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T. O. NO. 01-25CN-5  
A.P. 2014D

## BASIC WEIGHT CHECK LIST AND LOADING DATA

FOR THE

# P-40N Series AIRPLANES

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**NOTE:** The Commanding Officers of Stations and Bases will insure that this Technical Order is brought to the attention of Weight and Balance Officers under their jurisdiction.

The charts and graphs included in this publication will be inserted in that copy of the Handbook of Weight and Balance Data, AN 01-1-40, which is carried in the data case of P-40N series airplanes.

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SECTION I

Introduction

1. This technical order contains a Chart A, Basic Weight Check List, and Chart E, Loading Data, from the Handbook of Weight and Balance Data, AN 01-1-40, which are representative of the P-40N series aircraft. These data are being issued in technical order form to facilitate their distribution to all activities concerned.

2. The Basic Weight Check List contained herein is to be used either as a guide or as the actual list in the preparation of a new handbook (AN 01-1-40) or in revising the existing handbook actually in these airplanes. In either case

a complete inventory of all of the equipment in the airplane must be made and a check mark placed in the proper column on the new check list. Additional items may be entered to make this check list suitable for subsequent block change designations.

3. Chart E, Loading Data, contained herein, is to be inserted in place of any other Chart E now in section 7 of AN 01-1-40 only in those copies of the Handbook of Weight and Balance Data which are actually stowed in the airplane.

**CAUTION**

These charts are not to be inserted in those copies of AN 01-1-40 in the applicable squadron technical order files, but only in the Handbook of Weight and Balance Data that is actually stowed in these models of airplanes.





7-15-41

## BASIC WEIGHT CHECK LIST

CHART  
A  
SHEET 3AIRPLANE MODEL P-40N Series

SERIAL NO. \_\_\_\_\_

MFR. SERIAL NO. \_\_\_\_\_

ENTER DATE  $\downarrow$ DELIVERY  $\bullet$  RECORD OF CHECKING  $\bullet$ 

| COMPARTMENT &<br>ITEM NUMBER | ITEMS AND LOCATION<br>GROUPED BY COMPARTMENT | WEIGHT | ARM | MOMENT<br>1000 | ENTER DATE       |            |             |           |            |             |           |            |             |           |            |             |           |            |             |           |            |             |           |            |             |           |            |             |           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|                              |                                              |        |     |                | NORMAL<br>EQUIP. | CHECK<br>1 | IN AIRPLANE | LOG ENTRY | CHECK<br>2 | IN AIRPLANE | LOG ENTRY | CHECK<br>3 | IN AIRPLANE | LOG ENTRY | CHECK<br>4 | IN AIRPLANE | LOG ENTRY | CHECK<br>5 | IN AIRPLANE | LOG ENTRY | CHECK<br>6 | IN AIRPLANE | LOG ENTRY | CHECK<br>7 | IN AIRPLANE | LOG ENTRY | CHECK<br>8 | IN AIRPLANE | LOG ENTRY |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| C                            | PILOT'S COCKPIT (110" - 175")                |        |     |                |                  |            |             |           |            |             |           |            |             |           |            |             |           |            |             |           |            |             |           |            |             |           |            |             |           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

RESTRICTED

T.O. No. 01-26CN-5

RESTRICTED

FOR USE IN SECTION 2  
OF AN 01-1-40



RESTRICTED  
T.O. No. 01-25CN-5

# BASIC WEIGHT CHECKLIST

## CHART

SHEET 5

AIRPLANE MODEL P-40N Series SERIAL NO.                      MFR. SERIAL NO.                     

SERIAL NO. 1

MFR. SERIAL NO. 1

RECORD OF CHECKING 9

ENTER DATE 

COMPARTMENT 1  
ITEM NUMBER

### ITEMS AND LOCATION GROUPED BY COMPARTMENT

MISCELLANEOUS

Antenna - SCR-274X

Antenna - SCR-522

Antenna - SC8-695

Antenna - SCR-535

### Wing & Tail de-icer boots

Pump lines, etc.

Exhaust shroud covers

oil sump heat



100

1

1

1

1



1000

RESTRICTED

## SECTION II

### INSTRUCTIONS FOR THE USE OF CHART E

(A load adjuster will not be furnished with this airplane.)

#### 1. CENTER OF GRAVITY LIMITS

a. Limits are given in tabular and graphic form, either of which may be used.

b. On the Center of Gravity Graph, plot the intersection of the gross weight versus moment which is from Form F. This point should fall between the broken line and the 28% line for normal operation. If it falls forward (above) of the broken line, the cg should be plotted for the gross weight and moment with all fuel and ammunition removed.

c. On the tabular form, check with the take-off weight and moment as totaled on Form F. This figure should be greater than the moment in the third column of the chart for the corresponding gross weight and less than the moment in the fourth column. If not, the moment should be further checked to see that it is less than the most aft limit of 30% and greater than the most forward limit of 15% with all fuel and ammunition removed.

#### 2. EXAMPLE OF THE USE OF CHART E. (For a six-gun airplane with full ammunition and internal fuel.)

| ENTER ON FORM F                                  | WEIGHT | MOMENT<br>1000 |
|--------------------------------------------------|--------|----------------|
| Basic Weight from Chart C<br>(an assumed weight) | 6689   | 790            |
| Typical Load for 6-gun fighter                   | 1720   | 268            |
| Gross Weight                                     | 8409   | 1058           |

a. If a Typical Load is not available for the condition in which the airplane is going to be flown, the following alternates may be used:

(1) Write up a new Typical Load using the items in the Removable Load List.

(2) Use the Typical Load nearest to the one desired and add or subtract additional items as required.

