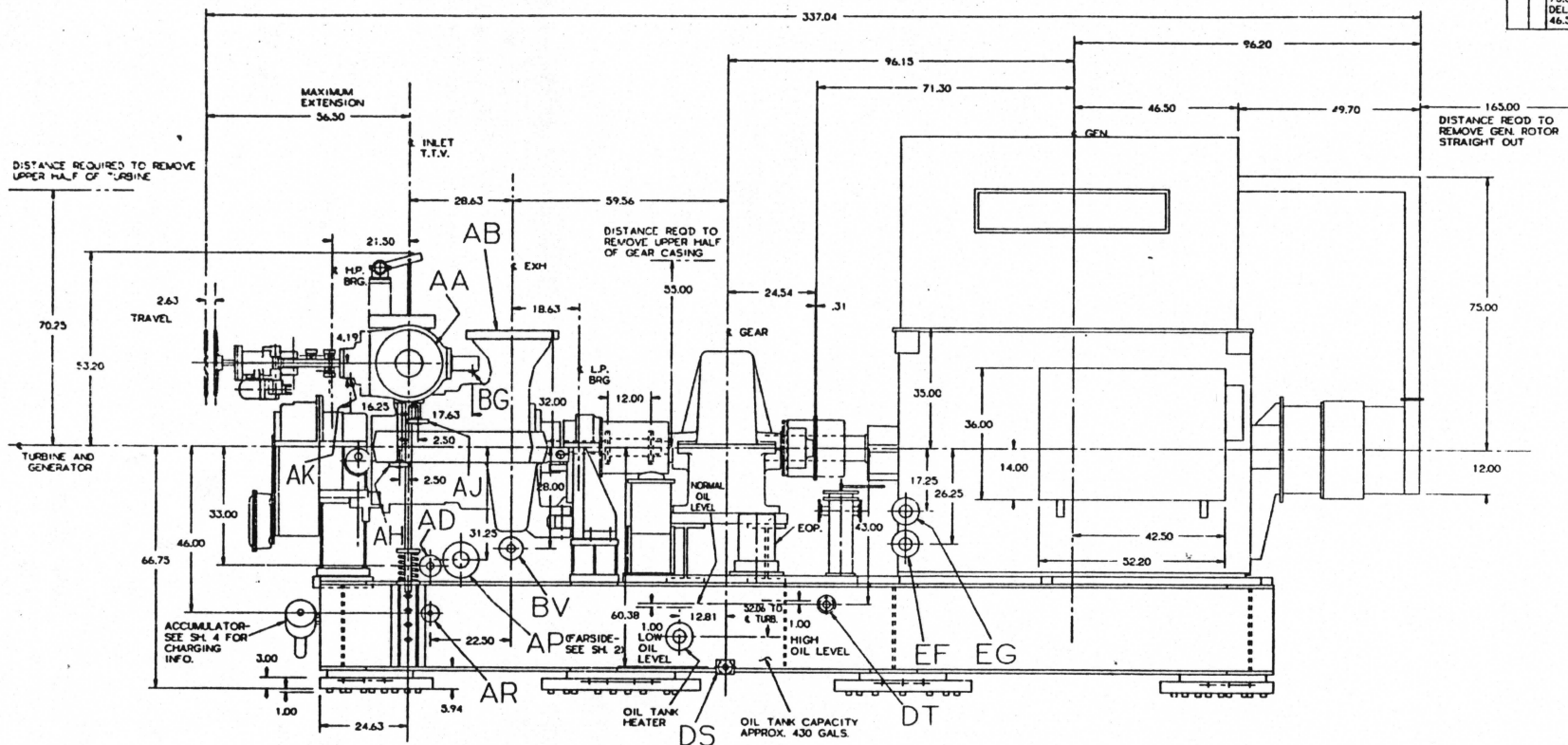


FORM 15	DESCRIPTION	DATE APPROVED	FOR: TP	REASON	DATE
1	1. <u>REWORK</u> DIM 337.04(L) WAS 347.04, 90.20 WAS 104.20, 49.70 WAS 40.50 & 145.00 DIST. REQ. TO REMOVE GEN ROTOR STRAIGHT OUT WAS 177.00	10/14/83	1	A. P. IWANKI, ADDED CONIS. ARMS. AARBBBGGGGGGG AND LG. UPDATED REV. STATUS OF CONIS. AR. 4 FOR CHANGES.	JAN 21 1983
			2	B. L. HUBLE, CHGD GENERATOR. DELETED UPDATED REV. STATUS OF CONIS. AR. 4 FOR CHANGES.	FEB 05 1983
			3	C. B. CHARTERED, RELOCATED CUST. CONIS. AR. BV. & OS. ADDED CONIS. AR. & AD. OIL TANK HEATER. ADDED DIMS. TO GEN.	APRIL 22 1983
			4	D. P. IWANKI, RELOCATED CUST. CONIS. OF & AP. ADDED REV. DETAILS	JUN 17 1983
			5	E. R. CHARTERED, UPDATED REV. STATUS SEE SHT. 4 FOR CHNGS.	AUG 12 1983
			6	F. B. GLEASON, UPDATED REV. STATUS SEE SHT. 1, 3 & 4 FOR CHNGS. ADDED ACCUMULATOR (ID-12)	AUG 26 1983
			7	G. B. GLEASON, UPDATED REV. STATUS SEE SHT. 1, 2, 3 & 4 FOR CHNGS. DIM. 59.70 WAS 60.50, 73.00 WAS 52.70, 52.20 WAS 52.00, DELETED DIM. 4789, ADDED DIM. 46.50 DIM. 35.00 WAS 32.00	OCT 06 1983

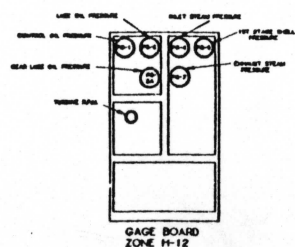


RIGHT SIDE ELEVATION

REV STATUS	REV	H	G	G	G	
