

The SNECMA ATAR 9C

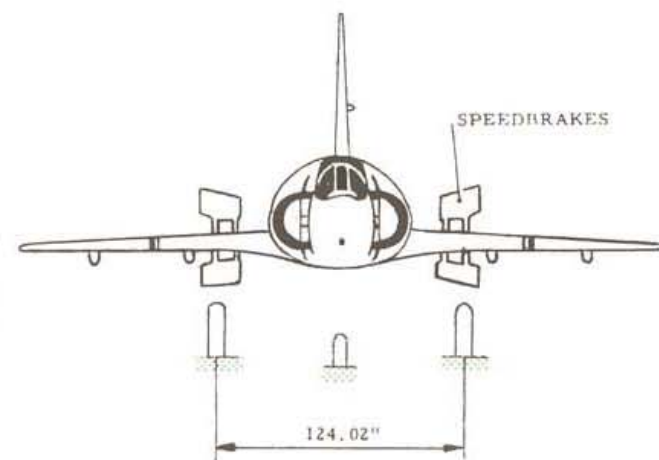
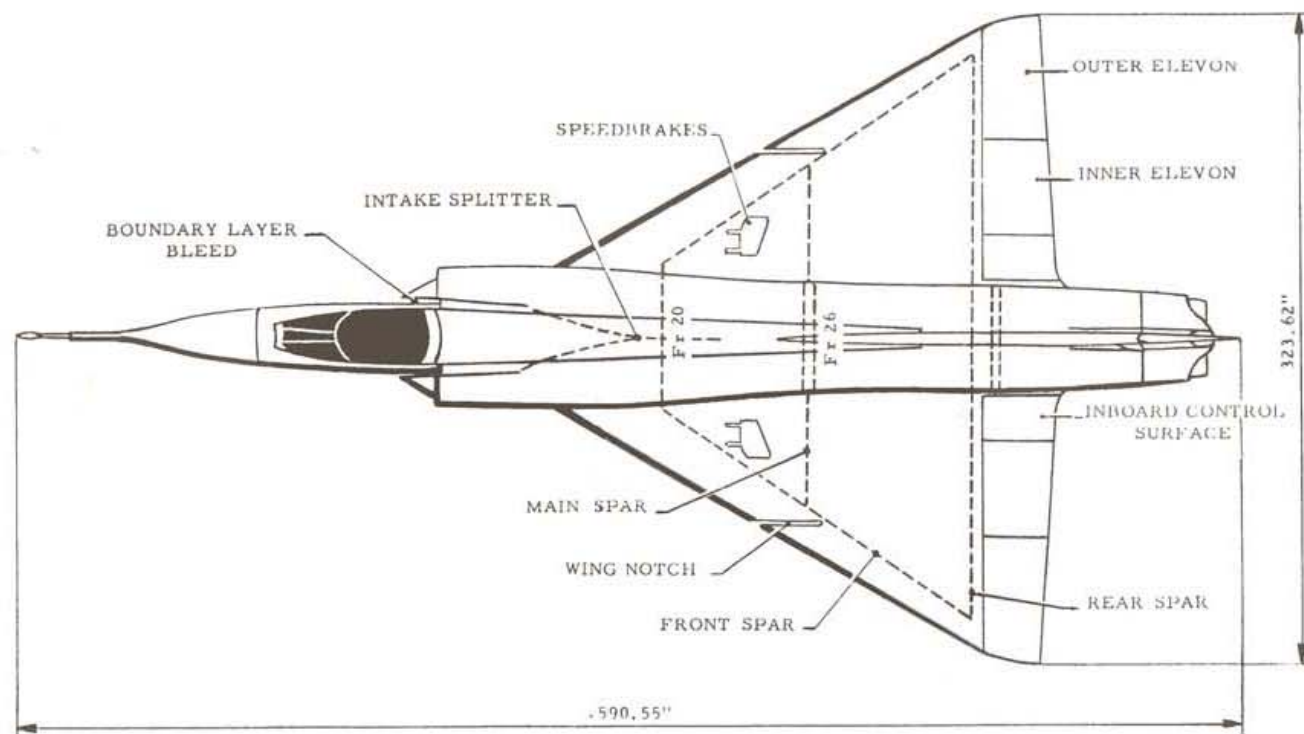
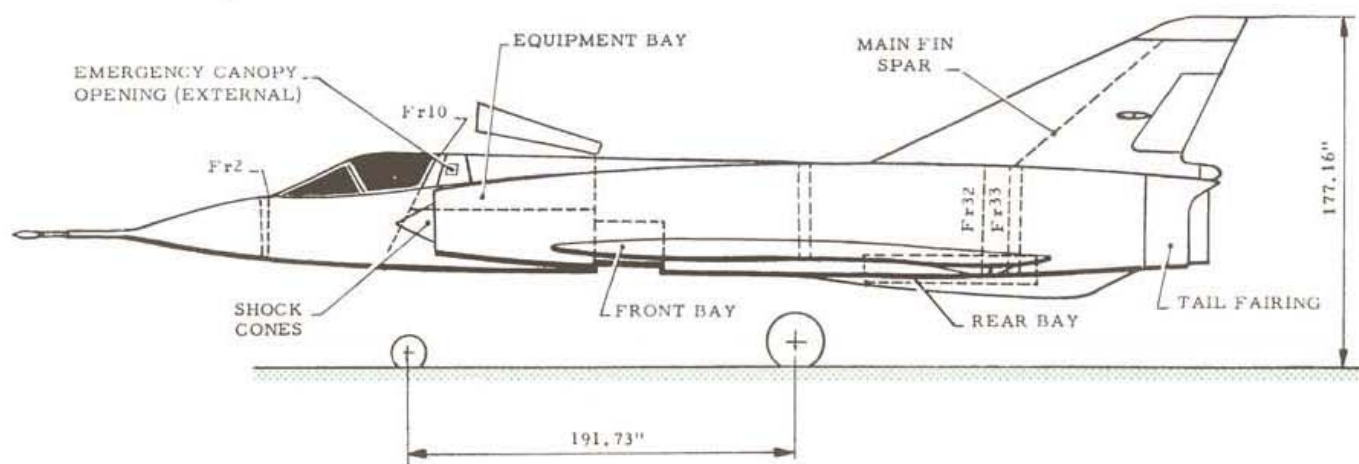
The Mirage III is powered by a SNECMA ATAR 9C with a full-range afterburner.

