4	3	2	1
D0	D0	D0	D0

SHEET
REV

THIS PRINT IS PROVIDED ON A RESTRICTED BASIS AND IS NOT TO BE USED IN ANY WAY DETRIMENTAL TO SOLAR TURBINES INCORPORATED.

REVISIONS

REV	DESCRIPTION		DATE	APPROVED
00	SOURCE COMPOSITE = 149455_160			
A0	INITIAL SUBMITTAL	ERCO	01-17 2007	A.B.
B0	CUSTOMER REQUEST	ERCO	03/14 2007	A.B.
C0	CUSTOMER REQUEST	ERCO	07-18 2007	A.B.
D0	AS SHIPPED	ERCO	09-07 2007	A.B.

NOTES:

1. SYMBOLS IN THE LEGEND ARE DERIVED FROM ISO STANDARD 1219 (ANSI Y32.10) AND ARE CONSIDERED BASIC STANDARDS. NOT ALL SYMBOLS MAY BE USED ON THIS DRAWING. SYMBOLS MAY BE COMBINED.

2. PIPE AND TUBE SIZES SHOWN ARE MINIMUM DIAMETERS. ACTUAL SIZES MAY BE LARGER. ALL LINE SIZES ARE IN INCHES. NO METRIC EQUIVALENTS HAVE BEEN ADOPTED.

3. SEE SHEET: 4
EXTERNAL CONNECTION. REFER TO MECHANICAL INTERFACE DRAWING FOR PHYSICAL LOCATION OF CIRCLED CONNECTION POINTS IDENTIFIED BY NUMBER.

4. SEE SHEET: 4
CUSTOMER FURNISHED.

5. SEE SHEET: 4
LOOSE SHIPPED FOR SITE INSTALLATION.

6. NOTE NOT USED.

7. NOTE NOT USED.

8. SEE SHEET: 4
REFERENCE ONLY, PART OF ENGINE.

9. NOTE NOT USED.

10. NOTE NOT USED.

11. NOTE NOT USED.

12. NOTE NOT USED.

13. SEE SHEET: 4
REFERENCE AIR/DRAIN SYSTEM SCHEMATIC 3A321-149459.

14. NOTE NOT USED.

15. NOTE NOT USED.

16. SEE SHEET: 4
START UP STRAINERS TO BE REMOVED AFTER UNIT COMMISSIONING.

17. SEE SHEET: 4
TERMINATE FS915 VENT LINE AT SKID EDGE EXTERNAL TO THE ENCLOSURE. ROUTE TUBING FOR CONTINUOUS DRAINAGE AWAY FROM TRANSMITTER.

18. NOTE NOT USED.

19. NOTE NOT USED.

20. NOTE NOT USED.

21. SEE SHEET: 4
LUBE OIL HEADER PRESSURE (TP380) SET POINTS:
NOTE: REFERENCE ONLY , REFER TO ES2236 (STANDARD COMBUSTION) OR ES2076 (SOLONOX COMBUSTION) FOR SPECIFIC REQUIREMENTS.
0-30% NGP: LOW SHUTDOWN: 8 PSIG (55 KPA).
30-90% NGP: LOW SHUTDOWN: SQ(0.0033(%NGP-30))+ 8 PSIG.
90-100% NGP: LOW SHUTDOWN: 25 PSIG (172 KPA).
0-100% NGP: LOW ALARM: SHUTDOWN SETPOINT + 2 PSIG (14 KPA).
0-40% NGP: HIGH ALARM: 20-65 PSIG (137-448 KPA).
40-100% NGP: HIGH ALARM: 65 PSIG (448 KPA).

LEGEND (REFERENCE INDICATORS)

FLUID LINES

SYMBOL	DESCRIPTION
	MAIN LINE
	BRANCH LINE
	PILOT/CONTROL LINE
	OIL MIST LINE
	DRAIN/VENT LINE
	FLEXIBLE LINE/JOINT
	ENCLOSURE/MODULE OUTLINE
	LINES CROSSING
	LINES JOINING
	PORT, BLANK FLANGED
	PORT, PLUGGED
	FLOW DIRECTION (HYDRAULIC)
	FLOW DIRECTION (PNEUMATIC)
	FLANGED CONNECTION
	VENT
	DRAIN, BELOW FLUID LEVEL
	DRAIN, ABOVE FLUID LEVEL

