

Andhra Pradesh State Road Transport Corporation Office of the Managing Director, Bus Bhavan, Hyderabad - 500 0624.

No: OP3/462(Isuzu)/2011-MED

CIRCULAR No. 29/2011-MED, Dt 25.07.2011.

Sub: <u>MAINTENANCE</u> - Introduction of **SML-ISUZU Fully Built Buses under Garuda class** - Salient features and maintenance aspects communicated - Reg.

- 1.00 Corporation has recently introduced **SML-ISUZU** fully built buses (Model **LT134 PR**) at selective depots as an alternate product in **Garuda** segment.
- 2.00 The following are the salient features of the Purchase order conditions for SML-ISUZU buses with regard to maintenance & repairs.
- 2.00 M/s SML Isuzu shall provide *two-years Labour free Sheduled maintenance* excluding the following.
 - a) Consumables like lubricants, tyres, Rubber items, Electrical Items, LCDs & Glass items
 - b) Damages due to accidents and mishandling
 - c) Normal wear and tear
- 2.02 Shall provide Service Engineer to monitor day to day operations
- 2.03 Shall provide exclusive manpower at the depot to carry out minor repairs and Sheduled maintenance
- 2.04 Shall stock sufficient spare parts to cater emergency on cost basis
- 2.05 Shall *provide free spot replacement of failed parts due to manufacturing defects*. This will be ascertained by both concerned after joint inspection
- 2.06 Warranty Shall be for a period of 12 months from the date of delivery of the vehicle.
- 2.07 Shall *impart training to drivers of APSRTC* in driving ISUZU buses @ 3 drivers per bus at free of cost before delivery
- 2.08 Shall impart training to technical personnel of the Corporation regarding dayto-day/ periodical maintenance of Isuzu Buses at free of cost
- 2.09 Though, the minor repairs & Sheduled maintenance of buses will be taken up by SML-ISUZU under the above P.O. conditions, there is need to make our maintenance staff to familiarize with the vehicle repairs and maintenance to handle the vehicles independently after completion of two years period. For Sch-III & IV maintenance, major repairs, critical works etc the vehicles have to be sent to the dealer points. But, Sch-1,and Sch-2 maintenance shall be to be carried out by the respective depots.

3.00 The salient technical specifications, features & maintenance systems pertaining to SML-ISUZU buses are furnished hereunder.

4.00 Engine

■ Bus Model: ISUZU LT 134 PR BUS

Engine Model: 6HK1-TC EURO III compliant Rear engine
 Type: 6 Cylinder OHV, water cooled, Direct Injection

Max. Power: 230 PS (169Kw) @2500 rpm
 Max. Torque: 704.2 Nm @1500 rpm
 Cylinder Bore x Stroke: 115 x 125 mm

■ Capacity: 7790 cc

Cylinder Liners: Dry typeCompression Ratio: 16.9:1

Compression Pressure: 33 kg/sq.cm

■ Firing order: 1-5-3-6-2-4

Valve clearance: 0.40 mm for both Inlet & Exhaust

 Valve adjustment: 1-2-3-6-7-10 valves when 1st Cylinder is at TDC (Compression stroke) and 4-5-8-9-11-12 valves when 6th Cylinder is at TDC(Compression stroke)

5.00 Fuel System

• Idling speed: 630 rpm

■ FIP: In-line (TICS)

Injection timing: 2 degree before TDC

Governor type: Electronic Control - RED-IV

Injection nozzle: 5 holes

■ Nozzle opening pressure: 225 kg/sq.cm

• Fuel tank capacity: 280 lits

6.00 <u>Air Intake System</u>

Air cleaner: Dry type two stage Air filters with Service Indicator

Turbocharger: Radial flow, water cooled with Waste gate arrangement

7.00 Lubrication system: Full flow pressure circulation

■ Main Oil filter capacity: 1.2 ltrs

Byepass Filter capacity: 1.0 ltrs

Lubricating oil total capacity: 14.5 ltrs

8.00 Cooling system

Water pump: Centrifugal

Radiator: Corrugulated fin with reserve tank

■ Thermostat: Wax pellet type, starts opening at 820 & fully opens at 950 C

Coolant capacity: 30 litrs
Coolant mixing ratio: 1:2
Drive belt tension: 10-15 mm

