

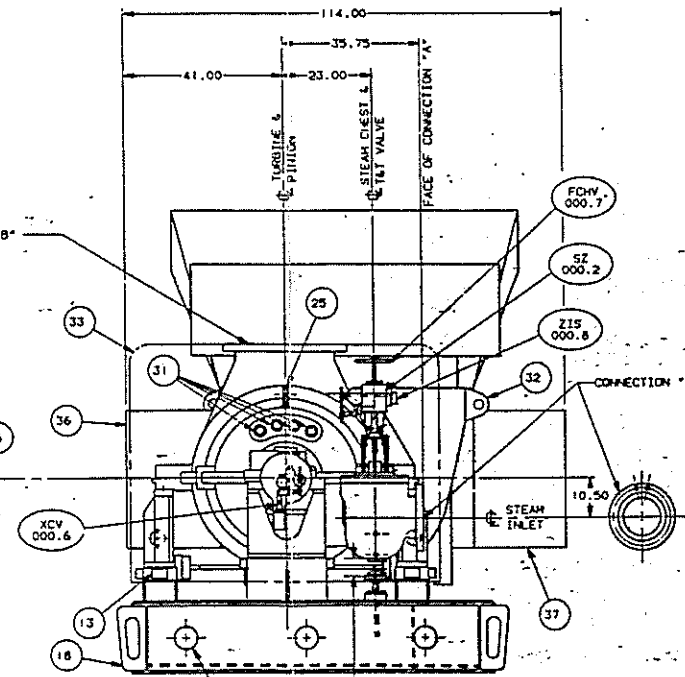
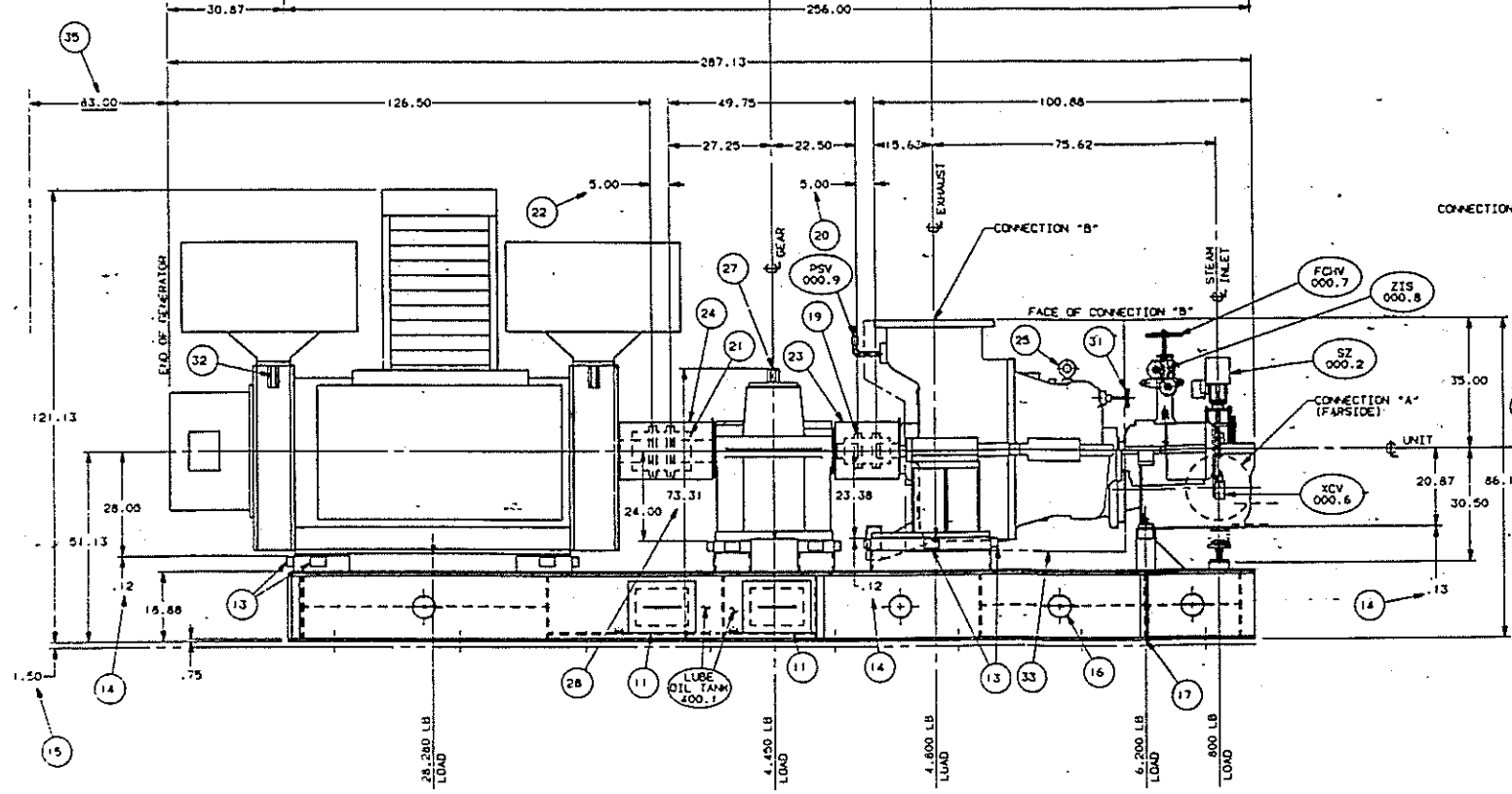
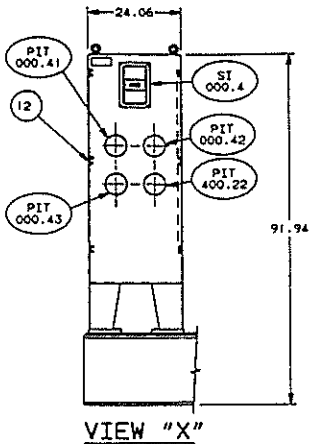
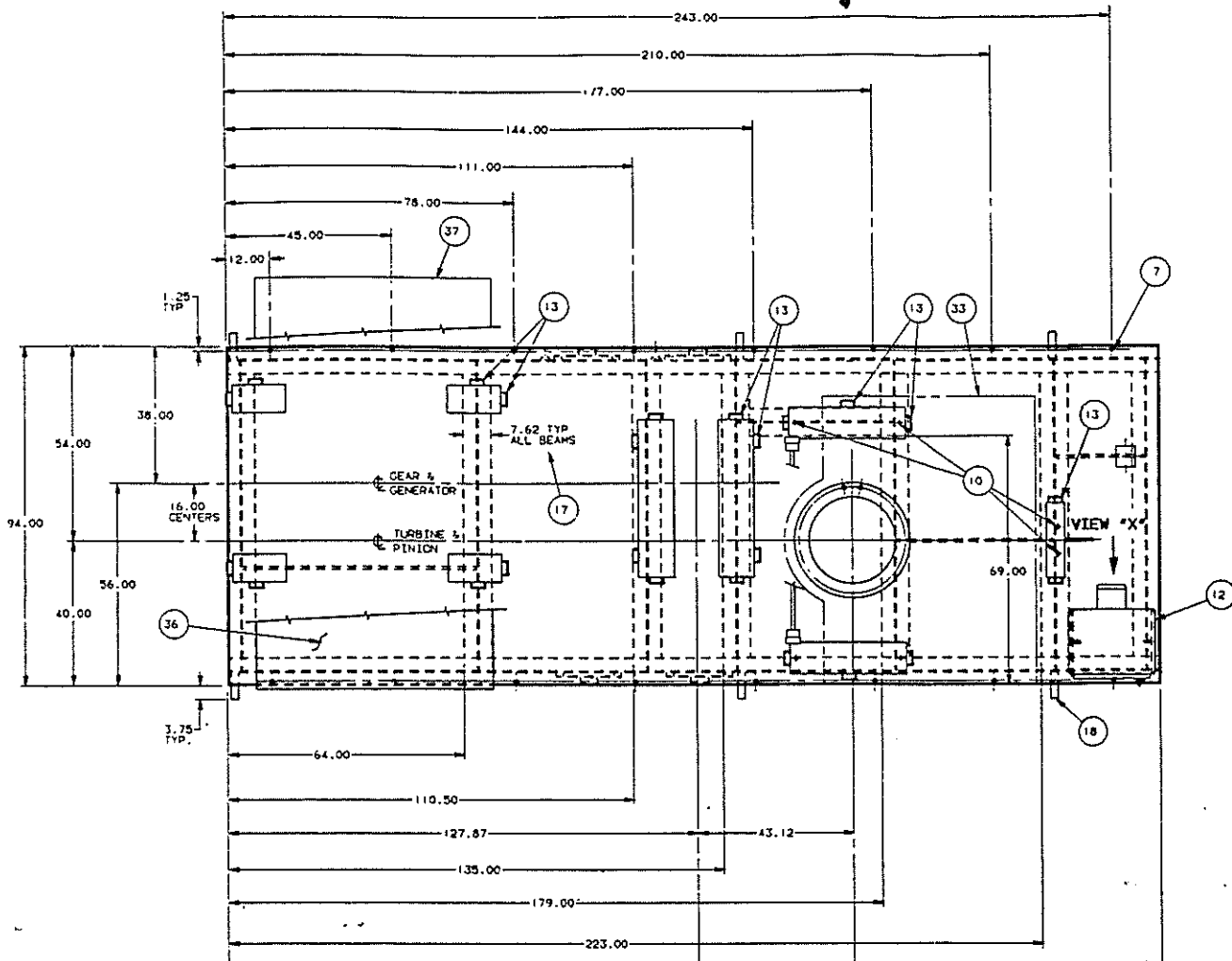
FORM "T" MULTISTAGE STEAM TURBINE
 WITH
 WOODWARD 505 ELECTRONIC GOVERNOR
 DRIVING
 3000 KW, 3750 KVA, 13800 VOLTS, 3-PHASE, 60 HZ, .80 PF
 GENERATOR WITH BRUSHLESS EXCITER
 THRU
 LUFKIN N1600C REDUCTION GEAR 4615/1800 RPM

