

WAR DEPARTMENT
ARMY EFFECTS BUREAU
KANSAS CITY QUARTERMASTER DEPOT
601 HARDESTY AVENUE
KANSAS CITY 1, MISSOURI

PENALTY FOR PRIVATE USE TO AVOID
PAYMENT OF POSTAGE, \$300

OFFICIAL BUSINESS

PERSONAL EFFECTS:

TO: Mrs. Anna Matican

613 Howard Avenue

Brooklyn, New York

NAME S/Sgt. Sigmund S. Matican

ASN 12125825

CASE NO. 151476-D

WEIGHT

Effects QM Form 25—I. J. Eagle Co., K. C., Mo.—6-25-45—125M

Sgt. Sigmund S. MATKAN

- Engineer -

14th A.C. Regiment, Headquarters & Co, 1st St. Administration

Camp Smith, Packskill, N.Y.S. 37-70' 42'

Proc. Camp, Watcetonny, N.Y.S. { Discharged -
Sept 4, 1942

U.S. Army Air Force 42' - 43' - 44' Aug. 13, 1942

Camp Upton, Long Island, N.Y.C.

Co. B 883rd

14229 Rec. # 14229775

Miami Beach, Florida

5733 T.S.S. # 531

"Ambison Hotel" & "Hotel Kioitta"

Amarillo Field, Amarillo, Texas

409 T.S.S. 813rd 225

Flight A+B.

Seattle, Washington

A.A.F.T.B.

Boeing Aircraft Factory - 41st. 15-8-28

1600 Ellis Ave. 1563rd 125

Las Vegas, Nevada

L.V.A.G.S.

Class 43-14 863rd 1-13-28

Salt Lake City, Utah
Nov 29 '6 - 27th Dec Army
OAS # 22 33

Lytle, Texas
#35th South Squadron
A.A.B.

Dallhart, Texas
#1st South Sq
A.A.B. OAS # 26

Schedules to fly

To Salt Lake, miss - make stop at Orange, Fla

July 12, 1943 + return { that mission
July 14, 1943 { completes
310 phase of CT.

Applied to leave on

WAT Postlogh
A.A.B. 7-14-43 - 2 1/2 hrs
Squad 7-14-43
V.G.

Grand Island, Nebraska
OAS # 7-10

Hampton Roads

Camp Patek Navy, Va.
OAS # 28 Army # 9

Casablanca - North Africa

Tunis - North Africa

Italy - City of Rome

London -

London - England

U.S.S. James Jackson (Liberty Ship)

Left Hampton Roads, VA. on Sept. 24, 1943
AND Arrives in Casablanca Oct. 12, 1943

Left Casablanca on Oct. 17, 1943 AND
Flew to Tunis (7 Hours) Arrived in
Tunis Oct. 17, 1943 Flew out of Tunis to Italy
Dec. 10, 1943 100 Kilometers to Foggia - (North)

Dec. 6, 1943 - {Tunis, North Africa}

First combat mission -

"GRIZZANO Railroad Bridge - GRIZZANO, ITALY.
Ran out of fuel AND LANDED in FOGGIA AND STAYED
OVERNIGHT. Went to FOGGIA man for chow AND got
one can of Cielion + one can of Army. on the 7th no chow.
(No Flak's no fighters - milk ton)

Dec. 15, 1943 {Foggia, ITALY}

2nd Combat Mission GRIZZANO RAILROAD
BRIDGE AND MARSHALLING YARDS. Plenty of
FLAK no fighters - Got three fingers frost bitten.
- AND feel like a dog.

Dec. 16, 1943

3rd Combat Mission "PADUA, MARSHA
LLING YARDS. Destroyer Target. Ugin Target - No Flak
No fighters - have some BOT AND P-38 escorts + they
chase 'em. Bot over EAST of Vienna they thru up some
FLAK.

