

QCX  
Avro ANALYZED  
CF105  
P-Perf-105

Classification cancelled / Changed to UNCLASS  
G-105  
By authority of ANB Extract P/Perf/105  
25 Oct 57  
STANDARD AIRCRAFT CHARACTERISTICS  
Signal WITH 2 JT 4A-25 ENGINES BBully  
~~S E WALKER~~ Appointment ANB Sept. '55



ANALYZED

A. V. ROE CANADA LIMITED  
MALTON · ONTARIO

~~SECRET~~

TECHNICAL DEPARTMENT (Aircraft)

Classification cancelled / Changed to UNCLASS  
 AIRCRAFT: By authority of AVES REPORT NO. P/Perf/105  
 Date 27 Sept 56  
 FILE NO: Signature [Signature] NO. OF SHEETS \_\_\_\_\_  
 Unit / Rank / Appointment AVES S

TITLE: C-105 STANDARD AIRCRAFT CHARACTERISTICS  
WITH 2 JT 4A-25 ENGINES



PREPARED BY D. Pon DATE Sept. '55  
 CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_  
 SUPERVISED BY \_\_\_\_\_ DATE \_\_\_\_\_  
 APPROVED BY \_\_\_\_\_ DATE \_\_\_\_\_

~~SECRET~~

| ISSUE NO | REVISION NO | REVISED BY | APPROVED BY | DATE | REMARKS |
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45720

15799 607

LOADING AND PERFORMANCE

SECRET

Performance Under N.A.C.A. Standard Atmospheric Conditions

To R.C.A.F. Specification AIR 7-4

WEIGHT:

|   |                 |        |
|---|-----------------|--------|
| Take-Off Weight with 15,298 Lb. Fuel (77.1% Max.) ..... | Lb.             | 58,982 |
| Operational Weight Empty .....                          | Lb.             | 43,684 |
| Combat Weight (1/2 Fuel) .....                          | Lb.             | 51,333 |
| Landing Weight (With Reserve Fuel + Missiles) .....     | Lb.             | 44,200 |
| Wing Loading at Normal Take-Off Weight .....            | Lb. /Sq.Ft.     | 47.0   |
| Power Loading at Normal Take-Off Weight .....           | Lb. /Lb. Thrust | 1.61   |

SPEED

|                                |                  |       |
|--------------------------------|------------------|-------|
| True Air Speed In Level Flight |                  |       |
| At Sea Level at Combat Weight  |                  |       |
| Maximum Thrust .....           | Kts.             | ★ 755 |
| Military Thrust .....          | Kts <sub>a</sub> | 640   |
| True Air Speed in Level Flight |                  |       |
| At 50,000 Ft. at Combat Weight |                  |       |
| Maximum Thrust .....           | Kts.             | 1,147 |

CEILING

|   |     |        |
|---|-----|--------|
| Combat Ceiling at Combat Weight, Rate of Climb = 500 P.P.M. |     |        |
| Maximum Thrust at 1.5 M.N. ....                             | Ft. | 57,200 |

RATE OF CLIMB

|   |        |        |
|---|--------|--------|
| Steady Rate of Climb at Sea Level, Combat Weight  |        |        |
| Maximum Thrust at M.N. = .92 .....                | F.P.M. | 51,400 |
| Military Thrust at 530 Kts. ....                  | F.P.M. | 15,800 |
| Steady Rate of Climb at 50,000 Ft., Combat Weight |        |        |
| Maximum Thrust at M.N. = 1.5 .....                | F.P.M. | 7,700  |

TIME TO HEIGHT

|   |       |     |
|---|-------|-----|
| Time to 50,000 Ft. M.N. = 1.5 from Engine Start at Take-Off |       |     |
| Weight = 58,982   |       |     |
| Maximum Thrust .....  | Mins. | 4.4 |

MANOEUVRABILITY

|   |  |      |
|---|--|------|
| Combat Load Factor at Combat Weight         |  |      |
| Maximum Thrust at M.N. = 1.50 at 50,000 Ft. |  | 1.50 |

★ Placard Speed = 720 Kts.

