

17232
Cooper Cameron Corporation
Cooper-Bessemer
Reciprocating Products Division
1351 Harbor Bay Parkway, Suite 1000
Alameda, CA 94502-6541

I-MDSBA-222

DOCKETED
USMRC

'95 OCT 20 P5:14

OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

Cooper Energy Services

COOPER OUTAGE LOGBOOK

COPY

9601190200 951006
PDR ADOCK 05000424
G PDR

NUCLEAR REGULATORY COMMISSION
Docket No. 50-424/425-OLA-3 EXHIBIT NO. II-222
In the matter of Georgia Power Co. et al., Vogtle Units 1 & 2
☐ Staff ☐ Applicant ☒ Intervenor ☐ Other
☐ Identified ☒ Received ☐ Rejected Reporter SD
Date 10/6/95 Witness

GEORGIA POWER/VOGUE
RFO 1R2



76021/22

account
book
S300

Available in 150, 300, and 500 pages

No Units

*Cash Book
Journal
Ledger, Single Entry
Ledger, Double Entry
Record Ruled, 35 Lines

*Available in 150 and
300 pages only.

Wilson Jones.

Chicago, Illinois 60648

Made in U.S.A.

Reorder number stamped
on backbone of this book

March 2, 1990

Start work engine 5/4 76021

Sheldon - a complete set of engine and generator control panel schematics were obtained from document control today and are stored in the "Operations Test / Surv. Equip" cabinet on the south wall. These have a 7 day working life.

SHELDON - Make sure that everyone initials training report for self study, this must be turned in, complete 3-3-90 - day

Engine prelubed @ 09:40 EST, must be prelubed every 8 hours in order to be able to roll it. Pat Cross says that we have permission to operate the lube oil circulating pump from the MCC. Note that APC has already pumped 500 gal from the sump. They think that there is still enough remaining for prelube but water out. Operate pump for about 5 min.

Unit 1
Engine

MARCH 2 1990 NIGHT SHIFT

THE MEASUREMENT FROM THE BACK
OF THE GENERATOR SHAFT TO THE
SLIP RING IS .516

ENGINE PRELUDED FOR 5 MIN AT 21:45
W/O STILL BEING PUMPED OUT AT THIS
TIME.

NOTE - MARK MARK FOR TOP PEDestal BEARING IS CUT X ON
BEARING SHELL TO GEN SIDE.

ALL SHIFTS NOTE:

DO NOT THROW AWAY
EMPTY ELECTRO-SOLVENT
CANS. THEY MUST BE
RETURNED WHEN EMPTY.

Jancek Black
3/3/90

3/3/90 I have been taken on right
hook turbo.

Started removal of left hook turbo.
You need to get 1/2" allen wrench cut
to remove exhaust inlet bolts at
the adapter.

3/3/90 NIGHT SHIFT

I checked out part availability
FOR THE INSPECTION OF THE STARTING AIR
VALVES

JC-022-000 ring 126 available S/N 29070-10349

GC-001-060 roll pin 61 available S/N 29070-7123

03-359-01-0E basket 47 available S/N 11010-5310

JF-022-334 O ring NOT AVAILABLE S/N 31020-42974

JF-022-228 O ring 53 available 31020-5260

3/3/89 NIGHT SHIFT

3/4/89 NOTE FOR ALL SHIFTS - PER
HARDY DAVIS THE MWO PACKAGE
MUST BE SIGNED DAILY BY
THE SHIFT SUPERVISOR.

Jancel Black
3/4/89

3/3/90 NIGHT

Finished Rotor Float on LB TURBO
NOZZLE ring needs to be inspected
and turbine case needs 3 Broken Bolts
removed and one Hole has galled
threads " 2, 3 RD CYL Head is
ready to install 2 Ammeter shields
are up rear shields are torqued
one over size Bolt is missing LB UPPER
Brush Holder is installed and torqued
Skip rings are on and tight.