APPROXIMATE WEIGHTS

| | | |
|----------------------------|--------|----|
| TURBINE | 11,600 | LB |
| GEAR | 4,450 | |
| GENERATOR | 28,280 | |
| BASEPLATE | 16,200 | |
| ACCESSORIES | 1,250 | |
| TOTAL | 61,980 | |
| UPPER HALF OF TURBINE CASE | 3,988 | |
| TURBINE ROTOR | 1,210 | |
| GENERATOR ROTOR | 7,000 | |

CUSTOMER'S MAJOR CONNECTIONS

| CONNECTION | SIZE | RATING | O.D. | B.C. | NO. HOLES | DIA. HOLES | NOMINAL THICKNESS | RAISED FACE | REMARKS |
|-------------------|------|--------|-------|-------|-----------|------------|-------------------|-----------------|-----------|
| A TURBINE INLET | 10 | 300 | 17.50 | 15.25 | 16 | 1.12 | 1.88 | .06 x 1/2 x 7.5 | NOTES 1.3 |
| B TURBINE EXHAUST | 24 | 150 | 32.00 | 29.50 | 20 | 1.38 | 1.88 | NONE | NOTES 1.5 |



SEE CD-234264 FOR NOTES AND FORCES AND MOMENTS.

IMPORTANT: THIS DRAWING HAS BEEN RELEASED FOR PRODUCTION. ANY CHANGES MAY AFFECT PRICE AND DELIVERY.

THIS DRAWING IS CERTIFIED CORRECT FOR

CIANORO

CUSTOMER'S ORDER NO. 11282

BRANCH OFFICE NO. 10-3116

WORK ORDER NO. U-22862

APPROVED BY: [Signature] DATE: 1/11/74

GLEN STOUT

THE CONSTRUCTION SHOWN IS STANDARD FOR THIS MACHINE. ANY DEVIATION FROM STANDARD MAY BE MADE AT THE CUSTOMER'S RISK. A CORRECTING INCREASE IN SELLING PRICE AND DELAY IN DELIVERY WILL BE NECESSARY. YOU WILL BE ADVISED PROMPTLY AS TO THE ADDITIONAL PRICE. PROMPTLY AS TO THE ADDITIONAL PRICE. PROMPTLY AS TO THE ADDITIONAL PRICE.

STEAM TURBINE, MOTOR & GENERATOR DIVISION

OUTLINE

DRESSER RAND

YEAR NAME, MOTOR & GENERATOR DIVISION

DRAWN BY: JLN DATE: 1/11/74

CHECKED: RNS 1/14 SCALE: 1 = 16

SUPER: RA FRAME: JNS/EM/EP

APP BY: GLM SO.: U-22862

CD-234264

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4264 REF. CD-227242 CD-228466

TES
AM INLET AND EXHAUST PIPING MUST BE PROPERLY SUPPORTED SO AS NOT TO EXCEED ALLOWABLE FORCES AND MOMENTS GIVEN.

EXPOSED STEAM PIPING ABOVE 140°F SHOULD BE FULLY INSULATED BY CUSTOMER.

FLANGE CONNECTION CONFORMS TO ANSI B16.5 CONNECTIONS AND DRILLING REQUIREMENTS.

COMPRESSED LENGTH OF SPRING TO BE 4.00.

EXPANSION JOINT SHOULD BE PLACED BETWEEN EXHAUST LINE NEXT TO TURBINE.

FOUNDATION BOLTS SHOULD NOT BE RIGIDLY FASTENED UNTIL UNIT IS IN PLACE ON FOUNDATION AS BOLT HOLES IN BASEPLATE MAY ELONGATE BY .25 IN ANY DIRECTION.

HOLES 1.12 DIA. THRU LOWER FLANGE ONLY & 1.00 DIA. FOUNDATION BOLTS (SEE NOTES 8).

FOUNDATION BOLTS, WASHERS, NUTS AND SPACERS FURNISHED BY OTHERS.

TURBINE, GEAR AND GENERATOR TO BE DOWELED TO BASEPLATE AFTER FINAL ALIGNMENT IN FIELD.

HOLES 1"-8 UNC-3B TAP FOR VERTICAL POSITIONING, 2 IN STEAM END SUPPORT, 2 IN EACH EXHAUST END SUPPORT. SCREWS FURNISHED BY DRESSER-RAND.

WATER TANK CLEAN OUT HOLES - 2 EACH SIDE.

CONTROL BOARD - SEE "LIST OF GAUGES".

PROVISIONS FOR HORIZONTAL POSITIONING, 3 AT STEAM END SUPPORT, 3 AT EACH EXHAUST END SUPPORT, 8 AT GEAR CASE 8 AT GENERATOR. REMOVABLE BLOCKS WITH 1"-8 UNC SCREWS FURNISHED BY DRESSER-RAND.

TOOLS FURNISHED BY DRESSER-RAND.

ALLOW FOR GROUT.

HOLES 6.00 DIA. FOR GROUTING.

CUSTOMER TO PROVIDE ADEQUATE SUPPORT INCLUDING ALL BEAMS OR FOUNDATION TO BE BUILT AS TO SUPPORT ALL BEAMS.

LIFTING LUGS PROVIDED. LUGS MUST BE USED FOR LIFTING UNIT.

HIGH SPEED COUPLING - AMERIGEAR FE-203 WITH 5.00 B.S.E.

STANCE BETWEEN SHAFT ENDS. THE TOLERANCE FOR THIS DIMENSION WITH THE TURBINE AND GEAR AT MID FLOAT IS ±.005.

- 21. LOW SPEED COUPLING - AMERIGEAR F-204-1/2 WITH 5.00 B.S.E.
- 22. DISTANCE BETWEEN SHAFT ENDS.
- 23. HIGH SPEED COUPLING GUARD.
- 24. LOW SPEED COUPLING GUARD.
- 25. PROVISION FOR LIFTING UPPER HALF OF TURBINE CASE ONLY.
- 26. THIS DIMENSION INCREASES BY 19.00 WHEN REMOVING UPPER HALF OF TURBINE CASE.
- 27. PROVISION FOR LIFTING UPPER HALF OF GEAR CASE ONLY.
- 28. THIS DIMENSION INCREASES BY (LATER) WHEN REMOVING UPPER HALF OF GEAR CASE.
- 29. ALL PIPING CONNECTIONS WILL BE LOCATED PER DRESSER-RAND SHOP SPEC. SS-4000.29.
- 30. ALL BOLT HOLES IN FLANGES TO STRADDLE HORIZONTAL AND VERTICAL CENTERLINES UNLESS OTHERWISE SPECIFIED.
- 31. HAND VALVES - 4 PROVIDED.
- 32. LIFTING LUGS BOTH ENDS FOR LIFTING ENTIRE GENERATOR. A FOUR POINT LIFT IS REQUIRED.
- 33. CONTOUR OF LAGGING - SHOWN IN PHANTOM.
- 34. PIPE CONNECTIONS TO EXTEND A MINIMUM OF 3.00 BEYOND LAGGING.
- 35. GENERATOR SHAFT REMOVAL DISTANCE.
- 36. GENERATOR MAIN TERMINAL BOX.
- 37. GENERATOR NEUTRAL BOX.
- 38. SEE ALSO THE FOLLOWING DRAWINGS:
P&I DIAGRAM; LA & CE-234846-
GOVERNOR PROGRAM; CD-234272
ELECTRICAL SCHEMATIC; CE-234270
ELECTRICAL LAYOUT; CE-234271
TRIP LOGIC; CD-234273
PIPING ARRANGEMENT; CE-235138
GENERATOR; KATO 102-90213-00
PIPING GLAND CONDENSOR; CD-235139