9.00 Clutch

- Hydraulic with Air assisted Single plate dry type, Coil spring strap type Clutch housing
- Clutch Disc OD: 380mm
- Clutch facing inner Dia: 240mm
- Clutch facing thickness: 4.5mm x 2
- Pedal full travel: 180mm
- Pedal free play: 55-75 mm
- Pressure plate wear indicator depth: 1.5mm

10.00 Transmission

- Type: MLD7Q (1st & Reverse Constant mesh, 2nd to 4th Dual cone synchromesh, 5th to 7th Inertia lock type synchromesh)
- No. of speeds: 7 forward (including overdrive) and 1 reverse
- Gear change system: Floor mounted lever with pneumatic power assisted
- Gear Ratio: 1st 7.166, 2nd 4.526, 3rd 2.9197, 4th 1.954, 5th 1.254, 6th 1, 7th (OD) 0.756, Reverse 7.277
- Gear oil capacity: 8.3 litrs

11.00 Front Axle

- Type: Heavy duty forged I Beam, Reverse Elliot type
- Wheel bearing pre-load: 0.5mm

12.00 Rear Axle

- Type: Heavy duty pressed beam banjo type
- Wheel bearing pre-load: 0.5mm
- Gear Ratio: 5.29:1
- Oil capacity: 19.4 ltrs

13.00 Steering

- Type: Recirculating ball type Power Steering
- Oil Capacity: 5.4 lit

14.00 Suspension

- Front & Full Air suspension
- Make: Madras SAF-Holland

15.00 Brakes

- Type: S'cam dual Air brake system with ABS (Wabco-TVS) with Dryer & Oil separator
- Slack adjuster: Automatic

16.00 Wheels & Tyres

- Size: 11 x 22.5-16PR
- Wheel rim: 22.5 x 8.25

17.00 Electrical system

- Battery: 2 x 12v 150 AH
- Alternator: 24v 120A (Brushless)
- Regulator: IC type (Built-in)
- Starter: 24v 180W Output-4.5KW (magnetic switch controlled)

18.00 Performance

Max Speed: 115 kmphGradeability: 34%

19.00 RECOMMENDED LUBRICANTS, COOLANT & CLUTCH FLUID

Aggregate	Valvoline Product Name	Specification/ Performance Levels	Capacity
Engine Oil	Special Engine Oil	API CI-4, SAE15W40, KHT Test (JPI 5S-55-99) Special Property for anti-coking in turbocharger & anti-sticking of piston ring	10 Ltrs + 4.5 ltr
Gear Box oil	Special Gear oil	SAE 80W90 API GL5, ZF TE ML 01/02/05/07/08/12/16B/16C/16D/17B, MAN 3343 ML	8.3 Ltrs
Differential oil	Special Differential oil	SAE 85W140 API GL5, MIL-l-2105D, DC 235.6, ZF TE ML 05/07/08, MAN 342 ML, VOLVO 1273.1, IVE	19.4 ltr
Power Steering oil	Trnasfluid IID or Transflid III	GM. DEXTRON IID, FORD Mercon requirements (Specs before 1993) as well as Ford M2C, ALLISON C4, CATERPILLAR TO-2	3.5 to 4.5 ltr
Clutch Fluid	Brake Fluid DOT 3	FMVSS DOT3	1.5 to 2 ltr
Wheel Brng Grease	TIMKEN	Lithium Complex NLGI Grade 2	4.5 kg
Coolant	Zerex G-05 Formul (or) Zerex 618-1 Extended life	Phosphate free Long HOAT Extended Life Antifreeze Coolant	37.5 Ltr (Mixture 1:2)

20.00 MAINTENANCE SCHEDULES

The specific maintenance activities applicable for Isuzu buses (other than those stipulated in the regular Sch-I/II, III/IV and FC) are furnished hereunder. The Sch-III maintenance for ISUZU Buses shall be done at 20,000 kms and SCh-IV maintenance at 60,000 kms. There is no change in other schedules like Sch-I (daily) and Sch-II (Weekly) and FC (at 2nd year for new vehicle and every year thereafter). The Oils, Greases, Coolant, Clutch Fluid and filter change periodicities and the activities to be carried out during preventive maintenance schedules are furnished hereunder

