International Aero Engines

SERVICE BULLETIN

ENGINE - LPT SHAFT - RELOCATE MARKING LOCATION OF SHAFT LENGTH - CATEGORY CODE 6 - MOD.ENG-72-0049

1. Planning Information

A. Effectivity

(1) Aircraft: Airbus A320

(2) Engine: V2500-A1 Engines prior to Serial Number V0203

B. Reason

(1) Condition

The existing dimension mark of the LP Turbine Shaft (LPT Shaft) length is invisible after the assembly of the LPT Shaft into the LP Turbine Module.

(2) Background

A review for the LPT shaft has shown that the marking position of the shaft length has to be relocated to enable reading of the marking after the assembly of the LPT Shaft.

(3) Objective

The changes introduced by this Service Bulletin is intended to improve the engine maintainability.

(4) Substantiation

Substantiation testing is not necessary.

(5) Effect of Bulletin on workshop procedures:

Removal/Installation	Not affected
Disassembly/Assembly	Not affected
Cleaning	Not affected
Inspection/Check	Not affected
Repair	Not affected
Testing	Not affected

(6) Supplemental Information

None

C. Description

(1) The changes introduced by this Service Bulletin are as follows.

(a) The existing marking position of the LPT shaft length 'J' is relocated from the rear to the front of LPT Shaft (See Figure 1).

(b) A new mark of the LPT shaft length 'K' is written on the front of LPT Shaft adjacent to the new marking position of the LPT shaft length 'J' (See Figure 1).

D. Approval

The 'Compliance' statement and procedures described in Sections 2 of this Service Bulletin have been shown to comply with the applicable Federal Aviation Regulations and are FAA-APPROVED for the Engine Model listed.

E. Compliance

Category Code 6

Accomplish when the subassembly (i.e. Modules, Accessories, Components, Build groups) is diassembled sufficiently to afford access to the affected part and to all affected spare parts.

F. Manpower

Estimated manhours to incorporate the full intent of this Bulletin:

Venue	Estimated Manhours
(1) In Service	Not applicable
(2) At overhaul (Note: The part affected by this Service Bulletin is accessible at overhaul.)	
(a) To write the marks of LPT shaft length 'J' and 'K' ..	5 minutes
TOTAL	5 minutes

G. Material - Price and Availability

Not applicable

H. Tooling - Price and Availability

Special tools are not required.

I. Weight and Balance

(1) Weight Change	None
(2) Moment Arm	No effect

(3) Datum .. .. Engine front mount centerline (Power Plant Station (P.P.S.) 100)

J. Electrical Load Data

This Service Bulletin has no effect on the aircraft electrical load.

K. References

(1) Internal Reference No.

EC91VJ009

(2) Other references

V2500 Engine Manual, 72-50-00, Assembly-01, Assemble the LP Turbine Module, Install the LP Turbine Shaft.

V2500 Standard Practices/Processes Manual, 70-09-00 Marking of Parts.

Facilities Equipment Manual, Section 5.

L. Other Publications Affected

None

2. Accomplishment Instructions

A. Rework Instructions

There are no rework instructions necessary to accomplish this Service Bulletin.

B. Marking Instructions

(1) Find the mark of LPT shaft length 'J' on the rear of LPT shaft where is written the shaft length with prefix L= and suffix MM (Refer to Figure 1).

Example: L=1739.65MM

(2) Write a new mark of LPT shaft length 'J' which is a copy of the existing mark on the rear of LPT shaft with revised prefix from L= to J= on to the shoulder for adjusting ring on the LPT shaft by the vibro-peening method (Refer to Figure 1 and 1.K (2)).

Example: J=1739.65MM

(3) Make the two lines on the existing mark of the LPT shaft length 'J' written on the rear of the LPT shaft to erase it with Vibro-peen (Refer to Figure 1 and 1.K.(2)).

(4) Marking of the LPT shaft length 'K'

This sub-paragraph is given in two parts.

(a) Part 1: Engines prior to Serial Number V0203 except V0006, V0010, V0023, V0065, V0091, V0143, V0147, V0181, V0185 and V0187

i Write a new mark of LPT shaft length 'K' adjacent to the mark of shaft length 'J' written on the shoulder for adjusting ring by the vibro-peening method (Refer to Figures 1 and 2, and 1.K.(2)).

NOTE: The mark of LPT shaft length 'K' must agree with your engine and module Serial Number shown in Figure 2.

