 Reserved 2	J1939 Reserved 2
43	J1939 Reserved 3	J1939 Reserved 3	J1939 Reserved 3
44	J1939 Reserved 4	J1939 Reserved 4	J1939 Reserved 4
45	J1939 Reserved 5	J1939 Reserved 5	J1939 Reserved 5
46	J1939 Reserved 6	J1939 Reserved 6	J1939 Reserved 6
47	J1939 Reserved 7	J1939 Reserved 7	J1939 Reserved 7
48	J1939 Reserved 8	J1939 Reserved 8	J1939 Reserved 8
49	J1939 Reserved 9	J1939 Reserved 9	J1939 Reserved 9
50	J1939 Reserved 10	J1939 Reserved 10	J1939 Reserved 10
51	Engine Param 1	Parameter name for Software Version	Parameter name for Software Version
52	Engine Param 2	Parameter name for Calibration Version	Parameter name for Calibration Version
53	Engine Param 3	Epm_nEng	NE
54	Engine Param 4	Rail_pSetPoint	PFIN
55	Engine Param 5	InjCtl_qSetUnBal	NPC
56	Engine Param 6	InjCrv_qPil1Des_mp	QFIN
57	Engine Param 7	InjCrv_qMI1Des	QPRE
58	Engine Param 8	InjCrv_phiMI1Des	TINTPRE

ANNEXURE – DATA SCOPE AND PARAMETER SPECIFICATION FOR BS6

59	Engine Param 9	InjCrv_qPol2Des_mp	QFINR
60	Engine Param 10	AccPed_trqDes	TQPRF
61	Engine Param 11	PthSet_trqInrSet	QMAIN
62	Engine Param 12	CEngDsT_t	TFIN
63	Engine Param 13	Oil_pSwmp	TQMF
64	Engine Param 14	Oil_tSwmp	QAFTR
65	Engine Param 15	Air_pCACDs	TINTAF
66	Engine Param 16	Air_tCACDs	TQAF
67	Engine Param 17	EnvP_p	QLMT
68	Engine Param 18	BattU_u	TRQACCDRVREQ
69	Engine Param 19	App_r	TRQFIN
70	Engine Param 20	ASMod_dmIndAirRef	THW
71	Engine Param 21	AirCtl_rCtlVal	POIL
72	Engine Param 22	EGRVlv_rAct	THOIL
73	Engine Param 23	RailP_pFlt	PIM
74	Engine Param 24	InjCrv_phiPil1Des	THA
75	Engine Param 25	InjVlv_tiET_mp_[3]	PATM
76	Engine Param 26	InjVlv_tiPil1ET	VB
77	Engine Param 27	InjVlv_tiMI1ET	ACCPF
78	Engine Param 28	InjCrv_tiPol2Des	AFSEGRT
79	Engine Param 29	InjVlv_tiET_mp_[1]	AFSCYLEGR
80	Engine Param 30	EngPrt_qLim	QBSM
81	Engine Param 31	EngPrt_trqLim	QBSMF
82	Engine Param 32	SmkLim_qLimSmk	AFSREAL
83	Engine Param 33	CoPT_trqDes	LEGRBASEF
84	Engine Param 34	SmkLim_mAirPerCyl	EGRDEL
85	Engine Param 35	SmkLim_rLamSmkPrs_mp	AFSAV
86	Engine Param 36	InjCrv_stInjRlsSet_mp	LEGRFB
87	Engine Param 37	AirCtl_rSmkCtlVal_mp	LEGRFINO
88	Engine Param 38	AirCtl_rNrmCtlVal_mp	LEGR
89	Engine Param 39	AirCtl_rWrmUpCtlVal_mp	VLEGR
90	Engine Param 40	AirCtl_stAirCtlBits	TRQFRIC
91	Engine Param 41	AirCtl_qSmkDiff_mp	TRQLMTF
92	Engine Param 42	AirCtl_rGovEGr	DEGRFV
93	Engine Param 43	EGRVlv_r	DEGRFF
94	Engine Param 44	EGRVlv_rDesVal	ITHROPPIN
95	Engine Param 45	EGRVlv_rGovDesVal	ITHROP
96	Engine Param 46	EGRVlv_rGovDvt	XLEGRDYMSW