Engine dry weight is 3,090 lb.

A nine-stage axial-flow compressor with a compression ratio of 5.5:1 feeds compressed air to an annular combustion chamber with two ignition pre-chambers (each includes a starting fuel nozzle and glow plug), 20 dual-flow nozzles with burners, and an afterburner ignition nozzle.

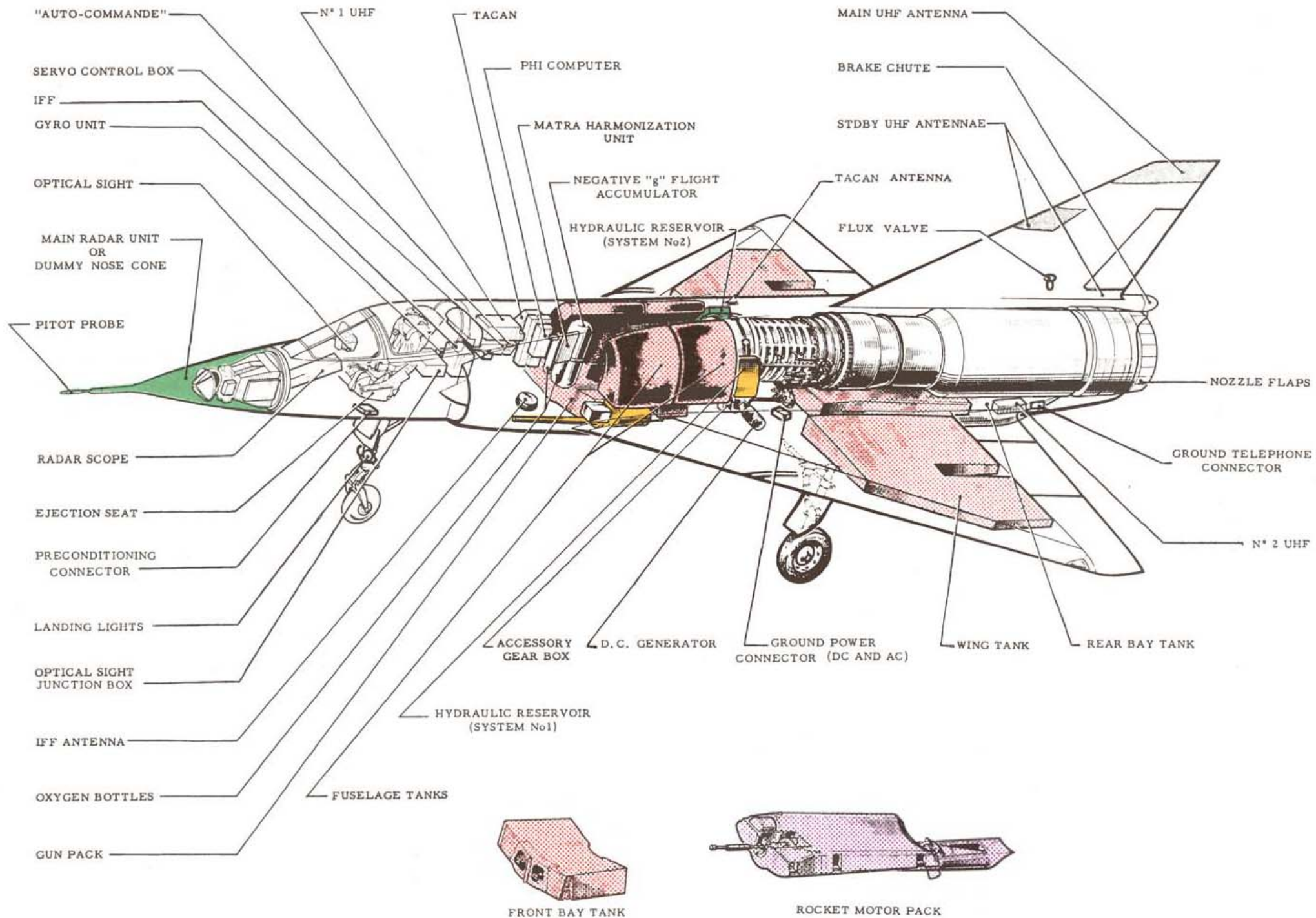
Hot gasses from the combustion chamber drive a two-stage turbine.