- 201044 -
Dec 19, 1943 4TH COMBAT MISSION -

HAS THREE TARGETS IN SUBSITUTE (in case one was clouded over) 1ST TARGET WAS AMSTERDAM, WAS CLOUDED OVER, SO WE FLEW TO MUNICH, GERMANY AND THAT TOWN WAS CLOUDED OVER, SO WE WENT ON TO OUR LAST TARGET DUSSELDORF, GERMANY AND WE FINALLY BOMBED A BRIDGE. Tail gunner Peterson claimed a me 109 - plenty of fighters, Pullitt got a probable, I saw the me - bank high and was smoking + he dives down. My heated gloves and boots went out and result my feet are frost bitten and most of my fingers. I got a beautiful cold and cough and my oxygen mask continually freeze up on account of running my nose.
- "C" is quite - (Vience was the target)

Dec. 20, 1943 (got the "AIR MEDAL TODAY")
5TH COMBAT MISSION

"ELVISUS AIRCRAFT," ATHENS, GREECE
clear day, best target. plenty of accurate flak and fighters. Heated gloves and boots no good damn good. got frost bite worse than ever, still nothing done for it. worse mission yet. put out around 12 engines on diff. ships. Three ships shot down in group. Guys were wounded - most ships full of holes. Ours wasn't touched. There are only two ships in port Spain - ready to fly and ours is one. lucky luck some helpers us. I uttered a few prayers and they were answered, while we were attacked. I pray to God we don't have to do that again. 45 missions left and sweat 149 them out.

December 25, 1943 "XMAS DAY"

6th ComBAT Mission

"USINE", ITALY; MARSHALLING YARDS

No FLAK No fighters - Nothing but clouds. Didn't drop bombs. HAS Big XMAS MEAL AFTER landing. Also got first letter from Kay - after four months.

7th ComBAT Mission

Jan. 3, 1944

{ Got credit for mission }

Turned back 10 minutes from target.

Target was "VILLAR PORIZA" - Ball bearing works coming home, circles MT. VESEVUS. It was smoking.

Jan. 4, 1944

Collection { DUBRITSA 4/485.0 town

BULGARIA - Primary Target

8th ComBAT Mission

SKORLIE, YUGOSLAVIA - Small City - Business District
No FLAK - 1 solitary fighter. Eager bastard too.

Jan. 9, 1944

8th ComBAT Mission

MARIBOR A/C FACTORY, YUGOSLAVIA

No FLAK No fighters.

Jan. 10, 1944

9th ComBAT Mission

Reggio Emilia 4/8 ITALY

No FLAK No fighters - Hope this keeps up.
Wiped target off the map.

JAN. 18, 1944 10th COMBAT MISSION ^{got med lead}
"POLA", Northern ITALY ^{cluster bomb}
^{air medal}

Torpedo plant and oil refineries.
FLAK, BUT WAS INACCURATE, NO FIGHTERS
TARGET BLOWN TO HELL. GOT WIND BURN ON NECK &
ELETRIC BOOT BURNED BLISTERS ON RIGHT FOOT.

JAN. 19, 1944 12th COMBAT MISSION
"SOPHIA", BULGARIA - CAPITAL OF BULGARIA
GERMAN HIGH COM. & BUSINESS DISTRICT. BOMB IT
TO HELL. PLENTY OF FIGHTERS & ACCURATE FLAK. SHOT
600 RBS. AT A TIME, HE WAS 300 YDS. HE WENT
UP IN FLAME. GONDAM SAW IT GO DOWN. THESE
FIGHTERS WERE WITH US FOR QUITE A WHILE.

JAN. 11, 1944 13th COMBAT MISSIONS
"PIREUS - ATHENS GREECE - NOYLM BASIN"
DOCKS + HARBOUR - PLENTY OF FLAK AND FIGHTERS.
THANK GODS THOSE PRETTY P-38 WERE ESCORTS.
NEINER DROPPED SOME AERIAL BOMBS. GOT
NAPPED TWICE AFTER LEAVING TARGET.

JAN. 14, 1944 14th COMBAT MISSION
MOSTAR A/S YUGOSLAVIA
PLENTY OF FLAK NO FIGHTERS - TAIL END CHASER
GOT FLAK BURST RIGHT IN MIDDLE OF WAIST.

JAN. 15, 1944 15th COMBAT MISSION
"POTAR, N. ITALY W/4000"
NO FLAK, NO FIGHTERS. - 60° BELOW AT 20,000 -
HEATED CLOTHES BURST OUT - GOT MOST BITE WORSE THAN COCK.

