

TELEMETER RECEIVING STATION





CRASH LOADS RESEARCH



LIGHT AIRPLANE CRASH 60 MPH



LIGHT AIRPLANE CRASH 40 MPH



AIRPLANE

INSTRUMENTATION IN LIGHT AIRPLANE





CRASH FIRE INVESTIGATION

CRASH CONFIGURATIONS



CRASH ON 3° SLOPE



CRASH ON 15° SLOPE

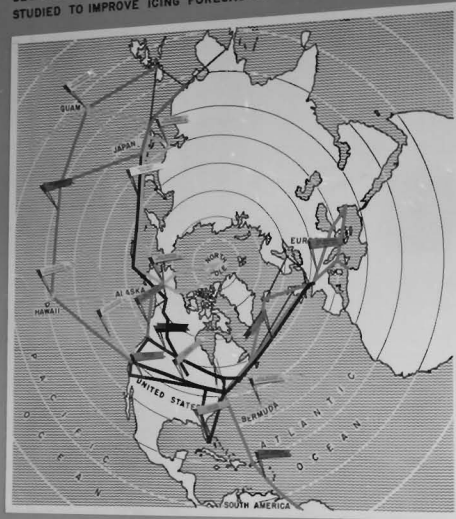


GROUND LOOP CRASH



NACA - AIRLINE - AIRFORCE ICING DATA COLLECTION PROGRAM

OBJECT OF PROGRAM . . . TO COLLECT WORLD-WIDE ICING DATA TO BE USED FOR DESIGNS OF ICING PROTECTION SYSTEMS FOR AIRBORNE DEVICES. THESE ICING DATA WITH OTHER WEATHER DATA WILL ALSO BE STUDIED TO IMPROVE ICING FORECASTS.



ICING PROTECTION SYSTEMS FOR AIRBORNE DEVICES



ICING PROTECTION SYSTEMS FOR AIRBORNE DEVICES



ICING PROTECTION SYSTEMS FOR AIRBORNE DEVICES



ICING PROTECTION SYSTEMS FOR AIRBORNE DEVICES



ICE ACCUMULATION MEASUREMENTS ON COLLECTION SYSTEM IN ONE RESEARCH PLANE



INSTRUMENT TECHNIQUE FOR IMPROVING DATA COLLECTION



INSTALLATION OF ICING RECORDER IN AIRCRAFT



ICE ACCUMULATION ELEMENT IN AIRCRAFT AND ICE ACCUMULATION

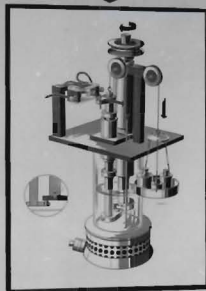




BEARINGS & LUBRICANTS

OBJECT OF PROGRAM....TO OBTAIN BEARINGS AND LUBRICANTS FOR USE IN HIGH TEMPERATURE TURBINE ENGINES FOR HIGH SPEED FLIGHT

LUBRICATION



CAGE MATERIAL



FATIGUE TESTS



COMPLETE BEARING



POSSIBLE LUBRICANTS & BEARING MATERIALS

TEMP. RANGE	1	2	3
ENGINE STATUS	PRODUCTION		NEAR FUTURE
	OLDER	NEWER	
MAX. TEMP. °F BEARING	350	500	750
BULK LUBRICANT	250	300	400
MIN. TEMP. °F	-65		

LUBRICANTS & BEARING TEMPERATURE TRENDS

TEMP. RANGE	1	2	3
POSSIBLE LUBRICANTS	LIQUID PETROLEUM	LIQUID SYNTHETICS	SOLIDS OR GASES
POSSIBLE BEARING MATERIAL A FOR RACES & ROLLING ELEMENTS	SAE 52100	TOOL STEELS	
B FOR CAGES	SILVER-PLATED BRONZE	NICKEL ALLOYS & SPECIAL MATERIALS	