PIPING CALCULATIONS

1. THE TOTAL RESULTANT FORCE AND TOTAL RESULTANT MOMENT IMPOSED ON THE TURBINE AT ANY CONNECTION MUST NOT EXCEED THE FOLLOWING:

| FLANGE | A |
|---------|------|
| INLET | 4342 |
| EXHAUST | 6680 |

$$F = \frac{A-M}{3}$$

F = RESULTANT FORCE (POUNDS) INCLUDING PRESSURE FORCES WHERE UNRESTRAINED EXPANSION JOINTS ARE USED AT THE CONNECTION EXCEPT ON VERTICAL EXHAUSTS. FULL VACUUM LOAD IS ALLOWED ON VERTICAL DOWN EXHAUST FLANGES. IT IS NOT INCLUDED AS PART OF THE PIPING LOAD.

M = RESULTANT MOMENT, POUND-FEET.

2. THE COMBINED RESULTANTS OF THE FORCES AND MOMENTS OF THE INLET AND EXHAUST CONNECTIONS, RESOLVED AT THE CENTERLINES OF THE EXHAUST CONNECTION, MUST NOT EXCEED THE FOLLOWING TWO CONDITIONS:

A. THE RESULTANTS MUST NOT EXCEED: $F_C = \frac{3657 - M_C}{2}$

F_C = COMBINED RESULTANT OF INLET AND EXHAUST FORCES, POUNDS.

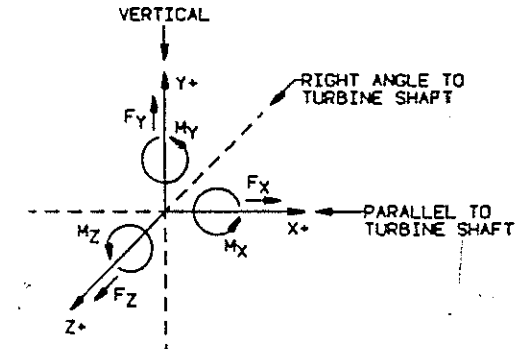
M_C = COMBINED RESULTANT OF INLET AND EXHAUST MOMENTS AND MOMENTS RESULTING FROM FORCES, POUND-FEET.

B. THE COMPONENTS OF THESE RESULTANTS SHALL NOT EXCEED:

- F_x = 733 POUNDS M_x = 3667 POUND-FEET
- F_y = 1833 POUNDS M_y = 1833 POUND-FEET
- F_z = 1467 POUNDS M_z = 1833 POUND-FEET

3. FOR TURBINES WITH A VERTICAL EXHAUST AND AN UNRESTRAINED EXPANSION JOINT AT THE EXHAUST, CALCULATE THE VERTICAL FORCE COMPONENT ON THE EXHAUST CONNECTION EXCLUDING PRESSURE LOADING. COMPARE THIS WITH 1/6 OF THE PRESSURE LOADING ON THE EXHAUST. USE THE LARGER OF THE TWO VALUES FOR VERTICAL FORCE COMPONENT ON THE EXHAUST CONNECTION.

4. THESE VALUES OF ALLOWABLE FORCE AND MOMENT PERTAIN TO THE TURBINE STRUCTURE ONLY. THEY DO NOT PERTAIN TO THE FORCES AND MOMENTS IN THE CONNECTING PIPING, FLANGE AND FLANGE BOLTING WHICH SHOULD NOT EXCEED THE ALLOWABLE STRESS AS DEFINED BY APPLICABLE CODES AND REGULATORY BODIES.



SEE CE-234264 FOR PICTURE, WEIGHTS AND CONNECTIONS.



IMPORTANT:
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THIS PRINT IS CERTIFIED CORRECT FOR

CIANBRO

CUSTOMER'S ORDER NO. 134P
BRANCH OFFICE NO. 10-31161
WORK ORDER NO. U-25862
APPROVED BY: GLB DATE: 5/13/94
GALEN STOUT

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STEAM TURBINE, MOTOR & GENERATOR DIVISION

| | |
|----------------------|----------------|
| CAT. NO. | CAD IDENT. NO. |
| DM250JAD234264B/1/11 | |

NOTE #13
24 PROVISIONS... WAS
22 PROVISIONS...
COMPLETED FOR FINAL
CERTIFIED AND ADDED
NOTE SHEET

B RICH 5-19-94
CK: 2 5 14-04
A RMS 2/4/94
CK: XGB 2/9/94

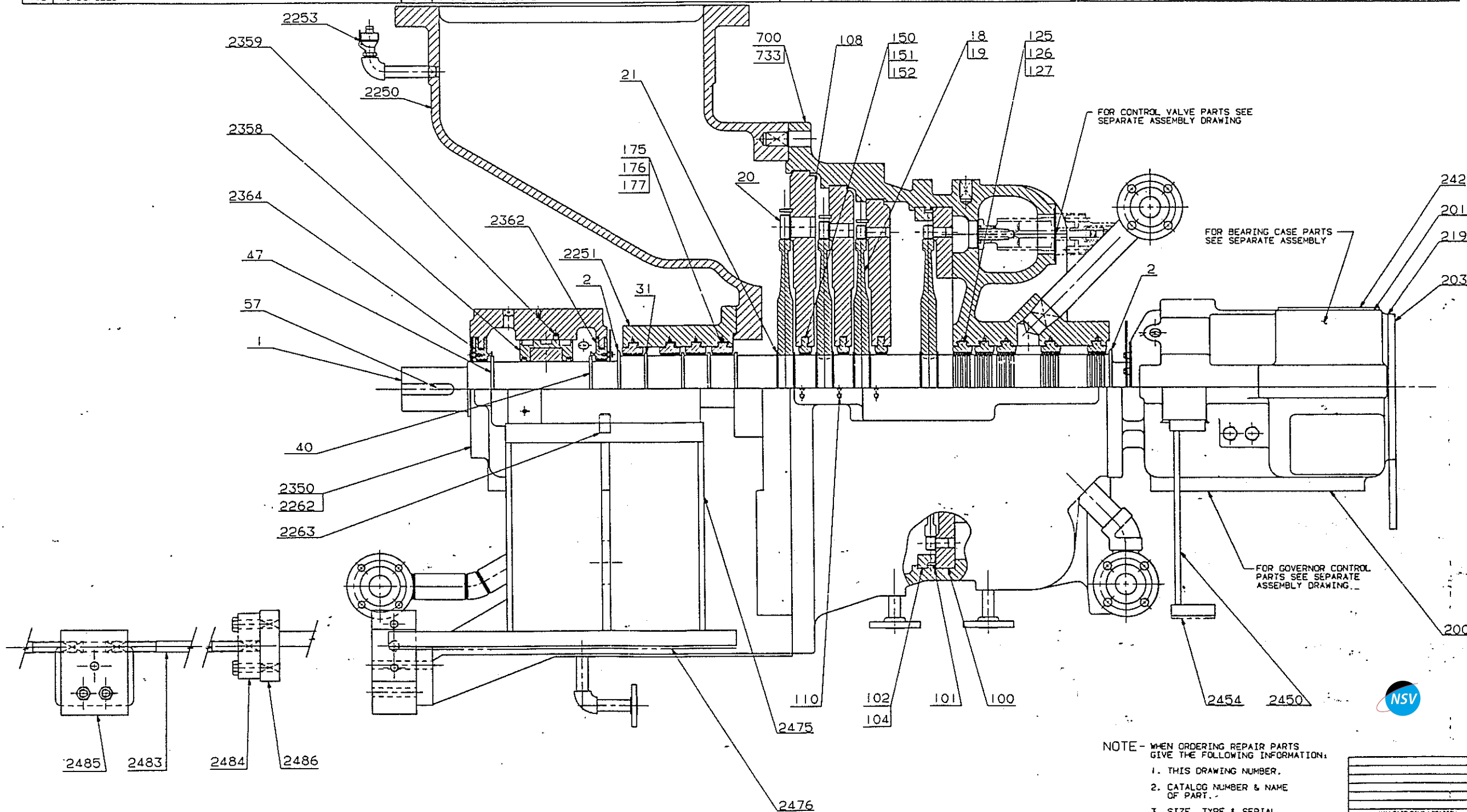
OUTLINE NOTES

DRESSER-RAND
STEAM TURBINE, MOTOR & GENERATOR DIVISION
WELLSVILLE, N.Y. 14985

| | |
|---------------|---------------------|
| DRAWN BY: JJR | DATE: 1/11/94 |
| CHECKED: RMS | SCALE: |
| SUPER: RA | FRAME: ATM/GEAR/GEN |
| APP BY: GLM | SO.: U-25862 |

