

| <u>External Power Start</u> | <u>Battery Start</u> |
|-----------------------------|----------------------|
| 40 seconds ON               | 60 seconds ON        |
| 30 seconds OFF              | 60 seconds OFF       |
| 40 seconds ON               | 60 seconds ON        |
| 30 seconds OFF              | 60 seconds OFF       |
| 40 seconds ON               | 60 seconds ON        |
| 30 minutes OFF              | 30 minutes OFF       |

### 1-13. POWER PLANT

Rolls-Royce model 250-C47B or 250-C47B/8.

#### NOTE

Intentional use of any power transient is prohibited.

#### 1-13-A. GAS PRODUCER RPM ( $N_G$ )

#### NOTE

FADEC will limit  $N_G$  in accordance with GAS PRODUCER RPM ( $N_G$ ) LIMIT placard.  $N_R$  decay will result if power demand exceeds placard limit.

Maximum continuous  $N_G$  is limited in accordance with GAS PRODUCER RPM ( $N_G$ ) LIMIT placard (Figure 1-3) when operating above 10,000 feet  $H_P$  and with OAT below  $-30^{\circ}\text{C}$  ( $-22^{\circ}\text{F}$ ).

|                              |                 |
|------------------------------|-----------------|
| Continuous operation         | 63 to 105%      |
| Maximum continuous operation | 105%            |
| Transient, 10 seconds        | 105.1 to 106.5% |

#### 1-13-B. POWER TURBINE RPM ( $N_P$ )

|                             |               |
|-----------------------------|---------------|
| Avoid continuous operations | 68.4 to 87.1% |
| Minimum                     | 99%           |
| Continuous operation        | 99 to 100%    |

|                               |                 |
|-------------------------------|-----------------|
| Maximum continuous            | 100%            |
| Maximum transient, 15 seconds | 102.1 to 107.3% |

#### NOTE

ENGINE OVSPD warning light will illuminate when  $N_P$  versus TORQUE is between 102.1%  $N_P$  at 100% TORQUE and 108.6%  $N_P$  at 0% TORQUE.

When operating in MANUAL mode  $N_P$  should be maintained between 95 and 100%.

#### 1-13-C. MEASURED GAS TEMPERATURE (MGT)

GAUGE P/N 407-375-001-101/-103

|                                                                                                               |                                |
|---------------------------------------------------------------------------------------------------------------|--------------------------------|
| Continuous operation                                                                                          | 100 to $727^{\circ}\text{C}$   |
| Maximum continuous                                                                                            | $727^{\circ}\text{C}$          |
| Takeoff, 5 minutes                                                                                            | $727$ to $779^{\circ}\text{C}$ |
| Maximum for takeoff                                                                                           | $779^{\circ}\text{C}$          |
| Transient, 12 seconds                                                                                         | $780$ to $826^{\circ}\text{C}$ |
| Maximum starting, do not exceed 10 seconds above $826^{\circ}\text{C}$ or 1 second at $927^{\circ}\text{C}$ . | $927^{\circ}\text{C}$          |

#### NOTE

Either MGT gauge may be installed.

GAUGE P/N 407-375-001-105 AND SUB

|                       |                                |
|-----------------------|--------------------------------|
| Continuous operation  | 100 to $727^{\circ}\text{C}$   |
| Maximum continuous    | $727^{\circ}\text{C}$          |
| Takeoff, 5 minutes    | $727$ to $779^{\circ}\text{C}$ |
| Maximum for takeoff   | $779^{\circ}\text{C}$          |
| Transient, 12 seconds | $780$ to $905^{\circ}\text{C}$ |



## TRQ (TORQUE)



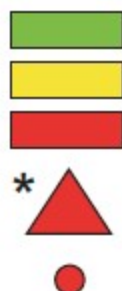
0 to 93.5%  
93.5 to 100%  
100%

Continuous operation  
5 minute takeoff range  
Maximum



407-375-001-105 AND SUB.

## MGT (MEASURED GAS TEMPERATURE)



100 to 727°C  
727 to 779°C  
779°C  
\* 826°C  
or  
843°C  
927°C

Continuous operation  
5 minute takeoff range  
Maximum for takeoff  
Beginning of 10 seconds  
range for starting  
Maximum for start and shutdown  
(1 second maximum)

\* Either gauge may be installed



## AIRSPEED



0 to 140 Knots  
100 Knots  
140 Knots

Continuous operation  
Maximum for autorotation  
Maximum

407\_FM\_1\_0003

Figure 1-5. Instrument Markings (Sheet 2 of 4)