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R/S 01205

31/mof
5840
Ser 425
13 JUL 1970

THIRD ENDORSEMENT on Investigative Report of Commander
U.S. Navy, letter of 10 March 1970

From: Commander SECOND Fleet
To: Judge Advocate General
Via: (1) Commander Naval Air Force, U.S. Atlantic Fleet
(2) Commander in Chief, U.S. Atlantic Fleet

Subj: Investigation into the circumstances surrounding the fire which
occurred on or about 2050, 10 January 1970 on the starboard bow,
flight deck of USS SHANGRI LA (CVS 38)

1. Forwarded.
2. Concur in findings of fact and opinions by investigating officer as modified by the second endorser.
3. It is noted that the investigation does not indicate the whereabouts or actions of _____ during the period of the fire from which he sustained fatal injury.

Copy to:
COMCARDIV SIX
CO, USS SHANGRI LA (CVS 38)

R. S.
3025
2701-70
2191-70
2625-70

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851.88-26 5045-75

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Ser: 144
25 June 1970

SECOND ENDORSEMENT on Investigative Report of Commander
U. S. Navy, letter of 10 March 1970

From: Commander Carrier Division SIX
To: Judge Advocate General
Via: (1) Commander SECOND Fleet
(2) Commander Naval Air Force, U. S. Atlantic Fleet
(3) Commander in Chief, U. S. Atlantic Fleet

Subj: Investigation into the circumstances surrounding the fire which occurred on or about 2050, 10 January 1970 on the starboard bow, flight deck of USS SHANGRI LA (CVS38)

1. Forwarded, concurring in the findings of fact and opinions of the investigation officer and with the remedial actions taken by the first endorser, except as noted below.
2. Finding of Fact Number Seven and NAVAIRREWORKFAC JAX DIR, enclosure (12), are not in agreement. The finding states, "the fuel nozzle did not have means to be grounded to the aircraft." However, paragraph 26, e., page 3 of enclosure (12) indicates that the fracture of the ground wire apparently occurred during or subsequent to the attempted fueling so that at commencement of the refueling there probably was a grounding capability.
3. Opinion Number Six does not indicate a determination as to why the Twin Agent Unit (TAU) did not operate, but recommendation Number Four implies that freezing of the light water was the cause. There is no indication the dispenser lines were checked for caking or an explanation as to why the light water would freeze.
4. Finding Number Eight does not, nor do the opinions of the investigating officer, offer an explanation as to why a CO₂ or PKP fire extinguisher was not manned in the vicinity of the fueling operation in accordance with existing SHANGRI LA Instructions.
5. There is no statement included in the investigation by the operator of the TAU that malfunctioned nor any other indication that the possibility of operator error was considered.
6. It appears from this report that SHANGRI LA personnel were negligent in several areas pertinent to this accident. Faulty nozzles, inoperative TAU, automatic defuel valve inoperative, broken or missing grounding wires, and careless operation of the MB-5 are all indications of a need for additional supervision in many areas. Subsequent to the accident this command conducted an Operational Readiness Inspection of USS SHANGRI LA and the overall evaluation of fueling and fire exercises was excellent indicating that corrective action by responsible personnel has been effective.

all B-6

7. The necessity for quick reaction to fires by all hands is well known. However, nonessential personnel and curiosity seekers will continue to unwittingly place themselves in danger and hamper the main firefighting efforts unless a forceful safety education program is pursued which will discourage the gathering of "tourists" without stifling initiative.

Copy to:
CO, USS SHANGRI LA (CVS38)

all B6

WS38/JJO/wh

4/5800

er: 578

30 MAR 1970

FIRST ENDORSEMENT on Investigative Report of Commander
U. S. Navy, letter of 10 March 1970

From: Commanding Officer, USS SHANGRI-LA (CVS-38)
To: Judge Advocate General
Via: (1) Commander Carrier Division Six
(2) Commander Second Fleet
(3) Commander Naval Air Force, U. S. Atlantic Fleet
(4) Commander in Chief, U. S. Atlantic Fleet

Subj: Investigation into the circumstances surrounding the fire which
occurred on or about 2050, 10 January 1970 on the starboard bow,
flight deck of USS SHANGRI-LA (CVS-38)

1. Readdressed and forwarded.
2. The findings of fact, opinions, (including the line of duty statements), and the recommendations of the investigating officer are concurred with. This concurrence has weight, for the endorser witnessed the entire event from the Bridge.
3. This command has taken action on recommendations 1, 2 and 7, and is presently implementing recommendations 6 and 8. Recommendation 6 concerns a design deficiency. The ground wire attachment on a new nozzle is easily and frequently broken due to its flimsy design. This command is presently testing a locally fabricated wire attachment in hopes of resolving this problem. If the design proves successful, it will be submitted to higher authority for approval.
4. It is recommended that the cognizant commands and bureaus be requested to investigate and advise the type commander and the ship, of action taken or contemplated relative to the points raised by recommendations 3, 4, 5 and 6. Steps to improve the reliability of the TAU in bad weather should receive the highest priority.

all B-6

10 MAR 1970

From: Commander USN
To: Commanding Officer, USS SHANGRI-LA (CVS-38)

Subj: Investigation into the circumstances surrounding the fire which occurred on or about 2050, 10 January 1970, on the starboard bow flight deck of USS SHANGRI-LA (CVS-38)

Ref: (a) JAG Manual
(b) CO, USS SHANGRI-LA (CVS-38) ltr CVS38:WDC:pw, 14:5800, Ser 99
(c) Naval Ships Systems Technical Manual (NAVSHIPS 0901-150-0003) Chapter 9150 (Gasoline and JP5 Fuel Systems)
(d) USS SHANGRI-LA INST 9150.1C (Aviation Fuel Bill)

Encl: (1) Statement of ABFC
(2) Statement of AA
(3) Statement of ABF3
(4) Statement of AN
(5) Statement of AN
(6) Statement of AA
(7) Statement of ABF3
(8) Statement of AA
(9) Statement of AA
(10) Statement of CDR 1
(11) Statement of CDR
(12) NAVAIRREWORK PAC JAX DIR REPORT
(13) Ship's Log, 10 January 1970
(14) Statement of AN
(15) Statement of CDR
(17) Statement of HM2
(18) NAVHOSP JAX MSG 122004Z JAN 70
(19) COMEIGHT MSG 162253Z JAN 70
(20) Statement of LT LINDSEY, MC
(21) USS SHANGRI-LA MSG 111456Z JAN 70
(22) Photo of broken fuel valve ON/OFF handle
(23) Photo of aircraft refueling receptical

PRELIMINARY STATEMENT

1. Pursuant to reference (b), I conducted an informal investigation in accordance with reference (a), into the circumstances surrounding the subject fire. The investigation consisted of inspection of physical evidence, statements of witnesses, personal experimentation, technical assistance, NARF Jacksonville and various SHANGRI-LA departments. As a result of the fire, AA B13 56 27, USN, USS SHANGRI-LA and AA B14 55 75, USN, USS SHANGRI-LA, were burned and both died from burns and other complications. AME3 B51 88 28, USN, received serious injuries when struck by the MB-5 Firefighting truck enroute to the scene of the fire. The final report has been delayed while awaiting the results of tests conducted by NARF Jacksonville. (Enclosure 12)

FINDING OF FACT

1. At approximately 2050R, 10 January 1970, a fire started in the aft engine compartment of A4C BUNO 147795. The aircraft was parked on the starboard bow

all Bk

of the flightdeck. (Enclosures 3, 4, 6 & 13)

2. AA , a member of the V-4 Division aircraft fuels crew installed the refueling nozzle into the fuel receptical, (Enclosure 23), of A4C BUNO 147795 and, after the fuel hose was charge with JP5 from Refueling Station #1, he opened the nozzle to commence fueling the aircraft. (Enclosures 1, 8, 9).

3. Shortly (less than one minute) after opening the nozzle, a fire erupted from the aft engine compartment of the aircraft. This fire was brought under control in less than five minutes using the MB-5 Firetruck and other flightdeck fire fighting equipment. (Enclosures 1, 3, 5, 6, 8).

4. At the time of the fire, the aircraft engine had been shut down for a very short period of time. It was not possible to make an exact determination of the time between engine shut down and the commencement of the fire but the best estimate of "a couple of minutes" was offered by (Enclosure 9, 1) during interview.

5. At the time of the accident, no electrical power was applied to the aircraft. The aircraft had an approved ground strap installed. (Enclosure 8).

6. The automatic Fuel-Defuel Valve described in paragraph 9150.3.8.2 of reference (c) was not operative at Fuel Station #1 nor is it operative at any fuel station in SHANGRI-LA. (Enclosure 12).

7. The fueling nozzle used to fuel the aircraft did not have the means to ground the nozzle to the aircraft as required by paragraph 4 (Safety Precautions Handling) of reference (d). No JP5 pressure fuel nozzles in SHANGRI-LA are so equipped. (Enclosure 12)

8. CO₂ or PKP extinguishers were not manned at subject aircraft as required by paragraph 5 (Safety Precautions (Handling) of reference (d). Fire extinguishers were readily available near the fire scene.

9. The twin agent unit (TAU) located near the scene of the fire, failed to disperse PKP or light water. Testing of the TAU on 16 January 1970, was successful and all PKP and light water was dispersed. (Enclosure 15)

10. The MB-5 fire truck was dispatched to the fire area almost immediately after the initial flash of fire. Enroute to the fire, in the vicinity of the #2 deck edge aircraft elevator, AME3 collided with the MB-5. (Enclosure 17). AME3 sustained multiple fractures of the bony pelvis, multiple serosal and peritoneal tears of the descending and sigmoid colon, retroperitoneal hematomas, laceration of the spleen with resultant splenectomy and abrasions of the hands and face. (Enclosure 20)

11. At the time of this collision, the MB-5 was not operating the red flashing light or sounding the alarm signal. (Enclosure 17)

12. The electrical ground straps used by the fuels division were inspected by me and all appeared to be in excellent condition. I was unable to determine the condition of the strap used on the A4C BUNO 147759 as it was either burned and disposed of, or suffered no damage and was returned to the fuels division before I arrived at the scene.

all Bk

13. The fueling nozzle used in this case, FSN 4930-313-8986 and adapter cap assembly (PN 7-255-1), fuel valve ON/OFF handle (Enclosure 22) had the lobe broken off (Enclosure 12). The lobe is a safety device which prevents valve accuation until the nozzle is fully locked. Additionally, it prevents removal of the nozzle until the ON/OFF handle is in the fully closed position. An inspection after the accident of all installed nozzles of this type revealed none with a broken lobe.

14. The three injured men were flown from the USS SHANGRI-LA to NAS Jacksonville, Florida in the ship's C1A aircraft on the night of 16 January 1970. (Enclosure 20). The aircraft was deck launched and a medical doctor was in attendance. AN died at 0715, 12 January 1970 at the Naval Hospital Jacksonville. Death was the result of severe body burns. (Enclosure 18). AN died at 1000, 16 January 1970 at Brook General Hospital, San Antonio, Texas. Death was the result of pneumonia caused by severe body burns. (Enclosure 19). AME3 was in serious condition with a prognosis of good. (Enclosure 20).