BW 3/4/90

DOCUMENTATION REVIEW:

NEED INFORMATION ON THE FOLLOWING:

- ① DIAL INDICATOR FOR R.F. TURBO
ROTOR FLOAT.
- ② MEGGER FOR PEDESTAL BANC.

Jancel Black
3/4/89

GOALS FOR DAY SHIFT;

3/4/90

① SET EXCITER BRUSHES AND
HAVE GPC LAND LEADS.

Finished ② TORQUE BOLTS ON FLYWHEEL
3/4/90 GPC SIDE OF GENERATOR SHROUDS.

③ SERVICE AIR START VALVES.

④ INSTALL CYLINDER HEADS.

3/4/90

PROBLEMS TO RESOLVE;

Done ① DISPOSITION SCRATCH ON
3/4/90 GPC 3RB CYL. LINER/ DONE BY K. STOKES
GPC

② REPAIR/REWORK BROKEN STUDS(2)
AND STRIPPED THREAD IN L.B.
TURBO EXHAUST HOUSING.

3/4/90

③ REPLACE BOLTS IN L.B.
EXH. EXPANSION JOINT TO
TURBO.

Janeet Black
3/4/89

3/4/90 DAYS

Engine was prelubed for rotation
at 17:00 hrs.

Ardis will finish air start valves tomorrow
GPC elections will ~~not~~ set exister
brakes and land leads tonight.
Cylinder heads can be installed
on night bank.

Pat Cross 3/4/90

3/4/90 11:25

FUEL INJECTION PUMP INJECTION #8 RB

MATCHED I.D. ON PLUNGER & BARREL

DO NOT MATCH.

PLUNGER - 26XE-B

BARREL - 26XE-1

SEL. 3-540

3/4/90 night end

Finished the generator inspection and
radial bearing inspection. Finished the
FUEL pump inspection and removed
the gear case covers all BOLTS
FOR the gear case covers and the
aux drive are laying against
the LB wall Forward and replaced
the #2, 3 RB cyl Heads made up
the Flanges loose and started torquing
the heads QC waived the witness
on the first 2 passes #3 cyl Head
has been tightened the first 2 passes
and is ready for the final torque

RIGHT SHIFT 3/4/90 CONT

NOTE THAT THE PLASTIC RUT COVERS
FOR #2, 3RD CYL HEADS ARE CRACKED,
AND NEED REPLACEMENT.

GOALS FOR DAY SHIFT 3/5/90

- ① FINISH AIR START VALVES.
- ② FINISH TORQUE ON 2RB AND
3RB CYLINDER HEADS.
- ③ START FUEL INJECTORS
- ④ CONTINUE GEAR CASE INSPECTIONS/
OVERSPEED GOVERNOR.

James Black 3/5/90

GOALS FOR INSPECTION PERSONNEL;

- ① COMPLETE BORESCOPE !!
- ② PERFORM EXAM. EXH. MANIFOLD WELDS.

James Black 3/5/90

NEW HANTEAN RING FOR H.O. COOLER
IS WRONG SIZE. NEW ONE IS
APPROX. 1 1/8" LARGER DIA.

GPC's lantern ring
used for JW Cooler

745-20
3-6-90

Jancel Blak
3/5/90

DAY SHIFT

Finished torquing 2R & 3R cylinder
heads. Intake & exhaust pipes, and
starting air jumper have not been
torqued.

Finished air start valves and
cleaned and tested all fuel injectors.
Starting air valves and injectors were
moved back into the diesel room.

Disassembled, cleaned, inspected, and
reassembled crankcase relief valves.

Removed and cleaned all thermocouples.
R.P.C. to calibrate before they are
reinstalled.

HAY PEOPLE:

WE ARE STILL PRELUBING
THIS BEAST. IF YOU DO
WORK WHICH OPENS A LUBE
OIL LINE BE ~~SURE~~ SURE
TO CAP IT!

DS.