(b) Part 2: Engines with Serial Number V0006, V0010, V0023, V0065, V0091, V0143, V0147, V0181, V0185 and V0187

i Measure the LPT shaft length 'K' in millimeter with the identification No. IT021 depth gage micrometer (Refer to Figure 1 and 1.K.(3)).

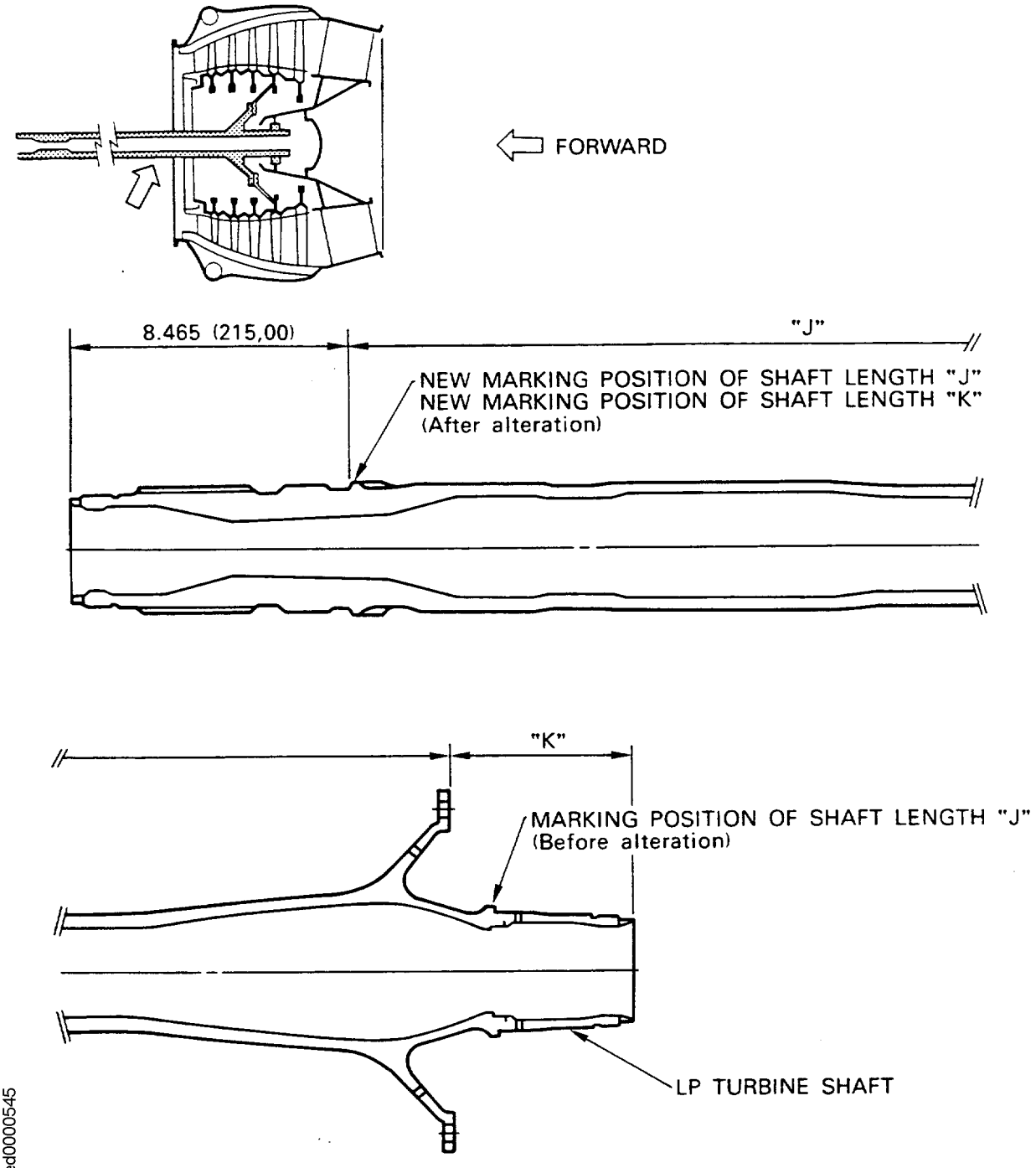
ii Write a mark of LPT shaft length 'K' with prefix K= suffix MM adjacent to the mark of shaft length 'J' written on the shoulder for adjusting ring by the vibro-peening method (Refer to Figure 1 and 1.K.(2)).