BLADE FABRICATION

14" AIRFOIL MACHINE
CUTTING AN ALUMINUM BLADE TO BE USED
AS A MASTER FOR DIE SINKING PURPOSES



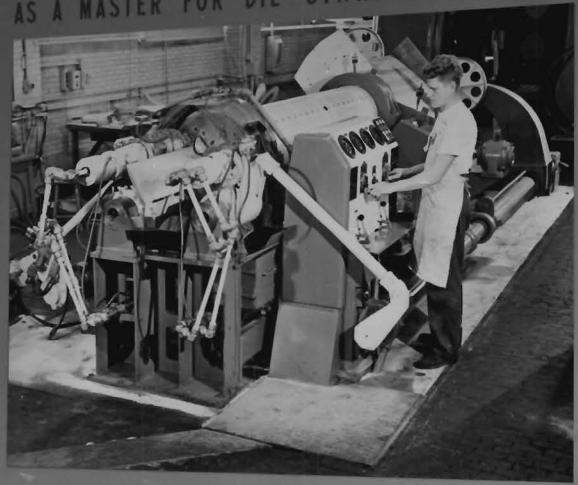
1. CUTTING AN ALUMINUM BLADE TO BE USED AS A MASTER FOR DIE SINKING PURPOSES



2. ADJUSTING THE MACHINE TO CUT THE BLADE TO THE DESIRED SHAPES



3. INSPECTING THE BLADE FOR DEFECTS



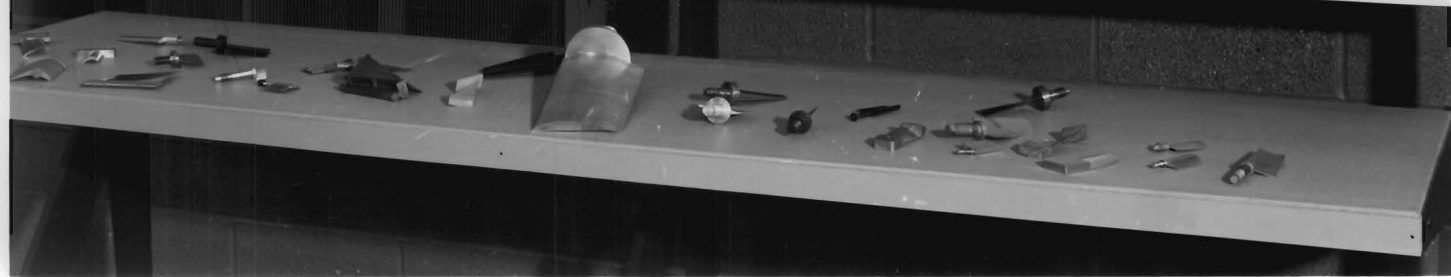
4. CUTTING THE BLADE TO THE DESIRED SHAPES



5. FINAL INSPECTION OF THE BLADE



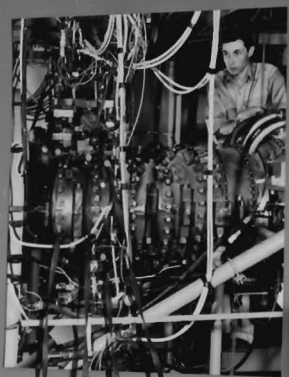
6. GRINDING THE BLADE ON GRINDWHEEL EQUIPPED WITH SPECIAL HIGH-SPEED SPINDLE



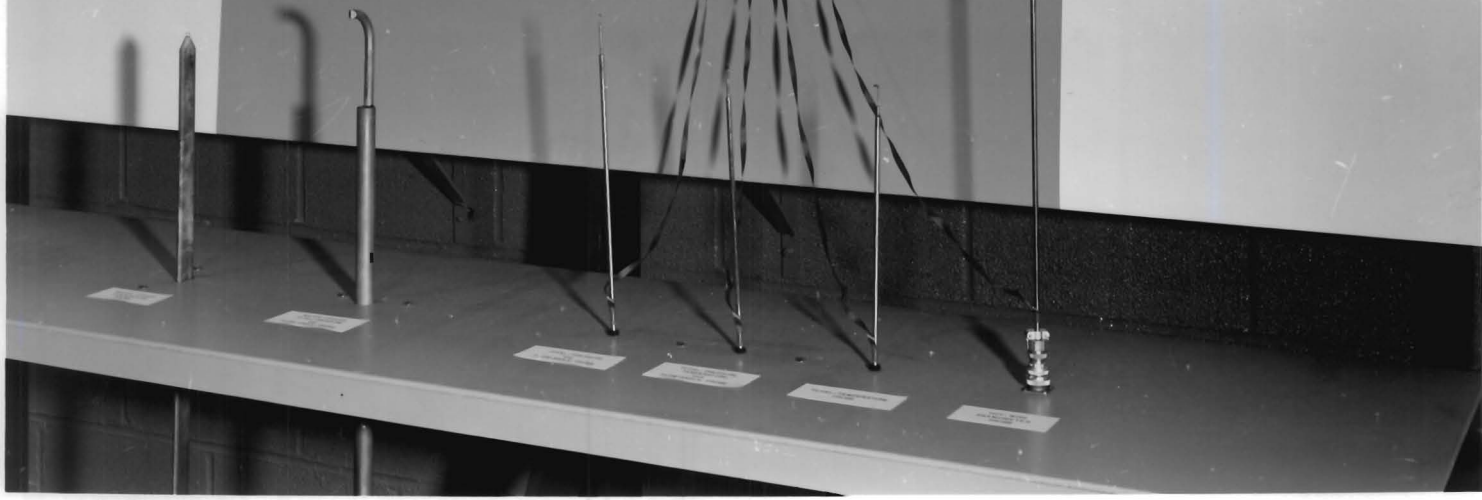
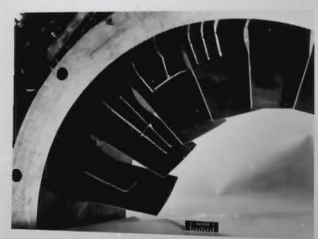
RESEARCH INSTRUMENTATION



COMPRESSOR



AFTERBURNER