8
Night Shift 3/5/90

Finished #3, 4 cyl Head installation Finished
subcover in and torqued all injectors
in and torqued the High pressure
Fuel lines that are on are tight

→ ~~Finished #3, 4 cyl Head installation Finished~~

→ ~~subcover in and torqued all injectors~~

~~in and torqued the High pressure~~

~~Fuel lines that are on are tight~~

~~Finished #3, 4 cyl Head installation Finished~~

~~subcover in and torqued all injectors~~

~~in and torqued the High pressure~~

~~Fuel lines that are on are tight~~

DAY SHIFT 3/6/90

MATERIAL NEED FOR SHELDON
(CONTROL PANEL TEST)

TWO(2) VOM'S W/ LEADS

ONE(1) FREQUENCY GENERATOR W/LEADS

HALF DOZEN JUMPERS

ALSO NEED AIR AND POWER
TO PANEL AND CONTROL ROOM
CLEARANCE TO START TEST.

Jancel Black 3/6/90

NOTE: OIL LEAK DURING PRELUBE.

TURBO L.O. TUBE OPEN ABOVE

EXH. OUTLET ADAPT.

NEED TO CAP TUBE!

Jancel Black
3/6/90

GOALS FOR DAY SHIFT 3/6/90

- DONE ① INSTALL INJECTION LINES, TUBES
AND FITTINGS.

NOTE: ALL INJECTORS INSTALLED AND
TORQUED. INJECTION LINES ON
NO. 1, 2, 3, 4RB INSTALLED AND
TORQUED.

- ② INSTALL STARTING AIR VALVES

- ③ INSTALL ROCKER ARMS

- ④ CONTINUE GEAR INSPECTIONS

Jancel Black
3/6/90

GOALS FOR INSPECTION PERSONNEL;

- DONE ① GEAR INSPECTION

- ② REVIEW PAPERWORK!

Jancel Black

3/6/90 ^{kinda sort of} Sea train inspection is complete.

Socket water pump adapter plate is in place but not torqued.

Gaskets for water pump, lube oil pump, and piping are on the shelf at south end of room.

Air start valves are ready to install. O-rings and seals are with the valves.

Injectors were finished and crankcase pans were completed. Engine was prelubed at 16:00 HRS

Patrick L Cross 3/6/90

3/6/90 next

Installed and torqued all start air valves

miced up # 1, 2, 3, 5 RD intake and intake

rocker arms the ones done are on

the cat walk all the push rods are

inspected Both JW, LO pumps are

on and torqued, replaced the over

speed vent valves. Finished inspecting

the overspeed drive and Fuel pump

The readings are on a cont. sheet

I have not signed anything off in

the Book on this.

GOALS FOR DAY SHIFT 3/7/90

- ① RECONNECT PIPING TO J.W. AND
L.O. ~~PUMPS~~ PUMPS
- ② CONTINUE GEAR INSPECTIONS,
OVERSPEED GOVERNOR AND GOVERNOR
DRIVE.
- ③ INSTALL ROCKER ARMS AND PUSH RODS

Jancel Black

INSTRUCTIONS FOR INSP. PERSONNEL;

- ① REVIEW PAPERWORK !!

Jancel Black

3/7/90 Finished all gearcase work except
Lower drive coupling is installed
but has not been torqued.

Overhead / Fuel Pump Drive adapter
plate has not been torqued to
the gearcase. Sockets for the
rocker arm lube oil supply
header are on the turbo.

I/W pump tubing has not been
installed.

Need to finish installing rocker arms
and adjust valves.

Cam gear side covers have not
been installed.

Pat Hall 3/7/90

3/7/90 Night

rocker arms are on NOT
torqued. Finished gear inspection
gear drive coupling and the Fuel
pump inspection. pre lubed
engine OJCO tips seal and
anti seize for turbo are on
the table

DAY SHIFT GOALS 3/8/90

① INSTALL AND TORQUE ALL
ROCKER ARMS

② ASSEMBLE AND INSTALL TURBO.