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| CAT. NO. | NAME OF PART | CAT. NO. | NAME OF PART | CAT. NO. | NAME OF PART | CAT. NO. | NAME OF PART |
|----------|---|----------|--|----------|--|----------|----------------------------|
| 1 | SHAFT - TURBINE | 104 | CAP SCREW - WINDSHIELD | 242 | COVER - ELECTRONIC GOVERNOR | 2362 | BAFFLE - OIL (INNER) |
| 2 | SLINGER - SHAFT (PACKING) | 108 | DIAPHRAGM (SPECIFY STAGE) | 700 | STEAM END | | |
| | | 110 | STOP - DIAPHRAGM | | | 2364 | BAFFLE - OIL (OUTER) |
| 18 | WHEEL - RATEAU (SPECIFY STAGE) | | | 733 | SEAL - "O-RING" METALLIC | | |
| 19 | KEY - WHEEL (SPECIFY STAGE) | 125 | RING - LABYRINTH PACKING | | | 2450 | SUPPORT - STEAM END |
| 20 | BUCKETS, SPACERS, SHROUD - RATEAU (SPECIFY STAGE) | 126 | SPRING - LABYRINTH PACKING | 2250 | EXHAUST END | | |
| 21 | RING - SHRINK - RATEAU | 127 | STOP - LABYRINTH PACKING | 2251 | CASE - EXHAUST END PACKING | 2454 | SHIM - STEAM END SUPPORT |
| | | 150 | RING - LABYRINTH PACKING - DIAPHRAGM | | | | |
| 31 | SLINGER - SHAFT (HIGH BACK PRESS) | 151 | SPRING - LABYRINTH PACKING - DIAPHRAGM | 2253 | VALVE - SENTINEL | 2475 | SUPPORT - EXHAUST END |
| | | 152 | STOP - LABYRINTH PACKING - DIAPHRAGM | | | 2476 | SHIM - EXHAUST END SUPPORT |
| 40 | SLINGER - OIL (INNER) | 175 | RING - LABYRINTH | 2262 | SHIM - EXHAUST END TO EXHAUST END BEARING CASE | | |
| 47 | SLINGER - OIL (OUTER) | 176 | SPRING - LABYRINTH | 2263 | KEY - EXHAUST END TO EXHAUST END SUPPORT | | |
| 57 | KEY - COUPLING | 177 | STOP - LABYRINTH | | | 2483 | TIE ROD |
| | | 200 | CASE - STEAM END BEARING | 2350 | CASE - EXHAUST END BEARING | 2484 | FLANGE - TIE ROD |
| 100 | RING - NOZZLE | 201 | CAP - STEAM END BEARING CASE | | | 2485 | BRACKET - TIE ROD |
| 101 | CAULKING STRIP | 203 | COVER - END | 2358 | BEARING - EXHAUST END | 2486 | PAD - TIE ROD |
| 102 | WINDSHIELD | 219 | GASKET - END COVER | 2359 | STOP - EXHAUST END BEARING | | |

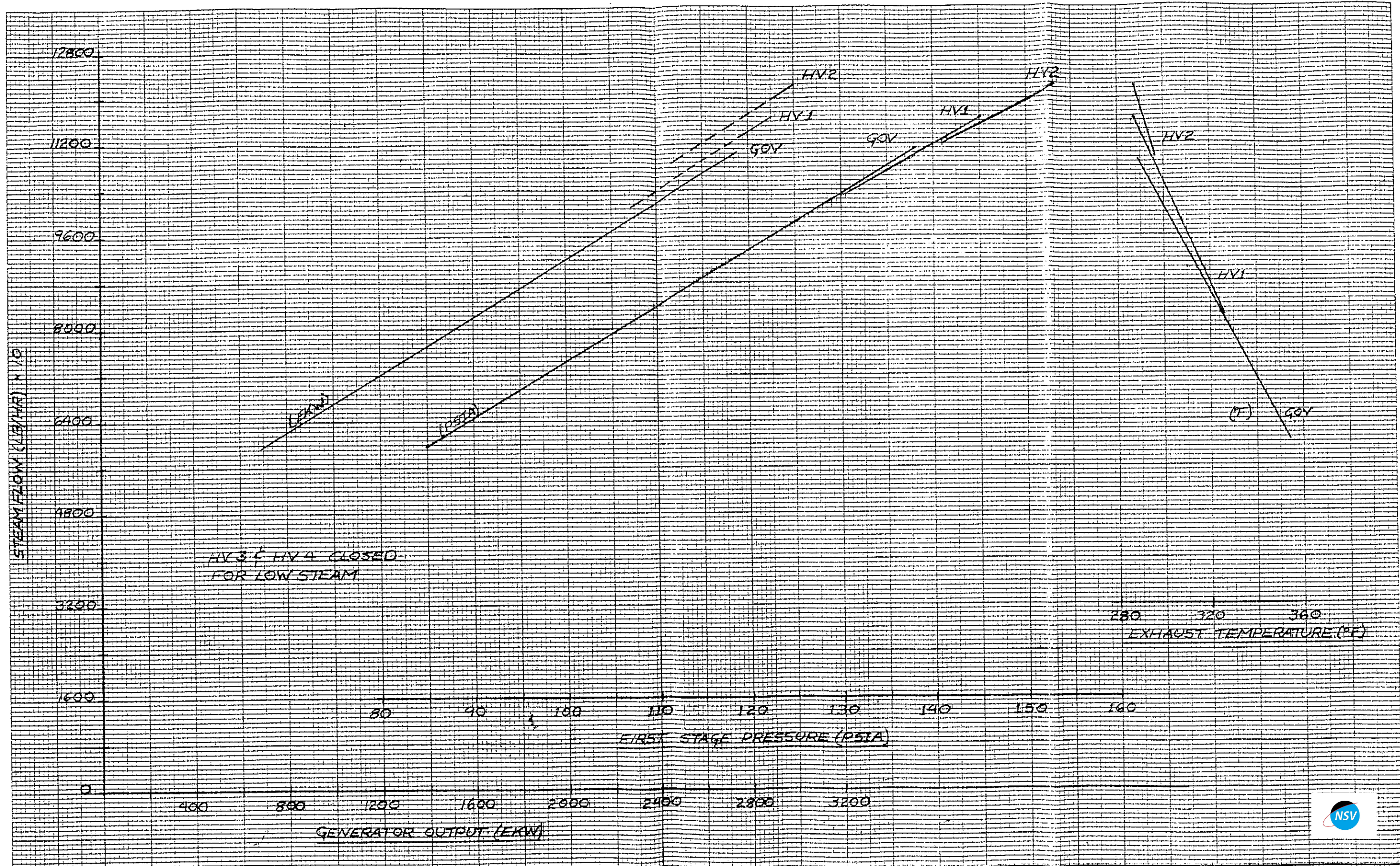


SECTION - TURBINE LONGITUDINAL

- NOTE - WHEN ORDERING REPAIR PARTS GIVE THE FOLLOWING INFORMATION:
1. THIS DRAWING NUMBER.
 2. CATALOG NUMBER & NAME OF PART.
 3. SIZE, TYPE & SERIAL NUMBER OF UNIT.

| | | |
|-------------------------|---------------|----------------------|
| MANUFACTURING LOCATION | | ORIGINAL DATE |
| SECTION - LONGITUDINAL | | CE-236463 |
| DRESSER BRAND | | |
| CHECKED BY: DWR | DATE: 3-17-94 | SCALE: 5/16 |
| SUPERVISOR: [Signature] | FRAME: 4 TNL | APP. BY: [Signature] |
| REF. U-23862 | | |

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HV3 & HV4 CLOSED FOR LOW STEAM

DATE 01/27/94
BY [Signature]

Turbodyne

McGraw-Edison
Worthington Group
McGraw Edison Company
WBS/Br. New York 14899 U.S.A.