ROCKET MOTOR FABRICATION

LIGHT WEIGHT SHEET METAL ROCKET ENGINE



ROLL SHEET METAL ENGINE CASE FROM SHEET METAL



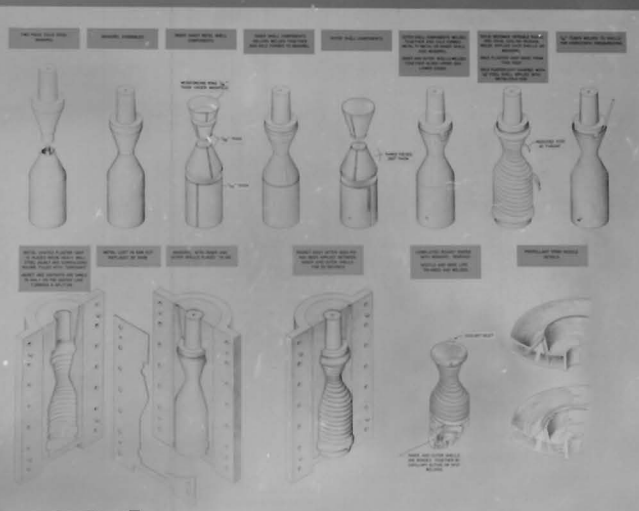
ROLL SHEET METAL ENGINE CASE FROM SHEET METAL



ROCKET ENGINE TEST FOR PRESSURE DISTRIBUTION



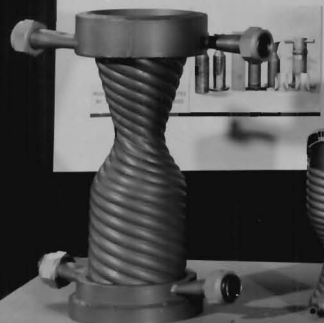
ROCKET ENGINE TEST FOR PRESSURE DISTRIBUTION



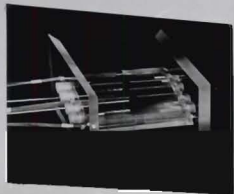
ROCKET ENGINE TEST FOR PRESSURE DISTRIBUTION



ROCKET ENGINE TEST FOR PRESSURE DISTRIBUTION



MODEL FABRICATION



BLACK MODEL USED IN
WIND TUNNEL TESTS



A SPECIAL MACHINERY IS
USED FOR FORMING AND LAMINATING



A LARGE AMOUNT OF WORK IS DONE WITH PLASTICS
THIS REQUIRES CAREFUL FINISHING WORK. HERE
IS AN EXAMPLE OF A PLASTIC DEVELOPMENT PROJECT