15. A4C BUNO 147795 received CHARLIE damage from fire in the after engine compartment and lower surface of the tail section. The aircraft was off-loaded from SHANGRI-LA for further transfer to NARF Jacksonville. (Enclosure 21).

16. Two fire hoses, one electrical deck edge power cable, one CO₂ fire extinguisher and two JP5 fuel hoses were damaged beyond use by fire in the area. Paint was charred on the flight deck and cat walk in the vicinity of the fire. No other property was damaged. Damage estimate was made by my personal observation.

OPINIONS

1. The fire was caused by the fueling nozzle being used becoming detached from the aircraft fueling probe in the after engine compartment. The fueling nozzle's ON/OFF handle was broken prior to the accident which would allow the nozzle to be inadvertently detached and fuel to spray into the aft engine compartment. Three possibilities exist for an ignition source, (1) Static discharge when nozzle became detached, (2) Exterior of the hot section of the engine having enough heat remaining from engine operation to cause spontaneous ignition (approximately 450° F), (3) Atomized fuel spraying into the hot section of the engine through minute openings in the engine casing. The most likely source of ignition being possibly number three above.

2. That AN was negligent in failing to notice the ON/OFF handle lobe was broken, or if he noticed it, he chose to use it for reason unknown, but probably to expedite completion of his task. His death was in the line of duty and not due to misconduct.

3. That AN death was in the line of duty and not due to misconduct.

4. That AME3 injuries were in the line of duty and not due to misconduct.

all Bk

5. The MB-5 Fire Truck is a great asset to the ship's aircraft firefighting capabilities. Due to its size, it is doubtful if its full potential would have been realized if more aircraft had been parked behind and adjacent to A4C BUNO 147795.

6. The TAU on station in the bow at the time of the accident failed to operate due to freezing of light water and/or possibly PKP caked in the dispenser lines.

7. All emergency signaling devices on fire fighting equipment should be used particularly when such equipment is moving even if the wind over the flight deck and jet engine noise may reduce these devices' effectiveness.

RECOMMENDATIONS

- 1. All personnel involved with refueling be rebriefed on the necessity of insuring all safety devices are operable prior to commencement of any refueling.
- 2. All personnel be rebriefed on the requirement to insure grounding straps are attached to bright metal at both ends.
3. That a device be installed in the MB-5 Fire Truck that will turn on all signal devices, radios, etc. whenever the vehicle moves in order that the operator does not have to remember or delay movement while turning on various switches.
- 4. That a heating device be installed on all TAU's to prevent light water from freezing.
- 5. That effort to improve the functional capabilities of the automatic fuel-defuel valve be made by higher authority and that parts to support this system be procured.
- 6. All fueling nozzles should be made capable of providing ^d grounding wire in accordance with reference (d).
7. Reference (d) be revised to include manning TAU in the vicinity of refueling operations, or manning ~~CO₂~~ CO₂/PKP fire bottles.
8. A nonferrous ground system be installed along the deck edge whereby personnel attaching ground straps could be assured the attachment to the deck is making a proper and positive ground.

all B-4

10 January 1970

STATEMENT of ABFC '
the fire of 10 January 1970

USN, concerning

A4 was on the bow. crew pulled the hose to the
aircraft. grounded A/C while it was still turning.
When A/C stopped turning, , S. D., hooked up the nozzle.
had -- tell to pump up. When hose charged,
opened nozzle. I stepped away from A/C to go to other
side of deck and there was an explosion in hell hole. It blew up
and then the fire spread rapidly aft.

ENCLOSURE (1)

all B-6

10 January 1970

STATEMENT of AA , B20 58 82, USN, concerning
the fire of 10 January 1970

I was sitting in the catwalk getting the power and I saw a flash. I went in the station and cut the pumps and took my life vest off. It was on fire and me and took the PKP and put the fire in the station out and some fire in the catwalk then I went to the flight deck to get out of the way so they could put the rest of the fire out. We were using the aft reel and the plane was ground and everything was in order.

ENCLOSURE (2)

all B-6

10 January 1970

Statement of ABF3 [redacted] B52 72 70, USN concerning the fire of 10 January 1970

I checked the first F8 on the port side for his fuel load, went back to the starboard side and checked 324 which had 2400 lbs at that time. I walked back to center deck and saw a flash then heard an explosion. I turned around and saw flames out of the "HELL HOLE", and something on fire going aft. What or who it was I didn't know at the time. I ran by impulse to the port side. When I got there I got control of myself somewhat, and told station #4 to cut their pumps, but they weren't fueling anyway. I then jumped into the catwalk with 3 or 4 other guys to get a fire hose.

I told station #2 to quit pumping and grabbed a fire bottle-PKP, and ran back to station #1. They had the MB-5 there and fog foam which got most of the flame, except in the hell hole. I crawled up under it with the PKP and stuck the nozzle inside, but it didn't seem to do much good. Someone else came with CO-2 and it finally went out. At least I guess it did because some one told me to get the hell our of the way.

When I was under the hell hole I noticed that the nozzle was not connected to the air plane. When I left the plane I met our chief and he asked me if anyone was inside station #1. I said I didn't know, and went to look. The station was secured and the only thing inside was a flashlight--still lit, and a PKP bottle on the deck. I went inside further and noticed a burning life jacket, and put that out with the PKP bottle which isn't much good on a class A fire but it worked. I then left and went to the coffee locker.

ENCLOSURE (3)

all B-6

10 January 1970

STATEMENT of _____, USN, concerning the fire of 10 January 1970

I was up on Station 4 when the fire took place. We were breaking out the station, getting ready to fuel. When to my back I notice a big flash of light, when I turned, I saw that the aircraft up by Station #1 was on fire. All I noticed was that the hose was off the plane, and up beside the aircraft and about 10 seconds later I was pulling out fire hose, helping fight the fire.

ENCLOSURE (4)

all B-6

10 January 1970

STATEMENT of AN _____, USN, concerning the fire of 10 January 1970

I was standing by station four and saw what appeared to be an explosion within the hull hole, after which the rear section of the aircraft was engulfed in flames.

ENCLOSURE (5)

all B-6

10 January 1970

STATEMENT of _____ concerning the fire of 10 January 1970

I was standing on Station #4 looking toward the center of the deck, when I noticed a flash in the hole of an A4 on Station #1. The flash instantly mushroomed down toward the deck and spread, mostly aft. I did not see : _____ but I did see the nozzle and hose fall intact and closed against the drop tank.

ENCLOSURE (6)

all B-6

10 January 1970

I was standing on Sta #4 looking toward the center of the deck, when I noticed a flash in the hole of an A-4 on Sta #1. The flash instantly increased down toward the deck and spread, mostly aft. I did not see the missile and nose fell intact and closed against the drop tank.

ENCLOSURE (6)

all B-6

10 January 1970

Statement of ABF2
of 10 January 1970

, USN concerning the fire

Statement concerning fire on starboard bow. Prior to the fire I walked over to the aft section 324 and talked with ABFC briefly. At that time I noticed the fueling nozzle was hooked up to the A/C, but I'm not sure if the hose was charged or not, because it was dark. I then started walking forward, and across the deck. About 30 feet from the A/C I noticed light behind me, and turned around. I saw flame around the "HELL HOLE" and on the deck aft of that point.

ENCLOSURE (7)

all B-6

10 January 1970

Statement of AA ~
of 10 January 1970

B75 05 10, USN, concerning the fire

Our crew was out there on station #1, _____, connected the nozzle, and I (_____) connected the ground wire, then _____ started to pump up the fuel. _____ was on the nozzle and I went to open the caps on the drop tanks, then I saw a gush of flames shoot out from where the nozzle was connected, then I jumped back, and tried to spot somebody in our crew and didn't see nobody cause of the flames up to the catwalk then I backed off to the port side of the ship to #2 station cause the fire truck was coming. We were in #1 station, I don't know whether we were using the forward or aft reel.

ENCLOSURE (8)

all B-6

10 January 1970

Statement of AA
10 January 1970

B56 06 92, USN, concerning the fire of

I was phone talker and station operator on station #1. The plane A4 had just cut his engine and had hooked the fueling nozzle up and I was on the ladder. He told me to pump it up. I started the pumps and waited to make sure fuel was going through the hose. I turned and started out of the station when fire broke out overhead and in the catwalk. came running in and hit the switch and I secured the riser valve. life jacket was on fire and I tried to put it out but ended up ripping it off and then we put out the fire in #1 with PKP and left.

ENCLOSURE 090

all B6

Statement of CDR _____, USN, concerning tests for audio/visual
range of MB-5 signal devices

In an attempt to determine the audible range of the various emergency sound signals produced by the MB-5 fire truck, I donned a standard sound suppressor helmet and had the fire truck operator sound the various signals. During this test, little relative wind was present, and of the five tones available, the most audible was heard at a distance of about 175 feet. At a different time, I observed the red flashing light installed on the MB-5. All tests were conducted during darkness. The flashing light was very noticeable when the flight deck flood lights were at a low intensity, but became less of an "attention getter" when the flood lights were at a high intensity.

ENCLOSURE (10)

all B-6

Statement of CDR _____, USN, concerning test for electrical ground of aircraft on board SHANGRI-LA

In the course of my investigation of the aircraft fire on the night of 10 January 1970, I had tests conducted, in my presence, to determine if the standard ground strap used in SHANGRI-LA for aircraft fueling was adequate. The strap was installed on two A4 and two F8 aircraft by AA ' _____ installed the ground strap on A4C BUNO 147795 just prior to the fire. Both F8 aircraft and one A4 gave a positive ground indication on a PSM-4 meter. After scraping the clip on the ground strap to a tiedown pad eye so that bright metal showed, the other A4 gave a positive ground indication. One F8 and neither A4 gave a ground indication prior to installation of the ground strap. The other F8 gave an indication of ground both with the strap attached and detached.