JAN. 18, 1944 16th COMBAT MISSION
N. ITALY - RAILROAD BRIDGE
No fighters No HAK (Milk Run)

JAN. 19, 1944 17th COMBAT MISSION
Rome, ITALY A/B. Rome, CIAMPINO
Plenty of accurate HAK no fighters
HEATED clothes been focked up for
PAST FOUR MISSIONS - BEEN GETTING SHOT
BITE regular. In this chicken shit sqdn. you
CAN'T GET NEW STUFF. BEEN flying Tail End
CHARLIE ALMOST EVERY MISSION. GETTING 3 LETTERS
OF RECOMMENDATION FOR PASETS - HOPE I PASS THE
MENTAL EXAM. RUMORS THEY ARE CUTTING DOWN
ON THE MISSIONS. IF I PASS THE EXAM I GO TO
ALIEGERS FOR TRAINING. I HOPE THE EXAM IS EASY
I SURE LIKE TO TRY PASETS AND FO HATING WILL TAKE
IN SOME MORE EXTRA MONEY.

JAN. 20, 1944 18th COMBAT MISSION
Rome CIAMPINO A/B, ITALY (Same place as 17)
No HAK no fighters.

Got some new HEATED stuff works pretty
good. Finnegan finished his 50th today. He
promises to visit home, when he gets to NY.
If all keeps up like this I'll be home by spring.

JAN. 21, 1944 19th COMBAT MISSION
Town of "PORTOCIVITANOVA" ITALY -
No HAK - No fighters - 1st TARGET WAS M/405 NEAR
FLORENCE, ITALY

(Another oak leaf cluster)

JAN. 22, 1944 20th COMBAT MISSION
BOMBED A R/BIDGE NEAR ROME
WE HELPED OUT GROUND FORCES. SAW ONE NAVY
AROUND 275 BATTLEGONS & SUBS. WAITING FOR THE
INVASION. AND BECAUSE OF TODAY'S RAIN WE
ESTABLISHED BEACH HEADS AND SOME STAYS BE IN
ALLIES HANDS VERY SOON.

JAN. 23, 1944 21st COMBAT MISSION
ANCONA ^M/405 - NEAR FLORENCE ITALY
HELPS THE INVASION AGAIN. NO JAK NO FIGHTERS
OUR FORCES ARE 20 MILES FROM ROME.

JAN. 24, 1944 22nd COMBAT MISSION
SOFIA, BULGARIA ^M/405. CROUCHED OVER
DELGARD, YUGOSLAVIA 1st ALTERNATE CROUCHED OVER
FLEW TO VIENNA. OVER THE ALPS DAWN NEXT MORNING 2nd
ALTERNATE TARGET. FLEW ALL OVER EUROPE - CIRCLES
ENEMY TERRITORY FOR HOURS. FROZE SOLID UP THERE
AT 26,000 - NO JAK - FIGHTERS TOPPED US AT
15,000 AND A P-47 ATTACKED US WITH A ME 109
FLYING BACK I AM OUT OF FUEL & THREW OUT
EVERYTHING THAT WAS MOVEABLE - SAVED OUR LIVES
& PREPARED TO DITCH THE SHIP IN THE WATER
FEATHERED ² PROP. CALLED AIR SEA RESCUE
THANK GOD WE JUST MADE LAMB. WE LANDED
ON OUR BOWWAY WITHOUT A DROP OF FUEL.
HOPE WE NEVER GO THRU THE EXPERIENCE AGAIN
MY GUN TORE UP WITH A 2" OF ICE & MY FEET ARE
SWOLLEN WITH FROST BITE.

Jan. 27, 1944 23rd Combat Mission
Province De Salon A/B - FRANCE
Plenty HAK and fighters - longest mission yet.
It sure was tough. 5000s. of Hb 150's + 109
Attackers vs P-38 NAB Dogfights A/B use Hb
our state - on way home ran out of fuel
landed in Corsica for fuel -
Got 2 pks. from home today. Not still
first pks. since left the states.

Jan. 28, 1944 24th Combat Mission
"AVINO A/B ITALY
Plenty HAK - no fighters - NAB P-38 escorts
They sure look good - Better than a letter from
home. Staff rating went thru. (at last!)
Leaving FEB. 1st for CABET EXAM. Didn't expect
it so soon, hope I pass the mental - I got a four
days to study.