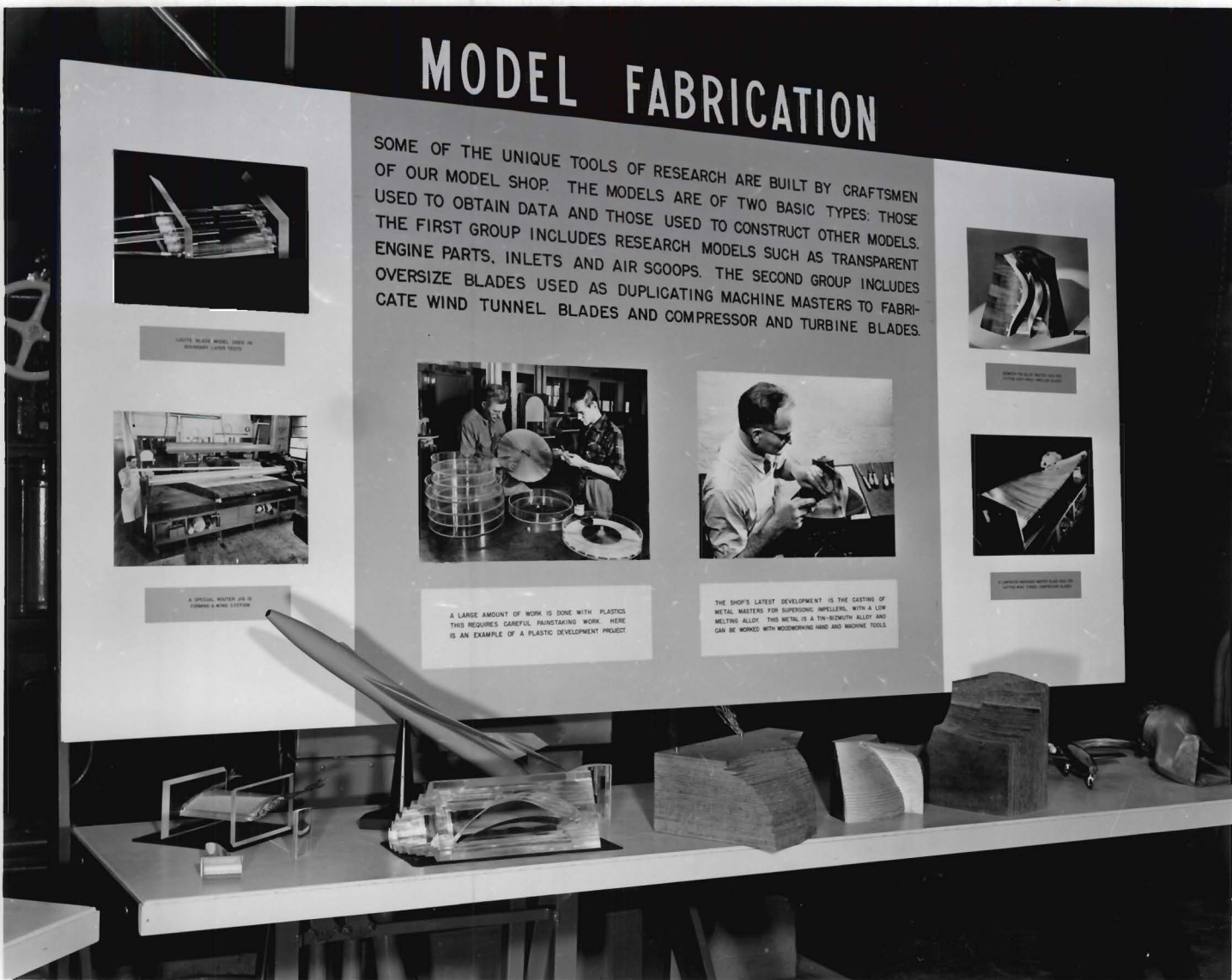
THE SHOP'S LATEST DEVELOPMENT IS THE CASTING OF
METAL MASTERS FOR SUPERSONIC NOZZLES. WITH A LOW
MELTING ALLOY, THIS METAL IS A TEN-BEIGHTH ALLOY AND
CAN BE WORKED WITH WOODWORKING HAND AND MACHINE TOOLS.



WORKING THE METAL MASTER FOR
THE SUPERSONIC NOZZLE



WORKING THE METAL MASTER FOR
THE SUPERSONIC NOZZLE





SAFETY

DAYS
WITHOUT A
LOST TIME ACCIDENT

195

↑
THE PRESENT
LABORATORY
RECORD