SECRET

## TAKE-OFF DISTANCE

Take-Off Distance over 50 Ft. Obstacle at Sea Level  
Take-Off Weight = 58,982 Lb.

|                               |     |       |
|-------------------------------|-----|-------|
| Maximum Thrust .....          | Ft. | 3,400 |
| Military Thrust .....         | Ft. | 6,700 |
| Maximum Thrust, Hot Day ..... | Ft. | 4,600 |

## LANDING DISTANCE

Landing Distance over 50 Ft. Obstacle at Sea Level at Combat Weight Ft. 5,300

## STALLING SPEED

True Stalling Speed in Landing Configuration at Combat Weight  
at Sea Level ..... Kts. 110

## RANGE

Combat Radius of Action at 50,000 Ft., Climb at M.N. = .92, Cruise out  
at M.N. = 1.5, Combat for 5 Mins. at M.N. = 1.50, Cruise Back at M.N. = .92,  
15 Min. Stack at 40,000 Ft., 5 Min. Fuel Reserve on Landing

|  |      |     |
|--|------|-----|
| High Speed Mission with 15,298 Lb. Fuel .....    | N.M. | 200 |
| High Speed Mission with Full Internal Fuel ..... | N.M. | 309 |

Combat Radius of Action at 50,000 Ft., Mission as above except climb  
at 530 Kts. and cruise out at M.N. = .92

|   |      |     |
|---|------|-----|
| Maximum Range Mission with 15,298 Lb. Fuel .....    | N.M. | 406 |
| Maximum Range Mission with Full Internal Fuel ..... | N.M. | 605 |

Combat Radius of Action at Sea Level, Cruise out at .6 M.N. and  
Combat at M.N. = .92 at Sea Level, Cruise Back at .92 M.N. at  
40,000 Ft., 15 Min. Stack, 5 Min. Fuel Reserve on Landing

|   |      |     |
|---|------|-----|
| Sea Level Mission with 15,298 Lb. of Fuel ..... | N.M. | 325 |
| Sea Level Mission with Full Internal Fuel ..... | N.M. | 470 |