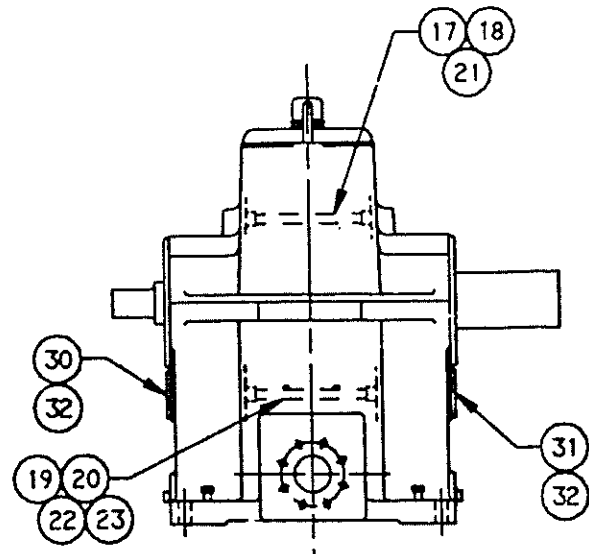
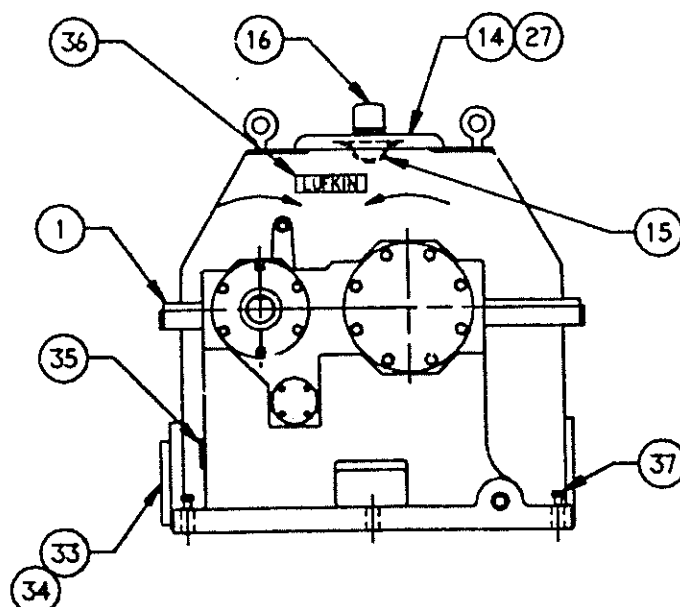
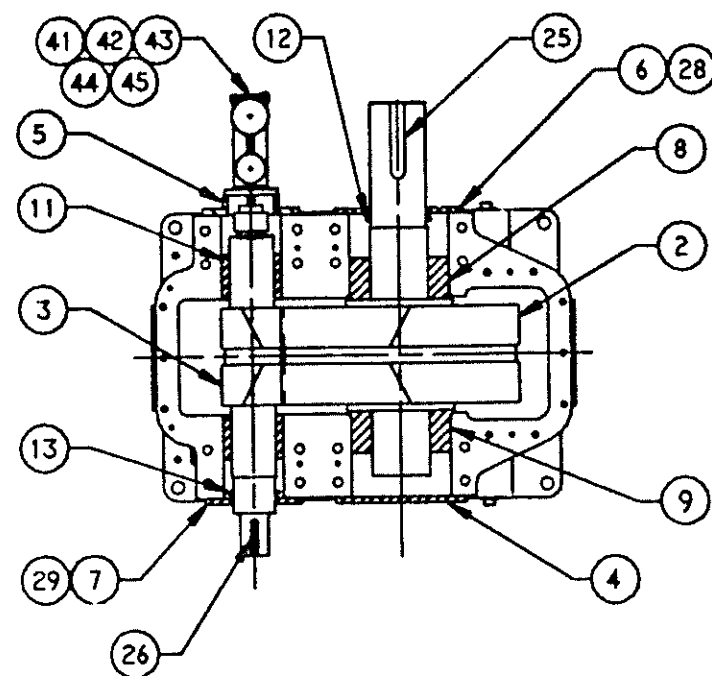
U - 25862
S/N - 3456
G - --



LUFKIN

TYPE "N" GEAR ASSEMBLY

LIST OF PARTS



* PARTS NOT SHOWN.
SEE: SK16961-8

| ITEM NO. | QTY | PART NO. | NAME | ITEM NO. | QTY | PART NO. | NAME |
|----------|-----|----------|-------------------------------|----------|-----|----------|----------------------------------|
| 1 | 1 | CM156622 | ASSEMBLY, HOUSING & COVER | 41 | 1 | E7079374 | OIL PUMP C3E - 162 CW, CI |
| 2 | 1 | CM166171 | ASSEMBLY, LSP GEAR & SHAFT | 42 | 1 | AM119513 | GASKET, PUMP |
| 3 | 1 | BM164668 | PINION, HS | 43 | 1 | E7081108 | PUMP COUPLING |
| 4 | 1 | AM088595 | CAP, LSP END | 44 | 1 | E7056950 | KEY, PUMP 3/16 SQ. X 1 7/8 |
| 5 | 1 | BM124840 | ADAPTER, PUMP- HS | 45 | 4 | N9013172 | CAPSCREW, SKT HD - 5/16 X 2" |
| 6 | 1 | CM163542 | SEAL, LSP | 46 | | | |
| 7 | 1 | CM163543 | SEAL, HS | 47 | | | |
| 8 | 1 | CM166212 | BEARING, LSP- PD, C'CW | 48 | | | |
| 9 | 1 | CM166172 | BEARING, LSP- PD, CW | 49 | | | |
| 10 | | | | 50 | | | |
| 11 | 2 | BM140091 | BEARING, HS- PD | 51 | | | |
| 12 | 1 | AM083820 | SLINGER, LSP | 52 | | | |
| 13 | 1 | AM083819 | SLINGER, HS | 53 | | | |
| 14 | 1 | BM124704 | COVER, INSPECTION | 54 | | | |
| 15 | 1 | JM008017 | BAFFLE | 55 | | | |
| 16 | 1 | E7076554 | BREATHER | 56 | | | |
| 17 | 1 | E7075873 | MALE CONNECTOR, 1" | 57 | | | |
| 18 | 1 | E7075868 | CONNECTOR, 1" | 58 | | | |
| 19 | 1 | E7075873 | MALE CONNECTOR, 1" | 59 | | | |
| 20 | 1 | E7075868 | CONNECTOR, 1" | 60 | | | |
| 21 | 1 | E7075874 | CROSSOVER PIPE, 1 X 10 3/4 | 61 | | | |
| 22 | 1 | E7075874 | SPRAY PIPE, 1 X 10 3/4 | 62 | | | |
| 23 | 4 | E7075877 | NOZZLE, SPRAY- U8030 | 63 | | | |
| 24 | | | | 64 | | | |
| 25 | 1 | E7057085 | KEY, 1 1/2 X 1 X 9 1/2 | *65 | 2 | E7082884 | CABLE, B/N 3300 SERIES |
| 26 | 1 | E7056986 | KEY, 1 SQ X 5 1/4 | *66 | 2 | E7082883 | PROXIMETER, B/N 3300 SERIES |
| 27 | 1 | AP070534 | GASKET, INSPECTION COVER | *67 | 2 | E7082882 | PROBE, VIBRATION B/N 3300 SERIES |
| 28 | 2 | AP083817 | GASKET, LSP SEAL/END CAP | *68 | 2 | BM137492 | ASSEMBLY, VIB PROBE - RADIAL |
| 29 | 2 | AP073831 | GASKET, HS SEAL/END CAP | *69 | 1 | AM158067 | ADAPTER, VIB PROBE HS VERT |
| 30 | 1 | E9063605 | FLANGE, SCREWED, 1 1/2 X 150° | *70 | 1 | AM158068 | ADAPTER, VIB PROBE LSP VERT |
| 31 | 1 | E9063705 | FLANGE, BLIND, 1 1/2 X 150° | 71 | | | |
| 32 | 2 | N7066744 | GASKET, FLANGE, 1 1/2" | 72 | | | |
| 33 | 1 | E9063712 | FLANGE, BLIND, 6" X 150° | 73 | | | |
| 34 | 1 | N706159 | GASKET, FLANGE, 6" | 74 | | | |
| 35 | 1 | E7075417 | OIL GAUGE LEVEL, 2" | 75 | | | |
| 36 | 2 | JP007711 | NAMEPLATE, "LUFKIN" | 76 | | | |
| 37 | 4 | E7075321 | LEVELING SCREW, 3/4 X 4 | 77 | | | |
| 38 | | | | *78 | 1 | E7077279 | BOX, JUNCTION- (PROXI) W/P |
| 39 | | | | *79 | 1 | BM127303 | PANEL, JCT BOX- (PROXIMETER) |
| 40 | | | | *80 | 2 | AM140847 | BRACKET, JUNCTION BOX |