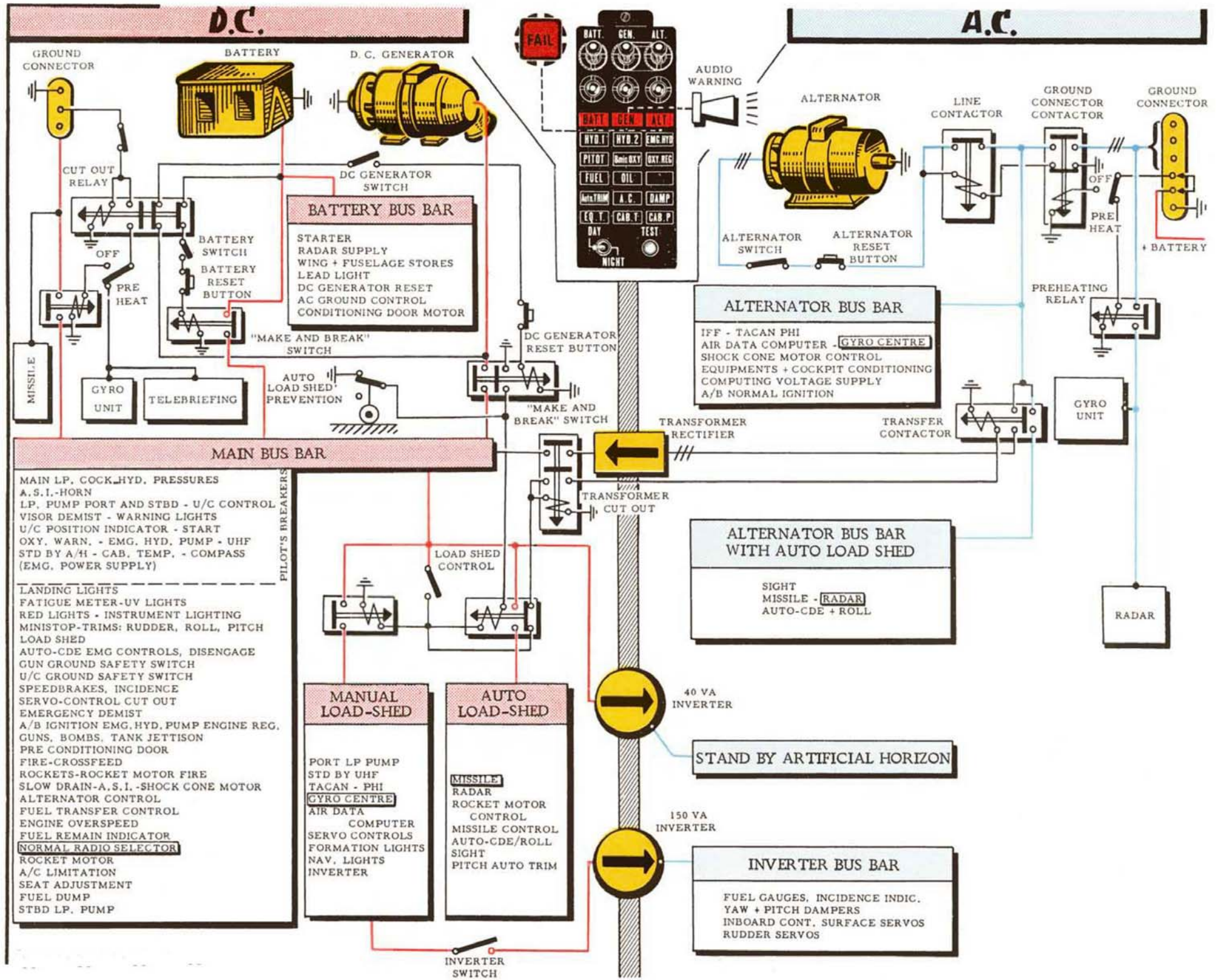
Gear trains to an accessory gear box provide drives for generator, alternator, pumps, etc.