ENCLOSURE (11)

~~1 - SHANGRI-LA~~

all B-k

| | | | | | | |
|--|------------------------------------|--|---------------------------------------|--|-------------------------------------|--------------------------------------|
| 1. REWORK FACILITY NAVAIREWORKFAC JAX | | 2. REPORT SERIAL NO. Q-31 | 3. DATE 1-23-70 | 4. ASSEMBLY NOMENCLATURE AND PART NO. *Adapter and Cap Assy. 7-255-1 **Pressure Fueling Nozzle 6902 ENGINE | | |
| 5. ASSEMBLY MODEL --- | | 6. ASSEMBLY SERIAL NO. *931 **None | 7. ASSEMBLY MFG. *82267 **86090 | 8. DATE REMOVED *1-22-70 **Unknown | 9. REMOVED FROM (ASSY MODEL) --- | 10. REMOVED FROM (SERIAL NO.) --- |
| 11. TOTAL HRS. SINCE NEW Unknown | 12. HRS. SINCE LAST O/H Unknown | 13. DATE LAST O/H Unknown | 14. LAST REWORK FACILITY Unknown | 15. NO. OF PREV. O/H Unknown | 16. A/C MODEL *A-4C | 17. A/C BUREAU NO. *147795 |
| 18. OPERATING ACTIVITY *VA-172 **USS Shangrila | | 19. UR, AAR, I/GA NO. Unknown | | 20. REASON FOR REMOVAL AND CODE Unknown | | 20a. DEGREE OF REWORK --- |

| | | | | | | | |
|---|---|---|--|-------|--|-----------|-----------|
| 21. FINDINGS | | | 22. PRIMARY PART FAILURE (PART NO.) | | | COND CODE | ZONE CODE |
| <input type="checkbox"/> 0 NO DISCREPANCY | <input type="checkbox"/> B BASIC MFG/DESIGN DISCREPANCY | <input type="checkbox"/> N <input checked="" type="checkbox"/> X NON-BASIC MAINT/OPER DISCREPANCY | <input type="checkbox"/> F FOREIGN OBJECT DAMAGE | 23547 | | | 070 |

| 23. DISCREPANT PART NO. | COND CODE | DISCREPANT PART NO. | COND CODE | DISCREPANT PART NO. | COND CODE |
|-------------------------|-----------|---------------------|-----------|---------------------|-----------|
| "O" Ring Seal | 425 | | | | |
| | | | | | |

| | | | | | | | |
|---|-----|----|--------|-----------------------|----|--------------------------|-----------------|
| 24. PERTINENT TECHNICAL MANUALS, BULLETINS, CHANGES, ETC. | | | | 25. SUPPORT EQUIPMENT | | | |
| NUMBER | YES | NO | NUMBER | YES | NO | | |
| | | | | | | <input type="checkbox"/> | GROUND SUPPORT |
| | | | | | | <input type="checkbox"/> | SPECIAL SUPPORT |

26. DESCRIPTION OF FINDINGS (Include name and part no. of primary part failure)
Reference: (a) NAVAIREWORKFAC JAX 232320Z Jan 70
Enclosure: (1) NAVAIREWORKFAC JAX Photo Serial Number 17-70-5
(2) NAVAIREWORKFAC JAX Photo Serial Number 17-70-4
(3) NAVAIREWORKFAC JAX Photo Serial Number 17-70-2
(4) NAVAIREWORKFAC JAX Photo Serial Number 17-70-1
(5) NAVAIREWORKFAC JAX Photo Serial Number 17-70-3
---SEE REVERSE SIDE---

27. CONCLUSIONS
---SEE REVERSE SIDE---

28. RECOMMENDATIONS
---SEE REVERSE SIDE---

| | | |
|--|---|--|
| 29. INVEST <input checked="" type="checkbox"/> | REFERENCES NAVAIRSYSOMREPLANT 211332Z Jan 70 | 30. INVEST. CONTROL NO. LANT A4-0005-OS |
| 31. SIGNATURE | 32. TITLE Q. A. DIVISION SUPT | 33. DATE SIGNED 10 FEBRUARY 1970 |

| 34. DISTRIBUTION | | |
|---|--|-----------------|
| NAVAIR (HQ) AIR-411/530/534/41011/5103 | COG COMFAIR/MAN COMFAIRJAX | CHNAVMAT |
| NAVAIRTECHSERVFAC X | OPERATING ACTIVITY VA-172/USS SHANGRILA | NAVSTA MAYPORT |
| NAVAVNSAFACEN X (Code 126) | COG CONTRADMINSERVOFF NAVPRO L BEACH | NAS CECIL FIELD |
| COG NAVAIRSYSOMREP LANT (ASCR-23) (2)/PAC/ | NAVAIRREWORKFAC PENSACOLA/ALAMEDA | |
| COG COMNAVAIR/COMCRUDES LANT/PAC | OTHER (Specify) NAVAIRTESTCEN | |

ENCLOSURE (2)

All B6

d. The fuel control valve handle, P/N 23574, had the "safety" portion of the lobe broken off. (See enclosure (1)). Laboratory analysis of the handle indicated: "It was extremely difficult to predict the actual time of fracture. No apparent heat damage to the part from or during the accident was noted. The fracture of the handle and the physical damage and marking appear to be primarily of an old nature, and present for some time. No apparent fatigue failure or metallurgical defects were found in the fracture area. The apparent evidence indicates the fracture of the handle occurred prior to the attempted refueling of the aircraft."

e. The ground wire was broken flush with the housing. (See enclosure (2).) Laboratory analysis of the ground wire indicated: "The fracture of the ground wire was the result of tension loading, with the ends of the individual wires showing typical cup and cone fractures. The fractures appear clean and bright and are of a more recent origin than the fracture of the handle. The fracture of the ground wire apparently occurred during or subsequent to the attempted refueling of the aircraft and was due to overstress of the material."

f. Prior to disassembly or rework the nozzle was leak tested. MIL-F-7024A, type 2 calibration fluid was used for all tests. Leakage is expressed in cubic centimeters per minute (cc/min).

1. The first test was performed with the fuel control handle in the off position, and without the aircraft fueling adapter attached to the nozzle. Results are as follows:

| <u>PRESSURE</u> | <u>SHAFT LEAKAGE</u> |
|-----------------|----------------------|
| 0 PSIG | None |
| 20 PSIG | 12 cc/min |
| 40 PSIG | 23 cc/min |
| 60 PSIG | 34 cc/min |

There was a slight leakage through the petcock. No other leakage or seepage was noted.

2. The pressure fueling nozzle was forced to the fully released position. The second test was performed with the aircraft (A-4C BUNO 147795) fueling adapter properly attached and locked on the nozzle, and the fuel control handle in the fully opened position. Results of this test are as follows:

| <u>PRESSURE</u> | <u>SHAFT LEAKAGE</u> |
|-----------------|----------------------|
| 0 PSIG | None |
| 20 PSIG | 12 cc/min. |

discharged from the nozzle at any time the handle is actuated, whether or not the nozzle is properly installed in the aircraft fueling adapter.

c. The shaft leakage was attributed to the cut and nicked shaft seal, probably caused by normal use.

d. The petcock leakage was attributed to normal wear.

e. The metal that was torn loose from the cage was subsequently folded up by forceful contact with another metal surface, probably the adapter, P/N 12-1053-4.

28. RECOMMENDATIONS

a. All activities using the J. C. Carter Company pressure fueling nozzle, P/N 6902, inspect the fuel control handle immediately, and prior to each use of the nozzle. Nozzles found with broken "safety" lobes should not be used under any conditions, until the handle is replaced. Additionally, it is recommended that activities inspect the groove of the cage for folded up metal; any nozzles found with folded metal should be replaced to preclude loss of and subsequent ingestion of this metal into the aircraft fuel system or engine.

b. That NAVAIRSYSCOMHQ establish leakage criteria for pressure fueling nozzles, and direct all activities to comply with this criteria as soon as possible.

c. The contractor consider redesigning or repositioning the fuel control handle to preclude breakage and subsequent loss of the "safety" portion of the fuel control handle.

AN 86

9 March 1970

MEMORANDUM

From: NAVIGATOR
To:

Subj: Extracts From The Ship's Log Concerning The Aircraft Fire
on the Flight Deck

1. At approximately 2050 Romeo on 10 January 1970 A4C Bureau Number 147795, Side Number 324 of VA 172 burst into flames on the Flight Deck of Shangri-la. At 2055 R the fire was reported out. At 2128 we secured from Fire Quarters.

Respectfully,

CDR USN

Copy to:

NAV FILE 145

ENCLOSURE (13)

All B-6

11 March 1970

STATEMENT Of AN J , B52 46 98, USN, concerning the fire of 10 January 1970

The night of the fire which happened 10 January 1970, I was the driver of the new MB-5 crash truck which was put on SHANGRI-LA last year in Naples.'

It was during recovery when the fire happened. I was watching the planes land and I just happened to look toward the bow. I saw a white flash and then black smoke roll up in the air. I hit my turrent man and said there's a fire on the bow.

I then let the brake off of the truck and put it in gear, I rolled out on the landing area. People were running around in so many different directions, I had to put the brakes on twice to keep from hitting them.

We were in the wind at the time and I was trying to think just how to approach it. When I got to the fire, I was pumping and ready to fight fire. When I got the truck stopped, I engaged the handline also. As soon as the light-water hit the fire, I knew it wasn't going to last very long and in less than two minutes the fire was almost out and it just took PKP bottles to finish it off.

The reason for me not having the warning lights and siren on, was that I was watching people running back and forth in front of the truck. When I got to the port JBD's, I thought I saw someone running toward the truck, but I didn't see him hit the truck or run in front of it. The only reason I thought I hit someone, was a loud bang on the truck.

ENCLOSURE (14)

All B-6

From: Commander
To: Commander

Subj: USS SHANGRI-LA's MSG's 160154Z JAN 70 and 232208Z JAN 1970

1. The information contained in the subject messages is true statement of fact.

ENCLOSURE (15)

All B-6

| | | |
|---------------|------|--|
| WEAPONS DEPT. | DATE | |
| | INIT | |
| ROUTE | | |

| | | | | | | |
|-----|-----|----|---|-----|---|---|
| ORD | REF | FC | G | TOD | G | V |
| | | | | | | |

Case II
Area A
MOR

O
MAR 04 044

VRITUZYZW RULSSAA7600 0212330-UUUU-RUTWTIF.

ZNR UUUUU

R 212330Z JAN 70

FM NAVAIRSYS COMHQ

TO ZENR/USC SHAGRI LA

INFO RUENAAA/CNO

RUCILSA/NAVSAFECEN

RUCILMA/COMNAVAIRLANT

RULYWDK/CONSECONDFLT

RUCLBEA/CONSIK

RUCLBKA/COMFAIRJAX

RUTWTIF/COMCARATK AIRWING EIGHT

RUECHUA/NAVAIRENGCEN

RUWJMUA/COMNAVAIRPAC

BT

UNCLAS //R03750//

NAVY SUPPLEMENTARY MSG REPORT OF A/C GROUND ACCIDENT

A. YOUR 160154Z JAN 70 (NOTAL)

B. MRC NR A613 R1

C. MRC NR A613 W1

D. MRC NR A613 Q1

1. FM AIR-33452: REQUEST FOLLOWING BE INCLUDED IN INVESTIGATION

Te 1130Z/23 Jan/26/8

Le

PAGE TWO RULSSAA7600 UNCLAS

OF FAILURE OF TAU CITED IN REF A.

A. WAS UNIT ROTATED DAILY AS SPECIFIED BY REF B? IF NOT WHEN WAS UNIT ROTATED LAST.

B. WAS UNIT TEST OPERATED AS PER REF C? IF NOT WHEN WAS THE LAST TIME UNIT WAS TEST OPERATED.

C. WHEN WAS THE LAST TIME UNIT WAS COMPLETELY DISCHARGED AS PER REF D?

2. ACTION BEING TAKEN NOW TO PROVIDE SEC TO INSTALL HEATER TO PREVENT FREEZING OF LIGHT WATER, 1 MARCH 70 EST DELIVERY DATE OF SEC.