ANNEXURE – DATA SCOPE AND PARAMETER SPECIFICATION FOR BS6

97	Engine Param 47	EGRVlv_rActr	XLEGRSTASW
98	Engine Param 48	EGRVlv_rPs	LEGRSTA
99	Engine Param 49	EGRVlv_uRaw	LEGRDYM
100	Engine Param 50	AirCtl_qSmkHys_mp	MULMDBF
101	Engine Param 51	InjVlv_tiET_mp_[2]	ISCVF
102	Engine Param 52	InjCrv_stInjCharActVal_[0]	TRQDRV
103	Engine Param 53	Engine Param Reserved 1	MDMAP
104	Engine Param 54	Engine Param Reserved 2	TRQENG
105	Engine Param 55	Engine Param Reserved 3	TRQREQ
106	Engine Param 56	Engine Param Reserved 4	EXO2
107	Engine Param 57	Engine Param Reserved 5	AFSCYL
108	Engine Param 58	Engine Param Reserved 6	QFINEMS
109	Engine Param 59	Engine Param Reserved 7	THABPS
110	Engine Param 60	Engine Param Reserved 8	O2TRG
111	Engine Param 61	Engine Param Reserved 9	MCLD
112	Engine Param 62	Engine Param Reserved 10	MDTH
113	Engine Param 63	Engine Param Reserved 11	MEGR
114	Engine Param 64	Engine Param Reserved 12	CEGR
115	Engine Param 65	Engine Param Reserved 13	THF
116	Engine Param 66	Engine Param Reserved 14	CEX_CONT
117	Engine Param 67	Engine Param Reserved 15	AIRINTEFF
118	Engine Param 68	Engine Param Reserved 16	Engine Param Reserved 1
119	Engine Param 69	Engine Param Reserved 17	Engine Param Reserved 2
120	Engine Param 70	Engine Param Reserved 18	Engine Param Reserved 3
121	Engine Param 71	Engine Param Reserved 19	Engine Param Reserved 4
122	Engine Param 72	Engine Param Reserved 20	Engine Param Reserved 5
123	Engine Param 73	Engine Param Reserved 21	Engine Param Reserved 6
124	Engine Param 74	Engine Param Reserved 22	Engine Param Reserved 7
125	Engine Param 75	Engine Param Reserved 23	Engine Param Reserved 8
126	Engine Param 76	Engine Param Reserved 24	Engine Param Reserved 9
127	Engine Param 77	Engine Param Reserved 25	Engine Param Reserved 10
128	Engine Param 78	Engine Param Reserved 26	Engine Param Reserved 11
129	Engine Param 79	Engine Param Reserved 27	Engine Param Reserved 12
130	Engine Param 80	Engine Param Reserved 28	Engine Param Reserved 13
131	Engine Param 81	Engine Param Reserved 29	Engine Param Reserved 14
132	Engine Param 82	Engine Param Reserved 30	Engine Param Reserved 15
133	Engine Param 83	Engine Param Reserved 31	Engine Param Reserved 16
134	Engine Param 84	Engine Param Reserved 32	Engine Param Reserved 17

ANNEXURE – DATA SCOPE AND PARAMETER SPECIFICATION FOR BS6

135	Engine Param 85	Engine Param Reserved 33	Engine Param Reserved 18
136	Engine Param 86	Engine Param Reserved 34	Engine Param Reserved 19
137	Engine Param 87	Engine Param Reserved 35	Engine Param Reserved 20
138	Engine Param 88	Engine Param Reserved 36	Engine Param Reserved 21
139	Engine Param 89	Engine Param Reserved 37	Engine Param Reserved 22
140	Engine Param 90	Engine Param Reserved 38	Engine Param Reserved 23
141	ACU Param 1	Calibration_Revision_Number	Calibration Revision Number
142	ACU Param 2	Calibration_Version_Number	Calibration Version Number
143	ACU Param 3	AIM_Outlet_Dew_Point	ACM_Egr_rate_inert
144	ACU Param 4	ECM_Run_Time	ACM_Egrl_valve_flow
145	ACU Param 5	Engine_Speed	ACM_Exh_muffler_flow
146	ACU Param 6	Exhaust_Flow	ACM_Fuel_mass_flow
147	ACU Param 7	H_HIM_fg_Dosing_Cmd	ACM_Turbine_flow
148	ACU Param 8	H_HIM_fn_EffComp	AFC_Air_fuel_ratio_with_post
149	ACU Param 9	H_SFD_DPF_Monitor_Inhibit	AFC_Exhaust_air_fuel_ratio
150	ACU Param 10	H_SFD_fv_DPF_Filtered	DTI_Dpf_intermediate_heat
151	ACU Param 11	H_SFD_tm_DeltaP_High	DTI_Dpf_regen_dmnd
152	ACU Param 12	H_SFD_tm_DPF_Rtest_Error	DTI_Dpf_regen_subm
153	ACU Param 13	H_SFD_tm_DPF_Rtest_Pass	DTI_Iso_ac_compressor_dmnd
154	ACU Param 14	H_SFP_fv_Unfiltered	DTI_Iso_dpf_learn_coef_dmnd
155	ACU Param 15	H_SFP_gph_Noxid_Rate	DTI_Iso_dpf_learn_coef_subm
156	ACU Param 16	H_SFP_gph_Oxid_Rate	DTI_Iso_dpf_regen_dmnd
157	ACU Param 17	H_SFR_Regen_Tactic	DTI_Iso_dpf_rgn_idle_cnt_nv
158	ACU Param 18	J39_AFT_Intake_NOx	DTI_Iso_dpf_rgn_idle_comb_active
159	ACU Param 19	J39_AFT_Intake_Power_In_Range	DTI_Iso_dpf_rgn_idle_end_fail
160	ACU Param 20	J39_AFT_Outlet_NOx	DTI_Iso_dpf_rgn_idle_end_ok
161	ACU Param 21	J39_AFT_Outlet_Power_In_Range	DTI_Iso_dpf_rgn_idle_ended_nv
162	ACU Param 22	J39_AFT_Outlet_Self_Diag_Feedback_S	DTI_Iso_dpf_rgn_idle_state
163	ACU Param 23	Key_Off_Count	DTI_Iso_dpf_rgn_idle_test_ena
164	ACU Param 24	Key_Switch	DTI_Iso_dpf_rgn_run_cnt_nv
165	ACU Param 25	MIL_Status	DTI_Iso_dpf_rgn_run_end_fail
166	ACU Param 26	Module_Off_Time	DTI_Iso_dpf_rgn_run_end_ok
167	ACU Param 27	Net_Brake_Torque	DTI_Iso_dpf_rgn_run_ended_nv
168	ACU Param 28	OBD_Number_Of_Operation_Cycles	DTI_Iso_dpf_rgn_run_state
169	ACU Param 29	OS_Powerdown_Count	DTI_Iso_dpf_rgn_run_test_ena
170	ACU Param 30	P_ATD_DPFOutP_ReactRegenTrigger	F_M_Log_index_nv_0
171	ACU Param 31	P_ATD_tmh_TimerRegenRqstActive	F_M_Log_index_nv_1
172	ACU Param 32	P_ATR_SFM_OperModeRqst	F_M_Log_index_nv_2