C. Assembly Instructions

(1) Install the LPT Shaft to the LP Turbine Module by the approved procedures in the Engine Manual, 72-50-00, Assembly-01, TASK 72-50-00-430-001 (Refer to 1.K.(1)).

D. Recording Instructions

(1) A record of accomplishment is necessary.



ded0000545

Marking Position of LP Turbine Shaft Length - Before and After Alteration
Fig.1

ENGINE SERIAL NUMBER	MODULE SERIAL NUMBER	MARKING OF DIMENSION 'K'	ASSEMBLY RECORD OF DIMENSION'J' *
V0003	500003	K=142.07MM	68.488 (1739,60)
V0004	500004	K=142.01MM	68.489 (1739,61)
V0005	500005	K=142.05MM	68.487 (1739,58)
V0006	500009	-	68.489 (1739,62)
V0007	500007	K=142.04MM	68.489 (1739,62)
V0008	500008	K=142.01MM	68.491 (1739,66)
V0009	500006	K=142.01MM	68.480 (1739,39)
V0010	500010	-	- -
V0011	500011	K=142.01MM	68.490 (1739,65)
V0012	500012	K=142.07MM	68.488 (1739,60)
V0013	500013	K=142.04MM	68.491 (1739,67)
V0014	500014	K=141.95MM	68.490 (1739,64)
V0015	500015	K=142.09MM	68.486 (1739,54)
V0016	500016	K=141.93MM	68.492 (1739,69)
V0017	500019	K=142.06MM	68.487 (1739,57)
V0018	500020	K=141.95MM	68.491 (1739,68)
V0019	500021	K=142.06MM	68.490 (1739,65)
V0020	500018	K=141.91MM	68.489 (1739,61)
V0021	500023	K=142.06MM	68.490 (1739,65)
V0022	500022	K=141.91MM	68.491 (1739,67)
V0023	500025	-	- -
V0024	500024	K=141.93MM	68.489 (1739,62)
V0025	500017	K=142.01MM	68.489 (1739,62)
V0026	500026	K=142.03MM	68.489 (1739,61)
V0027	500027	K=141.99MM	68.488 (1739,60)
V0028	500028	K=142.05MM	68.490 (1739,64)
V0029	500055	K=141.94MM	68.489 (1739,62)
V0030	500030	K=141.94MM	68.491 (1739,66)
V0031	500031	K=141.99MM	68.488 (1739,60)
V0032	500032	K=141.99MM	68.491 (1739,66)
V0033	500033	K=141.94MM	68.490 (1739,65)
V0034	500034	K=141.99MM	68.492 (1739,70)
V0035	500035	K=141.96MM	68.490 (1739,65)
V0036	500036	K=141.97MM	68.491 (1739,67)
V0037	500037	K=141.96MM	68.491 (1739,67)
V0038	500038	K=141.97MM	68.490 (1739,65)
V0039	500063	K=142.06MM	68.490 (1739,65)
V0040	500040	K=142.05MM	68.491 (1739,67)

* The assembly records shown are provided for reference purpose only.

LP Turbine Shaft Dimensions
Fig.2, Sheet 1 of 6

ENGINE SERIAL NUMBER	MODULE SERIAL NUMBER	MARKING OF DIMENSION'K	ASSEMBLY RECORD OF DIMENSION 'J' *
V0041	500041	K=141.96MM	68.4904 (1739, 66)
V0042	500042	K=142.05MM	68.490 (1739, 66)
V0043	500043	K=142.04MM	68.4892 (1739, 63)
V0044	500044	K=142.03MM	68.490 (1739, 65)
V0045	500045	K=142.01MM	68.489 (1739, 62)
V0046	500046	K=141.97MM	68.490 (1739, 65)
V0047	500047	K=142.06MM	68.489 (1739, 62)
V0048	500048	K=141.99MM	68.492 (1739, 69)
V0049	500049	K=142.06MM	68.488 (1739, 60)
V0050	500050	K=141.99MM	68.490 (1739, 65)
V0051	500051	K=141.99MM	68.490 (1739, 65)
V0052	500052	K=142.07MM	68.490 (1739, 64)
V0053	500053	K=141.96MM	68.4896 (1739, 64)
V0054	500054	K=141.99MM	68.489 (1739, 62)
V0055	500067	K=142.04MM	68.490 (1739, 65)
V0056	500056	K=141.99MM	68.489 (1739, 61)
V0057	500057	K=141.99MM	68.489 (1739, 62)
V0058	500058	K=142.01MM	68.490 (1739, 64)
V0059	500059	K=141.94MM	68.491 (1739, 67)
V0060	500060	K=142.01MM	68.490 (1739, 64)
V0061	500061	K=141.99MM	68.490 (1739, 65)
V0062	500062	K=141.97MM	68.490 (1739, 64)
V0063	500039	K=142.04MM	68.4896 (1739, 64)
V0064	500064	K=141.99MM	68.491 (1739, 66)
V0065	500067	-	- -
V0066	500066	K=142.01MM	68.490 (1739, 64)
V0067	500069	K=141.99MM	68.490 (1739, 65)
V0068	500068	K=141.99MM	68.491 (1739, 66)
V0069	500029	K=141.97MM	68.490 (1739, 65)
V0070	500070	K=141.99MM	68.491 (1739, 66)
V0071	500071	K=142.01MM	68.491 (1739, 67)
V0072	500072	K=142.01MM	68.491 (1739, 67)
V0073	500073	K=141.99MM	68.492 (1739, 70)
V0074	500074	K=141.97MM	68.491 (1739, 68)
V0075	500075	K=142.06MM	68.492 (1739, 70)