3. REQ PROVIDE THIS COMMAND COPY OF FAILURE REPORT.

BT

7600

ENCLOSURE (15)

0000

All B6

SHANGHAI (0180)

160154 Z JAN 70

FM: USS SHANGHAI

TO: CNO
NAVSATLGEN

CAG

INFO: NAVAIRSYSCOM (ATTN: 007X)
COMNAVAIRLANT
COMSECOID FLE
COMSIX
COMCARDIV SIX
COMPAIRWAX
COMCARATEAIRMING EIGHT

CAPT.
CDR T

[Handwritten signature]

BT

UNCLAS E F T O 110375011 *Li*

FOR OFFICIAL USE ONLY

NAVY SUPPLEMENTARY MESSAGE REPORT OF AIRCRAFT GROUND ACCIDENT

- A. OPNAVINST 3750.6
- B. MX 110430Z JAN 70
- C. MX 121952Z JAN 70
- D. MX 111322Z JAN 70

1-10 NO CHANGE REF D.

11A. LB-5 CRASH TRUCK STATIONED ABEAM ISLAND STRUCTURE ON SCENE WITHIN 50-60 SEC AFTER IGNITION. FIRE EXTINGUISHED WITHIN 3 MIN PRIMARILY BY LB-5 LIGHT WATER/ PKP. ADDITIONAL EQUIPMENT UTILIZED: FIRE BOSS (TAU) AND PORTABLE PKI FIRE BOTTLES; SALTS WATER HOSE USED TO COOL MACHINERY IN AREA. SHIP'S HOFF NOT UTILIZED. ONLY HOFF HOSE IMMEDIATELY AVAILABLE TO AREA WAS IN THE FIRE.

11B. FIRE BOSS (TAU) STATIONED ON BOB FOR RECOVERY MALFUNCTIONED, FAILING TO PROVIDE EITHER LIGHT WATER OR PKP. UNIT USED CAME FROM ABEAM ISLAND AND FOLLOWED MB-5 TO THE SCENE OF FIRE. CHECK OF FMS AND DAILY MAINTENANCE RECORDS REVEAL NO REASON FOR MALFUNCTION. SUSPECT COBILATION OF PKP CAKED IN LINES AND LOW TEMP/CHILL.

| | | | | | | |
|------|----------------|----------|-----|------|---|-------|
| TOP | 07162/16 | 1 Jan 70 | KW7 | 0884 | ② | RMS - |
| CASE | ADD. ROUTING | | | | | |
| HL | PRIORITY | | | | | |
| EX | 1601547 | | | | | |
| | ENCLOSURE (15) | | | | | |

[Handwritten notes: INCOMING OUTGOING]

1311 B-6

DRAFTER LCDR

RELEASE CAPT

ROUTINE 232208Z JAN 70

FM: USS SHANGRI-LA

TO: NAVAIRSYS COMHQ

INFO: CNO COMPAIRJAX
 NAVSAFECEN COMATKCARAIRWING EIGHT
 COMNAVAIRLANT NAVAIRENGCEN
 COMSECONDFLT COMNAVAIRPAC
 COMSIX

BT UNCLAS/EFTO //N3700// W

NAVY SUPPLEMENTARY MSG REPORT OF AXC GROUND ACCIDENT

- A. YOUR 212330Z JAN 70
- B. MRC MR A-615 D-1R
- C. MRC MR A615 W1
- D. MRC MR A615 Q1
- 1. FOL APPLY REF A.

| | | | | |
|-------|----|----|-----|----|
| ARMED | IV | HI | COX | RD |
| | | | | |
| | | | | |
| | | | | |

| | | | |
|-----|-------|-------|---------------|
| WAA | W/INS | ROUTE | WEAPONS DEPT. |
| | | INT | |
| | | DATE | |

A. UNIT ROTATED DAILY IAW REF B.

B. UNIT HAD BEEN IN DOWN STATUS DUE NONAVAILABILITY NITROGEN UNTIL WEEK OF 29 DEC 69.

C. UNIT FULLY DISCHARGED IAW REF D ON 2 JAN 70. FUNCTIONED NORMALLY IN ALL RESPECTS.

2. NO MECHANICAL MALFUNCTION FOUND. UNIT DISCHARGED NORMALLY ON 16 JAN 70 USING SAME NITROGEN PRESS (1900 PSI) AS NIGHT OF FIRE, AMBIENT TEMP AT 59 F WAS 21 F HIGHER.

| | | | | | | | | | | | |
|------|----------|-------|--------|--------|--------------|------------|---------|------|-----------------|-------|-------------|
| TOD | 05053/24 | MO/YR | JAN/70 | METHOD | Ku-26 | LR | 1213 | OPR. | C | CWO | C7 |
| CASE | I | II | III | IV | ADD. ROUTING | PRECEDENCE | ROUTINE | DIG | 232208 Z Jan 70 | CLASS | UNCLAS/EFTO |

ENCLOSURE (15)

All B-6

13 January, 1970
USS SHANGRI-LA CVS-38
C/O F.P.O. New York, N.Y.

TO WHOM IT MAY CONCERN:

I, _____ HM2-USN 969-94-65, was working the Flight Deck on the night of the accident. I was in the Island outside of Flight Deck Control when Crash alarm went off. I opened the Hatch going onto Flight Deck, looked to the left and saw the crash truck pulling out and coming forward. I turned to the right to see where the action was. The Crash truck ^{was} coming up the flight deck with no lights on or siren. I waited for it to pass me and I saw these ~~two~~ ^{two} men running down the Flight Deck. The Pilot of the Plane passed and stated he was alright. The truck struck one of the men and knocked him forward and the other man ran into the truck and bounced off only striking his arm without receiving any injuries.

It might be possible ^{temporarily} that the men were scared and could have been or apparently temporarily blinded by the flash from the fire so not ^{to} have seen the truck coming down the island. The truck was between me and the patients and I did not actually see it hit them.

The above statement made by _____

HM2-USN 969-94-65
VA-172

ENCLOSURE (17)

All B.6



Handwritten notes:
OUT - 0700
F. 11
0115

VV WAR 036
NITEZYUW RUCLBKA I 65 0122001-EEEE--RUTWIF.
ZBY REFFR

R. 220000Z JAN 70
FM NAVROSP JAX
TO RUTWIF/CONCARDIV SIX
INFO RUTWIF/USS SHANGRI LA
RUMTAEA/COMFAIRJAX

Handwritten: 7-7 OR 2250Z/12 JAN 70

BT
UNCLAS E F T O //NOG320//

- A. YOUR 111617Z JAN 70
- B. OUR 111648Z JAN 70 NOTAL
- C. OUR 120156Z JAN 70 NOTAL
- D. OUR 120154Z JAN 70 NOTAL
- E. OUR 112142Z JAN 70 NOTAL
- F. OUR 111603Z JAN 70 NOTAL

1. THE SHANGRI LA AND/OR ATKRON-12 WERE MADE INFO ADDRES OF CASH AT 7 RP

IN REFS B THRU F.

2. PRESENT STATUS OF CASUALTIES: AN
70; AMES IS IN A SERIOUS, AND AN
CONDITION.

DIED AT 0713 ON 12 JAN
IS IN A VERY SERIOUS

BT

0369

Handwritten: See

| WEAPONS | DEPT. | ROUTE | INIT | DATE |
|---------|-------|-------|------|------|
| | | WPNS | | |
| | | WAA | | |

| | | | | | | | |
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| | | | | | | | |
| ORD | 5H | FOX | G | EOD | GM | W | MARDET |

ENCLOSURE (18)

All B-6

CO (5)
FAM 6
CASE I
ADMIN
JHR

224

DE MAR 014 014

QFTT HZYUW RUCLFVA0683 0162359-UUUU--RUIWTF.
ZNR UUUUU
R 01 JAN 70
FM COMEIGHT
TO RUEBJFA/CHNAVPERS
RUEBJIA/BUMED
RULDDOA/COMTHREE

YS

FUENAAW/SECNAV
RUEBANA/NAVFINCEN CLEVE
RUIWTF/USS SHANGRI LA
RUIWTAEA/NAVHOSP JACKSONVILLE
RUIWTF/BRUCKE GEN HOSP FT SAN HOUSTON
RUIWTF/NAVMARCOESTRACEN 311 EAST ARSENAL STREET SAN ANTONIO
RULDDOA/NAVAL RECRUITING STATION BUFFALO NEW YORK

OR 01352/17 Jan 70

UNCLAS //RE:771//
PERSONNEL CASUALTY REPORT

- A. BUPERSMAN 4218100
- B. COMEIGHT CHIEF : NAVMARCOESTRACEN SAN ANTONIO/COMEIGHT

1. IN ACCORDANCE WITH THE FOLLOWING REPORT IS SUBMITTED:

ALPHA: AN N. J. J. (RET, RETAINED) 0145575

PAGE TWO RUCLFVA0683 UNCLAS

- BRavo: TEMP DISAB RET EFF 14 JAN 70 (100 PERCENT)
- CHARLIE: DEATH
- DELTA: 16 JAN 70, 1922, BRUCKE GEN HOSP, SAN ANTONIO AS RESULT OF PNEUMONIA DUE TO 84 PERCENT BODY BURNS SUSTAINED ON BOARD USS SHANGRI LA
- ECMO: REMAINS TO BE TRANSFERRED TO BROOKHILL FUNERAL HOME, SAN ANTONIO SET TO GEORGE M. KENNEDY FUNERAL HOME, 314 ABBOTT ROAD, BUFFALO, N.Y. INTERMENT WILL BE IN LOCAL AREA. FULL MIL HONORS REQUESTED BY PNOK.
- FOXTROT: PNOK: MR & MRS (PARENTS),
SNOW: NONE.
- GOLF: YES, MOTHER PRESENT AT TIME OF DEATH. FATHER NOTIFIED AND IS PRESENTLY IN SAN ANTONIO. OFFICIALLY CONFIRMED BY COMEIGHT MSG 162253Z JAN 70.
- HOTEL: LINE OF DUTY
- INDIA: 2 APRIL 1962
- JOULET: A. (FATHER), 100 PERCENT.
ADDRESS REFLECTED IN ITEM FOXTROT.
B. HQ, NAVFINCEN CLEVE IS REQUESTED TO MAKE PAYMENT

ENCLOSURE (19)

All B-6

PAGE THREE RUCLEVAR403 UNCLAS
DEATH GRATUITY.