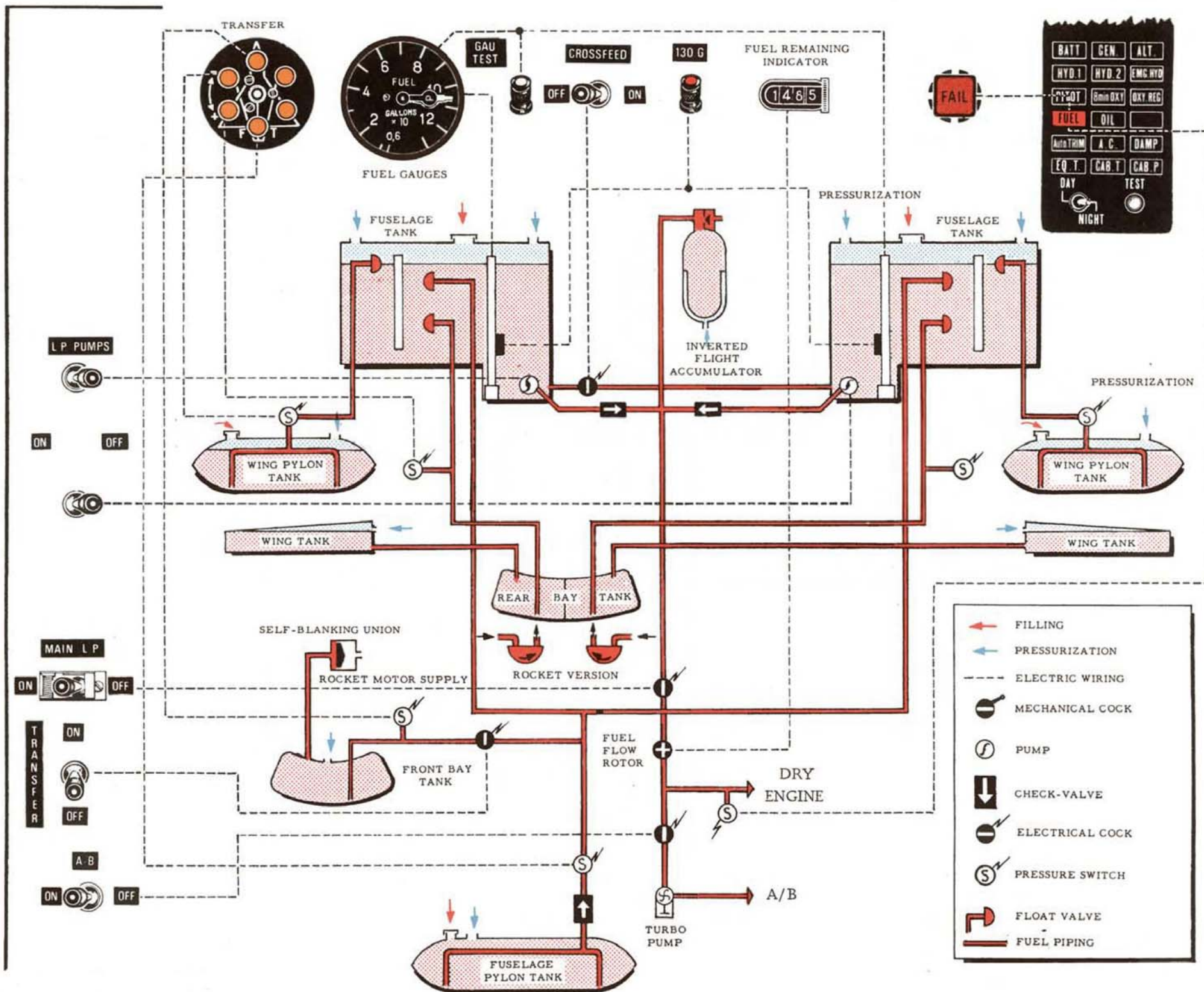


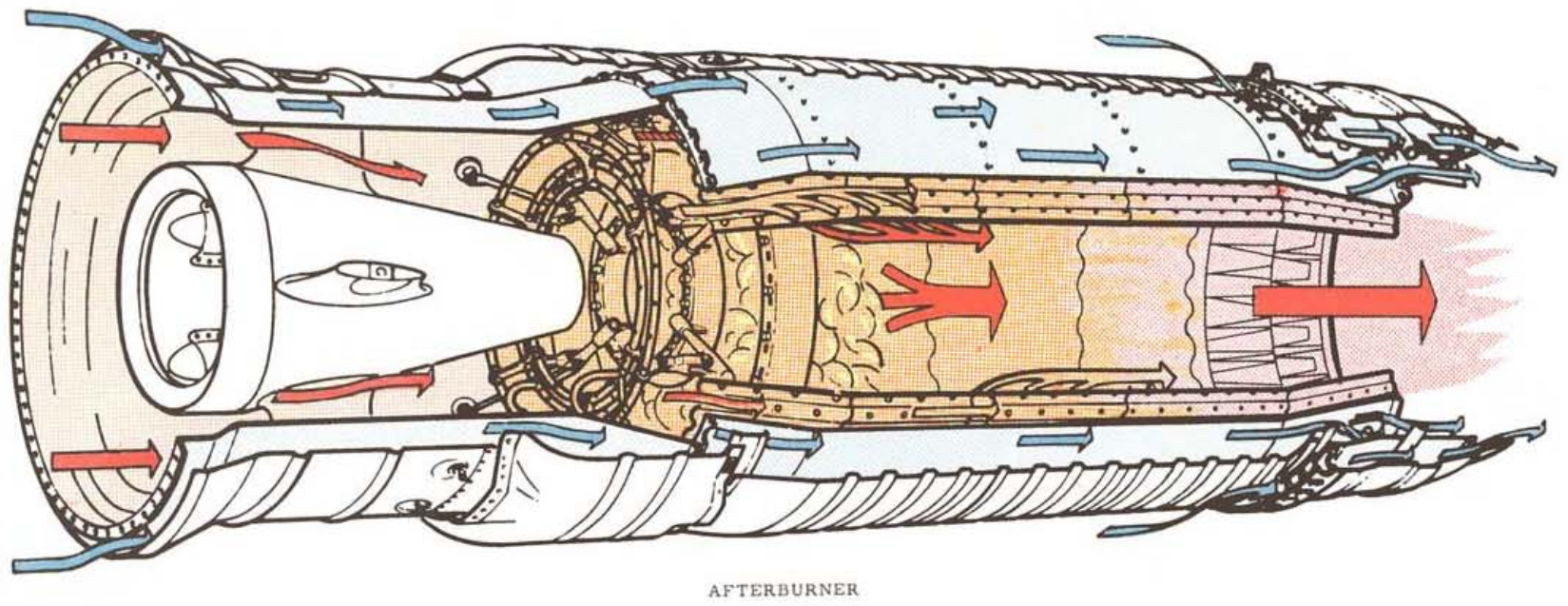