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173	ACU Param 33	P_HIM_DFM_Eff_Avg	F_M_Log_index_nv_v_3
174	ACU Param 34	P_OCD_DosEff_EWMA_Filt_Val	FQD_Chkd_fuel_dmnd_wo_post
175	ACU Param 35	P_OCD_fn_CompEff	FQD_Chkd_post2_fuel_dmnd
176	ACU Param 36	P_OCD_fn_DOCDC_Eff	FQD_Cumulative_injected_fuel_nv_v
177	ACU Param 37	P_OCD_fn_Dosing_NmlEff	FQD_Post2_closed_loop_en
178	ACU Param 38	P_OCL_HC_DesorbRqst	FQD_Post2_doc_out_ctrl
179	ACU Param 39	P_OCL_tm_HC_Desorb_Count	FQD_Post2_temp_distrib_comp
180	ACU Param 40	P_PFS_DA_Validation_Stat	FQD_Post2_temp_target
181	ACU Param 41	P_SCP_tmh_DRP_Timer	IN_Battery_voltage
182	ACU Param 42	P_SCR_Ctrl3_pc_CEVariation	IN_Coolant_temperature
183	ACU Param 43	P_SCR_DA_Validation_Stat	IN_Doc_in_temp
184	ACU Param 44	P_SCR3_vm_ml_DosErr_Intg	IN_Dpf_dp
185	ACU Param 45	P_SFP_gpl_DPSLE_Adj	IN_Dpf_dp_filt
186	ACU Param 46	P_SFP_gpl_EstAsh_Buffer	IN_Dpf_dp_valid
187	ACU Param 47	P_SFP_gpl_Soot_Load_DP	IN_Dpf_in_temp
188	ACU Param 48	P_SFP_gpl_Soot_Load_Reset_Val	IN_Dpf_in_temp_valid
189	ACU Param 49	P_SFP_Soot_Stage	IN_Engine_cycle_speed
190	ACU Param 50	P_SFR_ct_Ineff_Regen_Occr	IN_Exh_gas_density
191	ACU Param 51	P_SFR_ct_Ineff_Regen_Occr	IN_Exh_gas_dyn_visc
192	ACU Param 52	P_SFR_ct_RegenRestarts	IN_Exh_vol_flow
193	ACU Param 53	P_SFR_Regen_Trigger_State	IN_Fuel_tank_level_valid
194	ACU Param 54	P_SFR_tm_Ineff_Dosing	IN_Gear_ratio
195	ACU Param 55	P_SFR_tmh_ElapsedCleaningTime	IN_Injection_speed
196	ACU Param 56	P_SFR_tmh_ReactElapsedCleanTime	IN_Nh3_concentration
197	ACU Param 57	P_SFR_tmh_SinceActiveRegen	IN_Nox_concentration
198	ACU Param 58	P_SFR_tmh_SinceReactRegen	IN_Nox_sensor_ready
199	ACU Param 59	P_UIM_vm_TripUreaInj_Total	IN_Nox_tailpipe_air_fuel_ratio
200	ACU Param 60	Powerdown_Data_Lost	IN_Nox_tailpipe_concentration
201	ACU Param 61	Poweroff_Command_Ignored	IN_Rail_pressure_feedback
202	ACU Param 62	Reset_Count	IN_Scr_in_temp
203	ACU Param 63	SRegen_Switch	ITD_Chkd_main_hyd_timing
204	ACU Param 64	V_AIM_pc_Urea_TankLvlLearned	ITD_Post1_timing_dmnd
205	ACU Param 65	V_AIM_ppm_SCR_Out_NOxSensor	ITD_Post2_timing_dmnd
206	ACU Param 66	V_AIM_pr_DPF_DeltaP	P_L_Dpf_dp_cnts
207	ACU Param 67	V_AIM_pr_DPF_DeltaP_Status	P_L_Dpf_dp_offset_lm_done_nv_v
208	ACU Param 68	V_AIM_pr_HC_DoserP	P_L_Dpf_dp_offset_lm_status
209	ACU Param 69	V_AIM_prg_DPF_OutP	P_L_Nh3_sensor_ready
210	ACU Param 70	V_AIM_prg_DPF_OutP_Status	P_T_Comb_mode