C. (FATHER), 100 PERCENT
 COMPLEE. WHERIC SAN ANTONIO DESIGNATED ACTY TO PROVIDE
 COUTREY CACP ACTIONS ON BEHALF OF PNOX DURING THEIR STAY
 IN THE AREA. COMPREE REQUESTED TO DESIGNATE CACP ACTY.
 LIMAS: CAUCASIAN. PROTESTANT (MP)
 MIKE: APPLICATION MADE FOR NSLI UPON DISABILITY RETIREMENT. NO
 COMMERCIAL POLICIES OF RECORD.
 NOVEMBER: A. E-3
 B. BASE PAY \$155.10; SEADU \$9.00; FDMHP \$55.00
 C. 6 DAYS 9 MONTHS, 1 YEAR
 D. PLUS 2 DAYS UNUSED LEAVE
 E. COMEIGHT. WILL BE FORWARDED TO NAVFINCEN CLEVE ASAP.
 OSCAR: PAY RECORD REFLECTS \$2.00 PER MONTH DEDUCTION FOR
 NSLI. NO BENEFICIARY DESIGNATION FORM ON FILE.
 FOR COMTHREE PNOX (MOTHER AND FATHER) DEPARTING SAN ANTONIO
 0825, 17 JAN 78 ON AMERICAN FLY NR 378 TO ARR BUFFALO SAME FLT AT
 1351 LOCAL TIME. REQ CACO MEET FLT AND PROVIDE TRANSPORTATION
 IN LOCAL AREA FOR PNOX.

BT

0603

| WEAPONS DEPT. | | |
|---------------|-------|------|
| ROUTE | INITI | DATE |
| WPNS | J | |
| WAA | | |

| | | |
|-----|--|--|
| ORD | | |
| SH | | |
| OX | | |
| G | | |
| OD | | |
| EM | | |
| W | | |

ENCLOSURE (17)

all B-6

09 March 1970

Statement of _____, LT MC USNR, Flight Surgeon, CVW-8 concerning accident aboard USS SHANGRI-LA CVS 38, 10 January 1970.

I interviewed AME3 _____ 851 88 28 USN, in conjunction with the Medical Officer's report of the fire which occurred aboard USS SHANGRI-LA CVS 38 on the night of 10 January 1970.

AME3 _____ states that he was walking aft, slightly forward of the island when he noted a glow behind him. He turned around, saw the fire, and began running forward and across the deck towards the forward port catwalk to man fire fighting equipment. At this point he was struck from the left rear quarter by the MB-5 fire truck.

AME3 _____ injuries consisted of:

- (a) Multiple fractures of the bony pelvis.
- (b) Multiple serosal and peritoneal tears of the descending and sigmoid colon.
- (c) Retroperitoneal hematoma.
- (d) Laceration of the spleen, with resultant splenectomy.
- (e) Abrasions of the hands and face.

He was flown to a U.S. Naval Hospital shortly after the accident, and underwent surgical correction of his injuries that night.

Respectfully, _____

LT MC USNR

ENCLOSURE (20)

all B6

W 117877
 PTEZZYUW RUTWTIF0497 8111456-LEED--RUI YUIN.
 ZNY LEEDS 2 TO RUIWGAN
 P 111456Z JAN 70
 FM USS SHANORI LA
 INFO RUI YUIN/COMSECUNDFLT
 ZEN/COMCARDIV SIX
 P 111456Z JAN 70
 FM USS SHANORI LA
 TO CNO
 NAVSAFECEM
 INFO NAVAIR SYSCOM
 COMSIX
 COMNAVAIRLANT
 COMFAIRJAX
 COMATLCAIRWING EIGHT
 BT

| WEAPONS DEPT. | | |
|---------------|------|------|
| ROUTE | INIT | DATE |
| WPNS | | |
| WAA | | |

Handwritten notes:
 111456
 111456
 111456

- UNCLAS E F T O FOUO // NS3750//
1. OPNAVINST 3750.6F
 2. 18 JAN 1970, 2ND BR, NIGHT.
 3. USS SHANORI-LA CVS-58
 4. A4C, BUONO 147795
 4. VA-175, SERIAL 1-708

| | | |
|--------|---|--|
| ORD | | |
| 5TH | L | |
| FOX | | |
| G | | |
| EGD | | |
| GM | | |
| W | J | |
| MARDET | | |

Handwritten notes:
 CASE II
 FLAS

PAGE TWO RUTWTIF0497 UNCLAS E F T O

5. CHARLIE, ENGINE AFT COMPARTMENT SUSTAINED FIRE DAMAGE. HYDRAULIC LINES, ELECTRICAL COMPONENTS AND WIRING SCORCHED. TRAILING EDGE OF PORT FLAP AND LOWER SURFACE OF TAIL SECTION CRACKED AND BUCKLED. DUCT AND CONE SECTION OF ENGINE SUSTAINED UNDETERMINED DAMAGE. ESTIMATED HOURS TO REPAIR: 450.
6. N/A
7. N/A
8. N/A
9. N/A
10. REFUELING
11. AIRCRAFT SPOTTED ON STBD BOW FOLLOWING NIGHT RECOVERY. SHORTLY AFTER SECURING ENGINE, NORMAL PRESSURE REFUELING COMMENCED. 15 TO 30 SECONDS AFTER APPLYING FUEL PRESSURE, FLASH FIRE OF UNDETERMINED ORIGIN OCCURED.
12. WIND OVER THE DECK: 29 KTS
13. UNDETERMINED.
14. UNDETERMINED.
15. A. _____ D., AA, 813 56 27, USN, FUELING CREWMAN (NOZZLEMAN), BRAVO.
 B. _____, AA, 814 55 75, USN, PLANE HANDLER, BRAVO.

PAGE THREE RUTWTIF0497 UNCLAS E F T O

- _____, ARES, 851 88 26, USN, AIRCRAFT MAINTENANCE (NOZZLEMAN), BRAVO.
16. NONE
 17. _____, LCDR, VA-172 430
- BT
 8497

ENCLOSURE (2/1)

ALL BK

CNAL 511
10 October 1970

MEMORANDUM FOR CAPTAIN

Via: 51

Subj: Investigation into Fire Aboard USS SHANGRI-LA on 10 Jan 1970

1. The following comments concerning the subject investigation are offered:

a. Recommendation number 3. Do not concur. Crash and salvage personnel must be trained to react quickly and efficiently to all emergencies associated with flight operations.

b. Recommendations 4, 5, 6 and 8. These recommendations will be the subject of separate correspondence with the Commander, Naval Ship Systems Command. (COPY ATTACHED)

2. Concur in all other opinions and recommendations as approved by earlier endorsements.

Very respectfully,

All B-6

CNAL 511
10 October 1970

MEMORANDUM FOR CAPTAIN L

Via: 51

Subj: Investigation into Fire Aboard USS SHANGRI-LA on 10 Jan 1970

1. The following comments concerning the subject investigation are offered:

a. Recommendation number 3. Do not concur. Crash and salvage personnel must be trained to react quickly and efficiently to all emergencies associated with flight operations.

b. Recommendations 4, 5, 6 and 8. These recommendations will be the subject of separate correspondence with the Commander, Naval Ship Systems Command.

2. Concur in all other opinions and recommendations as approved by earlier endorsements.

Very respectfully,

All B-6

CNAL 334D
7 August 1970

MEMORANDUM FOR CAPT

Subj: Investigation of fire on board USS SHANGRI LA on 10 Jan 1970

1. A review of subject investigation reports indicate that timely and proper firefighting techniques were employed at the scene.
2. Recommend 50 Shop comment on finding of facts # 6, 7, 13 and recommendation 3.

Very Respectfully,

All B-6

29 October 1970

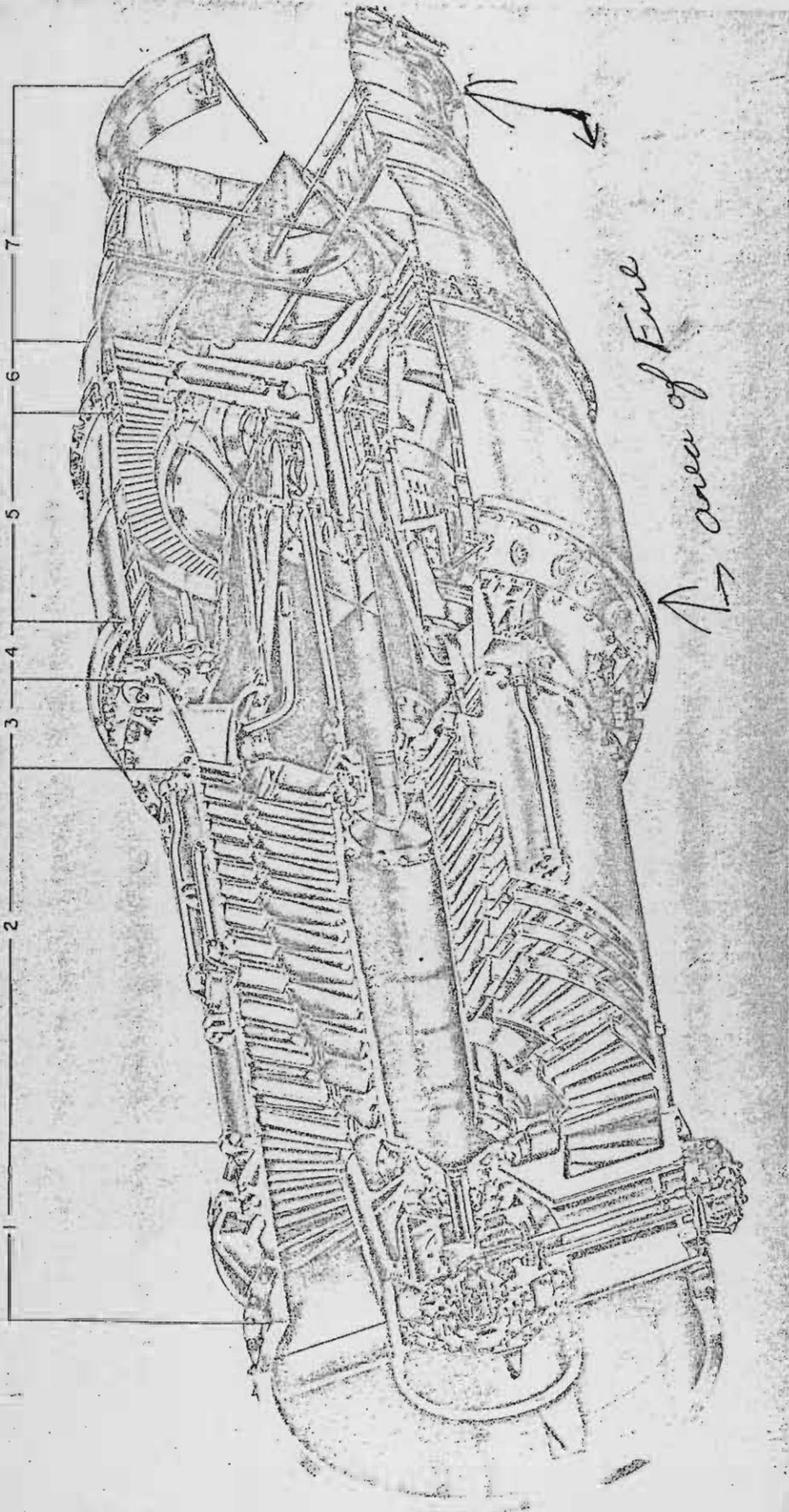
MEMORANDUM FOR CAPTAIN

Subj: Investigation into fire aboard USS SHANGRI-LA on 10 January 1970

Encl: (1) View of engine without insulation blanket
(2) View of engine with insulation blanket

1. The only comment from the Air Material Section applies to Opinion 1, last sentence: The likelihood of such occurring from possibility number three is considered essentially zero. As noted in enclosure (1), this section of the engine is comprised of an engine casing made of solid metal. There could be "minute openings" in the insulation blanket as indicated in enclosure (2), but it is virtually certain that such openings did not extend into the engine.