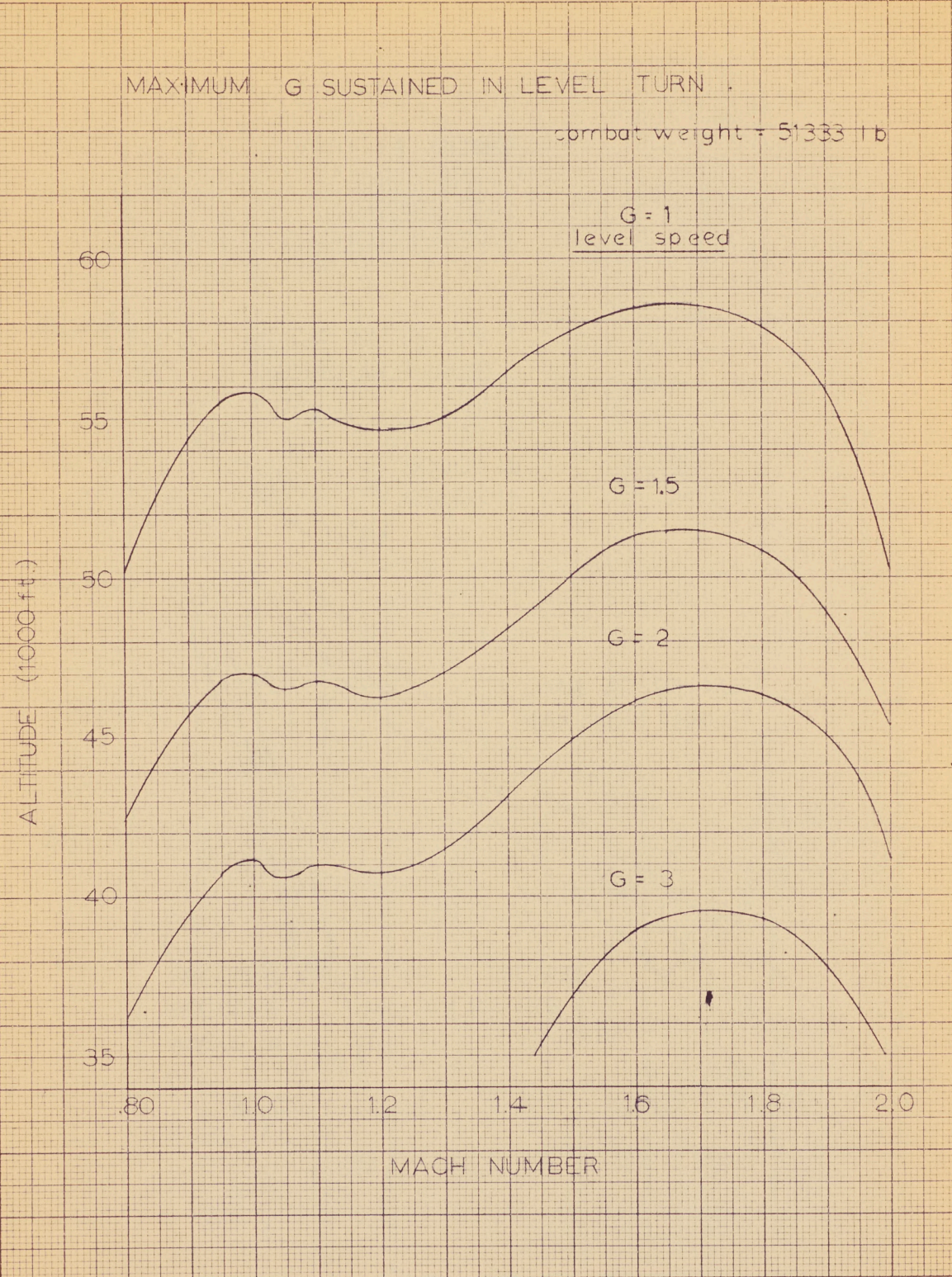
Ferry Range Mission at Economical Cruise Speed (M = .92 and Height,  
including 15 Mins. Stacking at 40,000 Ft., 5 Min. Fuel Reserve on  
Landing

|  |      |       |
|--|------|-------|
| Range with Full Internal Fuel and 500 Gal. - External Tank . | N.M. | 1,859 |
| Range with full internal fuel .....                          | N.M. | 1,609 |