OF SHEETS	SH	1	2	3	4	5

[illegible]

NOTE - THIS DRAWING MAINTAINED ON ELECTRONIC DATA BASE
FILE NAME B777A01E133002 PLOT DATE 3/9/83
ALL CHANGES MUST BE MADE ON IAG.

[illegible]

CUSTOMER CONNECTIONS									
STEAM, WATER & AIR CONNECTIONS									
CONNECTIONS	PIPE SIZE (IN)	FLANGE (IN)	OUTLET (IN)	INLET (IN)	BOLTS (IN)	PRE-FACTOR (IN)	REMARKS		
AA STEAM INLET	8	1000	8.5	30.5	3.3	21.36	130	25	
AB EXHAUST	16	300	25.5	22.5	20.0	23.39	85	06	
AD 1ST STAGE SHIM	1	1000	0.8	1.34	0.04	88	1.00	25	SEE NOTE 4C
AE INLET IN STEAM LEAKOFF	2	400	3.5	1.00	3.0	8	63	75	363 25 SEE NOTE 4A
AF TTY JARNE SEAT SHIM	1	1000	0.8	1.34	0.04	88	1.00	25	SEE NOTE 4B
AG TTY SEAT SHIM	1	1000	0.8	1.34	0.04	88	1.00	25	SEE NOTE 4B
AH TTY VALVE STEAM LEAK-OFF	2	400	3.5	1.00	3.0	8	63	75	363 25 SEE NOTE 4A
AI TO BLIND EXHAUST	4	300	4.0	1.25	2.88	8	75	88	619 06 SEE NOTE 4C
AR RE-ENTRY SHIM	1	300	4.0	1.25	2.88	8	75	88	619 06 SEE NOTE 4C
AG TTY VALVE STEAM LEAK-OFF	1	1000	0.8	1.34	0.04	88	1.00	25	SEE NOTE 4A
AV EXHAUST COUPLER SHIM	2	300	4.0	1.25	2.88	8	75	88	619 06 SEE NOTE 4D
AC INLET WATER INLET	3	150	7.5	3.4	1.00	4	63	75	5.00 06
CD INLET WATER OUTLET	3	150	7.5	3.4	1.00	4	63	75	5.00 06