	LUBRICANTS, COOLANT & FILTERS CHANGE PERIODICITIES				
1	Change Engine Oil (15w40 CH4 grade) & E.Oil Filters (both Main & Bypass filters)	20,000 kms			
2	Main Fuel Filter element replacement	20,000 kms			
3	Pre-filter (Sedimentor) element replacement	20,000 kms			
4	Replace Gear Box oil	40,000 kms			
5	Replace Differential Gear oil	40,000 kms			
6	Replace Power Steering Oil & filter	60,000 kms			
7	Replace Wheel Bearing Grease (RR3)	60,000 kms			
8	Air Cleaner Primary replacement	Clean at every 5000 kms. and Replace Element after every 60,000 kms			
9	Air Cleaner Secondary replacement	Replace element after every 1,00,000 kms			
10	Antifreeze Coolant replacement (30% cooolant+ 70% water)	Once in 2 yrs			
11	Change clutch fluid	60,000 kms			

21.00 PREVENTIVE MAINTENANCE SCHEDULES

	Sch-I	Sch-II	Sch-III	Sch-IV
Description of Activity		Weekly	20,000 kms	60,000 kms
ENGINE				
Check Engine oil level & arrest leakage if necessary	✓	✓	✓	✓
Check for Engine starting and abnormal noise	✓	✓	✓	✓
Check for Idling speed and acceleration			✓	✓
Clean Air cleaner element		✓	✓	✓
Check & tighten Inlet and exhaust manifold nuts			✓	✓
Check & adjust Valve clearance			✓	✓
Compression pressure in each cylinder				✓
Clean Fuel tank strainer				✓
Clean Fuel tank inside				✓
Check Nozzle injection pressure and spraying condition				✓
Check & adjust Injection timing				✓
Check & clean Feed pump strainer			✓	✓
Check function of air Compressor, Oil separator and Unloader valve				✓
Check function of radiator cap		✓	✓	✓
Check Fan belts for damage/looseness	✓	✓	✓	✓
Check Exhaust pipes and mounting			✓	✓
Check Radiator coolant level	✓	✓	✓	✓

	Sch-I	Sch-II	Sch-III	Sch-IV
Description of Activity	Daily	Weekly	20,000 kms	60,000 kms
TURBOCHARGER				
Check Air duct connections and gaskets			✓	✓
CLUTCH				
Check Clutch fluid level	✓	✓	✓	✓
Check function of clutch system		✓	✓	✓
Check Clutch pedal free play and pedal stroke		✓	✓	✓
Check Clutch booster exhaust cover			✓	✓
TRANSMISSION				
Check Gear box oil level	✓	✓	✓	✓
Check Looseness in gear control mechanism		✓	✓	✓
PROPELLER SHAFT				
Check Propeller shaft nuts tightness	✓	✓	✓	✓
Check Universal joint and splines for wear		✓	✓	✓
Universal joint and splines Greasing		✓	✓	✓
SUSPENSION		_		
Check Air Suspension U-bolt / nuts tightness		✓	✓	✓
Check Air Bellow for damage/leakage	✓	✓	✓	✓
Check Mountings for looseness and damage	✓	✓	✓	✓
Check Shock absorbers for leaks and damage	✓	✓	✓	✓
Check Shock absorbers for looseness in mounting	✓	✓	✓	✓
Check for Stabilizer bar for mounting looseness			✓	✓
(Front and rear) REAR AXLE			_	•
Check Differential gear oil level	✓	√	√	✓
Check Axle case for damage and distortion	•	Y	V	▼
-			✓	▼
Check Wheel Disc for damage			V	▼
Rear wheel hub bearings Grease FRONT AXLE				V
Check for Damage and distortion				
Lubricate King Pins		✓		· /
		V	./	-/
Wheel Disc for damage			V	V
Front wheel hub bearings Grease STEERING				V
Check Power steering fluid level	√	✓	✓	1
<u>-</u>	•	Y		./
Check Lossons in mounting			V	V
Check Looseness in mounting			V	V
Check Bearings for excessive play			✓	~
Check for Steering linkage for damage, looseness and excessive play		✓	✓	✓
Check Clearance between knuckle, King Pin and front axle			✓	✓
Check & adjust Wheel alignment			✓	✓