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211	ACU Param 71	V_AIM_prg_UreaPumpP	P_T_Comb_mode_trans_active
212	ACU Param 72	V_AIM_SCR_Out_NOxAiTmptr	P_T_Comb_mode_trans_reset
213	ACU Param 73	V_AIM_SCR_Out_NOxReadStbl	P_T_Doc_aging_severity
214	ACU Param 74	V_AIM_tm_ModuleOffTime	P_T_Doc_in_volumetric_flow
215	ACU Param 75	V_AIM_tm_ModuleOffTime_Status	P_T_Dpf_air_fuel_ratio
216	ACU Param 76	V_AIM_trc_DOC_In	P_T_Dpf_ash_learn_failed_nv
217	ACU Param 77	V_AIM_trc_DOC_In_Status	P_T_Dpf_ash_learn_normal_end
218	ACU Param 78	V_AIM_trc_DOC_Out	P_T_Dpf_ash_learn_request
219	ACU Param 79	V_AIM_trc_DOC_Out_Status	P_T_Dpf_ash_learn_start_cond
220	ACU Param 80	V_AIM_trc_DPF_Out	P_T_Dpf_ash_learn_start_req
221	ACU Param 81	V_AIM_trc_DPF_Out_Status	P_T_Dpf_ash_learn_state
222	ACU Param 82	V_AIM_trc_EGTS_PFS_ECU	P_T_Dpf_ash_learn_succeed_nv
223	ACU Param 83	V_AIM_trc_SCR_Out	P_T_Dpf_ashes_accu_dist
224	ACU Param 84	V_AIM_trc_SCR_Out_Status	P_T_Dpf_ashes_accu_dist_u16
225	ACU Param 85	V_AIM_trc_SCR_T1	P_T_Dpf_calc_coef
226	ACU Param 86	V_AIM_trc_SCR_T1_Status	P_T_Dpf_channel_length_perc
227	ACU Param 87	V_AIM_trc_Urea_TankT	P_T_Dpf_chk_ash_lrn_cond_met
228	ACU Param 88	V_AIM_trc_Urea_TankT_Status	P_T_Dpf_chk_end_dly_cond_met
229	ACU Param 89	V_ATD_bs_NOx_Out_Errs	P_T_Dpf_chk_regen_cond_met
230	ACU Param 90	V_ATD_bs_PFS_SysIO_Errs	P_T_Dpf_chk_regen_dpf_in_mean
231	ACU Param 91	V_ATD_bs_PFS_SysIO2_Errs	P_T_Dpf_chk_regen_flow_mean
232	ACU Param 92	V_ATD_bs_PFS_SysIO3_Errs	P_T_Dpf_chk_regen_hist_fail_nv_0
233	ACU Param 93	V_ATD_bs_PFS_SysPerf1_Errs	P_T_Dpf_chk_regen_hist_fail_nv_1
234	ACU Param 94	V_ATD_bs_PFS_SysPerf2_Errs	P_T_Dpf_chk_regen_hist_fail_nv_2
235	ACU Param 95	V_ATD_bs_SCR_SysIO1_Errs	P_T_Dpf_chk_regen_hist_fail_nv_3
236	ACU Param 96	V_ATD_bs_SCR_SysIO2_Errs	P_T_Dpf_chk_regen_hist_fail_nv_4
237	ACU Param 97	V_ATD_bs_SCR_SysPerf_Errs	P_T_Dpf_chk_regen_hist_flow_nv_0
238	ACU Param 98	V_ATD_bs_SCR_SysPerf_Update	P_T_Dpf_chk_regen_hist_flow_nv_1
239	ACU Param 99	V_ATD_bs_SCR_SysPerf2_Errs	P_T_Dpf_chk_regen_hist_flow_nv_2
240	ACU Param 100	V_ATD_DeltaT_Allow_Average	P_T_Dpf_chk_regen_hist_flow_nv_3
241	ACU Param 101	V_ATD_DeltaT_State	P_T_Dpf_chk_regen_hist_flow_nv_4
242	ACU Param 102	V_ATD_Disable_DEF_Dosing	P_T_Dpf_chk_regen_hist_index_nv
243	ACU Param 103	V_ATD_DisableDosing	P_T_Dpf_chk_regen_hist_start_nv_0
244	ACU Param 104	V_ATD_DPF_EngOnChkFlag	P_T_Dpf_chk_regen_hist_start_nv_1
245	ACU Param 105	V_ATD_DPF_Lamp_State	P_T_Dpf_chk_regen_hist_start_nv_2
246	ACU Param 106	V_ATD_DPF_PTD_DecisionMade	P_T_Dpf_chk_regen_hist_start_nv_3
247	ACU Param 107	V_ATD_DPF_PTD_OBDState	P_T_Dpf_chk_regen_hist_start_nv_4
248	ACU Param 108	V_ATD_DPFOutP_SIR_Decision	P_T_Dpf_chk_regen_hist_stop_nv_0

