

INDIGENOUS DEVELOPMENT OF LINE REPLACEABLE UNITS (LRU's) FOR LCA-TEJAS

ADA is the Nodal agency involved in the design and development of Tejas Aircraft along with HAL as a principal partner and in coordination with nearly 100 work centres spread across the country. The Tejas development program is in advanced stage, completed Initial Operation Clearance (IOC) requirements and marching towards final operation clearance (FOC). Tejas has completed over 2000 flights so far and continuing system performance and evaluation towards reaching Final Operational Clearance (FOC). There are 358 LRU's (Components) in the Tejas aircraft, out of which 53% of total LRU's are indigenously developed with in India. In view to reduce the remaining 47% of the import LRU's, ADA has initiated the Indigenous development programme for indigenization of the import LRU's.

The List of Components (LRU's) which belong to different systems of Aircraft, ADA is looking to indigenous is given in the table below.

Sl. No.	System	Equipment / LRU
1	Avionics	Enhanced – Video cum Digital Recorder (E-VDR)
2	Avionics	E-VDR Remote Cassette Unit Holder (RCUH)
3	Avionics	E-VDR Removable Mass Memory Device
4	Avionics	Global Positioning System (GPS)- Antenna
5	Avionics	Gyro Reference Unit [GRU]
6	Avionics	HMDS (Head Mounted Display System) - Guillotine Assembly
7	Avionics	HMDS-Line of sight computer Unit
8	Avionics	HMDS-Magnetic Transmitter Coil Unit [MTCU]
9	Avionics	HMDS-Seat Position Sensor Assembly
10	Avionics	HMDS-System Control Panel
11	Avionics	Identification Friend or Foe (IFF) - Antenna
12	Avionics	Marker Antenna
13	Avionics	MMR (Multi Mode Radar) - Ethernet switch
14	Avionics	Multi Function Display Unit [MFD]
15	Avionics	Radio Altimeter (RAM)-Antenna
16	Avionics	RWR (Radar Warning Receiver) - Antenna
17	Avionics	RWR - Power Divider
18	Avionics	RWR - Switch Filter Assembly (RF Units)
19	Avionics	Tactical Navigation (TACAN) - Antenna
20	Avionics	Very/ Ultra High Frequency (V/UHF) Blade Antenna
21	Avionics	Very/ Ultra High Frequency (V/UHF) Radio ACR 500LA

22	Avionics	VHF Omni Range – Instrument Landing System (VOR – ILS) Blade Antennas
23	Avionics	VOR - ILS Diplexer
24	Environmental Control	Bypass Valve PHE (Primary Heat Exchanger)
25	Environmental Control	Cabin Pressure Control Valve
26	Environmental Control	Cabin Pressure Safety Valve
27	Environmental Control	Cabin Shut-Off Valve
28	Environmental Control	ECS-Shut-Off Valve
29	Environmental Control	Ejector Shut Off Valve (ESOV)
30	Environmental Control	Filter Cabin Pressure Control
31	Environmental Control	Flow Control Valve - Avionics cooling
32	Environmental Control	Inward Relief Valve
33	Environmental Control	Pressure Reducer-Radar and Cabin Seal Pressurization
34	Environmental Control	Pressure Sensor Avionics Inlet
35	Environmental Control	Pressure Sensor P26 (Condenser)
36	Environmental Control	Pressure Sensor- P79(Avionics Flow Control)
37	Environmental Control	Pressure Sensor P24 - Bleed Air Inlet
38	Environmental Control	Pressure Switch (Bleed Air Inlet)
39	Environmental Control	Pressure Switch-High
40	Environmental Control	Pressure Switch-Low
41	Environmental Control	Pressure Transducer-Cabin
42	Environmental Control	PRV-SOV (Pressure Reduction Valve/Shut off Valve)
43	Environmental Control	PRV-SOV- Control Unit
44	Environmental Control	Seal Inflation / Deflation Valve
45	Environmental Control	Temperature Control Valve
46	Environmental Control	Temperature Sensor (High)
47	Environmental Control	Temperature Sensor (Low)
48	Environmental Control	Temperature Sensor-Pneumatic
49	Environmental Control	Water Separator
50	Electrical	0.35 kVA HMDG (Hydraulic Motor Driven Generator) – LH (Left Hand)
51	Electrical	0.35 kVA HMDG – RH (Right Hand)
52	Electrical	0.35 kVA HMDG – VRU (Voltage Regulator Unit)
53	Electrical	30 / 40 kVA IDG (Integral Drive Generator)
54	Electrical	30 / 40 kVA IDG-GCU (Generator Control Unit)
55	Electrical	5 kVA HMDG
56	Electrical	5 kVA HMDG -GCU
57	Electrical	Ground Power Receptacle (GPR)
58	Electrical	Light - Anti Collision
59	Electrical	Light Taxi/Landing
60	Electrical	Light-Wander