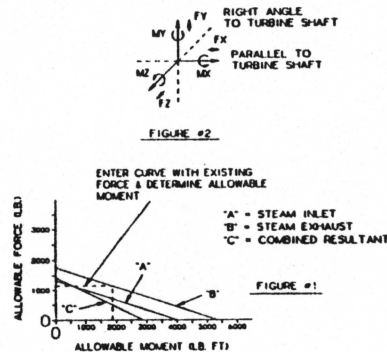
CUSTOMER CONNECTIONS									
OIL CONNECTIONS									
CONNECTIONS	PIPE SIZE (IN)	FLANGE (IN)	OUTLET (IN)	INLET (IN)	BOLTS (IN)	PRE-FACTOR (IN)	REMARKS		
DR OIL TANK FILL	1.5	150	1.5	1.5	1.5	1.5	1.5	1.5	BLANK FLG
DS OIL TANK DRAIN	1.5	150	1.5	1.5	1.5	1.5	1.5	1.5	50-13 TAP FLG TURNED WITH TAPPED HOLES 1.50 PRE-FACTOR
DT OIL PUMPER RETURN	1.5	150	1.5	1.5	1.5	1.5	1.5	1.5	
DV OIL PUMPER FEED	1.5	150	1.5	1.5	1.5	1.5	1.5	1.5	
EF OIL TO COOLERS	1.5	150	1.5	1.5	1.5	1.5	1.5	1.5	
EG OIL FROM COOLERS	1.5	150	1.5	1.5	1.5	1.5	1.5	1.5	

ITEM	ALARM	TRIP
REDUCTION GEAR :		
RADIAL BRG. RTD(SHIMBEDDED)	220°F	240°F
RADIAL VIBRATION(PROXIMITY PROBE)	2.5MILS	4.0MILS
TURBINE :		
RADIAL BRG. RTD(SHIMBEDDED)	250°F	275°F
THRUST BRG. RTD(SHIMBEDDED)	275°F	300°F
RADIAL VIBRATION(PROXIMITY PROBE)	3.0MILS	5.0MILS
AXIAL VIBRATION(PROXIMITY PROBE)	1.0MILS	2.0MILS
GENERATOR :		
RADIAL BRG. RTD(SHIMBEDDED)	90°C	100°C
WINDINGS	140°C	150°C
COOLER DISCHARGE AIR	55°C	65°C
RADIAL VIBRATION(PROXIMITY PROBE)	3.0MILS	5.0MILS

WEIGHTS IN LBS	DRY	WET
TURBINE	20500	20500
GEAR	8175	8175
GENERATOR	47000	47000
BASE	22800	25700
T.T.V. ASSY	2130	2130
STRAINER OIL	125	160
PIPING & MISC.	2000	2100
A.O.P. ASSY.	640	640
E.O.P. ASSY.	640	640
GAGE BOARD	230	250
TOTAL 104200 107315		

PRESSURE GAGES			
SYM	SERVICE	RANGE	REMARKS
PG-1	CONTROL OIL	0-200 PSIG	
PG-2	LUBE OIL	0-30 PSIG	
PG-2A	GEAR LUBE OIL	0-30 PSIG	
PG-4	INLET STEAM	0-1500 PSIG	
PG-3	1ST STAGE STEAM	0-1000 PSIG	
PG-7	EXHAUST	0-130 PSIG	
DPG-1	INLET WATER PRESS	0-30 PSIG	
DPG-2	EXHAUST WATER PRESS	0-30 PSIG	
DPG-3	EXHAUST STEAM PRESS	0-30 PSIG	
DPG-4	EXHAUST STEAM PRESS	0-30 PSIG	

COOLING WATER REQUIREMENTS			
UNIT	WATER GPM	PRESS LOSS PSI	HEAT REJECTION BTU/H
OIL COOLER	76 GPM	4.5	380000
GLAND COND	180 GPM	7.4	1796343
GEN AIR COOLER	130 GPM	7.5	665535



MOVEMENT DUE TO THERMAL EXPANSION			
AXIAL EXPANSION	TOWARD DRIVEN EQUIPMENT	-135	-025
VERTICAL EXPANSION	UP	127	067
	DOWN	---	---
		314	000