	Sch-I	Sch-II	Sch-III	Sch-IV
Description of Activity	Daily	Weekly	20,000 kms	60,000 kms
SERVICE BRAKE			14113	14113
Check Brake Lining wear		✓	✓	✓
Check Brake drum for wear and damage			✓	✓
Check Function of dual brake valve			✓	✓
Check Air hoses and pipes for leakage, damage and loose connections	✓	✓	✓	✓
Check Cams and wheel brakes for excessive wear				✓
Check function of Brake actuater, slack adjuster and actuater rod stroke			✓	✓
Replace Air dryer desiccant		Once i	n a year	
Greasing of all points		✓	✓	✓
AUXILIARY BRAKE				
Function of exhaust brake			✓	✓
Check Function of retarder			✓	✓
ELECTRICAL EQUIPMENT				
Check Battery Specific gravity		✓	✓	✓
Check Function of starter motor			✓	✓
Starter motor brushes for wear				✓
Check Function of Alternator			✓	✓
Check Terminal of wiring harness for damage and looseness			✓	✓
CHASSIS LUBRICATION				
Lubricate all Grease points*		✓	\checkmark	✓
TYRES				
Check Tyre inflation pressures		✓	✓	✓
Remove Trapped stones, replace Tyres at 2mm NSD	✓	✓	✓	✓
Tyre rotation and Wheel nuts			✓	✓
AIR CONDITIONING				
Clean A/C Filters	✓	✓	✓	✓
Check functioning of all A/C controls	✓	✓	✓	✓
Check for loose contacts in Electrical Connectors of AC system, correct if required	✓	✓	✓	✓
Check for AC Condenser & Evaporator Fan Operation	✓	✓	✓	✓
Check for Cooling Efficiency	✓	✓	✓	✓
Check for AC Compressor Oil Level			✓	✓
Check for tightness AC Compressor mounting bolts			✓	✓
Check for AC Refrigerant Pressure / Level			✓	✓
Drain Condensate Water from AC system			✓	✓
Check for proper functioning of AC Fuses in Relay Panel	✓	✓	✓	✓
	✓	✓	✓	<u> </u>

*Greasing Points: King Pins 4, Water Pump 1, PP Shaft UJ Cross 2, PP Shaft Sliding sleeve 1, Steering column UJ Cross 1, Gear shift Control relay lever 2, Cooling Fan Pulley 1, Idler Pully 1, Front Brake Slack adjusters 2, Front Brake S'Cam shafts 2, Rear Brake Slack adjusters 2, Rear Brake S'cam shafts 2, Tierod ends 2 and Clutch shift block 1

22.00 ESSENTIAL SPARES TO BE STOCKED AT DEPOTS

S.NO	PART NAME	PART NO	QTY
1	ENGINE OIL	BR72-00-1000	400
2	GEAR BOX OIL	BR72-00-1001	180
3	DIFFERENTIAL OIL	BR72-00-1002	180
4	POWER STEERING OIL	BR72-00-1003	100
5	COOLENT	BR72-00-1004	100
6	BRAKE OIL	BR72-00-1005	50
7	CYLINDER ASM CLUTCH MASTER	1475-00-2322	4
8	ELEMENT OIL FILTER	1878-10-3721	25
9	ELEMENT OIL FILTER	1132-40-1320	25
10	ELEMENT FUEL FILTER	1132-40-0791	25
11	ELEMENT FUEL	1132-40-1940	25
12	BOX BATTERY REL	1825-10-5094	2
13	PLATE PRESSURE	1312-20-3742	5
14	DISC CLUTCH	1312-40-8510	5
15	PRIMARY FILTER	LZ02-13-325	10
16	SECONDARY FILTER	LZ02-13-326	10
17	RUBBER ENG FRT	1532-15-1720	10
18	BEARING CLUTCH RELEASE	1098-20-1170	5
19	PROPELLER SHAFT	LZ00-25-300	5
20	RUBBER CUSHION ENG MTG	1532-25-2794	10
21	RUBBER CUSHION ENG MTG	1532-25-2804	10
22	BEARING REAR AXLE	LZ02-26-214	4
23	OIL SEAL INNER	LZ02-26-220	30
24	OIL SEAL OUTER	LZ02-26-230	30
25	BEARING CUP & CONE INNER (R.AXLE)	LZ02-26-237	4
26	GASKET REAR AXLE	LZ02-26-238	30
27	OIL SEAL RING OUTR	LZ02-26-239	10
28	BRAKE DRUM	LZ02-26-255	12
29	BRAKE SHOE	LZ02-26-300	8
30	BRAKE LINERS KIT RD-2619	LZ02-26-890	10
31	AUTOMATIC SLACK ADJUST	LZ02-26-970	6
32	OIL SEAL DIFFERENT	LZ02-27-110	4
33	REPAIRE KIT CLUTCH	1318-29-5390	4
34	BRAKE DRUM-FIN	LZ02-33-102	6
35	GASKET HUB FRT AXLE	LZ02-33-106	30
36	KIT WHEEL MOUNTING FASTENERS (F.AXL)	LZS2-33-110	4
37	BEARING CUP & CONE OUTER	LZ02-33-112	4