61	Electrical	Power Supply Unit - Anti Collision Light
62	Electrical	Undercarriage display unit
63	Electrical	Undercarriage Selector Lever
64	ESCAPE	Ejection Seat
65	Flight Control	Air Data Probe [NADP]
66	Flight Control	Air Data Sensor - Left Side [LADP]
67	Flight Control	Air Data Sensor - Right Side [RADP]
68	Flight Control	AoA (Angle of Attach) Sensor [AoA / AoSS vanes]
69	Flight Control	Pilot Control Grip
70	Flight Control	Leading Edge Vane Controller (LEVCON) Servo Actuator Assembly
71	Flight Control	Probe Total Temperature [TATP]
72	Flight Control	Sensor Assembly, Accelerometer [ASA]
73	Flight Control	Sensor Assembly Rate [RSA]
74	Health and Utility Management System (HUMS)	HUMS-Data Acquisition unit
75	Hydraulic	Control cable - Park Brake Control
76	Hydraulic	Control cable - Under carriage Emergency
77	Hydraulic	Emergency Undercarriage Selector Valve
78	Hydraulic	Flow Synchronizer
79	Hydraulic	Pressure Gauge
80	Hydraulic	Pressure Switches
81	Hydraulic	Pressure Switch – EMDP (Electric Motor Driven Pump)
82	Hydraulic	Pressure Switch - P/B
83	Hydraulic	Pressure Transducers
84	Hydraulic	Progressive Pressure Control Valve
85	Hydraulic	Slide & Swivel Joints
86	Landing Gear	Antiskid Brake Manifold
87	Landing Gear	Brake Feel Module Input Potentiometer
88	Landing Gear	Free castor valve for Nose Wheel Steering (Solenoid valve)
89	Landing Gear	Nose Wheel Steering Input Potentiometer
90	Landing Gear	Nose Wheel Steering Manifold
91	Landing Gear	Nose Wheel Steering Position Sensor (Feedback potentiometer)
92	Propulsion and Fuel	Air / No Fuel Float Valve
93	Propulsion and Fuel	Differential Pressure Switch
94	Propulsion and Fuel	Electric Re-fuelling Valve
95	Propulsion and Fuel	Engine third mount pin
96	Propulsion and Fuel	Float Valve
97	Propulsion and Fuel	Fuel Drain Valve
98	Propulsion and Fuel	Fuel Filler Cap

99	Propulsion and Fuel	Fuel flow straighter
100	Propulsion and Fuel	Fuel flow Transmitter
101	Propulsion and Fuel	Fuel Shut Off Cock
102	Propulsion and Fuel	Fuel/No Air Valve
103	Propulsion and Fuel	Low Pressure Fuel Shut Off Cock dia 25 mm
104	Propulsion and Fuel	Motorized Fuel Transfer Valve
105	Propulsion and Fuel	Pressure Reducing Valves
106	Propulsion and Fuel	Surge Relief Valve - F1 & F2 tanks
107	Propulsion and Fuel	Surge Relief Valve - F1A tanks
108	Propulsion and Fuel	Surge Relief Valve - Wing tanks
109	Propulsion and Fuel	Throttle Grip
110	Propulsion and Fuel	Throttle Quadrant Assembly
111	Propulsion and Fuel	Transfer Cum Refueling Valve
112	Utility Services and Monitoring (USMS)	Charge Amplifier (Pre Amplifier)

ADA is inviting the vendors/developers who are willing to take up the development of above components. ADA will provide all the information about components, Such as Technical Specifications, Test Requirements etc. Hence interested vendors may contact the following personnel for details of respective systems:

Contact Details:

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