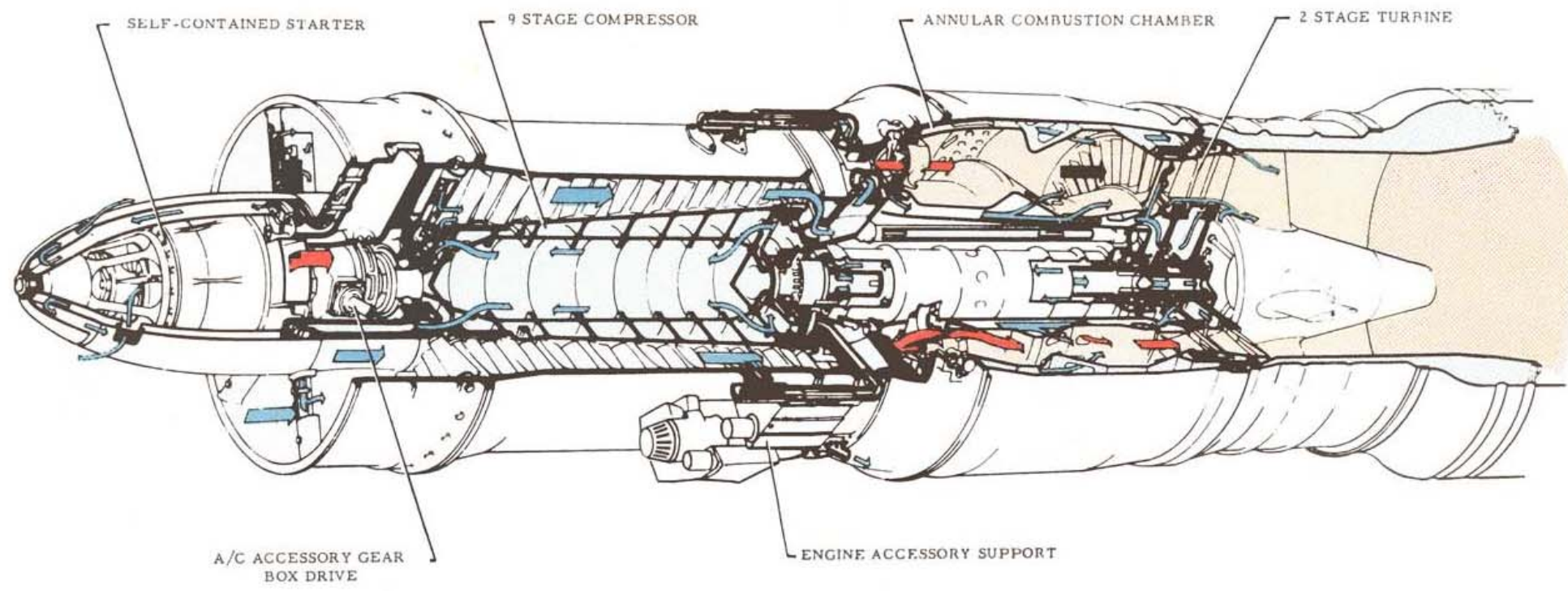
MIRAGE III O