Very respectfully,

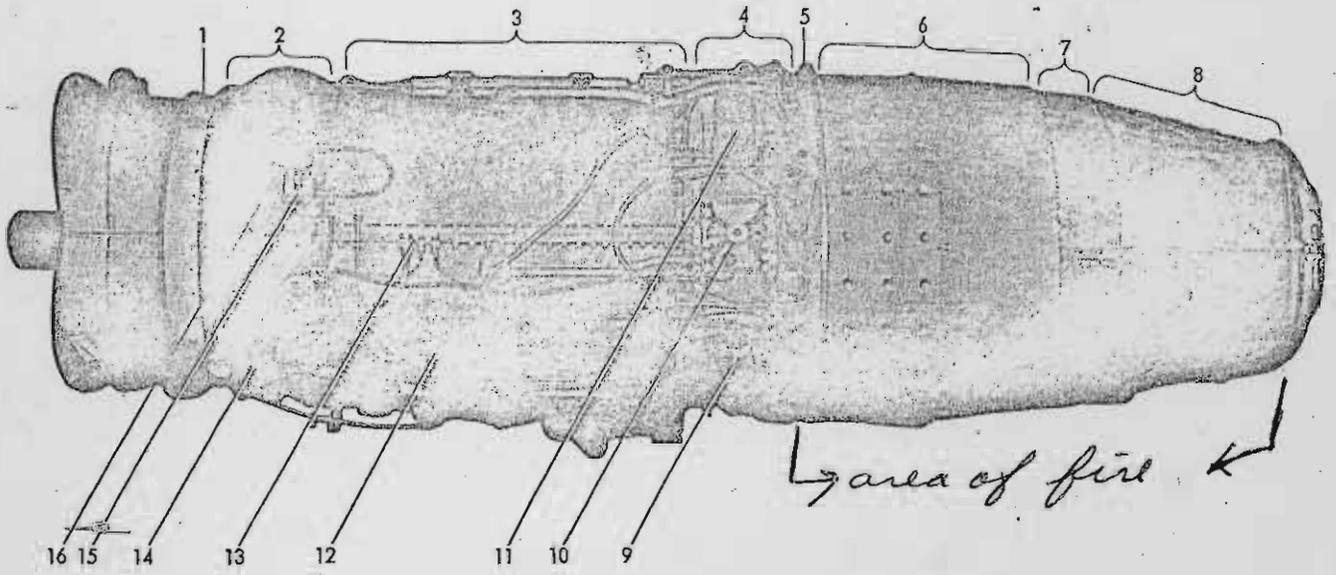


1. Front main bearing support housing section
2. Compressor housing section
3. Center main bearing support housing section
4. Combustion chamber inlet housing section
5. Combustion chamber section
6. Rear main bearing support and turbine section
7. Exhaust duct section

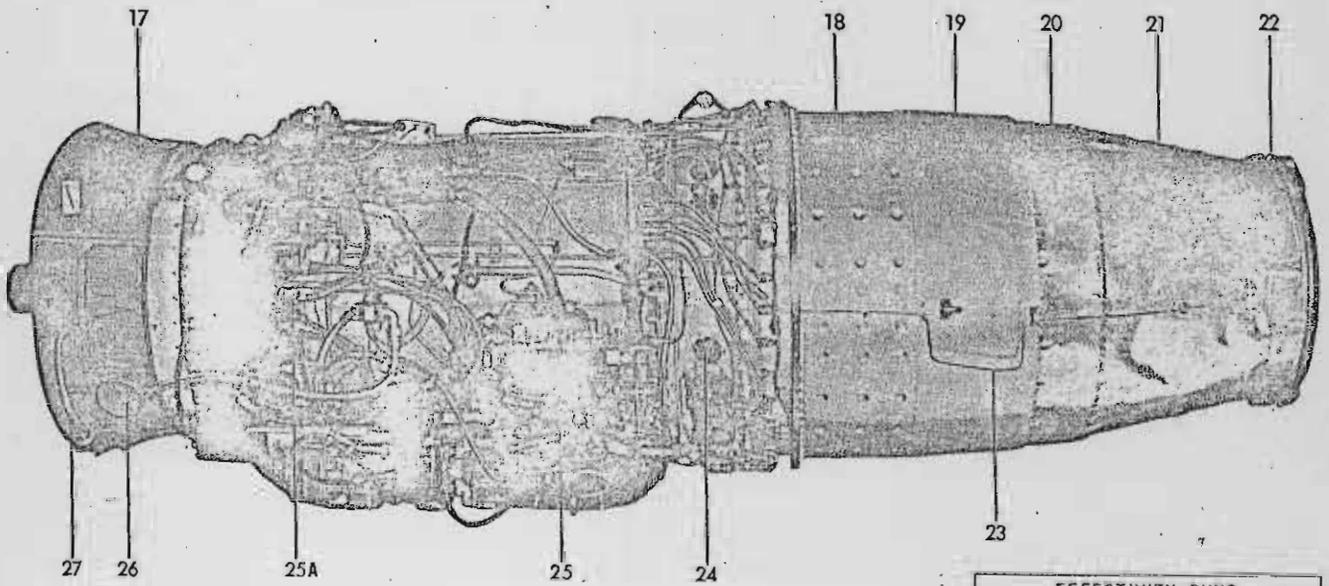
Figure 2-2. Cutaway View of Engine

Enclosure (A)

LEFT-HAND SIDE



BOTTOM



EFFECTIVITY - BUNO.
 FACTORY: 147669-147849, 148304-
 148317, 148435-148612,
 149487-149646, 150581-150600
 SERV CHG: 145062-145146 REWORKED
 PER BUWEPS A4D/SC NO. 118

AVB-2-5 P-13043-1E

Figure 5-1. Quick Engine Change Unit (Sheet 5)

Revised 15 February 1962

enclosure (2)

ALL 56

CNAL 511B
4 February 1970

MEMORANDUM FOR CAPTAIN

From: 51

Via: 50 

Subj: Informal Board of Investigation to Inquire into Circumstances Surrounding the Fire and Resulting Damage in Compartment 1-99-4V on board USS FORRESTAL (CVA-59) on 13 and 14 Jul 1969

Ref: (a) COMNAVAIRLANT 334D memo of 12 Jan 1970

1. Ship Material commentary covering those areas indicated to be 51 cog by reference (a) is as follows:

a. Recommendation 1 - Concur with recommendation 1 and the subsequent action taken in this area as indicated by the first endorsement.

b. Recommendations 3 and 4 - COMNAVAIRLANT recognizes the requirement for adequate tire stowage space or spaces, designated as such, and designed to meet tire stowage criteria. ^{Further} Commentary on recommendations 3 and 4 withheld pending submission of a specific ship alteration request which should reflect the results of the direction provided by paragraph 3 of the second endorsement. It should be noted the tire stowage criteria cited in enclosure (67), is drawn from NAVWEPS 04-10-506 and not NAVSHIPS Tech Manual as stated in fact 58 and recommendation 4.

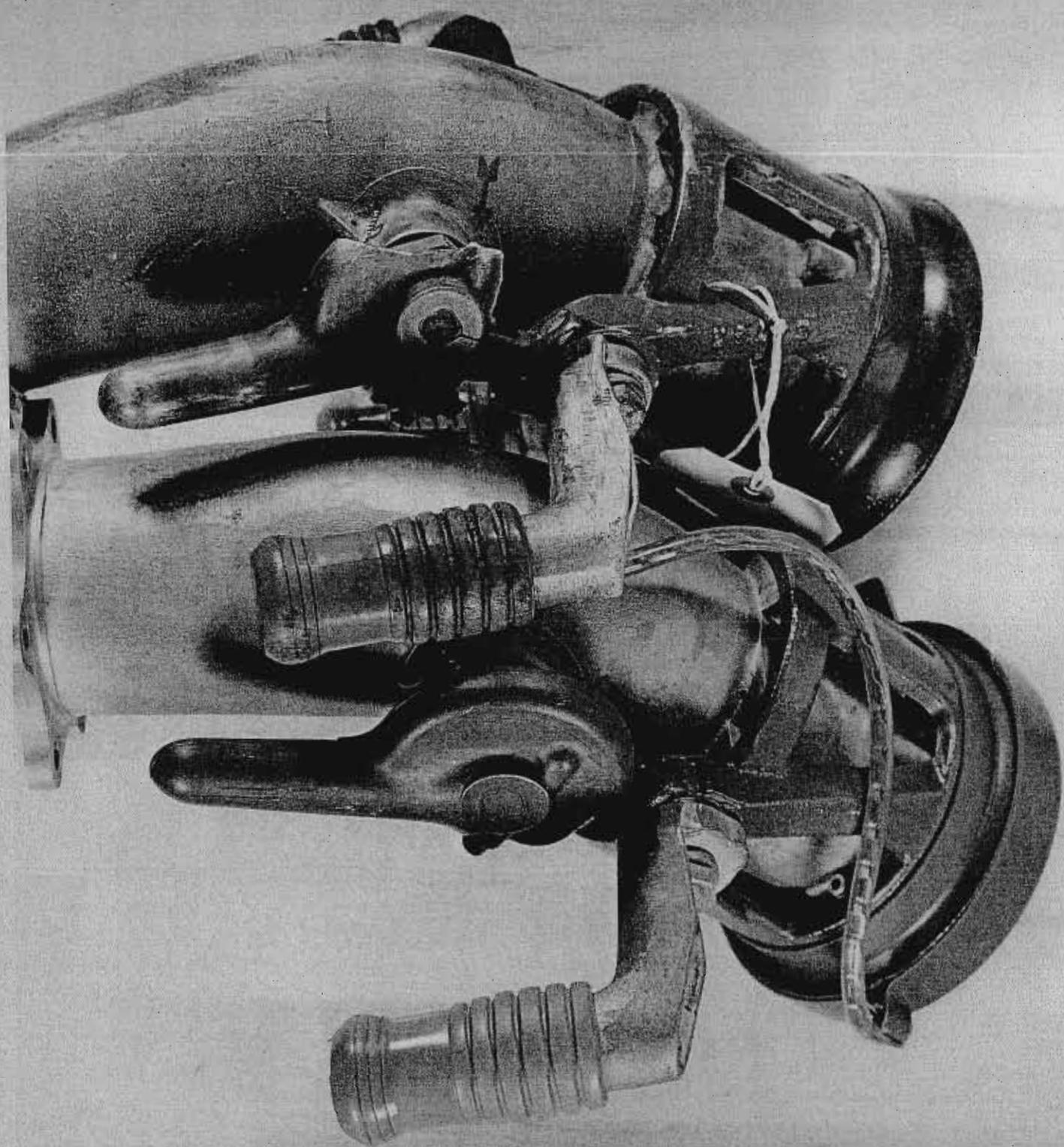
2. It is recommended that Commander, Naval Ship Systems Command be added as a via addressee.