* The assembly records shown are provided for reference purpose only.

LP Turbine Shaft Dimensions
Fig.2, Sheet 2 of 6

ENGINE SERIAL NUMBER	MODULE SERIAL NUMBER	MARKING OF DIMENSION'K	ASSEMBLY RECORD OF DIMENSION 'J' *
V0076	500076	K=142.01MM	68.490 (1739,64)
V0077	500077	K=142.04MM	68.492 (1739,70)
V0078	500078	K=142.01MM	68.491 (1739,68)
V0079	500079	K=142.06MM	68.491 (1739,67)
V0080	500080	K=142.01MM	68.490 (1739,64)
V0081	500081	K=142.04MM	68.489 (1739,62)
V0082	500082	K=142.01MM	68.491 (1739,67)
V0083	500083	K=141.96MM	68.489 (1739,62)
V0084	500084	K=141.97MM	68.490 (1739,65)
V0085	500085	K=141.96MM	68.490 (1739,65)
V0086	500090	K=141.99MM	68.493 (1739,72)
V0087	500087	K=141.94MM	68.490 (1739,65)
V0088	500088	K=142.05MM	68.489 (1739,62)
V0089	500089	K=141.99MM	68.4904 (1739,66)
V0090	500092	K=142.01MM	68.491 (1739,68)
V0091	500097	-	- -
V0092	500096	K=142.01MM	68.491 (1739,67)
V0093	500091	K=141.99MM	68.4912 (1739,68)
V0094	500094	K=142.01MM	68.490 (1739,64)
V0095	500095	K=141.96MM	68.492 (1739,70)
V0096	500098	K=141.99MM	68.491 (1739,67)
V0097	500093	K=141.99MM	68.4900 (1739,65)
V0098	500100	K=141.95MM	68.491 (1739,67)
V0099	500099	K=142.01MM	68.4896 (1739,64)
V0100	500102	K=142.01MM	68.489 (1739,62)
V0101	500101	K=141.99MM	68.4908 (1739,67)
V0102	500104	K=142.01MM	68.489 (1739,62)
V0103	500103	K=141.94MM	68.4896 (1739,64)
V0104	500106	K=142.05MM	68.491 (1739,66)
V0105	500105	K=142.06MM	68.4880 (1739,60)
V0106	500108	K=142.05MM	68.491 (1739,66)
V0107	500111	K=142.09MM	68.489 (1739,62)
V0108	500110	K=142.05MM	68.488 (1739,60)
V0109	500113	K=142.04MM	68.490 (1739,65)
V0110	500086	K=142.05MM	68.491 (1739,68)

* The assembly records shown are provided for reference purpose only.