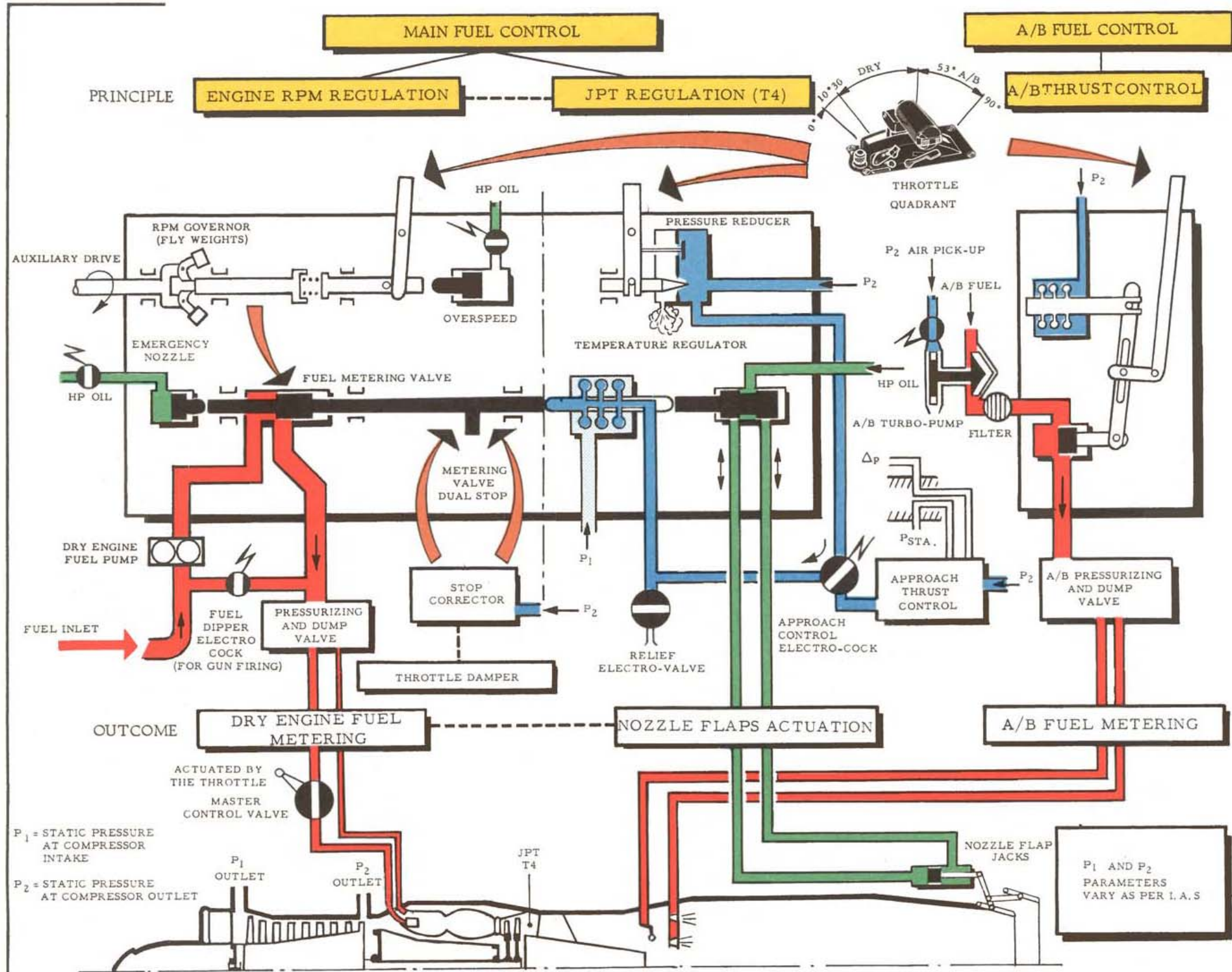
EQUIPMENT DISPLAY

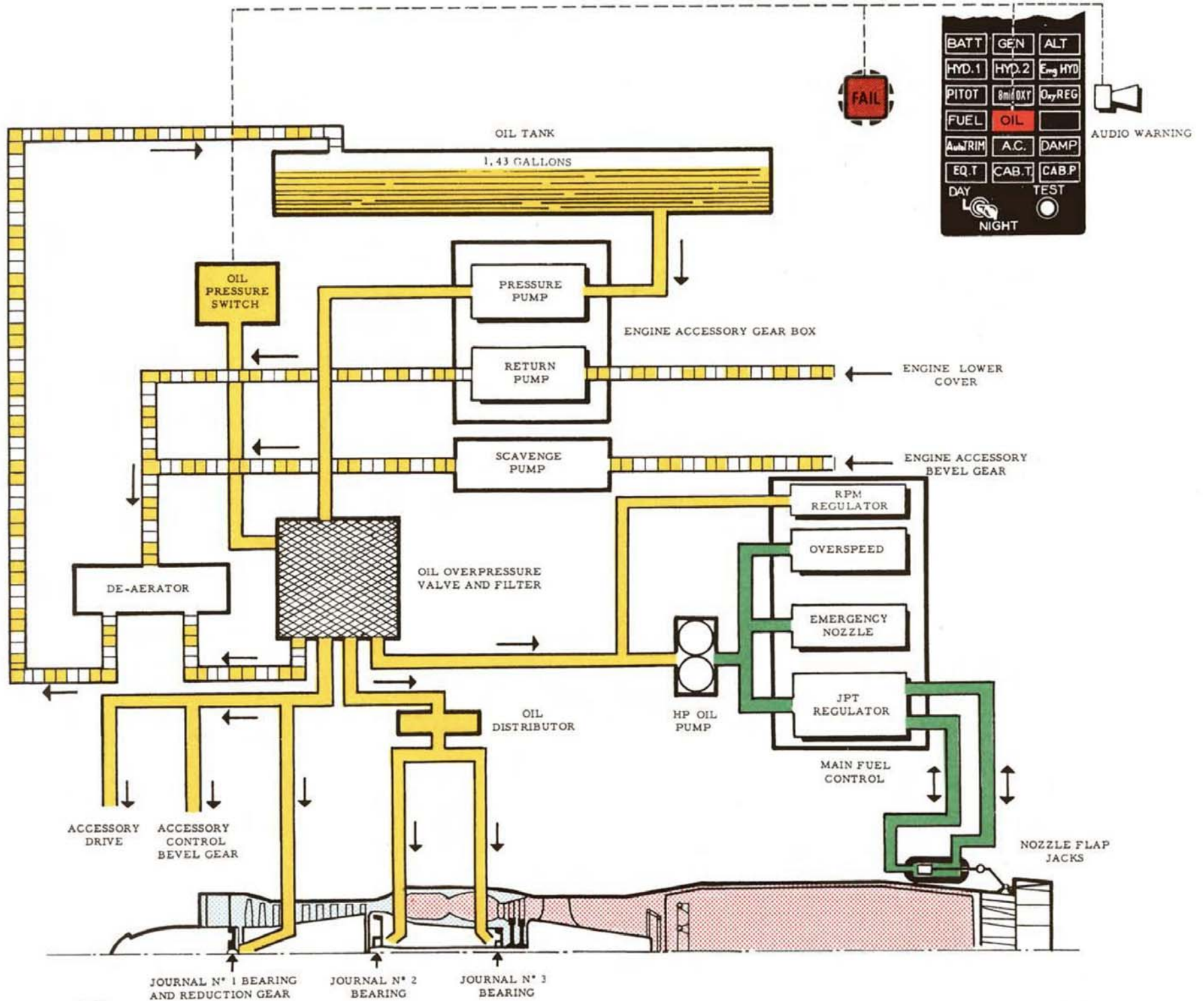






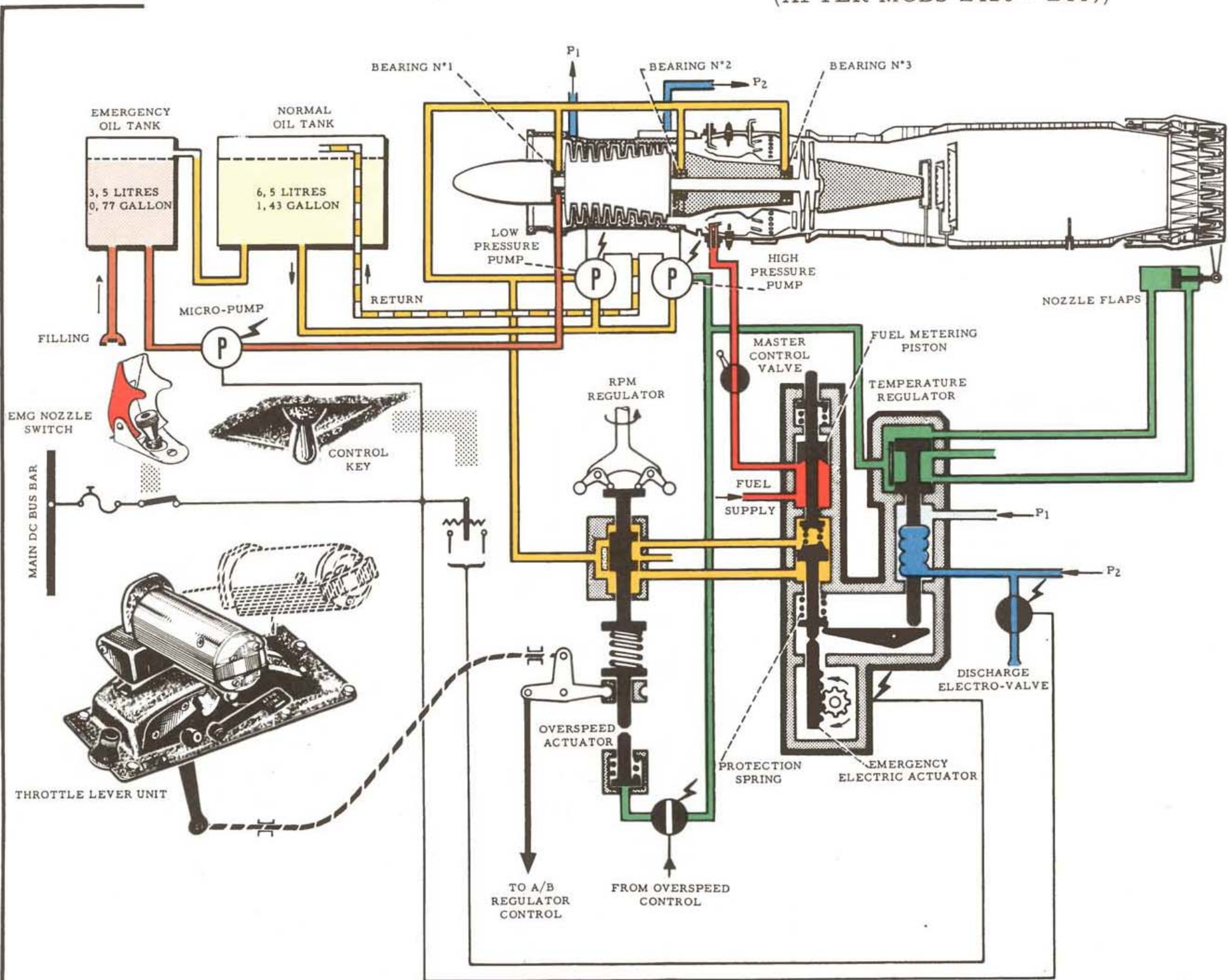






MIRAGE III O

PRINCIPLE OF EMERGENCY NOZZLE CONTROL (AFTER MODS Z420 - Z449)



MIRAGE III O

AIR INTAKE AND SHOCK CONE OPERATION IN SUPERSONIC FLIGHT

I) SHOCK CONE TRAVEL INFLUENCE - STABILIZED RPM - M = CONSTANT