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249	ACU Param 109	V_ATD_FT_GreenFilterField	P_T_Dpf_chk_regen_hist_stop_nv_1
250	ACU Param 110	V_ATD_fv_DPFOutP_HighLog	P_T_Dpf_chk_regen_hist_stop_nv_2
251	ACU Param 111	V_ATD_IceNotSus_PressSensor	P_T_Dpf_chk_regen_hist_stop_nv_3
252	ACU Param 112	V_ATD_IceSus_At_PwrOn	P_T_Dpf_chk_regen_hist_stop_nv_4
253	ACU Param 113	V_ATD_prg_DPF_PTD_RngLog	P_T_Dpf_clean_filt_dp
254	ACU Param 114	V_ATD_prg_DPFOutP_DiffLog	P_T_Dpf_coef_learn_dp_grad
255	ACU Param 115	V_ATD_prg_DPFOutP_HighLog	P_T_Dpf_desox_launched
256	ACU Param 116	V_ATD_SCR_TSR_State	P_T_Dpf_doc_heatup_request
257	ACU Param 117	V_ATD_tm_DPFOutP_Hi	P_T_Dpf_dp_based_logic_enable
258	ACU Param 118	V_ATD_trc_DeltaT_DOC_Average	P_T_Dpf_dp_rel_soot_load
259	ACU Param 119	V_ATD_trc_DeltaT_DPF_Average	P_T_Dpf_dp_rel_soot_map_load
260	ACU Param 120	V_ATD_trc_SCR_DeltaT_PipeAvg	P_T_Dpf_dp_soot_mass
261	ACU Param 121	V_ATD_trc_SCR_DeltaT_ScrAvg	P_T_Dpf_dp_soot_mass_max_nv
262	ACU Param 122	V_ATM_fg_HC_Fdbk_Total	P_T_Dpf_engout_soot_mass_int_nv
263	ACU Param 123	V_ATM_OBD_Data_Reset	P_T_Dpf_filter_coef_learn_enable
264	ACU Param 124	V_ATM_Oper_Mode	P_T_Dpf_freq_rgn_cnt_nv
265	ACU Param 125	V_ATP_Allow_Regen_State	P_T_Dpf_green_filter_status_nv
266	ACU Param 126	V_ATP_ApplicationLabel	P_T_Dpf_in_trgt_dpf_ctrl
267	ACU Param 127	V_ATP_EgtsInfo_Response_ptr	P_T_Dpf_last_end_regen_mile_nv
268	ACU Param 128	V_ATP_fg_Exhaust_Total	P_T_Dpf_last_end_regen_time_nv
269	ACU Param 129	V_ATP_fg_Turbo_Out	P_T_Dpf_last_regen_mileage_nv
270	ACU Param 130	V_ATP_fv_DPF_OutP	P_T_Dpf_learn_timer
271	ACU Param 131	V_ATP_Oper_Mode_Permitted	P_T_Dpf_learnt_coef_corr
272	ACU Param 132	V_ATP_pc_Urea_TankLvl	P_T_Dpf_learnt_coef_nv
273	ACU Param 133	V_ATP_pc_Urea_TankLvl_Status	P_T_Dpf_low_temp_reenab_time
274	ACU Param 134	V_ATP_Permit_Switch	P_T_Dpf_mileage_ashes_nv
275	ACU Param 135	V_ATP_ppm_PFS_Out_NO2	P_T_Dpf_mileage_learnt_coef_nv
276	ACU Param 136	V_ATP_ppm_PFS_Out_NOx	P_T_Dpf_model_contact_time
277	ACU Param 137	V_ATP_ppm_SCR_In_NOx	P_T_Dpf_model_rel_soot_load
278	ACU Param 138	V_ATP_ppm_SCR_In_NOx_Status	P_T_Dpf_model_soot_burn_rate
279	ACU Param 139	V_ATP_ppm_SCR_Out_NOx	P_T_Dpf_model_soot_flow
280	ACU Param 140	V_ATP_ppm_SCR_Out_NOx_Status	P_T_Dpf_model_soot_mass_bin9
281	ACU Param 141	V_ATP_pr_DPF_Delta	P_T_Dpf_model_soot_mass_nv
282	ACU Param 142	V_ATP_prg_DPF_OutP	P_T_Dpf_mon_rgn_hist_index_nv
283	ACU Param 143	V_ATP_prg_DPF_OutP_Filtered	P_T_Dpf_mon_rgn_hist_mileage_nv_0
284	ACU Param 144	V_ATP_tm_CatOutNOxDiag_Timer	P_T_Dpf_mon_rgn_hist_mileage_nv_1
285	ACU Param 145	V_ATP_tm_CatOutO2Err_Timer	P_T_Dpf_mon_rgn_hist_mileage_nv_2