- ### GENERAL INFORMATION
- FLEXIBILITY MUST BE PROVIDED IN ALL CONNECTIONS TO PREVENT TRANSMISSION OF EXCESSIVE STRAINS TO TURBINE.
 - MINIMUM PIPE SIZES RECOMMENDED FOR SHORT DIRECT RUNS OF PIPE ARE: STEAM INLET 8 INCHES DIA, STEAM EXHAUST 16 INCHES DIA, EXACT SIZES TO BE DETERMINED BY CUSTOMER AT THE TURBINE CONNECTIONS TO BE DETERMINED BY CUSTOMER.
 - CUSTOMER TO CHECK RATING AND STEAM INFORMATION, ROTATION AND HAND OF EXHAUST.
 - VALVE STEM LEAK-OFFS SHOULD BE CONNECTED TO SEWER OR ATMOSPHERE WITHOUT POSITIVE HEAD OR SHUT OFF VALVES. LINES MAY BE MANIFOLDED PROVIDED TOTAL AREA IS EQUAL TO THE SUM OF INDIVIDUAL LEAKOFF AREAS.
 - TTV ABOVE AND BELOW SEAT DRAINS SHOULD BE RUN THROUGH INDEPENDENT PIPE LINES AND CONNECTED TO SEWER, ATMOSPHERE OR CONDENSER INDEPENDENT OF ALL OTHER PIPING WITH A SHUT OFF VALVE IN EACH LINE.
 - FIRST STAGE & RE-ENTRY DRAIN SHOULD BE CONNECTED TO SEWER OR ATMOSPHERE WITH A SHUT OFF VALVE IN LINE.
 - FOR UPWARD EXHAUST DRAIN CONNECTION SEE INSTRUCTION 165A4000B.
 - UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN INCHES.
 - CUSTOMER CONNECTION LOCATIONS ARE WITHIN ±1.00 INCH.
- ### THE PURCHASER TO PROVIDE THE FOLLOWING
- A RIGID AND SUBSTANTIAL FOUNDATION, FOUNDATION BOLTS AND NUTS.
 - ALL PIPING, VALVES, FITTINGS, BOLTS, STUDS, NUTS, GASKETS AND FLANGES TO CONNECTIONS SHOWN WITH ALL DRAIN PIPING ARRANGED TO AVOID FORMATION OF POCKETS OR WATER LEGS.
 - AN EXHAUST RELIEF VALVE ADJUSTED TO START RELIEVING AT NOT MORE THAN 95 PSIG AND GIVE FULL RELIEF TO 13800 LBS. PER HOUR AT NOT MORE THAN 115 PSIG. THIS VALVE MUST BE INSTALLED BETWEEN THE TURBINE AND THE FIRST SHUT-OFF VALVE IN THE EXHAUST LINE. (NO EXHAUST RELIEF VALVE FURNISHED).

NO.	DESCRIPTION	DATE	APPROVED
1	D. IRANIAN, ADDED VALVES TO THERMAL EXPANSION TR. & WARNING SYSTEM DEVICE AND ACUST. COIN. CHARTS. (NOTE 4D. DELETED REF. DWG. TABLE)	JAN 1983	
2	B. R. MOORE, ADDED INFO TO ACUST. COIN. CC & CD	FEB 83	
3	C. R. CHARTREAU, CHANGED INFO PER MAIN Dwg. SHEET.	MAR 83	
4	D. IRANIAN, FOR D-57-4, 12 PSIG WAS 2 (D-11) REVISED REMARKS AT 4-11-121.	MAY 1983	
5	E. R. CHARTREAU, ADDED MISSING DATA TO COOLING WATER REQS.	JUN 83	
6	F. G. LEASON, ADDED INFO FOR ACCUMULATOR CHARGING.	AUG 83	
7	G. R. MOORE, ADDED ALARM TRIP SETTINGS CHART (E-131)	AUG 83	

NOTE - THIS DRAWING MAINTAINED ON ELECTRONIC DATA BASE
FILE NAME: B777A01E15000 PLOT DATE 9/26/83
ALL CHANGES MUST BE MADE ON IAG

TRIP DEVICES		
SYMBOL	DEVICE	SETTING INFORMATION
PS51	LOW LUBE OIL	ACTUATE AT 50 ± 5 PSIG DECREASING PRESSURE AT PG-2
PS52	LOW LUBE OIL	ACTUATE AT 50 ± 5 PSIG DECREASING PRESSURE AT PG-2
PS53	LOW GEAR LUBE OIL	ACTUATE AT 50 ± 5 PSIG DECREASING PRESSURE AT PG-2A
PS54	LOW GEAR LUBE OIL	ACTUATE AT 50 ± 5 PSIG DECREASING PRESSURE AT PG-2A

