Summary

Current commercial engine maximum cruise rated thrust & SFC lapse rates with Mach number are compared herein. The JT12A-8, JT8D-7, and JT9D-15 engines have been scaled to the Spey RB.16325 Mk 51 levels at sea level and 40,000 feet.

The following notes apply to the attached curves:

SHT a - Normalized Thrust Coefficient - Ct or Fn/4Sw has been normalized to the Spey value @ 0.8 M. All engines are scaled to the Spey T.O. Thrust of 11,700 pounds.

SHT b - Normalized SFC - Engine SFC's have been normalized to the Spey level at 0.8 M.

SHT c - Normalized Thrust Coefficient - Same as SHT a except all engines scaled to 2790 pounds thrust (Spey level) at Mach .95, 40,000 feet.

SHT d - Relative Thrust Size - Effect of sizing engines to 1950M/40K (SHT c) on T.O. Thrust.
NORMALIZED THRUST COEFFICIENT

V.S.
MACH NUMBER

NOTE:
1. All engines scaled to
   SPEC TAIL OFF THRUST @ 0.5 L/D.
2. UNINSTALLED MAX CRUZE RATING
   RPE
   - 3:555 Lb. JT112-8
   - 3:650 Lb. JT112-7
   - 5:0 Lb. JT9D-10

Ct

Ct

MACH NUMBER
NORMALIZED THRUST COEFFICIENT

VS

MACH NUMBER

10,000 FT, 50° DEG

NOTES:

1. ALL ENGINES SEALED TO SPEC

THRUST @ -70°F

2. MAX CRUISE RATING, UNSEALED

X-M

SPEY RB 163-25 MK 511 - 0

SPEY RB 163-25 MK 511 - 4

TFE 59-1 JT8D-7 - 1

TFE 59-1 JT9D-11S - 0.9

MACH NUMBER

CTR (cown x 10)
Relative thrust size required to attain Mach 0.95, 50,000 feet.

Note: All engines scaled to spal thrust of 2,796 lb at -1 NTP/40K1.