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286	ACU Param 146	V_ATP_tm_InhibitSw_SootLoad	P_T_Dpf_mon_rgn_hist_mileage_nv_3
287	ACU Param 147	V_ATR_DoserAirPurgeRqst	P_T_Dpf_mon_rgn_hist_mileage_nv_4
288	ACU Param 148	V_ATR_fgh_TailpipeNOxTrgt	P_T_Dpf_mon_rgn_hist_time_nv_0
289	ACU Param 149	V_ATR_NonMissionRegenActive	P_T_Dpf_mon_rgn_hist_time_nv_1
290	ACU Param 150	V_HIM_bs_DiagStatus	P_T_Dpf_mon_rgn_hist_time_nv_2
291	ACU Param 151	V_HIM_DFISOV_Cmd	P_T_Dpf_mon_rgn_hist_time_nv_3
292	ACU Param 152	V_HIM_DFISOV2_Cmd	P_T_Dpf_mon_rgn_hist_time_nv_4
293	ACU Param 153	V_OCD_trc_DOC_DeltaT_Filter_Val	P_T_Dpf_mon_rgn_post1_qty
294	ACU Param 154	V_OCL_HC_Desorb_Request	P_T_Dpf_mon_rgn_post1_qty_nv
295	ACU Param 155	V_OCL_fg_HC_Final_Limit	P_T_Dpf_mon_rgn_post2_qty
296	ACU Param 156	V_OCL_ppm_HC_Inlet_Hi_Rqst	P_T_Dpf_mon_rgn_post2_qty_nv
297	ACU Param 157	V_OCL_TransRateLimitActive	P_T_Dpf_regen_cond_enable
298	ACU Param 158	V_OCM_fg_HC_Cmd	P_T_Dpf_regen_ctrl_active
299	ACU Param 159	V_OCM_fg_HC_In	P_T_Dpf_regen_dti_failed
300	ACU Param 160	V_OCM_ppm_DOC_HC_Out_HiCmd	P_T_Dpf_regen_end_dly_time
301	ACU Param 161	V_OCP_Expected_HC_ConvEff	P_T_Dpf_regen_env_cond_bitfield
302	ACU Param 162	V_OCP_Expected_Therm_ConvEff	P_T_Dpf_regen_env_cond_enable
303	ACU Param 163	V_OCP_ppm_DOC_Out_NO2	P_T_Dpf_regen_env_start_bitfield
304	ACU Param 164	V_OCP_trc_Bed	P_T_Dpf_regen_env_start_cond
305	ACU Param 165	V_OCR_fg_HC_Cmd	P_T_Dpf_regen_failed
306	ACU Param 166	V_OCR_fg_HC_Corr	P_T_Dpf_regen_low_temp
307	ACU Param 167	V_OCR_fg_HC_Nominal	P_T_Dpf_regen_low_temp_ext
308	ACU Param 168	V_OCR_fg_HC_PreCorr	P_T_Dpf_regen_low_temp_reenab
309	ACU Param 169	V_OCR_fg_HC_TransComp	P_T_Dpf_regen_req_state
310	ACU Param 170	V_OCR_trc_T_Cmd	P_T_Dpf_regen_request
311	ACU Param 171	V_PFS_DA_Decision	P_T_Dpf_regen_stop_cond_state
312	ACU Param 172	V_PFS_DA_EGTS_DataStat	P_T_Dpf_regen_time
313	ACU Param 173	V_PFS_DA_EGTS_ReturnVal	P_T_Dpf_regen_time_active
314	ACU Param 174	V_PFS_tm_DA_InitChkTimer_Out	P_T_Dpf_regen_time_dti
315	ACU Param 175	V_RDM_bs_Sys_Errs	P_T_Dpf_regen_time_max_reached
316	ACU Param 176	V_RDM_FdbkState	P_T_Dpf_regen_time_temp_raising
317	ACU Param 177	V_RDM_State_Rqst	P_T_Dpf_regen_total_time_dti_nv
318	ACU Param 178	V_SCD_pc_SCR_NOx_Conversion	P_T_Dpf_regen_total_time_nv
319	ACU Param 179	V_SCD3_tm_InLp_UsedUp	P_T_Dpf_regen_trig_ext
320	ACU Param 180	V_SCD3_tm_InLp_UsedUp_Diag	P_T_Dpf_regen_wait_end_regen
321	ACU Param 181	V_SCL_flm_UrealInjCmd	P_T_Dpf_rel_soot_load
322	ACU Param 182	V_SCL_flm_UrealInjCmd_Rlimited	P_T_Dpf_rel_soot_load_start
323	ACU Param 183	V_SCL_flm_UrealInjCmd_SatLim	P_T_Dpf_rel_soot_load_stop