S.NO	PART NAME	PART NO	QTY
38	BEARING CUP & CONE INNER	LZ02-33-115	4
39	OIL SEAL FRONT	LZ02-33-116	30
40	WHEEL BEARING ADJUSTING FASTNERS	LZS2-33-130	4
41	THRUST BEARING	LZ02-33-131	6
42	SHIM KIT	LZS2-33-140	6
43	FLANGED NUT	LZ02-33-144	4
44	TIE ROD ASSY	LZ02-33-153	4
45	BRAKE SPRING KIT	LZS2-33-190	30
46	BRAKE LINERS KIT	LZS2-33-220	10
47	BRAKE SHOE	LZ02-33-300	8
48	AUTOMATIC SLACK ADJUST	LZ02-33-970	6
49	HOSE RADIATOR	1214-37-7731	6
50	HOSE RUBBER	1214-37-7741	6
51	CONDENSER OIL SEPA	LZ02-42-050	2
52	AIR DRYER M303472	LZ02-42-070	2
53	HOSE DELIVERY COMPRESSOR	LZ02-42-440	10
54	WIRE ASM SHIFT	LZ02-46-510	2
55	WIRE ASM SELECT	LZ02-46-520	2
56	CAP RADIATOR	1214-50-1230	4
57	RELAY LAMP FAILU	1825-50-1432	10
58	METER ASSY	LZ02-55-430	4
59	FUEL TANK GAUGE	LZ02-55-530	8
60	FAN COOLING	1136-60-2772	2
61	HOSE RADIATOR	1093-60-5541	6
62	HOSE RADIATOR	1093-60-5781	6
63	SWITCH COMBINATION	1823-60-7120	2
64	BELT AC COMPRESSOR	LZ02-61-350	10
65	FRONT WIND SHIELD(11.4Mt)	LZ02-63-001	
66	REAR WIND SHIELD(11.4Mt)	LZ02-63-006	
67	FRONT WIND SHIELD(C Model)	LZ03-63-001	6
68	REAR WIND SHIELD(C Model)	LZ03-63-006	4
69	TEMPR GLASS R1	LZ02-63-011	2
70	TEMPR GLASS R2	LZ02-63-012	2
71	TEMPR GLASS R3	LZ02-63-013	2
72	TEMPR GLASS R, R5/L4,L5	LZ02-63-014	6
73	TEMPR GLASS R6	LZ02-63-015	2
74	TEMPR GLASS R7	LZ02-63-016	2
75	TEMPR GLASS R8	LZ02-63-017	2
76	TEMPR GLASS L1	LZ02-63-018	2
77	TEMPR GLASS L2	LZ02-63-019	2
78	TEMPR GLASS L3	LZ02-63-020	2
79	TEMPR GLASS L6	LZ02-63-021	2
80	TEMPR GLASS L7	LZ02-63-022	2