Jan. 29, 1944 25th Combat Mission
"Remini A/Bs, N. ITALY -
No HAK - no fighters - hope it keeps up

Jan. 30, 1944 26th Combat Mission
A/B + Town
No HAK - Plenty fighters -
LAST MISSION IN ITALY
Got orders transferred to 8th A.F.
London, England -

LEFT Foggia, ITALY By B-17 to Tunis, North Africa
2/13/44 STAYED OVER NIGHT (2 NIGHTS) THEN
Flew with C-47 to Algiers STAYED OVER NIGHT
AND Flew with C-47 to CASABLANCA AND HAD
SEVERAL Hours DAY OVER AND THEN Flew to
Perth, SCOTLAND, FROM THERE WE TOOK A TRAIN
WE LAYED OVER SEVERAL Hours IN GLASGOW
(NICE TOWN) FROM CASABLANCA TO SCOTLAND WE
Flew ON A C-54 IT TOOK 11 1/2 Hrs. FROM
ALGIERS TO CASABLANCA WE HAD AS OTHER
PASSENGERS MAJ. GEN. ROBERTSON & MAJ. GEN.
& 4 COL. SOME RANK —
STAYED IN RES. CENTRE FOR A WEEK HOWARD HALL
2/27/44 ASSIGNED TO 544th B. SQDN 384th B. GT.
IN GRANTON & UNDERWOODS - ENGLAND - ABOUT 20 MILES
FROM LONDON.

GRANTON & UNDERWOODS No 106
MARCH 9, 1944 27th COMBAT MISSION
"BERLIN" - "GERMANY" -
Plenty FLAK - NO FIGHTERS
Long mission - Bombed the city
- My ELECTROSTAFF finally worked -

MARCH 16, 1944 28th COMBAT MISSION
"MUNICH" - "GERMANY"
Moderate FLAK - No fighters (Augsburg -)
7 hours on oxygen - Rough DEATED STUFF
Bombed out - After landing - cleaned up
and went to Kettinging and STAYED THERE UNTIL
today 17-44 - Blew my top - still feel nervous -

MARCH 18, 1944 29th Combat Mission

"Augsburg" - GERMANY

WE HIT THE BECK 40 minutes from target -
HAD NO ESCORT FOR 1 hour then 10 F4's +
A B-24 who was in trouble went to the
coast with us - Our no. 3 Supercharger the
amplicon burned out - WE WERE SHOT AT -
THOSE LOUSY FLAK BUSTS SCARE THE SHIT OUT OF ME -

MARCH 19, 1944 30th Combat Mission

FRANCE - COMIL. FRONT.

Plenty of accurate flak - GLAD TO BE HOME -
ONE OF THE GROUP'S SHIPS WAS HIT - GOT ON FIRE +
EXPLODED - THE GROUP LEADER FUCKED UP -
WE TOOK OFF AT ~~10:00~~ 10:15 + LANDED AROUND 8:15
SWEATED OUT A NIGHT LANDING -

MARCH 20, 1944 31st Combat Mission

"Frankfurt" - GERMANY

Plenty flak + fighters

Flying thru heavy soup - I feel lousy
tonight - NEARS NUTS - EYES - EVERYTHING
WISH I COULD GET SOME REST -

APRIL 9, 1944 "EASTER Sunday" 32nd

Combat Mission

MARIENBURG - EAST PRUSSIA

FLAK - MODERATE - NO FIGHTERS

1/2 hour haul - AT 15,000 FT. ALMOST HAD
TO DITCH AGAIN - FLEW WITH STALL'S CREW -
FELT LIKE A BOY GOT SICK - BUT DIDN'T NEARS.

April 10, 1944 32nd COMBAT MISSION
"Bossels, Belgium"

Short Hop - FLAK - no fighters -
felt pretty good - wish they were all
like this - 10 more to go -
(Stalls (new))

April 11, 1944 34th COMBAT MISSION
"Jouva - Germany"

FLAK & several fighters - but no
direct attack -

10 Mr. Naul felt lousy - Sept over
target - wish I was finished -
Plunkett has one more to go & I
have 9 more - (with Yodie) again -

April 18, 1944 35th COMBAT MISSION
"ORienburg, Germany"

FLAK - no fighters - were some but
no direct attack on our formation -

Plunkett finished up to Day, Lucky
Guy, Well - I have eight more to go -

April 19, 1944 36th COMBAT MISSION
"Kassel, Germany"

FLAK & fighters

Miller finished today -

I have 7 more to go -

April 20, 1944 37th COMBAT MISSION
"Nerboing FRANCE"

FLAK - no fighters - 6 more to go -
Short Hop - mudsling Roy -

April 22, 1944 38th COMBAT MISSION
"NAMM" GERMANY

FLAK + plenty accurate - rough
day - No fighters

Well thank God I've 5 left -
HOPE I'm HOME NEXT MONTH THIS TIME -

April 24, 1944 39th COMBAT MISSION
"FRIEDRICHSHAFEN
GERMANY"

Plenty of accurate flak + plenty of
fighters - HORSE RAIN BURST IN -

met other waist gunner got flak wounds
LARS in hospital 4 days - Pappy

finishers up today - I got the
people heart - Graham - PAT - W. E.