WARNING AND SYSTEM DEVICES		
SYMBOL	DEVICE	SETTING INFORMATION
PS7-1	LOW CONTROL OIL	ACTUATE AT 70 ± 5 PSIG DECREASING PRESSURE AT PG-1
PS7-2	ALARM START A.O.P.	ACTUATE AT 80 ± 5 PSIG DECREASING PRESSURE AT PG-1
PS101	LOW LUBE OIL	ACTUATE AT 80 ± 5 PSIG DECREASING PRESSURE AT PG-2
PS104	LOW GEAR LUBE OIL	ACTUATE AT 80 ± 5 PSIG DECREASING PRESSURE AT PG-2A
SEV-1	SENTINEL VALVE	ACTUATE AT 90 ± 5-0 PSIG INCREASING EXHAUST PRESSURE
OLA	LOW OIL LEVEL SWITCH	ACTUATE AT 3" BELOW NORMAL OIL LEVEL
PRV-1	MAIN OIL PUMP PRESSURE RELIEF VALVE	SET TO GIVE 110 ± 5 PSIG AT PG-1
PCV-2	LUBE OIL PRESSURE CONTROL VALVE	SET TO GIVE 15 ± 1 PSIG AT PG-2 WITH TURBINE AT RATED SPEED
PCV-3	GEAR LUBE OIL PRESSURE CONTROL VALVE	SET TO GIVE 15 ± 1 PSIG AT PG-2A WITH TURBINE AT RATED SPEED
DPS-1	DIFFERENTIAL PRESS. SWITCH, LUBE OIL STRAIGHT	ACTUATE AT 12 ± 5 PSIG INCREASING PRESSURE.
DPS-2	DIFFERENTIAL PRESS. SWITCH, PRIMARY CONT. OIL FILTER	ACTUATE AT 12 ± 5 PSIG INCREASING PRESSURE.
DPS-3	DIFFERENTIAL PRESS. SWITCH, SECONDARY CONT. OIL FILTER	ACTUATE AT 12 ± 5 PSIG INCREASING PRESSURE.
DPS-4	DIFFERENTIAL PRESS. SWITCH, GEAR LUBE OIL FILTER	ACTUATE AT 12 ± 5 PSIG INCREASING PRESSURE.
T51	OIL TANK HEATER THERMOSTAT	SET TO OPEN INCREASING NOV. SET TO CLOSE DECREASING NOV.

ACCUMULATOR CHARGING	
PRECHARGE WITH DRY NITROGEN TO 45 PSIG AT AMBIENT TEMPERATURE. DESIGN CHARGE AT OPERATING TEMPERATURE IS 75 PSIG.	

TEMPERATURE GAGES			
SYM	SERVICE	RANGE	REMARKS
T-1	TURB. HP. BRG. DRAIN OIL	0-250°F	
T-2	TURB. LP. BRG. DRAIN OIL	0-250°F	
T-8	GEN. D.E. DRAIN OIL	0-250°F	
T-9	GEN. O.D.E. DRAIN OIL	0-250°F	
T-10	LUBE OIL TO COOLER	0-250°F	
T-11	LUBE OIL FROM COOLER	0-250°F	

TURBINE STEAM INFORMATION	
LOAD (KW)	6310
INLET PRESSURE - PSIG	860
INLET TEMPERATURE - °F	770
EXHAUST PRESSURE - PSIG	68
RPM	6324/1800

OIL SYSTEM TEST DEVICES		
SYMBOL	DEVICE	SETTING INFORMATION
V-1	MANUAL VALVE FOR A.O.P. TEST	ACTUATE MANUALLY FOR SYSTEM FUNCTIONAL TEST
V-2	MANUAL VALVE FOR E.O.P. TEST	ACTUATE MANUALLY FOR SYSTEM FUNCTIONAL TEST
PS73	INDICATES M.O.P. OPERATION	ACTUATE AT 50 ± 5 PSIG INCREASING PRESSURE
PS74	INDICATES A.O.P. OPERATION	ACTUATE AT 50 ± 5 PSIG INCREASING PRESSURE
PS102	INDICATES E.O.P. OPERATION	ACTUATE AT 15 ± 7 PSIG INCREASING PRESSURE

APPROVED BY: DATE: DESIGNED BY: DATE: CHECKED BY: DATE:		GENERAL ELECTRIC MECH. DIV. TURBO. DEPT. 100 FITCHBURGH, MASS. OUTLINE/INSTALLATION TURBINE GENERATOR 80 150002 B777A01E15000 SHEET 4 OF 4	
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