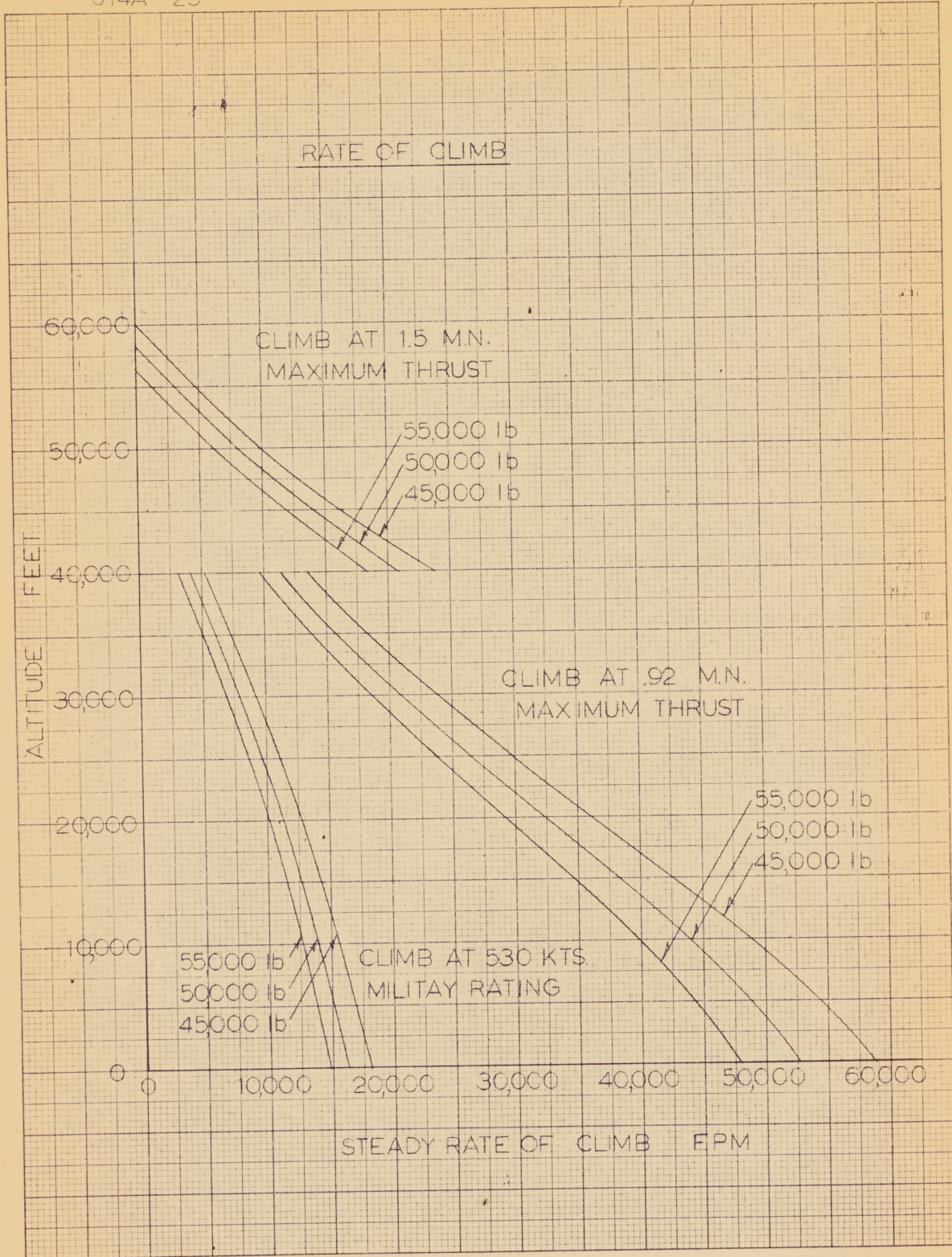
MAXIMUM G SUSTAINED IN LEVEL TURN

combat weight = 51333 lb

G = 1  
level speed



KE 10 X 10 TO THE 1/2 INCH 359-12  
KEUFFEL & ESSER CO. MADE IN U.S.A.



K&E 10 X 10 TO THE 1/2 INCH 359-12 MADE IN U.S.A. KEUFFEL & ESSER CO.

TIME TO HEIGHT

takeoff weight = 58982 lb  
one half minute allowed from engine start to military rating