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324	ACU Param 184	V_SCL_Regen_VarANRCmd_Val	P_T_Dpf_reset_model
325	ACU Param 185	V_SCL_UrealImpLim_Flag	P_T_Dpf_rgn_exit_early_start_rst
326	ACU Param 186	V_SCM_flm_UrealInjCmd_Fdbk	P_T_Dpf_rgn_start_cond_state_nv
327	ACU Param 187	V_SCM_ppm_SCR_Out_NOx	P_T_Dpf_rgn_start_forc_hist_cond
328	ACU Param 188	V_SCM_ppm_SCR_Out_NOx_PreClamp	P_T_Dpf_soot_ash_dp
329	ACU Param 189	V_SCM_OutNOx_Sensor_Status	P_T_Dpf_soot_ash_dp_filt
330	ACU Param 190	V_SCP_Fuel_Rate_Per_Min	P_T_Dpf_soot_ash_load_index_nv
331	ACU Param 191	V_SCP_trc_SCR_Bed	P_T_Dpf_soot_cake_dp
332	ACU Param 192	V_SCP_vs_SCR_Catalyst	P_T_Dpf_soot_index_const1
333	ACU Param 193	V_SCR_ANR_Fdbk	P_T_Dpf_soot_index_const2
334	ACU Param 194	V_SCR_Ctrl3_ANR_FFcmd	P_T_Dpf_soot_load_index_2
335	ACU Param 195	V_SCR_Ctrl3_CEFdbkRelaySwMode	P_T_Dpf_soot_load_index_nv
336	ACU Param 196	V_SCR_Ctrl3_CERef_Dip_Active	P_T_Dpf_soot_mass
337	ACU Param 197	V_SCR_Ctrl3_CEVtermUpdateEnbl	P_T_Dpf_soot_mass_def_mode
338	ACU Param 198	V_SCR_Ctrl3_Final_ANR_Cmd	P_T_Dpf_soot_o2_burn_rate
339	ACU Param 199	V_SCR_Ctrl3_flm_DDC_CompCmd	P_T_Dpf_soot_regen_active
340	ACU Param 200	V_SCR_Ctrl3_OK_to_RunClosedLoop	P_T_Dpf_temp_out_est
341	ACU Param 201	V_SCR_Ctrl3_pc_CE_for_Ctrl	P_T_Dpf_trgt_temp_soot_load
342	ACU Param 202	V_SCR_Ctrl3_pc_FF_CETrgt_Adj	P_T_Dpfr_crit_request
343	ACU Param 203	V_SCR_Ctrl3_pc_Final_CETrgt	P_T_Dpfr_high_o2_request
344	ACU Param 204	V_SCR_Ctrl3_ppm_TailpipeNOxTrgt	P_T_Dpfr_std_request
345	ACU Param 205	V_SCR_DA_Decision	P_T_Normal_active
346	ACU Param 206	V_SCR_DA_EGTS_DataStat	P_T_Nox_concentration
347	ACU Param 207	V_SCR_DA_EGTS_ReturnVal	P_T_Nox_concentration_est
348	ACU Param 208	V_SCR_flm_UrealInjCmd	P_T_Nox_concentration_est_raw
349	ACU Param 209	V_SCR_mol_dt_NOx_In	P_T_Nox_model_main_retard
350	ACU Param 210	V_SCR_tm_DA_InitChkTimer_Out	P_T_Scr_aging_severity
351	ACU Param 211	V_SCR3_Feedback_ANR_Cmd	P_T_Scr_capacity
352	ACU Param 212	V_SCR3_vm_ml_DDC_TrgtDEF	P_T_Scr_gas_space_velocity
353	ACU Param 213	V_SFD_FlwResist_DPF_Actual	P_T_Scr_in_nox_conc
354	ACU Param 214	V_SFD_FlwResist_MissDPF_Lim	P_T_Scr_mass_flow
355	ACU Param 215	V_SFD_Soot_Load_Severe_Flag	P_T_Scr_nh3_flow
356	ACU Param 216	V_SFP_Ash_Adj_Slope_Average	P_T_Scr_nh3_inj_scaler_nv
357	ACU Param 217	V_SFP_fr_DPF	P_T_Scr_nh3_slip
358	ACU Param 218	V_SFP_Expected_HC_ConvEff	P_T_Scr_no2_nox_ratio
359	ACU Param 219	V_SFP_gph_Oxid_Hi_Rate	P_T_Scr_nox_cl_conds_met
360	ACU Param 220	V_SFP_gpl_Filter_Oper_Range	P_T_Scr_nox_cl_enabled
361	ACU Param 221	V_SFP_mg_Soot_Load_Comb	P_T_Scr_nox_conv_efficiency