James Black 3/8/90

NOTE:

- ① INSTALL MAG PICKUPS
IN OVERSPEED HOUSING.
- ② CHANGE OIL IN GOVERNOR
4.28.17t / 4.28.17u

Janeck Black
3/8/90

3/8/90 All crankcase doors are in place but not torqued. New bolts & nuts for #1RB door are on the turbo or table. #1 Air compressor has oil drained but can be refilled. O-rings by the compressor. Turbo is ready to install, bolts are on the table.

Pat Black 3/8/90 DAYS

Hangers for air compressor pipe from aftermarket to air dryer are on the turbo. Need to vacuum dryer first.

" " set belt tension

" " fill with oil

" " reassemble

Ops needs to close sensing line valve at receiver before we can get belt guard off, ops knows but hasn't done it yet.

316196 11/9/97

torgued side covers

did a close out inspection

on the cylinder heads and

replaced the valve covers

reinstalled the slip joint on the

exhaust the turbo is in place

and started to make up the

flanges. Finished #1 comp

but it won't start. SIC is working

on it. it may be working by day

shift.

DAY SHIFT GOALS 3/9/90

① CONTINUE TO INSTALL TURBO
AND ASSOCIATED PIPING.

② SERVICE SECOND AIR COMPRESSOR

③ SERVICE MOISTURE TRAPS.

Jancel Black 3/9/90

TASK REMINDER;

① LAND HEADS ON OVERSPEED
MAG. PICKUPS.

② CHANGE GOVERNOR OIL
(4.20.17E)

Jancel Black 3/9/90

TR:

Need Oil in no. 2 compressor -
Belts on No 1 slip back,
probably initial stretch but
we need to disable comp
and recheck belt tension.

3/4/90 night

completed turbo installation

Filled #2 air compressor with oil

and had the clearance lifted

reconnected mag pickup leads, changed

gor oil and torqued R.D. air inlet

adapter we started Filling TW

and found water coming from LID

air inlet manifold Found that the

inter cooler is leaking

FINISHED INITIAL SCOPE OF
WORK 3/10/90 0400.

WORK FOR DAY SHIFT 3/10/90

① REPAIR INTERCOOLER LEAK

② SERVICE AIR COMPRESSOR IN 'B' TRAIN

③ CLEAN UP ROOM

④ WALK DOWN TURBO AND
INJECTOR PIPING AND FITTINGS.

Jancel Black

3/10/90

3/10/90

The air compressor on
 E train was finished and
 started runs on Monday
 we are missing sign offs on
 the procedure I did not do
 step 4.1.24 as the sign offs
 are not complete

DAY SHIFT 3/11/90

GASKET LEAK ON INTERCOOLER
 HEAD PLATE. REMOVED AND REPLACED
 COVER GASKET, HEAD PLATE CLOSEST
 TO FLYWHEEL END OF ENGINE.
 ANDY RUSH AND ALFRED JONES WORKING.
 CLEARED UNIT TO FILL WITH WATER
 AT 11:10 AM.

Jancel Black
 3/11/90

TORQUED COVER BOLTS TO 30 FT/LB
 TORQUE WRENCH VP-3-2868
 CAL. DATE 3/10/90 CAL DUE 9/10/90

Jancel Black
 3/11/90

3/11/90 NIGHT SHIFT 2348 HRS.

INSTALLED NEW SOL VALVE ON RB. AIR
START BLOCK & VENT. THIS NEW SOL VALVE
IS VENTING LIKE THE OLD ONE. ~~WORKING~~
NOW GOING TO TEST THE NEW SOL VALVE
- TO SEE IF WE NEED TO REPLACE THE COMPLETE
BLOCK & VENT VALVE.

0100 HR. NEW SOL VALVE TESTED O.K.

MWO WILL BE OUT TO REPLACE COMPLETE
BLOCK & VENT VALVE.