ME + POEMPTA + Philpott are left - to
finish up - ENTERING this on 4/27
Graham - finishers up today -

LEAVES 5 OF US - I got 4 left.

Pappy's + the other officers are
going to the O.S.A. this Sunday -

May 1, 1944 40th COMBAT MISSION
A/fields - near NANCIE - FRANCE

Mild Kon - No flak + No fighters

Well - THREE MORE TO GO +
THEN ITS HOME -

MAY 7, 1944

41st COMBAT MISSION
"BERLIN" - GERMANY

THE MOST ACCURATE & THE MOST FLAK
I EVER SEEN AND WENT THROUGH - FOR A SOLID
40 MINUTES OR SO.

WHEARNE, WENT UP WITH GOLLET - THEY
LET OUT STEMENT - FIGHT OVER BERLIN

Lt. GOLLET - FEATHERED A PROP. HE DROPPED
THEM TO THE LOW SPEED AT 25000 FT.

HE STAYED THERE A LITTLE WHILE AND

THEN HE PEELERS OFF AND HIT THE BECK

SO FAR HE & CREW - INCLUDING W.E. ARE

MISSING - ONE MORE & W.E. WOULD HAVE

COMPLETED HIS TOUR - I HAVE TWO LEFT

AND I'M SCARED & NERVOUS - HOPE & PRAY

MY LAST TWO ARE MILK CANS -

ELECTRICAL SYSTEM

B-17F

A - Autosyn inst.

B - Bomb control

D - Deicer, oil dilution, and pumps.

E - Exterior lighting

FL - Flight control

I - Ignition

IA - Instrument lighting

IL - Interior lighting

M - Misc. instruments

P - Power (D.E.)

P.F. Prop. Feather

R - Retracting motors

S - Starter

W - Warning signal

{ on B-17E only
T - Turret

Instruments

10th 01-2015-2

Airspeed indicator -

max. permissible - 305

Tachometer -

max. take off R.P.M. 2500

operating range 1600-2000

Manifold Pressure -

max. permissible for take off 46 in. Hg.

operating range 26 to 34 in. Hg.

Fuel Pressure -

operating range 12-16 lb./sq. in.

Oil Pressure -

operating range 8-10

Hydraulic Pressure -

operating range 600-800

Oil Pressure -

operating range 70-80

max. - 80 lb./sq. in. min. - 20 lb./sq. in.

Cylinder Temp. -

operating range 150-200

max. per. - 250

Oil Temp. -

Normal - 60-80

desired - 70°C (158°F)

max. - 85°C (185°F)

Markings

Green Arc - operating range

Red line - maximum permissible

White line - reference marks

LOADING

To find the center of gravity when adding items, often basic airplanes have been weighed and its balance determined use the following formula.

$$\frac{K}{X} = \text{New Gross Weight C.G.}$$

example:-

Weight of item	A x Arm	=	Inch pounds
"	B x "	=	"
"	C x "	=	"
"	D x "	=	"

<u>Total weight of added items</u>	<u>Total inch pounds</u>
Plus <u>airplane basic wt.</u>	<u>Basic Airplane Bal. Moment</u>
<u>Equals X (New gross wt.)</u>	<u>K (New Balance Moment)</u>

Center of Gravity is between
19% to 32%

Bomb loads 4000 lbs. max. 6000 lbs.
4000 in bomb bay and 6000 under wing.

M.A.C. = Mean Aerodynamic Chord.