RELEASED FROM
6-1-94
DESIGN ENGINEERING

| | | | | | | | |
|-----|---|----------|------------------------------|-----|---|----------|------------------------------|
| 81 | | | | 91* | 1 | E7077279 | BOX, JUNCTION- (T/STRIP) W/P |
| 82 | | | | 92* | 1 | E7079838 | PANEL, JCT BOX- (T/STRIP) |
| 83* | 4 | CM141328 | ASSY, EMB SNSR, HSG- SIMPLEX | 93 | | | |
| 84* | 4 | E7081203 | RTD, EMBEDDED- SIMPLEX | 94 | | | |
| 85 | | | | 95 | | | |
| 86 | | | | 96 | | | |
| 87 | | | | 97 | | | |
| 88 | | | | 98 | | | |
| 89 | | | | 99 | | | |
| 90 | | | | 100 | | | |

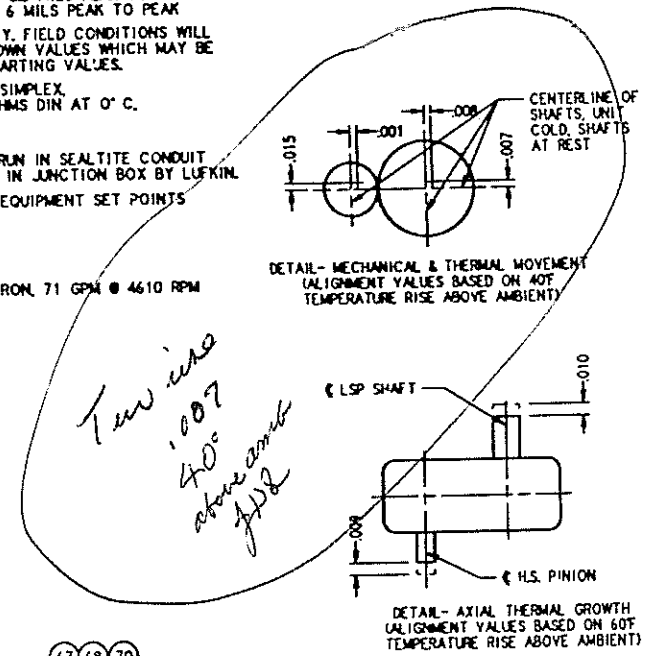
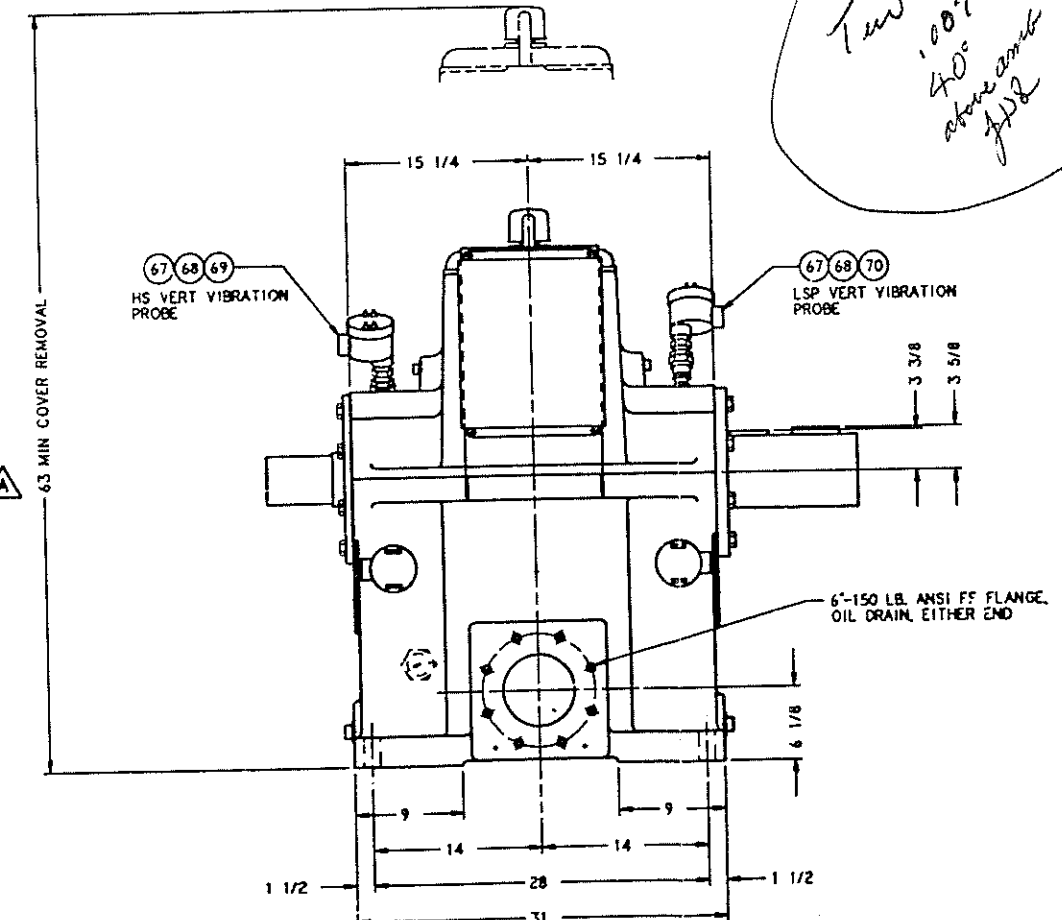
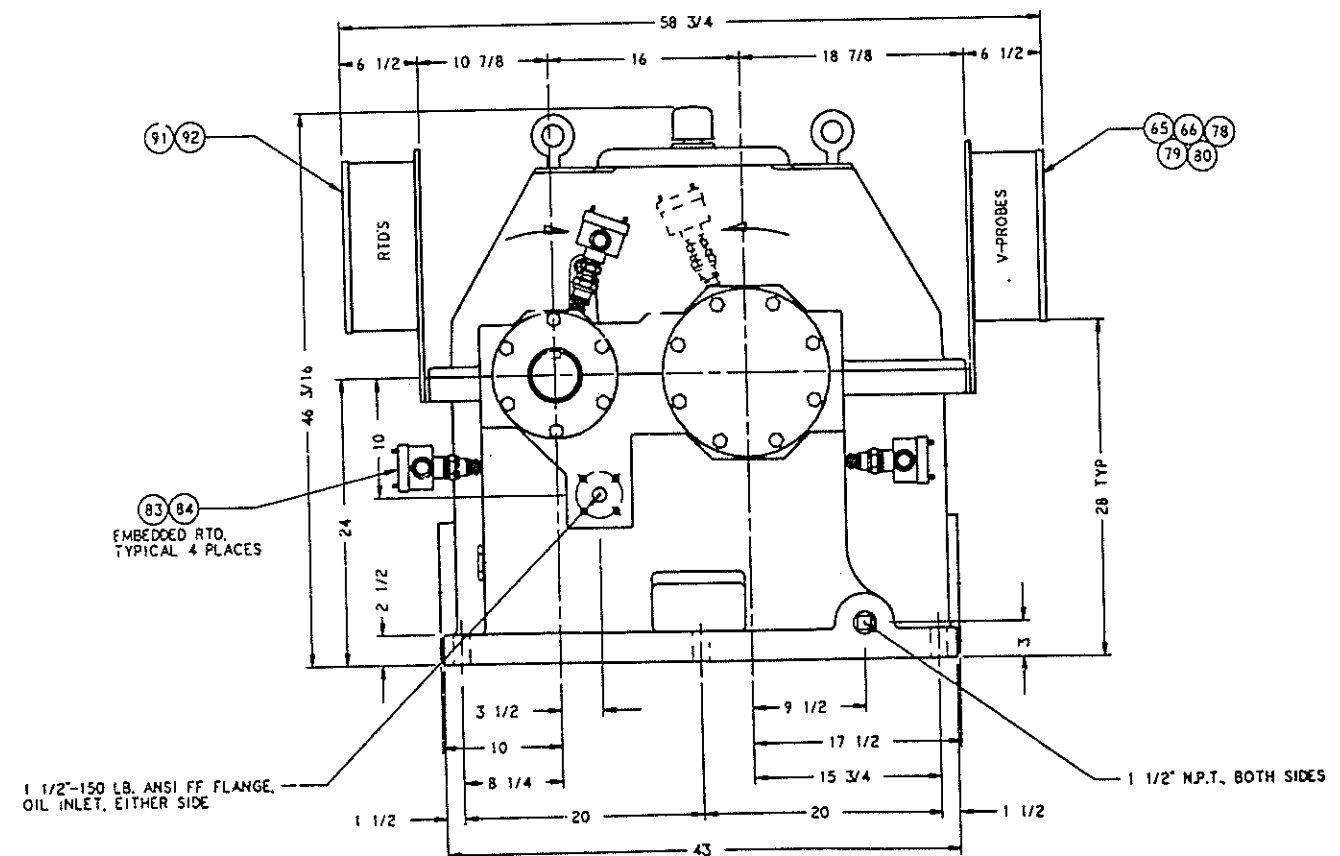
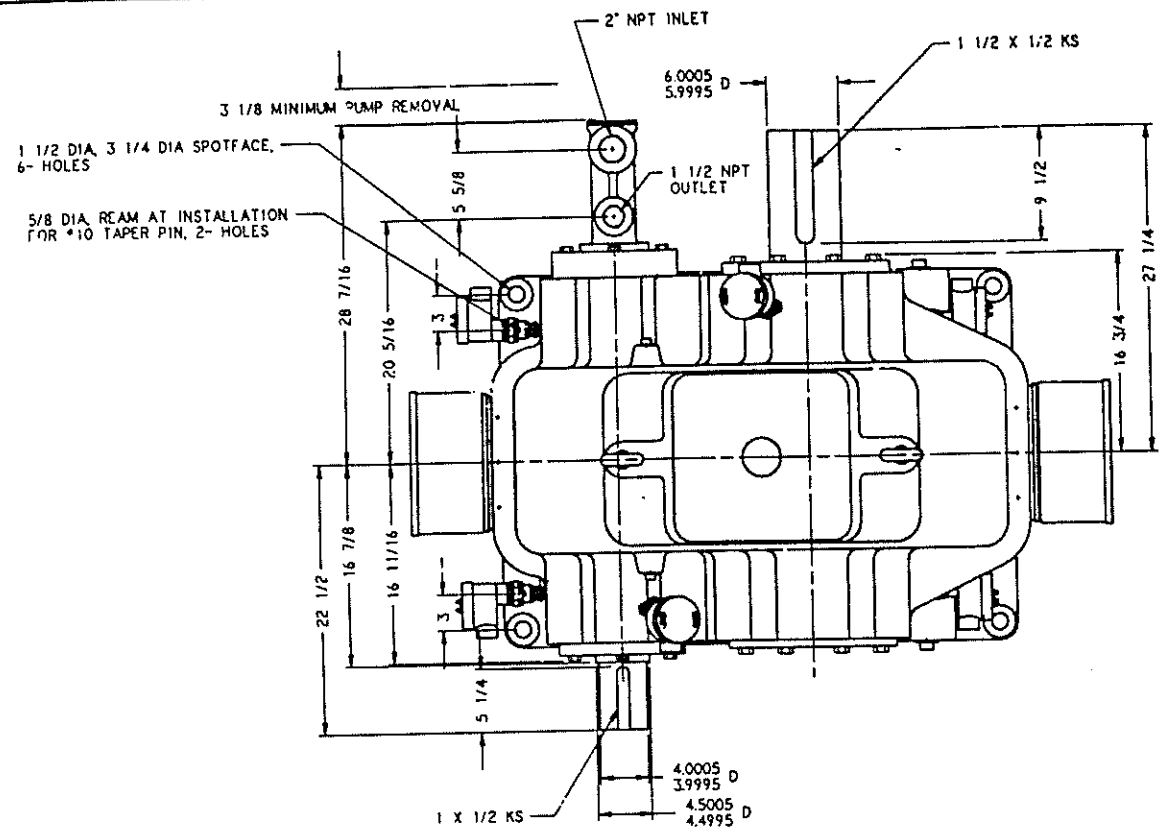
CUSTOMER: DRESSER RAND - WELLSVILLE
 P/O. NO.: T-25862B DATED: 12-02-93
 NO. OF UNITS: 1 ARRANGEMENT: R-L ROTATION, HS: CW
 PRIME MOVER: TURBINE TRANSMITTED H.P.: 4300
 DRIVEN EQUIPMENT: GENERATOR
 COUPLING- LSP:
 COUPLING- HS:
 INSTALLATION PLAN: SK16961-8 MASS ELASTIC: SK11181-2
 ASSEMBLY DRAWING: WIRING DIAGRAM: SK11185-2
 LOCATION OF INSTALLATION:
 LUBRICANT: LIGHT TURBINE (100 SSU AT 100 F.)
 PREP BY: SCOTT CHK BY: *AM* CERT BY: *J. Moss* DATE: 06-01-94