ALTITUDE — FEET

50000

40000

30000

20000

10000

0

0

2

4

6

8

TIME TO HEIGHT FROM ENGINE START - MIN

minimum time to height

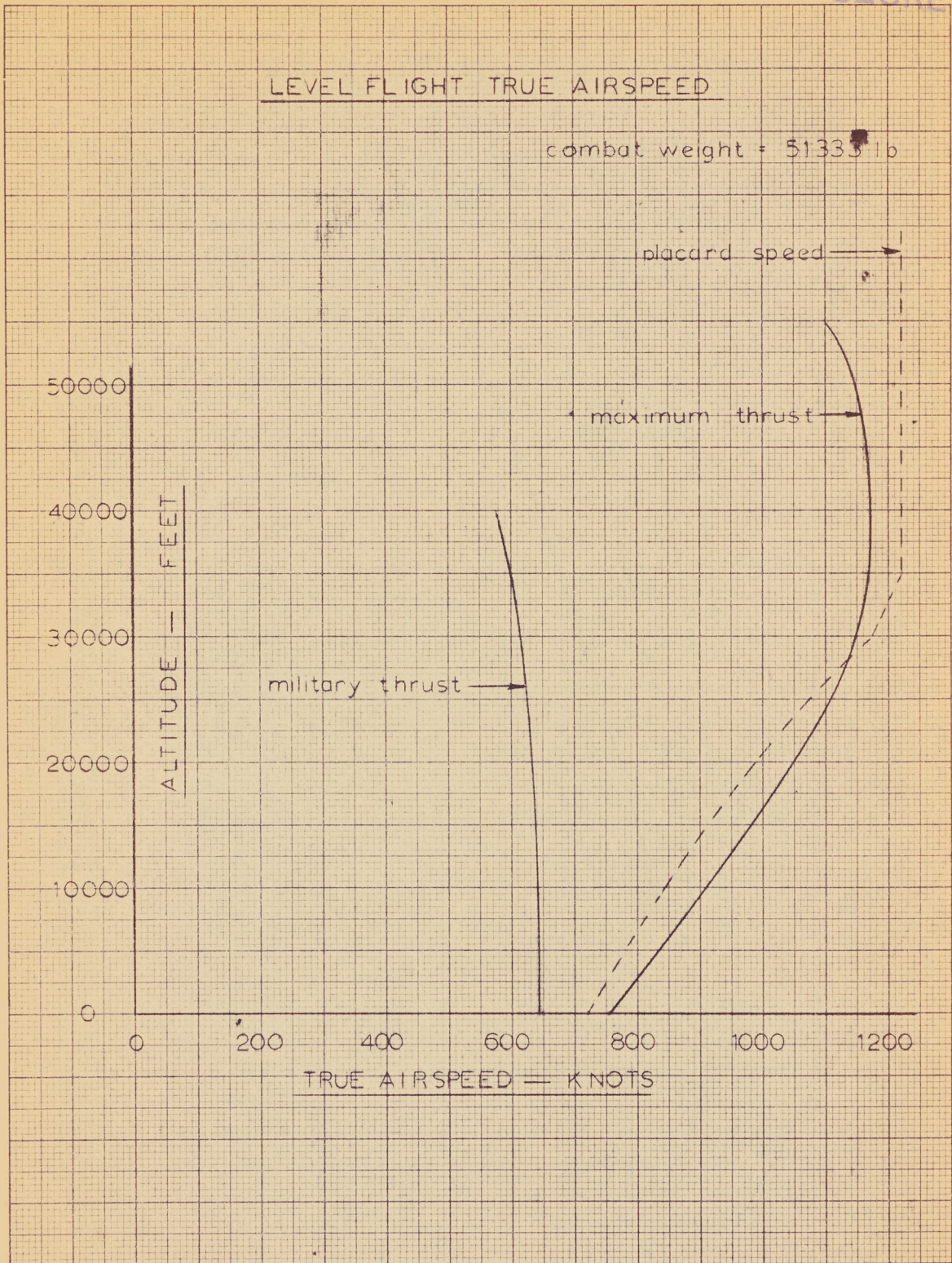
climb used in high speed mission

climb used in max. range mission

359-12  
MADE IN U.S.A.  
KEUFFEL & ESSER CO.  
10 X 10 TO THE 1/2 INCH

LEVEL FLIGHT TRUE AIRSPEED

combat weight = 51335 lb



K&E 10 X 10 TO THE 1/2 INCH 359-12 KEUFFEL & ESSER CO. MADE IN U.S.A.



AIRCRAFT  
A. U. W.

COMPONENT  
JT4A-25

SHEET No. \_\_\_\_\_

REPORT No. P/PERF/105

DATE \_\_\_\_\_

PREP BY \_\_\_\_\_

SECRET

TAKEOFF DISTANCE AT SEA LEVEL

- standard day with a/b
- - - - - standard day without a/b
- \_\_\_\_\_ hot day (100°F) with a/b