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362	ACU Param 222	V_SFP_mg_Soot_Load_DP	P_T_Scr_nox_eff_error
363	ACU Param 223	V_SFP_gpl_Soot_Load_DP_NoClamp	P_T_Scr_nox_eff_scaler_nv
364	ACU Param 224	V_SFP_GreenFilter	P_T_Scr_real_nox_eff_filt_nv
365	ACU Param 225	V_SFP_gpl_Soot_Load_Comb	P_T_Scr_stored_nh3
366	ACU Param 226	V_SFP_gpl_Soot_Load_DP	P_T_Scr_stored_nh3_target
367	ACU Param 227	V_SFP_pr_Delta	P_T_Scr_urea_mass_flow
368	ACU Param 228	V_SFR_Ineff_Regen_Detected_Flag	P_T_Ssmd_mil_soot_mass_nv
369	ACU Param 229	V_SFR_Ineff_Regen_React	P_T_Ssmd_offset_1_nv
370	ACU Param 230	V_SFR_IneffNMRegen	P_T_Ssmd_offset_nv
371	ACU Param 231	V_SFR_ppm_Max_Inlet_HC	PSE_Atmospheric_pressure
372	ACU Param 232	V_SFR_Regen_Stage	PSE_Dpf_out_press
373	ACU Param 233	V_SFR_Regen_Trigger	PSE_Exhaust_manifold_press
374	ACU Param 234	V_SFR_trc_Cmd	PSE_Intake_manifold_press
375	ACU Param 235	V_SFR_trc_Regen_Trgt	PSE_Intercooler_out_press
376	ACU Param 236	V_UDD_FCV_Cmd	SMC_Engine_running_time
377	ACU Param 237	V_UIM_flm_EstUreaInjRate	SMC_Engine_state
378	ACU Param 238	V_UIM_flm_InjRateCmd	T_D_Actual_fast_imep
379	ACU Param 239	V_UIM_FT_UreaPumpState	T_D_Engine_power
380	ACU Param 240	V_UIM_pc_Tank_Heater_State	T_D_Engine_power_filtered
381	ACU Param 241	V_USM_bs_Sys_Errs	T_D_Idle_target_wo_dti
382	ACU Param 242	V_USM_bs_Sys1_Errs	TSE_Ambient_air_temp
383	ACU Param 243	V_USM_Doser_Off_Err	TSE_Doc_bed_temp
384	ACU Param 244	V_USM_FCV_Cmd	TSE_Doc_in_temp
385	ACU Param 245	V_USM_flm_DosingCmd	TSE_Doc_in_temp_est
386	ACU Param 246	V_USM_flm_DosingFdbk	TSE_Doc_out_temp
387	ACU Param 247	V_USM_MasterState	TSE_Doc_out_temp_est
388	ACU Param 248	V_USM_OpState	TSE_Dpf_in_temp
389	ACU Param 249	V_USM_pc_Pump_Cmd	TSE_Dpf_out_temp
390	ACU Param 250	V_USM_pr_UreaPumpP	TSE_Inlet_air_temp
391	ACU Param 251	V_USM_SysStateFdbk	TSE_Intake_port_temp
392	ACU Param 252	V_UTM_bs_Sys_Errs	TSE_Scr_bed_temp
393	ACU Param 253	V_UTM_bs_Sys1_Errs	TSE_Scr_in_temp
394	ACU Param 254	ACU Param Reserved 1	TSE_Scr_in_temp_est
395	ACU Param 255	ACU Param Reserved 2	TSE_Scr_in_temp_meas
396	ACU Param 256	ACU Param Reserved 3	TSE_Scr_out_temp
397	ACU Param 257	ACU Param Reserved 4	TSE_Turbine_in_temp
398	ACU Param 258	ACU Param Reserved 5	ACU Param Reserved 1
399	ACU Param 259	ACU Param Reserved 6	ACU Param Reserved 2

**ANNEXURE – DATA SCOPE AND PARAMETER
SPECIFICATION FOR BS6**

400	ACU Param 260	ACU Param Reserved 7	ACU Param Reserved 3
401	ACU Param 261	ACU Param Reserved 8	ACU Param Reserved 4
402	ACU Param 262	ACU Param Reserved 9	ACU Param Reserved 5

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