S.NO	PART NAME	PART NO	QTY
81	TEMPER FIX GLASS SWING DO	LZ02-63-051	2
82	VALVE MAGNETIC	1825-63-5975	4
83	VALVE MAGNETIC	1825-63-8712	4
84	GASKET MAGNETIC VALVE	9095-65-1170	4
85	BACK MIRROR LH&RH	LZ02-66-011	4
86	REAR LAMPS LHS RHS	LZ02-66-022	4
87	REAR LAMP RH	LZ02-66-022 A	4
88	LAMP SIDE MAKER	LZ02-66-028	12
89	FOG LAMP	LZ02-66-031	4
90	FOG LAMP	LZ02-66-031	4
91	FRONT LONG RANGE MAIN BEAM	LZ04-66-032	12
92	3RD BRAKE LIGHT	LZ02-66-034	2
93	REAR BUMPER (RED)	LZ02-66-036	6
94	REAR BUMPER (ORG)	LZ02-66-037	6
95	CONVERTOR	LZ02-66-044	2
96	WIRING HARNESS MAIN	LZ02-66-100	2
97	WIRING HARNESS	LZ02-66-161	2
98	WIRING HARNESS CONVERTER	LZ02-66-162	2
99	WIRING HARNESS SWITCH	LZ02-66-163	2
100	WIRING HARNESS	LZ02-66-164	2
101	WIRING HARNESS SIDE MIRROR	LZ02-66-169	2
102	WIRING HARNESS HEAD LAMP RH	LZ02-66-172	2
103	WIRING HARNESS HEAD LAMP LH	LZ02-66-173	2
104	RUBBER CUSHION RAD MTG	1214-67-0111	6
105	HARNESS FRAME	LZ02-67-700	2
106	OTHER FLAP LOCK	LZ02-69-101	10
107	DRIVER LOCK	LZ02-69-103	6
108	LUGGAGE FLAP LOCK	LZ02-69-104	10
109	GAS SPRING 750N	LZ02-69-152 B	12
110	BELT COOLING FAN	1136-71-1520	10
111	RESERVE TANK RADIATOR	1214-80-0781	2
112	SWITCH WATER LEVEL	1824-80-0911	10
113	DRAG LINK ASM	1443-80-1382	4
114	BELT COOLING FAN	8943-99-3400	12
115	REPAIRE KIT CLUTCH	1855-76-1140	4
116	CONTROL UNIT S	1801-90-0591	4
117	SENSOR SPD SPEEDOMETER	8973-28-0580	4
118	SENSOR REVOLUTION	8976-01-8924	4
119	SENSOR FUEL TEMP	8976-01-9193	4
120	SENSOR BOOST	1815-31-0110	4
121	SENSOR ACCEL	1815-34-0032	4
122	SENSOR TEMPERATURE	1835-44-0310	4

23.00 TOOLS REQUIRED FOR MAINTENANCE

S.NO	PART NAME	PART NO
1	Nozzle Sleeve Installer	IJ998127
3	Injection Pipe Seal	IJ998129
6	Clutch Disc Aligner	IJ998174
7	Special Socket for Nut A/F 102	IJ998179
8	Socket for Hex Nut	IJ998180
9	Pressure Plate Finger Lever aligner	IJ998177
10	Socket for Fuel Filter - Tool	IJ998181
11	Press in Tool for Inner Seal Rear Hub	IJ998183
12	Press in Tool for Outer Seal Rear Hub	IJ998184
13	Press in Tool for Front Hub Seal	IJ998185
14	Slinger Replacer / Puller Wheel hub	IJ998136
15	Steering Wheel puller	IJ998153
16	Hub Nut Wrench Front (65)	IJ998294 A

- 24.00 The CMEs of RR & VJA are advised to educate the staff on operation and maintenance of ISUZU buses at the depots under their jurisdiction duly providing necessary tools required for day to day maintenance. They are also advised to monitor the performance of SML-ISUZU buses and furnish the feedback to Head Office at regular intervals.
- 25.00 The Controllers of Stores, UPL & VJA are advised to supply required spare parts to the Depots duly fixing the limits in consultation with respective Dy.CMEs.
- 26.00 The Depot Managers and Maintenance incharges are advised to ensure proper maintenance to the vehicles and see that the vehicles are utilized to the full extent without any breakdown.

EXECUTIVE DIRECTOR (E&IT

То

The Depot Managers of VJA & RR Regions .

Copy to: VC & MD for information.

Copy to: Dir (V&S), ED (O&MIS), ED (A), FA, CAO, ED (HRD&Med) for infn.

Copt to: ED (GHZ&HZ), ED (HYD), ED (KRMR), ED (VJA), ED (VZM), ED(NLR), ED(KDP)

for information.

Copy to: All RMs for information.

Copy to: CME (O), CCOS, CA, CFM, CME(C&B), CE (IT), CPM, CM (HRD) for information & n/action.

Copy to:DyCME (O), DyCME (P), DyCME(C&B), DyCME (IED), DyCAO (SP&A), CSTO, COS(C) I & II for information.

Copy to: DyCMEs, WM, COS & DyCAOs of GHZ for necessary action.

Copy to: All AOs & AMEs (T) of GHZ for information & n/action.

Copy to: All Principals of ZSTCs, BTC, HPT & TA/HPT for information.

Copy to: Resident Audit Officer, Bus Bhavan, Hyd for information.

Copy to: In-charge, Manual Section for record.