0402 HRS CHANGED OUT BLOCK & VENT VALVE

MWO 19001280. TESTED AND VALVE IS OPERATIONAL.

PLANNING ON STARTING ENGINE BETWEEN

0530 - 0630 HRS.

Shelby Dufour

3/12/90 DAYS

Replaced left bank turbo dip
system sight glass. Replaced honnet
gasket on 7-L

3-12-90 NIGHT SHIFT

Ran Engine until ^{10:30}~~05:30~~ Made Hot Torques
4.48.3a - 4.48.6a - 4.28.3g - 4.48.2a 4.28.20c
Started 2nd 4 hour run at 01:19 will do
2nd hot torque at 05:30 - Engine not
stopped until 06:07 all 2nd hot Torque
O.K.

William A. Roberts

3/13/90 DAY SHIFT

STANDBY FOR 8 HOURS WAITING FOR FACET MATERIAL
USED IN INTERIOR FLANGE 1A DINK TO BT BOWNT
OFF, THRU ALLOWING OPERATIONS TO START RUNNING
18. TOOK 100 COMPRESSOR READINGS & RETURNING FUL
LINKS. *W. L. F. F.*

TR: Engine started 4:15 PM EST
Loaded to buss 5:30 PM EST
Require 8 hours operation
at load before hot web
deflection shut down
at 01:30 AM EST 3-14-90
W. L. F. F. 3-13-90

3/13/90 NIGHT

Finished engine run and
took Hot deflection

8/14/90 PHYS

#2 L.P. fuel injector had water
drops in the injector bore area.

Removed all fuel injectors and all
starting air valves. Removed intake
rocker arm tube oil passage clowels.

TR: Please have second shift
guys use the schedule
task item number when
filling out shift time
sheets, ie: #01 for
cold compression and peak
firing pressures. We prefer
the item number rather than
the VEGP procedure step number.
Also if you are held up due
to operations or any other
substantial delay use item
no. "00" with a brief
explanation.

Ted JTD 3-14-90

ME 8/14/90

Took turbo rotor float. RB.007-LB

Left Bank 0.008 - .009 8/14/90

Right Bank 0.003

Removed all governor winding
covers.

Objectives For 2nd Shift 3-14-90

- #1 Clean generator stator and reinstall shrouds - use vacuum and/or dry rags. The plant has no more electrical cleaner.
- ✓ #2 Remove cylinder heads from numbers 4 & 2 left bank per notation from Pat Cross, No. 2 left bank may have water leaking into injector sleeve.
- #3 Control panel [generator] inspections, and/or cleaning. A new set of controlled drawings are in the tan cabinet. We are supposed to have priority over I&C.
- ✓ #4 Inspect fuel injection line supports.
- ✓ #5 If time permits, examine one fuel injection pump, a pump from the same cylinder as we worked for 78021 would be acceptable.
- ✓ #6 If time permits, clean and magger pedestal bearing, we will not open bearing housing, only change oil and magger.

3/14/90

3-14-90

NOTE: LIFTED LOAD TAIL WAS NOT MADE

~~FOR THE GROUND LOAD AND THE GENERATOR.~~

3/14/90 Night Shift

Finished the inspection of Fuel
 Line supports removed #1,2 & B
 cylinder heads, drained Red Bearing
 oil Flushed and refilled with
 TURBO 100 cleaned and inspected
 generator, Oiled Lubed engine
 at 02:30 3/15/90. Massaged Red Bearing
 oil reading 00. Rough cleaned Black
 top on #1,2 LB we started the Fuel
 pump inspection the pump is removed
 and disassembled we found two marks
 on the spring that a Fall engineering
 should see. The spring is tagged and
 on the table. Started on main running
 lines etc. generator shafts are started
 Back on no Bolts torqued.

CR

22

3/15/90 DAYS

Finished installing generator covers and torqued all bolts.

Removed # 7 main bearing cap and upper & lower shells. Scribbled numbers in the shell oil passages go toward front of engine.

