1.9.15 PROPELLER UNFEATHER PUMP. On special order, a propeller unfeather pump can be fitted in each engine lower nacelle. The unfeather pump is an electrically-driven oil pump, which supplies pressure oil to the propeller overspeed governor and allows unfeathering of the blades to be accomplished while the engine is shut down. Both unfeather pumps are controlled by a momentary-on, three-position switch marked PROP UNFEATHER, LEFT and RIGHT which is mounted on the pilot's instrument sub-panel below the brake pressure indicator. The circuit is protected by a circuit breaker marked PROP UNFEATH on the overhead circuit breaker panel.

1.9.16 PROPELLER SYNCHRONIZER. On special order, a propeller synchronizing system can be fitted to synchronize the right propeller speed with that of the left propeller. The system consists of a master pickup and governor, a slave governor and trimmer, an actuator, a control box and flexible shaft. The master pickup and governor is mounted on the left engine, and the slave governor and trimmer is mounted on the right engine. The master pickup transmits impulses from the master governor to the synchronizer control box. When the synchronizer is switched on, signals from the control box are sent to the actuator which adjusts the speed setting of the slave governor by means of a flexible shaft operated trimmer. The switch for the synchronizer is mounted on the pilot's instrument panel and labelled PROP SYNC, ON and OFF. A press-to-test light adjacent to the switch illuminates when the synchronizer is operating.

1.9.17 PROPELLER AUTOFEATHER SYSTEM. When Mod 6/1278 is incorporated, an automatic propeller feathering system is installed which automatically feathers the propeller of an underpowered engine when a decrease in torque to 13 - 11 psi is detected. Autofeathering is controlled by the torque indicating system of each engine, either of which initiates a feathering cycle at the propeller overspeed governor of the affected engine when the decrease in torque pressure is sensed by a low pressure switch at the torque indicator transmitter. Subsequent autofeathering of the other propeller is prevented by a blocking relay which disarms the autofeather system. The system is armed for operation when the AUTO FEATH switch is at ON and left and right arming limit switches are actuated when the power levers are advanced beyond 86 - 88% gas generator rpm. Reduction in power of either engine below 86 - 88% rpm disarms the autofeather system. Two autofeather indicator lights illuminate to signify when the system is selected and when it is armed. An autofeather test switch is incorporated to facilitate a ground check of the autofeather system. The autofeather system is powered from the left dc bus and is protected by an AUTO FEATH circuit breaker on the overhead circuit breaker panel.

1.9.18 PROPELLER AUTOFEATHER SWITCH. The propeller autofeather switch is located on the pilot's instrument panel to the right of the autofeather test switch, under the label AUTO FEATH. It is a two-position, lever-lock switch with an ON position and an unmarked off position. When selected to ON, electrical power is connected to the autofeather system as indicated by the illumination of SEL on the propeller autofeather indicator.

1.9.19 PROPELLER AUTOFEATHER INDICATOR. The propeller autofeather indicator is installed below the glare shield above the pilot's instrument panel, and

SECTION 3

EMERGENCY OPERATING PROCEDURES

Note

Speeds quoted throughout this section are applicable to gross weights of 11,579 lb take-off, 11,400 lb landing (-20°F and above), 11,000 lb landing (below -20°F), unless otherwise stated. Airplanes not embodying Mod 6/1020 are restricted to 11,000 lb take-off and landing.

3.1 ENGINE FAILURE

3.1.1 ENGINE FAILURE DURING TAKE-OFF.

a. If engine failure occurs during the take-off run and sufficient runway remains for stopping safely, proceed as follows:

1. Power levers - IDLE.

2. Brakes - Apply.

b. If engine failure occurs airborne, but at a speed below V_{MC}:

1. Power levers - IDLE.

2. Land straight ahead, turn to avoid obstacles if necessary.

Note

If time permits, fuel levers OFF, DC master switch OFF.

c. If engine failure occurs above V_{MC} and a decision is made to continue the take-off, proceed as follows:

1. Maintain heading by applying rudder and lowering wing against the live engine as necessary and lower nose to hold desired airspeed.

2. Advance power levers up to the T5, torque, or Ng limit, whichever is reached first.

3. Power lever of failed engine - IDLE.

4. Propeller lever of failed engine - FEATHER.

5. Hold 71 knots IAS if flaps at 30°; 73 knots IAS if flaps at 15°; 83 knots IAS if flaps at 0°.

6. When clear of obstacles, the flaps should be retracted in increments and the airspeed increased appropriately per the above schedule in order not to lose altitude during retraction. Best single engine rate of climb is achieved with flaps 0° at 83 knots IAS.

7. Trim aircraft as desired.

8. Fuel lever of failed engine - OFF.

9. Booster pump switch of failed engine - OFF.

10. Generator switch of failed engine - OFF.

11. BLEED AIR switch of failed engine - OFF.

12. Post Mod 6/1044 and 6/1086 airplanes only. If both booster pump caution lights for the failed engine are not illuminated select the STBY BOOST PUMP EMER switch on and restart the engine in accordance with the procedure given in paragraph 3.1.3.

13. Fuel emergency shutoff switch of failed engine - OFF.

14. Compute continuous power setting.

15. Check generator load and reduce if necessary.

16. Balance fuel tanks if necessary to maintain C of G within limits.

3.1.2 ENGINE FAILURE IN FLIGHT

a. Maintain heading by applying rudder and lowering wing against the live engine.

b. Increase power on live engine as required up to the T5, torque, or Ng limit, whichever is reached first.

c. Power lever of failed engine - IDLE.

d. Propeller lever of failed engine - FEATHER.

CAUTION

If the gas generator is shut down or runs down as a result of failure and the propeller is not feathered severe