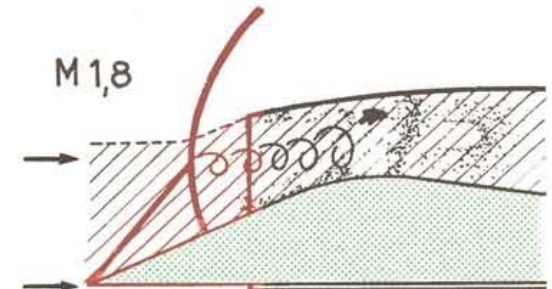
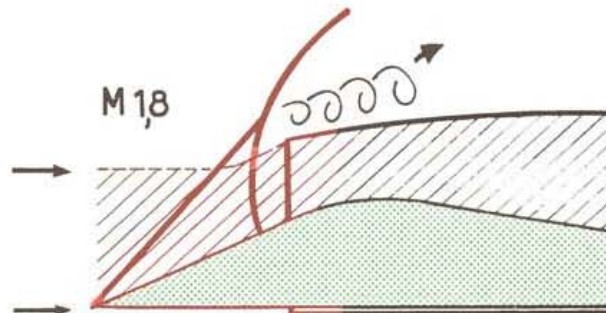
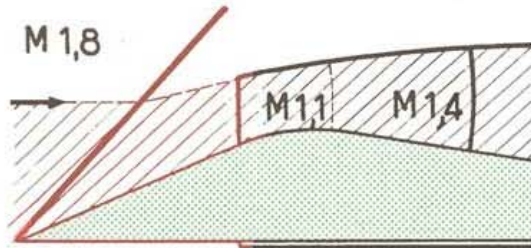
SHOCK CONE TOO FAR OUT
 SUPERCRITICAL STATE
 NOT DANGEROUS BUT SUDDEN
 DROP OF PERFORMANCE OF THE
 AIR INTAKE

NORMAL POSITION
 BEST PERFORMANCE

SHOCK CONE TOO FAR IN
 SUBCRITICAL STATE

DANGER

STRONG VIBRATIONS
 AND RISKS OF FLAME
 OUT.