TURNOVER NOTES: DAY SHIFT 3/15/90

BOB,

I THINK WE SHOULD WORK ON THE FOLLOWING ITEMS FOR THE NIGHT SHIFT;

- ① CONTINUE WITH MAIN BEARINGS.
- ② SERVICE AIR START VALVES AND INJECTORS.
- ③ COMPLETE FUEL PUMP INSPECTION.
- ④ CONTINUE GENERATOR PANEL INSP.

Jance 3/15/90

All air start valves have been disassembled and cleaned only.

They are ready to measure, lap the valve, and reassemble.

All thermocouples were removed and cleaned. Do not reinstall until GPC calibrates.

Engine needs prelubed.

NEXT PAGE

3/15/90 DAYS CONT

A scrap piece of hot steel is laying beside the engine with some skin plates. See if this can be used to lift the crankshaft to install the lower bearing.

Lube oil line, locking clips, ect have been removed from #5 main bearing.

Starting air distributor filter have been changed.

JTC 3/15/90

3/15/90 NIGHTS

RE installed #7 main and lowered the cap the NUTS are Hand Tight we also undertook LIFCO and removed #5 main

Finished reassembly of air start valves and moved them to the engine room started

removing covers for the gear inspection. Installed new Fuel pump on #8 AB Note that the procedure states that if a problem is found on the pump inspected 2 more pumps are to be inspected which the pumps are to be inspected. Finished

Barricade Filter

S/A strainers

EXH MANIFOLD INSPECTION

Let's
do No. 6 & 7
Right Bank
TWO MORE
PUMPS

4.12.6
JTC
3/16/90

3/15/90 NIGHTS COND

TURBO BRACKET BOLT inspection

generator central panel

Butter Fly Valve inspection

Finished PT inspection of Cyl Block

Engine pre lubed at 19:30 hrs 3/15/90

NOTE: PAY ATTENTION TO THE FOLLOWING
MARKINGS FOR NO. 5 MAIN SHELL
ORIENTATION;

LOWER SHELL - NOS. ON INSIDE OIL

GROOVE FACE TOWARDS FLYWHEEL

UPPER SHELL - NOS. ON INSIDE OIL

GROOVE FACE TOWARDS GEAR CASE.

Jamel Black 3/16/90

BEARING SHELLS FOR No 5 MARKED
AS FOLLOWS:

LOWER SHELL - R-3315 REV. K 11/84
CGABRM

UPPER SHELL - R-3315 8/81 M 020

Doug Stewart 3/16/90

T.R. = #5 bottom shell in, but couldn't get lifting disk
into position. rotary engine, shell mount with shaft.

also to figure out some method to lock shell into place

at 3/16/90 #7 cap torqued & wiring in place. Air

start valves torqued. Alh (L. N. H. 3/16/90

#1 & 2 L.B. cylinders heads are in
place but nothing is torqued.

1. Sheldon, lest I forget, I/c needs to perform functional test on turbo vibration trips. The I/c foreman would like for us to call him when we pressurize the group II's.
2. Nothing but the air start valve capscrews have been torqued on cylinder heads 1 & 2 L.
3. The two fuel pumps to be examined should be G & 7 RB.
4. The M&TE on the table is for your use just turn in your shifts traveling along with a tag along for each item for your shift.
5. Sheldon, I/c promises to be finished with ECP work by 3-17-90 other than item 1 above. Please lift B/V Valve solenoid wires and I'll try to get clearance lifted 3-17-90.

DP [Signature] 3-16

NIGHT SHIFT 3-16-90.

ENG. ENGINE CONTROL PANEL FUNCTIONAL
CAN BE STARTED AFTER I.E.C. WORK ON
³⁻¹⁷⁻⁹⁰
THE ~~TEST~~ (2) WICKED WIRES GOING TO
APS-4N AND (2) WICKED TUBES CONNECTION
TO PS-20N & PS-43N.