LP Turbine Shaft Dimensions
Fig.2, Sheet 3 of 6

ENGINE SERIAL NUMBER	MODULE SERIAL NUMBER	MARKING OF DIMENSION'K	ASSEMBLY RECORD OF DIMENSION 'J' *
V0111	500109	K=142.04MM	68.4892 (1739,63)
V0112	500112	K=142.01MM	68.490 (1739,64)
V0113	500107	K=142.04MM	68.4912 (1739,68)
V0114	500114	K=141.99MM	68.490 (1739,65)
V0115	500115	K=141.99MM	68.4912 (1739,68)
V0116	500116	K=141.99MM	68.489 (1739,62)
V0117	500117	K=142.01MM	68.490 (1739,65)
V0118	500118	K=142.03MM	68.491 (1739,67)
V0119	500119	K=142.04MM	68.4912 (1739,68)
V0120	500120	K=141.97MM	68.491 (1739,66)
V0121	500121	K=142.01MM	68.4916 (1739,69)
V0122	500122	K=141.95MM	68.490 (1739,64)
V0123	500123	K=141.91MM	68.4908 (1739,67)
V0124	500126	K=141.91MM	68.491 (1739,66)
V0125	500125	K=142.01MM	68.4908 (1739,67)
V0126	500128	K=142.09MM	68.492 (1739,69)
V0127	500127	K=142.01MM	68.4908 (1739,67)
V0128	500124	K=141.99MM	68.491 (1739,68)
V0129	500129	K=141.96MM	68.4896 (1739,64)
V0130	500130	K=142.07MM	68.491 (1739,67)
V0131	500131	K=141.99MM	68.4904 (1739,66)
V0132	500132	K=142.01MM	68.489 (1739,62)
V0133	500133	K=141.94MM	68.4928 (1739,72)
V0134	500136	K=142.01MM	68.489 (1739,63)
V0135	500135	K=141.96MM	68.4982 (1739,85)
V0136	500134	K=142.03MM	68.490 (1739,64)
V0137	500137	K=141.99MM	68.4896 (1739,64)
V0138	500138	K=142.01MM	68.487 (1739,58)
V0139	500139	K=141.99MM	68.4915 (1739,68)
V0140	500140	K=142.05MM	68.489 (1739,63)
V0141	500141	K=141.99MM	68.4908 (1739,67)
V0142	500164	K=142.05MM	68.489 (1739,62)
V0143	500143	-	68.4908 (1739,67)
V0144	500144	K=142.03MM	68.489 (1739,63)
V0145	500145	K=141.94MM	68.4912 (1739,68)

* The assembly records shown are provided for reference purpose only.