distance  
to clear  
50 ft  
obstacle

ground  
run

10000

8000

6000

4000

2000

0

TAKEOFF DISTANCE — FT

70000

65000

60000

55000

50000

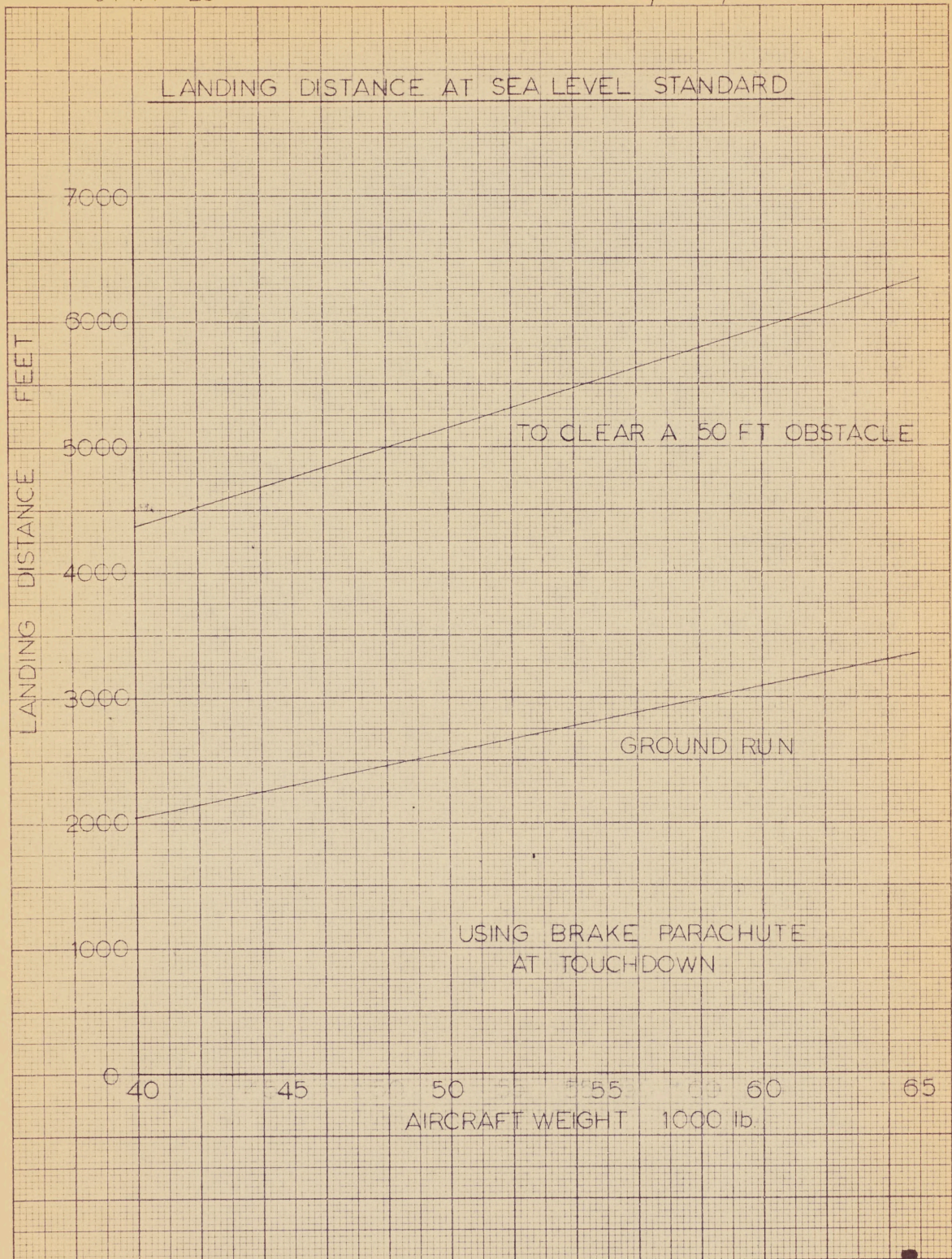
45000

AIRCRAFT WEIGHT LB

359-12 - KEUFFEL & ESSER CO.  
10 x 10 to the 1/2 inch, 5th lines accounted.  
MADE IN U.S.A.

JT4A - 25

P/PERF/105



359-12  
10 X 10 TO THE 1/2 INCH  
KEUFFEL & ESSER CO. MADE IN U.S.A.

000-7416  
3558  
MADE IN U.S.A.