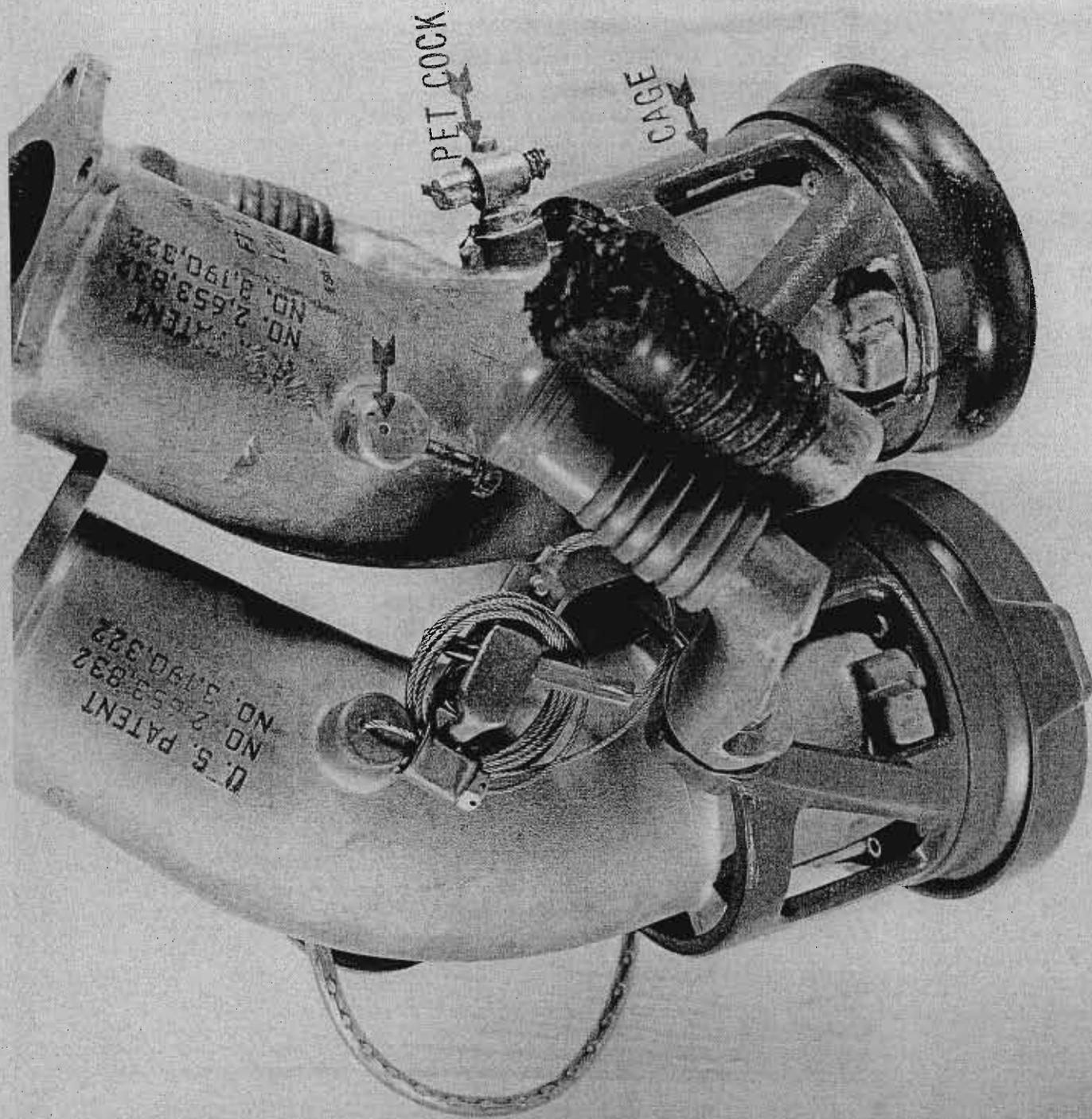
3. It is recommended that the following paragraph be included in COMNAVAIRLANT endorsement:

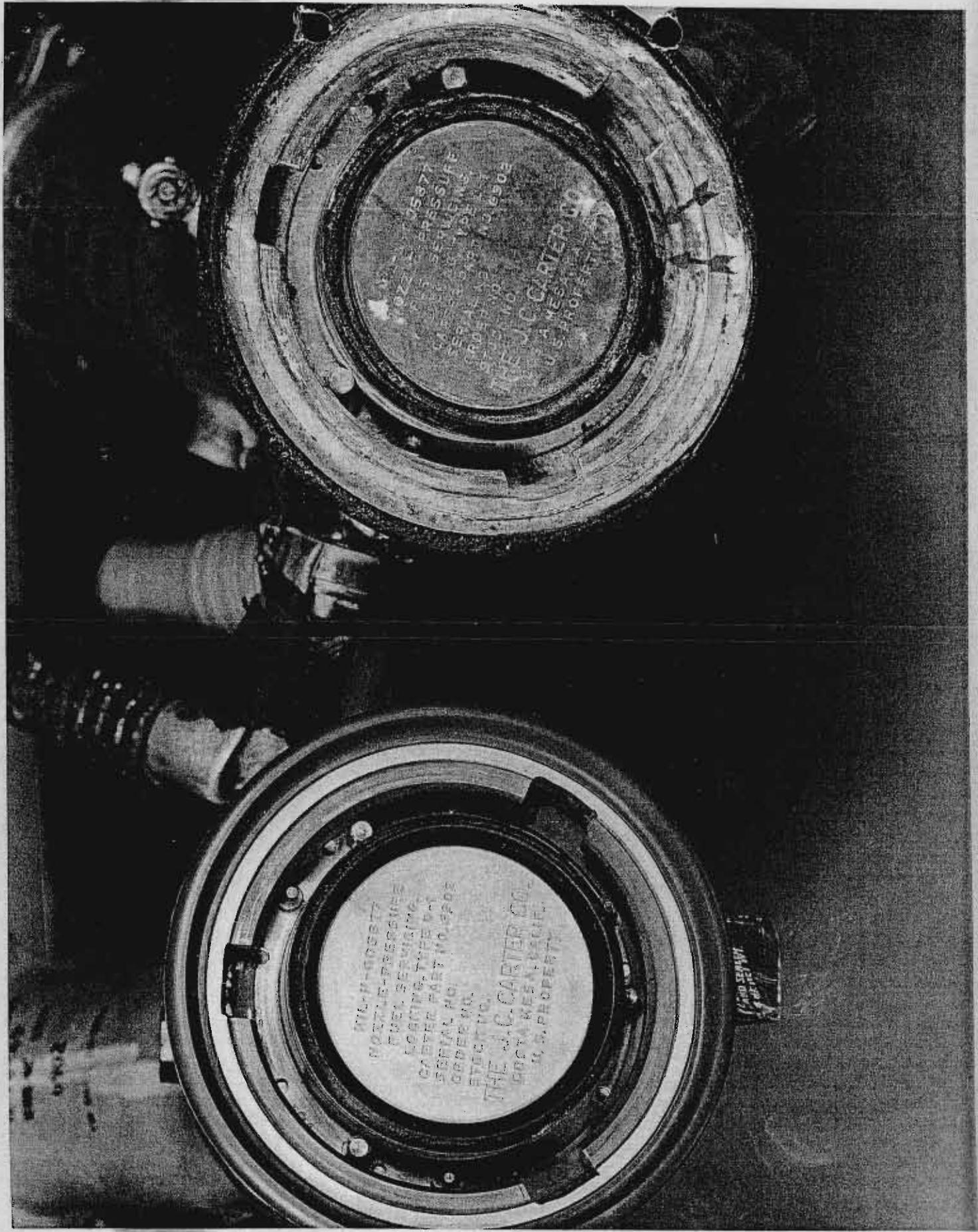
All B-6

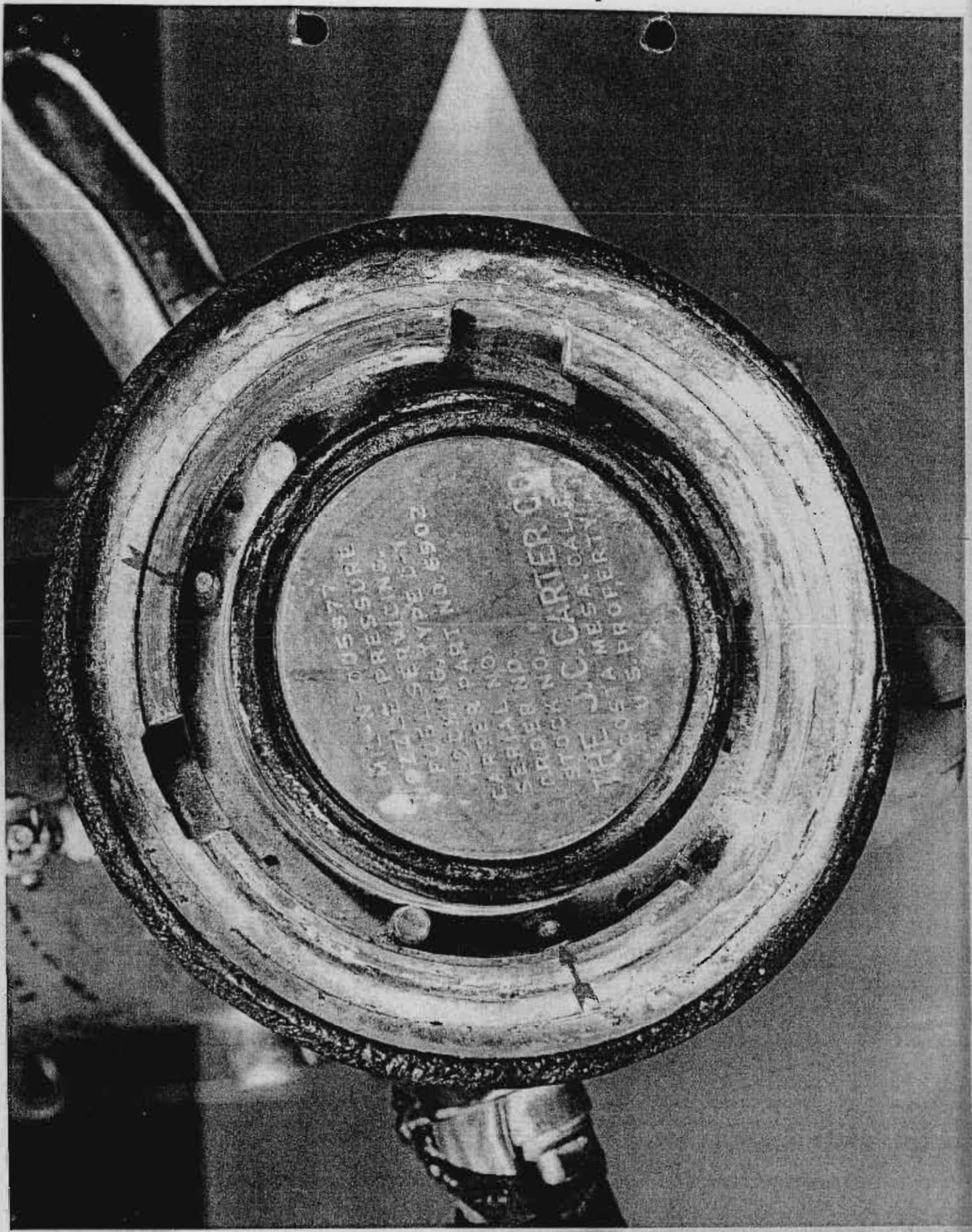
"It is recommended the Commander, Naval Ship Systems Command take steps to insure that the specifications for new construction aircraft carriers and other type ships having a significant population of rubber tired equipment aboard include adequate provisions for tire stowage."