LUFKIN INDUSTRIES, INC.
Lufkin, Texas

NAME PLATE DATA

Model No: N1600C Ratio: 2.564 : 1
 Reducer/ *AM* Input RPM: 4615
 Serial No: 10762 Cat. Rating: 6146 HP
 Order No: 849357 Serv. Factor: 1.42
 Serv. Rating: 4300 HP

Parts List No. **N1600C-10762 A**
 (Size No.) - (Serial No.)



NOTES:

- EST. NET WT. = 4,100 POUNDS.
- HEAVIEST MAINTENANCE LIFT = 1420 LBS.
- REFER TO PARTS LIST N1600C-10762 FOR BALLOONED ITEMS.
- INTERCONNECTING PIPING FURNISHED BY OTHERS THAN LUFKIN MUST BE CLEANED AND FLUSHED BEFORE OPERATION.
- VIBRATION PROBE - BENTLY-NEVADA 3300 SERIES, 0.5 METER LEAD LENGTH, MODEL NO. 330105-02-12-05-02-00, 2 PROBES, ONE EACH COUPLING END BEARING JOURNAL.
- EXTENSION CABLE - BENTLY-NEVADA 3300 SERIES, 4.5 METER LENGTH, MODEL NO. 330130-045-00-00.
- PROXIMATOR - BENTLY-NEVADA 3300 SERIES, 5 METER EFFECTIVE CABLE LENGTH, MODEL NO. 330100-50-00.
- EXTENSION CABLE TO BE RUN IN SEALTITE CONDUIT FROM SERVICE HEAD TO JUNCTION BOX BY LUFKIN.
- VIBRATION EQUIPMENT SET POINTS:
HS PINION DISPLACEMENT - ALARM 2.5 MILS PEAK TO PEAK
SHUTDOWN 5 MILS PEAK TO PEAK
LSP SHAFT DISPLACEMENT - ALARM 3.5 MILS PEAK TO PEAK
SHUTDOWN 6 MILS PEAK TO PEAK
- NOTE: THESE VALUES ARE ESTIMATES ONLY. FIELD CONDITIONS WILL DICTATE FINAL ALARM AND SHUTDOWN VALUES WHICH MAY BE HIGHER OR LOWER THAN THESE STARTING VALUES.
- EMBEDDED RTD - MINCO NO. S308P03S48, SIMPLEX, PLATINUM ELEMENT, RESISTANCE - 100 OHMS DIN AT 0° C, STAINLESS STEEL OVERBRAID, 4 PLACES, 1 RADIAL EACH BEARING.
- TEMPERATURE SENSOR LEAD WIRE TO BE RUN IN SEALTITE CONDUIT FROM SERVICE HEAD TO TERMINAL STRIP IN JUNCTION BOX BY LUFKIN.
- TEMPERATURE MONITORING PROTECTION EQUIPMENT SET POINTS
EMBEDDED RTD IN BEARING SHELL
ALARM SETTING: 210° F. RISING
SHUTDOWN SETTING: 225° F. RISING
- PUMP, OIL - DELVAL C3E1C-162 CAST IRON, 71 GPM @ 4610 RPM

LUFKIN INDUSTRIES, INC.
LUFKIN, TEXAS

CUSTOMER: DRESSER BOND - WELLSVILLE
CUSTOMER ORDER NO. 7-254628
LUFKIN ORDER NO. 849307
INPUT: 4615 RPM, OUTPUT: 1800 RPM, RATIO: 2.564:1
AGMA MECH. RATING: SF-1.0 - 6144
SERVICE RATING: SF-1.42 - 4300
RECOMM. LUBE OR LIGHT TURBINE (150 SSU AT 100 F.)