TANKS

Capacity

100 OCTANE GASOLINE		U.S. GAL	IMP. GAL
Engine #1	Fuel Tank	425	354
Engine #2	" "	215	179
Engine #2	Feeder Tank	214	175
Engine #3	Fuel Tank	215	179
Engine #3	Feeder Tank	214	178
Engine #4	Fuel Tank	425	354
Auxiliary Fuel Tank		410	341
Auxiliary " "		410	341

Following Tanks (2) ea. hold 270 GAL

Engines #1-4	U.S. GAL	IMP.
^{spec} 3580-e - Supercharger Lub. Oil Tank	1.5	1.25
3580-005 Hydraulic Oil Supply Tank	1.86	1.54

Tank	Description	Cap.	
		U.S. GAL	IMP. GAL
D-1	Engine #1 Oil Tank	319	30.7
D-2	" 2 " "		
D-3	" 3 " "		
D-4	" 4 " "	EACH	EACH

Fill Engine Oil Tanks with Lub. Oil
spec. AM-VV-0446

"TIME TABLE"

5 minutes	= .1	35 minutes	= .6
10 "	" = .2	40 "	" = .7
15 "	" = .3	45 "	" = .8
20 "	" = .3	50 "	" = .8
25 "	" = .4	55 "	" = .9
30 "	" = .5		

"BATTERIES"

Hydrometer Readings (on at least two cells of each battery)

Low - {discharged} 1.200 and below
Medium - {partially discharged} 1.250
High - {fully charged} 1.275 to 1.300

"LOW PRESSURE OXYGEN CYLINDERS"

each line indicates 50 lbs. press.

State of charge	Pounds Pressure
Full	400
4/5	350
3/5	260
1/2	225
2/5	170
1/5	120
Empty	50

Barium Hydroxide - chemical used to neutralize battery acid fumes (also Baking Soda)

FEATHER Propellers Procedure

Practice:

1. Generators "off"
2. Turbos "off"
3. THROTTLE BACK
4. Prop's to low R.P.M.
5. Mixture control to "idle cut off."
6. Fuel boosters and lock shut off, valves off
7. Feathering switch
8. Cut ignition switch after props stop.
9. Close cowl flaps.

Emergency

1. Close Prop. Feathering switch
2. Mixture control to idle cut off.
3. Turbo off.
4. Throttle back
5. Generator off.
6. Fuel booster and lock shut off, valves off.
7. Ignition switch "off" when Prop. is stopped.

Unfeathering

1. Turn ignition switch on with throttle closed.
2. Turn Fuel shut off and fuel boosters "on"
3. Prop. control to low R.P.M. position (1060 R.P.M.)
4. Crack throttle
5. Lock and hold feathering switch in.
6. When wind milling starts move mix. control to Auto. Rich.
7. Release feathering switch.

8- Advance Throttle to obtain 1000 R.P.M.

9- Permit Engine to warm up before advancing Throttle

10- When opet. Temperatures are reached synchronize Engine and adjust cowl flaps

11- Generator "ON"

Two Causes of Consumption

Insufficient oil supply

Leakage grade of oil

Excessive idling

Clogged oil lines, strainers or coolers

Oil Pump Failure

Improper venting of oil system

Worn piston rings

Piston rings improperly installed

Insufficient cooling

Worn bearings or excessive clearance.

High Oil Temperatures

Foaming in Oil Supply Tank

Improper setting of Relief Valve

TAIL GEAR

Instructions for servicing

Keep oleo filled to All valves with fluid,
Hydraulic spec. #3586

After filling adjust Air Pressure to extend
oleo to 26.10 inches

P.C. length with normal load

(warning Release Air is stored before assembly)

* Oleo - $\left[\begin{array}{l} 27 \text{ inches compressed} \\ 26 \text{ inches Normal (Taxi)} \\ 35.40 \text{ inches extended} \end{array} \right.$

* Dimension A

Metering Air:-

To Stop Flow of fluid on Landing:-

Cool System

1- Preferrable - 55% Diethylene glycol
45% Ethylene glycol

2- Alternate

85% Ethylene glycol and
15% Glycerine

Intercoolers

Intercoolers cold. In the cold position cooling of the air being compressed by turbo supercharger is accomplished.

The use of intercoolers during icing conditions allows the heat generated by the supercharging in full or near full operation, that brought from the inside of the wing by the carburetor filter, to pass through heated into carb. of them selves the intercoolers will produce no heat.

Hydraulic Valves

If emergency system pressure is low, recharge by opening MANUAL shut-off (STAR) valve, & place MANUAL HYDRAULIC switch on pilot's switch panel to MANUAL position. This will build up a pressure of about 900 lbs. for both systems.

After screwing, close position MANUAL shut-off (STAR) valve and place Hydraulic switch in Auto position.