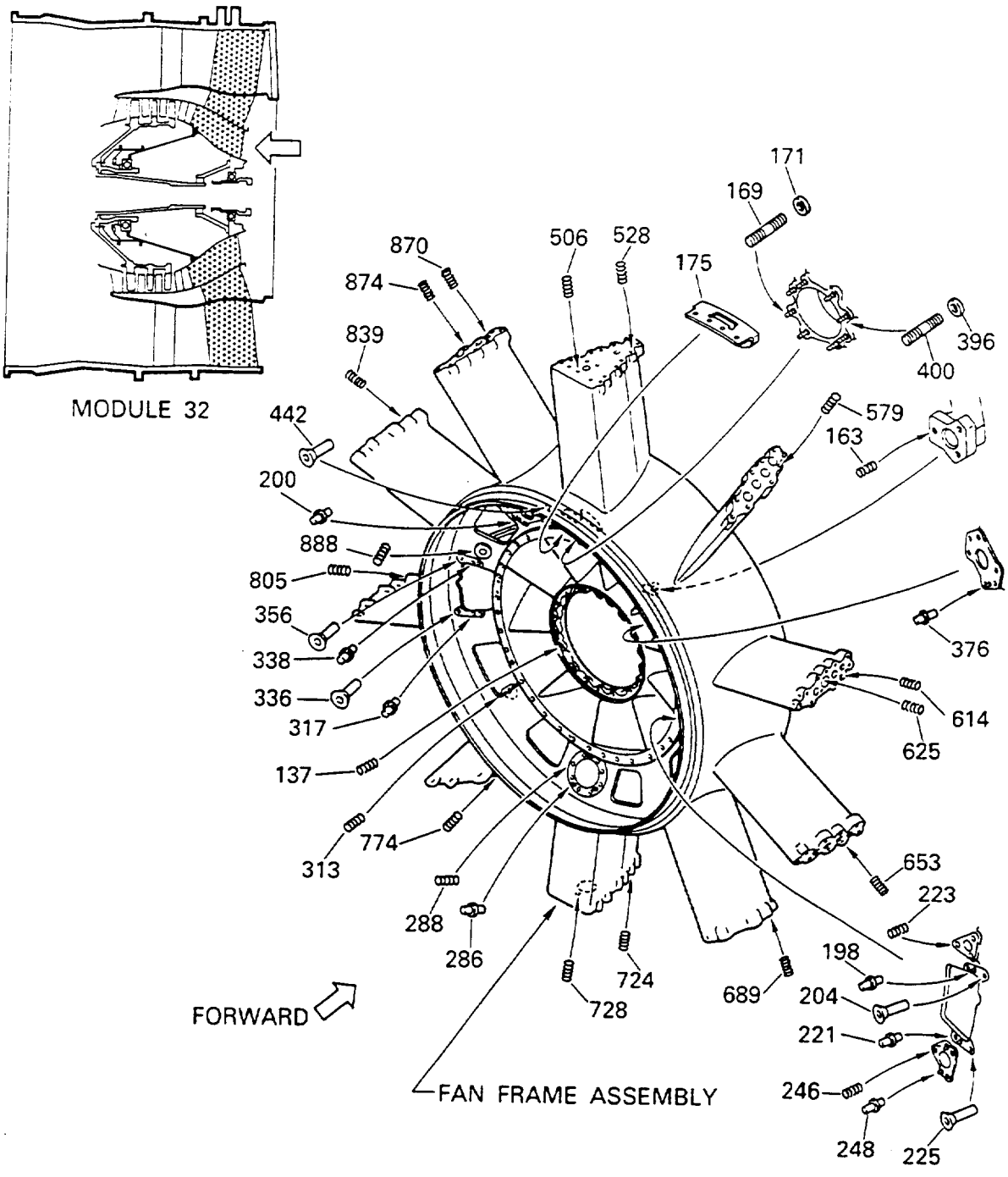
ded0000549

LP Turbine Shaft Dimensions
Fig.2, Sheet 4 of 6

ENGINE SERIAL NUMBER	MODULE SERIAL NUMBER	MARKING OF DIMENSION'K	ASSEMBLY RECORD OF DIMENSION 'J' *
V0146	500148	K=142.00MM	68.491 (1739,68)
V0147	500147	-	68.4916 (1739,69)
V0148	500150	K=142.07MM	68.491 (1739,67)
V0149	500149	K=142.04MM	68.4919 (1739,69)
V0150	500152	K=142.05MM	68.491 (1739,66)
V0151	500151	K=141.91MM	68.4912 (1739,68)
V0152	500154	K=142.03MM	68.490 (1739,65)
V0153	500153	K=141.91MM	68.4900 (1739,65)
V0154	500146	K=142.03MM	68.491 (1739,66)
V0155	500155	K=142.04MM	68.4924 (1739,71)
V0156	500156	K=141.99MM	68.494 (1739,75)
V0157	500181	K=141.99MM	68.4888 (1739,62)
V0158	500158	K=142.03MM	68.491 (1739,66)
V0159	500159	K=142.04MM	68.4912 (1739,68)
V0160	500160	K=142.05MM	68.489 (1739,63)
V0161	500161	K=142.04MM	68.4896 (1739,64)
V0162	500162	K=142.03MM	68.490 (1739,65)
V0163	500163	K=142.03MM	68.4896 (1739,64)
V0164	500166	K=142.05MM	68.489 (1739,62)
V0165	500165	K=141.86MM	68.4912 (1739,68)
V0166	500168	K=142.05MM	68.489 (1739,63)
V0167	500167	K=142.04MM	68.4880 (1736,60)
V0168	500170	K=142.01MM	68.491 (1739,66)
V0169	500169	K=142.01MM	68.4900 (1739,65)
V0170	500172	K=142.03MM	68.490 (1739,64)
V0171	500171	K=142.04MM	68.4915 (1739,68)
V0172	500176	K=142.03MM	68.490 (1739,64)
V0173	500173	K=141.99MM	68.4908 (1739,67)
V0174	500174	K=142.03MM	68.491 (1739,68)
V0175	500175	K=142.06MM	68.4896 (1739,64)
V0176	500142	K=142.03MM	68.491 (1739,66)
V0177	500177	K=142.04MM	68.4896 (1739,64)
V0178	500178	K=142.05MM	68.491 (1739,68)
V0179	500179	K=142.04MM	68.4912 (1739,68)
V0180	500180	K=142.03MM	68.490 (1739,64)

*** The assembly records shown are provided for reference purpose only.**

LP Turbine Shaft Dimensions
Fig.2, Sheet 5 of 6



ded0000551

LP Turbine Shaft Dimensions
Fig.2, Sheet 6 of 6

3. Material Information

Not applicable