ACTUATORS AND CONTROLS

SYMBOL	DESCRIPTION
	SPRING
	LEVER, MANUAL
	PUSHBUTTON, MANUAL
	FLOAT
	BEARING
	THERMAL, LOCAL
	THERMAL, REMOTE
	ROTATING SHAFT
	SOLENOID
	REMOTE PILOT
	INTERNAL PILOT
	SERVO
	VARIABLE
	PRESSURE COMPENSATED

FLUID DEVICES

LETTER CODE	SYMBOL	DESCRIPTION
AC		ACCUMULATOR
ACP		ACCUMULATOR PRE-LOADED
AO		ADJUSTABLE ORIFICE
B	M	MOTOR, ELECTRIC (AC OR DC)
BP	M	MOTOR/PUMP ASSEMBLY (AC OR DC)
CYL		CYLINDER/LINEAR ACTUATOR
E	M	ENGINE, COMBUSTION
FG	FG	FLOW, SIGHT GLASS
FM		FLOW METER
FO		FIXED ORIFICE
FS		FILTER/STRAINER
FSA		FILTER/COALESCER, AUTOMATIC DRAIN, TRAP
		PANEL MOUNTED INSTRUMENT
H		HEATER
HX		HEAT EXCHANGER
L		SOLENOID VALVE, 2 POSITION (TYP)
L		SOLENOID VALVE, 3 POSITION (TYP)
L		SERVO VALVE (PROPORTIONAL)
LG	LG	LEVEL SIGHT GLASS
LI		LEVEL INDICATOR
LU		LUBRICATOR
M		MOTOR, FLUID
M		MOTOR, PNEUMATIC
MU		MUFFLER/SILENCER
N		NOZZLE, FLUID
P		PUMP, FLUID
P		PUMP, FLUID DRIVEN (INTEGRAL UNIT) (PROPORTIONAL)
PCV		VALVE, PRESSURE CONTROL (N.O.) (PROPORTIONAL)
PCV		VALVE, PRESSURE CONTROL (N.C.)
PDI		DIFFERENTIAL PRESSURE INDICATOR
PDI		DIFFERENTIAL PRESSURE INDICATOR (POP-UP BUTTON)
PI		PRESSURE INDICATOR
PT		FLOW SENSOR
R		RESERVOIR
RT	RTD	RTD
S		SWITCH, PRESSURE
S		SWITCH, TEMPERATURE
S		SWITCH, LEVEL
S		SWITCH, DIFFERENTIAL PRESSURE
TB		THERMAL BARRIER
TC	TC	THERMOCOUPLE
TCV		TEMPERATURE CONTROL VALVE
TF		TRANSMITTER, FLOW
TI		TEMPERATURE INDICATOR
TP		TRANSMITTER, PRESSURE
TPD		TRANSMITTER, DIFFERENTIAL PRESSURE
TW	TW	THERMOWELL
VCH		VALVE, CHECK
VCS		VALVE, CHECK SPRING LOADED
VF		VALVE, FLOAT CONTROLLED
VGL		VALVE, GAS LOADER (PROPORTIONAL)
VH		VALVE, HAND
VI		VALVE, INSTRUMENT WITH BLEED PORT
VLF		VALVE, LIQUID FUEL REGULATING (PROPORTIONAL)
VM		VALVE, FLOW MODULATING (PROPORTIONAL)
VR		VALVE, RELIEF
VT		VALVE, TRANSFER
V2P		VALVE, 2 POSITION
V3P		VALVE, 3 POSITION
Z		PRECIPITATOR, ELECTROSTATIC

CUSTOMER
TGN-TIO

- [x] SUBMITTED FOR REVIEW — DATE 01-17-07
- [ ] CERTIFIED AS NOTED WITH — DATE
- [x] CERTIFIED FOR CONSTRUCTION — DATE 09-07-07

SYMBOLS
2 INDICATES REFERENCE TO NOTE
A DENOTES REVISION

FSCM NO. 66195

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APPROVED		DATE
PROJECT	R. WALLACE	01-17-07
DESIGN	A.BELL	01-17-07
CHECK	RANDANTJOHNSON	01-17-07
DRAFT	A.BELL	01-17-07

SOLAR PROJECT ITEM NO. 2-3A321
CUSTOMER IDENT. NO.
CUSTOMER SEE ABOVE

DRAWING TITLE
TAURUS 70 COMPRESSOR SET LUBE OIL SCHEMATIC

Solar® Turbines
A Caterpillar Company

DRAWING NO. 3A321-149455
REV D0
SHEET 1 OF 4