UNITS LESS LUBE SYSTEM
MAX. OR. FLOW: 28 GPM AT 20 PSI & 120°F
HEAT REJECTION RATE: 130,500 BTU/HR

CERTIFIED: [Signature]
DATE: 2-18-94

RELEASED FROM
2-1-94
DESIGN ENGINEERING

| | |
|-------------------------------------|-------------------------|
| ENGR. CODE NO. | MATERIAL SPECIFICATIONS |
| OWN: SCOTT, CHK: ETB, APP: RML | |
| DATE: 12-16-93, SCALE: 1-1/2"=1'-0" | |
| PERAINS TO / ALSO USED ON | |
| MASS ELASTIC SK11181-2 | |
| PARTS LIST N1600C-10762 | |
| SUPERSEDED BY | |

PLAN: INSTALLATION - M1600C, REDUCER
R-L UNIT, CW ROTATION, RATIO - 2.564:1
LUFKIN INDUSTRIES, INC.
LUFKIN, TEXAS
SK16961-8 A

| REV. | DESCRIPTION OF CHANGE | CHK BY | REV. | DESCRIPTION OF CHANGE | CHK BY |
|------|--------------------------------|--------|----------|-----------------------|--------|
| A1 | ADDED MIN COVER REMOVAL HEIGHT | SCOTT | 02-18-94 | | |



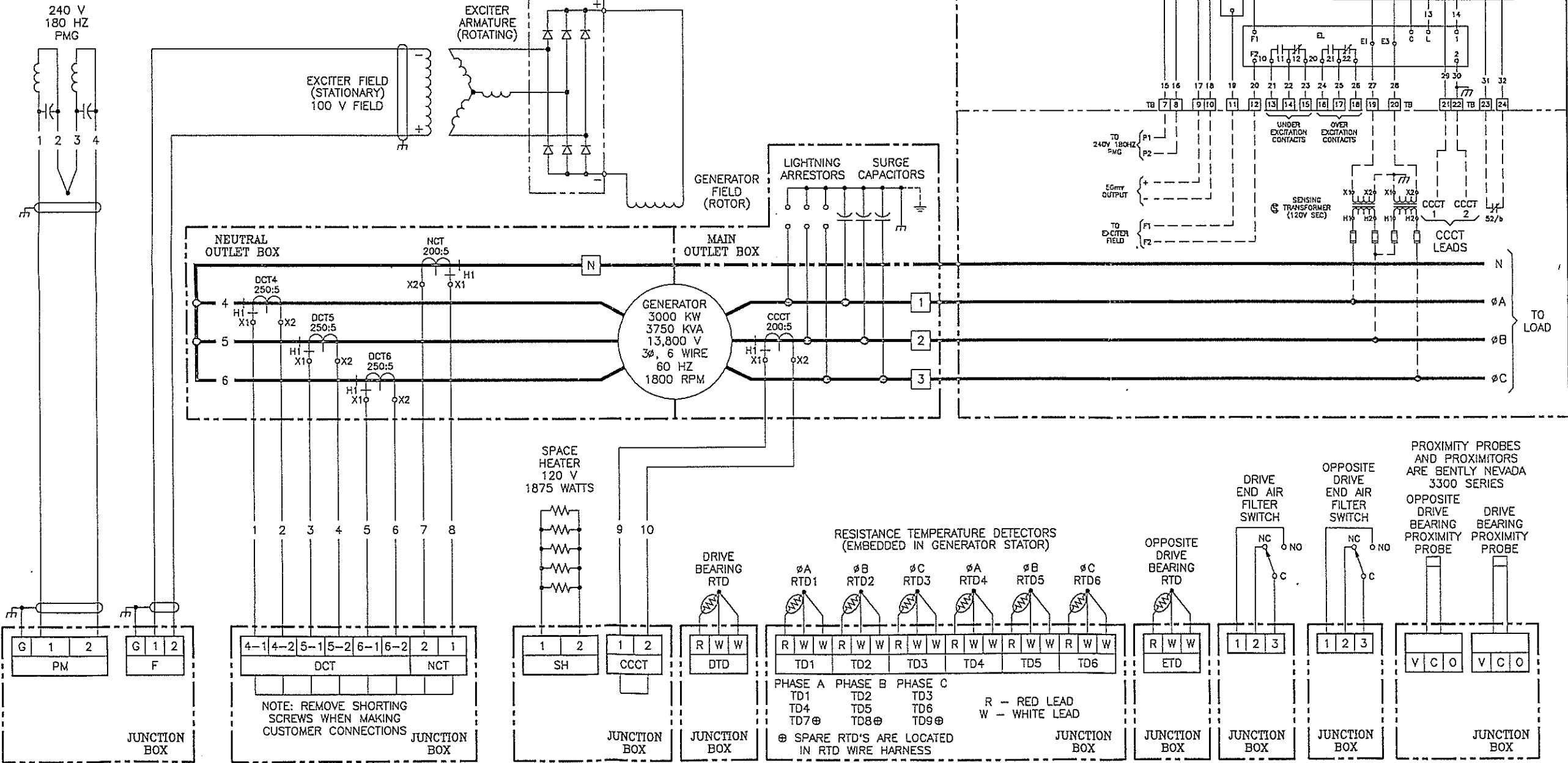
LEGEND

- CCCT - PARALLELING CURRENT TRANSFORMER
- DCT - DIFFERENTIAL CURRENT TRANSFORMER
- EL - EXCITATION LIMITER MIN/MAX
- LA - LIGHTING ARRESTORS
- MOP - MOTOR OPERATED POTENTIOMETER
- NCT - NEUTRAL CURRENT TRANSFORMER
- SC - SURGE CAPACITORS
- SH - SHUNT
- ST - SENSING TRANSFORMER
- TB - TERMINAL STRIP
- VAR/PFC - VAR/POWER FACTOR CONTROLLER
- VR - VOLTAGE REGULATOR
- Ⓢ - CUSTOMER SUPPLIED

WITH UNDERFREQUENCY LIMIT
 NOTE: KATO ENGINEERING RECOMMENDS
 SHIELDED WIRING FOR MAXIMUM EMI
 SUPPRESSION. USE TWISTED PAIR, SHIELD
 GROUNDED TO CHASSIS AT BOTH ENDS,
 ON ALL SHIELDED WIRING.

LOOSE CONTROLS

BACKPLATE MOUNTED PARTS



| RESISTANCE TEMPERATURE DETECTORS | | |
|---|------------|-------------|
| TYPE | RESISTANCE | TEMPERATURE |
| PLATINUM | 100 OHMS | 0°C |
| RED - WHITE: TEMPERATURE SENSING ELEMENT WHITE - WHITE: LEAD RESISTANCE COMPENSATION | | |

| RECOMMENDED RTD SETTINGS | | |
|--------------------------|--------------------|-------------------|
| CONDITION | STATOR | BEARING |
| PRE-ALARM | 160.35 OHMS @155°C | 133.45 OHMS @85°C |
| SHUTDOWN | 164.15 OHMS @165°C | 137.33 OHMS @95°C |



CERTIFIED FOR
Dresser
Rand

P.O. 25862A
 KATO S/N 10854
 DATE 5-4-94

KATO ENGINEERING
 RELIANCE ELECTRIC

DISTRIBUTION: RAG, REK, RRC, RSN, RST
 ORIGINAL AT RMK
 TITLE: GENERATOR CONNECTION DRAWING

| | | | | | | |
|----------------|-------|-----|----|--------------------------|----|------|
| C | 58529 | RAN | MN | 4-27-94 | | |
| B | 56750 | TW | MN | 3-24-94 | | |
| A | 58511 | RAN | MN | 3-14-94 | | |
| ORIGINAL | RAN | TW | MN | 11-24-93 | | |
| REV | ECO | EE | ME | DR | CK | DATE |
| MAT'L | | | | 1st S/R 10654 | | |
| SCALE | | | | DRAWING NUMBER SH 1 OF 1 | | |
| DRAWING NUMBER | | | | 888-00106-54 | | |