II) EFFECT ON ENGINE PERFORMANCE AT CONSTANT HIGH MACH NUMBER

REDUCTION OF A/B
 OR
 A/B OFF



NO VARIATION IN
 ENGINE AIR FLOW



AIR INTAKE OPERATION NOT
 DISTURBED
 WHEN M DECREASES THE
 SHOCK CONES SHOULD GO IN
 OTHERWISE INTAKE OPERATES
 IN SUPERCRITICAL STATE

DRY ENGINE
 LARGE THROTTLE
 REDUCTION

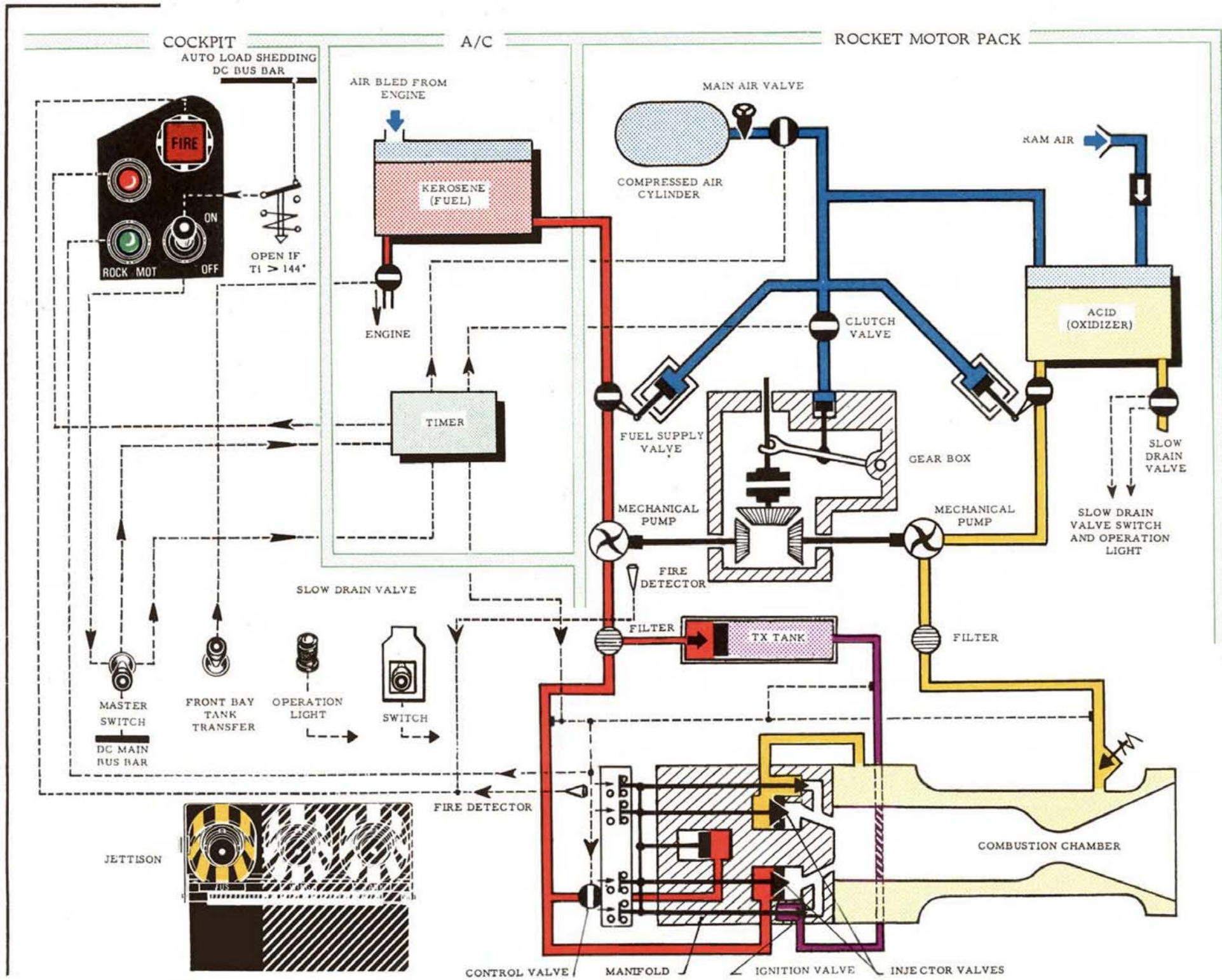


REDUCTION OF AIR FLOW
 IN THE INTAKE



AIR INTAKE OPERATES
 IN SUBCRITICAL STATE

DANGER





FUS

WING

TANK

JL 100 R
286 G. - 374 G. TANKS
(FUSELAGE AND WINGS)

SIDE-WINDER
JL 100 R
286 G. TANKS } (Wings)
374 G. TANKS }

MATRA PYLON
BOMBS
ROCKET-MOTOR
286 G. TANK (FUSELAGE)