Very respectfully,









WILLYS PRESSURE

TYPE SERVICE NO. 6502

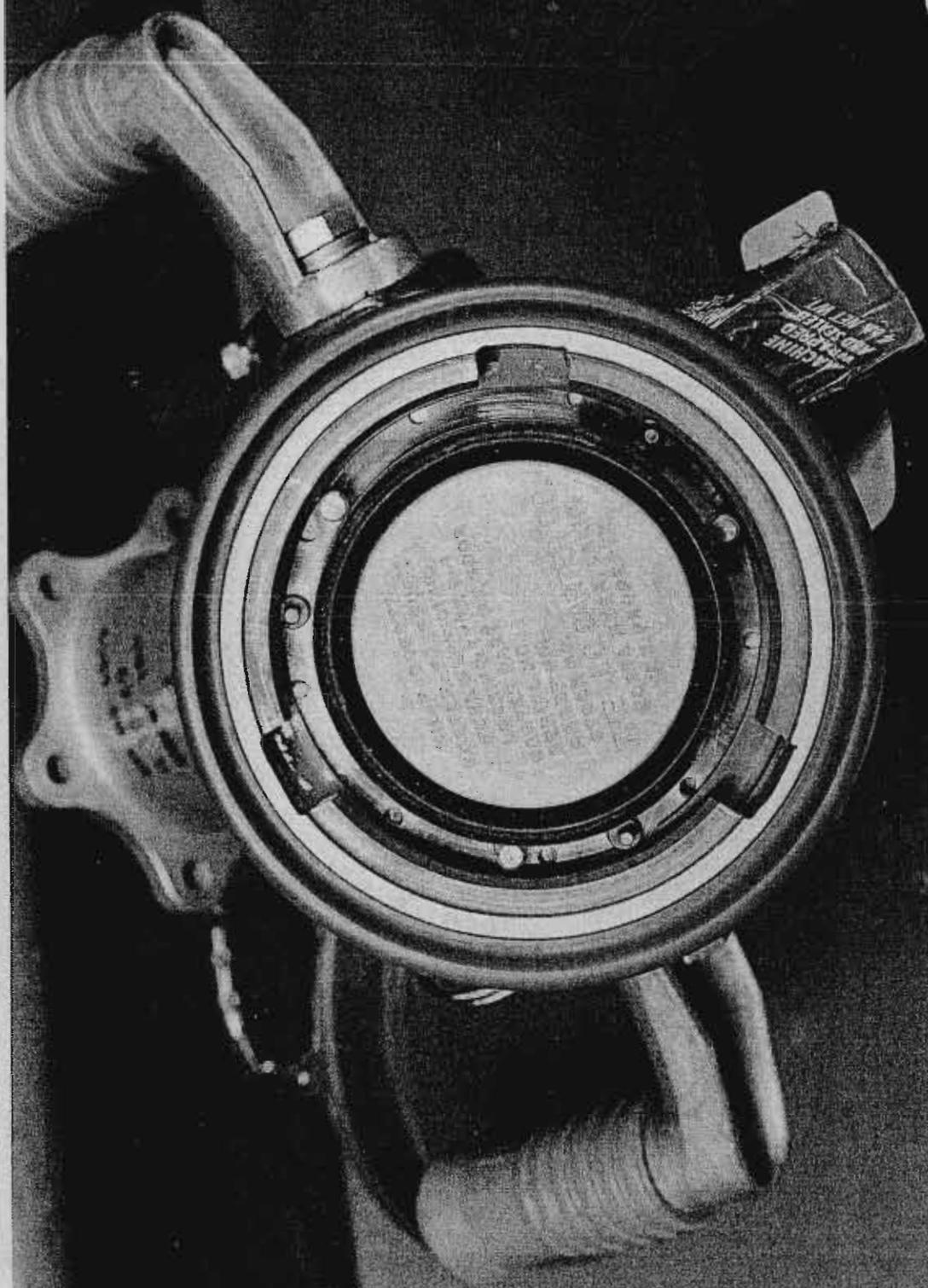
PART NO.

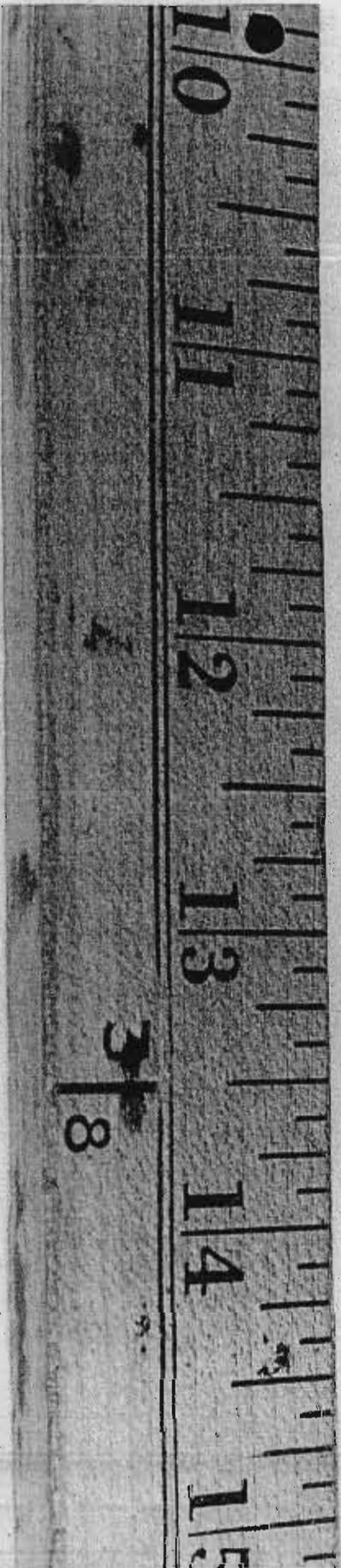
SERIAL NO.

CARTER CO.

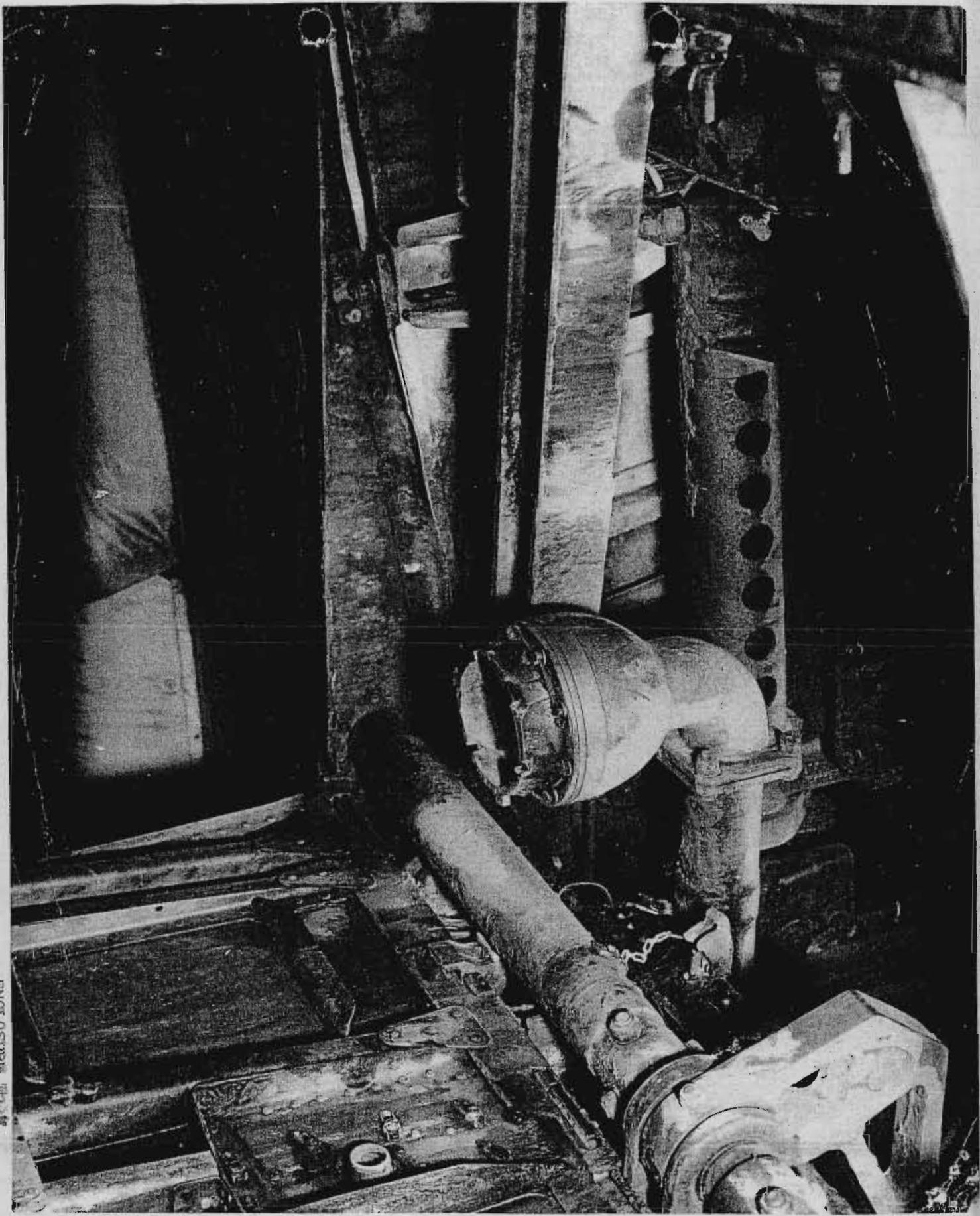
MILWAUKEE, WIS.

JAMES H. CARTER





ENCLOSURE (22)



ENCLOSURE Part