WE WILL NEED BOTH 120 VAC & 125 VDC FROM
TO PANEL. BEFORE ENERGIZING, OPEN ALL
C.B. INSIDE PANEL AND ON FRONT FACE.
ALSO BOTH AIR RECIPIERS SHOULD BE
OPEN TO PANEL.

BE SURE TO LET WIRES 4 & 105 ON
ENGINE J.B. BEFORE ENERGIZING PANEL
ALSO.

PANEL FUNCTIONAL TEST SHOULD START
ONLY AFTER ALL SCHEDULE WORK HAS
BEEN COMPLETED ON ENGINE PANEL.

A. Dufour 3-17-90

INSTALLED AND PRESTRESSED #5 MAIN
LOUIS AND TUBING INSTALLED. AT
INSPECTION OF SUBCOVERS IT WAS FOUND
REMOVED # 6, 7 AND FUEL PUMPS AND
STARTED RE-TESTING INJECTORS.

PRV LUBED AND TESTED AT 0130 3/17/90

Indel Wright

TURNOVER NOTES: DAY SHIFT 3/17/90

PAT,

I THINK WE SHOULD WORK
THE FOLLOWING ITEMS TODAY;

- ① INSPECT ROCKER ARMS
- ② INSTALL NO. 1 + R/W SUBCOVERS.
- ③ CONTINUE GEAR INSPECTIONS -
PUHL J.W. + H.O. PUMPS.

Jancik Black
3/17/90

PRELUBE ENGINE AT 0805.

Jancik Black
3/17/90

NIGHT SHIFT 3/17/90

STARTED ENGINE CONSUME PUMP FUNCTIONAL
TEST AFTER (3) HRS DELAY TO LIFT CLEARANCE
ON SYSTEM. FOUND P4 VALVE LEAKING,
P4 REPLACED. ALSO FOUND "SOL 202-6B"
LEAKING. IEC IS CUTTING AW MWO TO REPLACE
SOLenoid. TESTING CAN CONTINUE AFTER NEW
SOL. IS INSTALLED.

A. J. J. 3/18/90.

NIGHT SHIFT 3/17/90

inspected and installed #6, 7 Fuel
^{pumps and torques}
pump. Finished inspection and test
testing the Injectors they have
been moved to the engine room
Started inspection of the Green case
vent Fans. We removed the 1W pump
610 pump both injectors and
the aux drives we did not
work on the gear inspection.

PRE LUBED engine at 0200 3/18/90

Finished pt inspection of SUPERVISORS

Individual Night

GEAR INSPECTION NOTE: PUMPS REMOVED,
AUX. DRIVE REMOVED, BUT HAVE NOT
STARTED GEAR INSPECTIONS.

VACUUM FAN NOTE: LEFT BANK FAN
COMPLETE, NEED TO DO RIGHT BANK.

J. Black 3/18/90

TURNOVER NOTES: DAY SHIFT 3/18
PAT,

I THINK WE SHOULD WORK THE
FOLLOWING ITEMS TODAY;

(1) INSTALL NO. 1: 2RB SUBCOVERS,
INSTALL ROCKER ARMS, PUSH RODS
AND INJECTORS, BUTTON-UP TIRE
TOP.

(2) CONTINUE GEAR INSPECTION.

(3) COMPLETE SERVICE OF
R.B. VACUUM FAN.

Jancel Black
3/18/90

3/18/90 DAYS
09:05 - Rebuilt Engine

DAY SHIFT 3/18/90

INSTALLED & TORQUED NO. 1: 2LB
SUBCOVERS, INSTALLED AND TORQUED
ROCKER ARMS AND INJECTORS. INSTALLED
SUB COVER 1/8 PUSH RODS. ADJUSTED VALVES.
NOTE: PUT BONNETS UP BUT DID
NOT TIGHTEN BECAUSE HAVE TO
HAVE 'GPC' DO A CLEANLINESS
CLOSEOUT 4.28.22 d

Jancel Black
3/18/90

DAY SHIFT - 3/18/90

GEAR INSPECTIONS PERFORMED

STEP 4.16.8 VISUAL

4.16.9 & 4.28.10 L.O. LINES.

Day Shift

WIT. SHIFT 3-18-90

Started inspection of acc drive gear, 3,9 gear. Found acc drive gear to have only .003 thrust in - removed gear from gear case to get the .003 after checking. Other clearances are on continuation sheets. We finished the inspections on the gov drive gears changed the coupling and closed the housing. did not install pumps due to lack of adapter gasket. cust is looking for it. performed a cold deflection and crank thrust cold deflection recorded in continuation sheets. inspected crank plugs all sat. Finished both crank case and base inspection. Finished service over speed vent valves. Finished service gov linkage. Finished service full pump linkage. Finished service C/P relief valves. Engine excluded. 19:00 3/18/90

NIGHT SHIFT 3-18-80

Bob: DID NOT DO STEP 4.2.32.

OVERSPEED TRIP BECAUSE OVERSPEED
WAS DISCONNECTED.

How DID YOU PERFORM STEP 4.2.42
WITHOUT CB1 & 2 CLOSED IN A-TRAIN?
RELAY CONTACT R23B ON LIND 77 ENERGIZED
OPTICAL ISOLATOR BUT ISOLATION IS POWERED
OFF ON CB1 & 2.

STEP 4.2.45.9 R23B WILL NOT ENERGIZE
PRESSURE OUT OF PAX 9 ON 1A-7654 WILL
ONLY GO UP TO 29 PSI. IT LOOKS LIKE
TIMER/NOT 12 ON 1A-7652 WILL HAVE
TO BE ADJUSTED. 1 & C IS CUTTING AN
MIND TO TROUBLE SHOOT LOGIC BOARD.

Sheldon 3/19/80

Sheldon:

Set up VOM to look at low press
trip aux alarm contacts at
J15 & J16.

Used a stop watch and looked
for timer not 12 to fire 3 seconds
after contact closure at J15 & J16
looked to me like it fired before
contact closure by 3.8 seconds.

Pulled board, had I & C adjust
turn not 12 by 1/2 turn to increase
delay and retest.

1/2 turn made emergency stop
circuit work, it still appears
that the alarm fires almost
simultaneously with contact closure.
Will increase delay by another 1/4 turn.

Could not determine what time
was. Added second VOM to
look at N.O. Contacts of PS 40B.
Retested and now did not get
emergency stop.

Turning decreasing delay by $1/4$ turn,
back to the original $1/2$ increased
adjustment, no emergency stop.

Backed off another $1/4$ turn, no em. stop.

T.R. installed just LO master plates & tested them.

Installed just LO pumps & all piping. Everything on

LO pump is tested, nothing (except master plate) is

tested on LO pump. Used cam scan routes.

July 1990 1/15/90 DAY SHIFT

Be sure that we document
acc. above assy. examination
per methods called for in
procedure, ie. required ID,
QD, etc.

NIGHT SHIFT 3-19-90

Completed checkout of control
panel. Removed trash from OR element
#4 on Board #1A-TLS3 as per
MWU 19001409. Both starting air
supply pressure check valve in control
panel leaking. INC has been advised
of ^{the 3-19-90} problem.

3/19/90 Night Shift

we reassembled the H.C.
drive gear .015 thrust installed
gear and installed over speed drive
Finished L10 pumps and replaced
CAM gear covers. did close out
inspection of crank case and installed
side covers. ahead ops to tag
out both air compressors started
L10 keep warm pump 0445 3/20/90

DAY SHIFT 3/20

PAT,

WE NEED TO GET THE
FOLLOWING ITEMS COMPLETED;

- ① CHANGE GOVERNOR OIL
- ② SERVICE AIR COMPRESSORS
- ③ SERVICE MOISTURE TRAPS.

Jancik Black
3/20/90