(3) Write in on Form F the items in detail from the Removable Load List.

b. A check with the Center of Gravity Table shows the moment of 1058 to be slightly greater than the 28% moment of 1051 for 8400 pounds. Thus the airplane will take off at 28% to give a stable flight condition of 30% with wheels retracted, and since the moment of 1058 is greater than the moment for Forward Take-Off Limit with full fuel and ammunition, the airplane is safe for a 3-point landing condition.

c. If it is desired to check the most forward condition, remove all fuel and ammunition as follows:

|                     |       |       |
|---------------------|-------|-------|
| Gross Weight        | 8409  | 1058  |
| Less all fuel       | - 954 | - 157 |
| Less all ammunition | - 506 | - 72  |
| Landing Weight      | 6949  | 829   |

The moment of 829 is greater than the 19% moment of 824 for 7000 pounds, which confirms the previous statement of a safe 3-point landing.

The same results would be obtained by using the Center of Gravity Graph. The intersection of the gross weight and moment would fall below the 28% line indicating a safe take-off limit for stability in flight, and as it also falls below the broken line, a safe 3-point landing. The landing condition can be checked by plotting the intersection of the landing weight of 6949 pounds and the moment of 829.

#### 3. REMOVABLE LOAD LIST

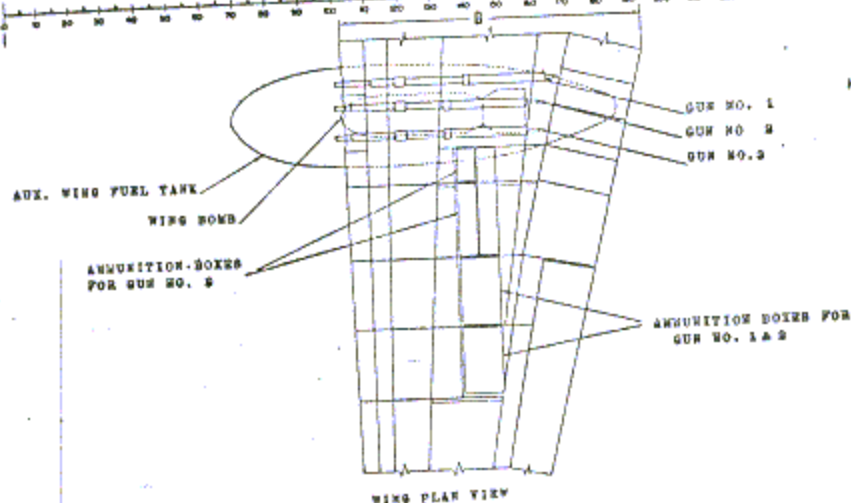
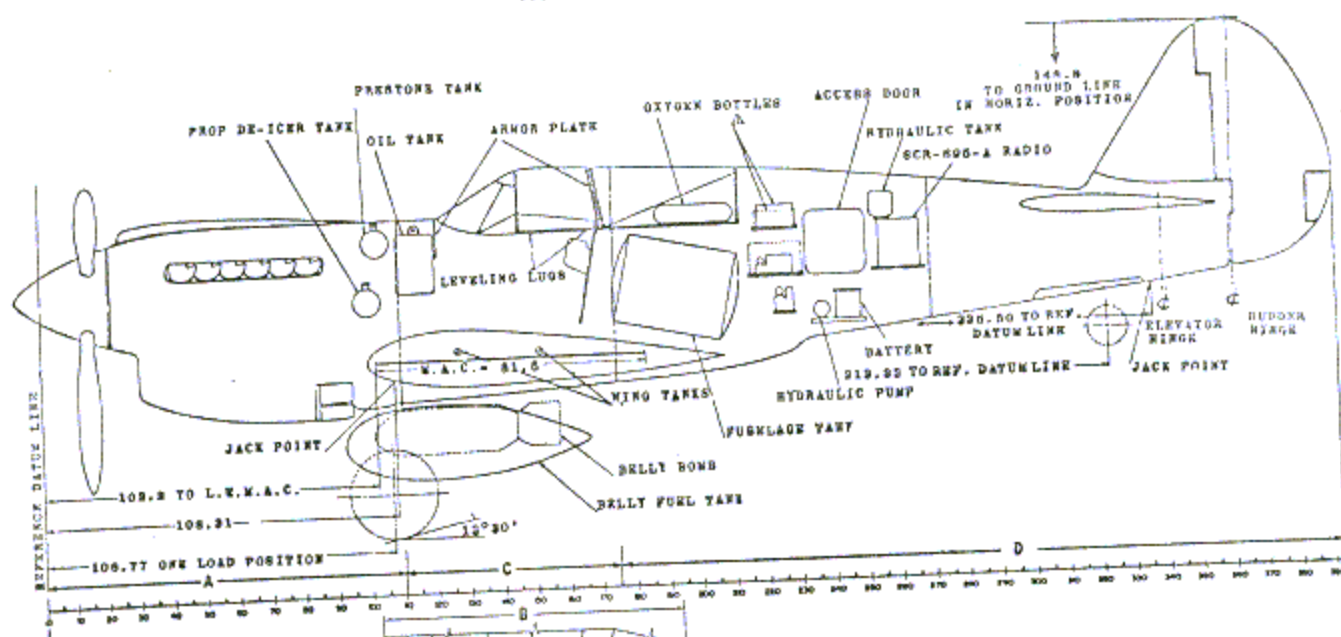
The Removable Load List includes all expendable and variable items that it is possible to install, with their weights, arms and moments.

#### 4. TYPICAL LOADINGS

Removable Load Items grouped according to probable combinations of loading, so that its total weight added to chart C will give the Gross Weight of the airplane. Space is left to write in various other combinations. Care should be exercised to see that chart C is revised to include items in chart A that are common to the Typical Load used.

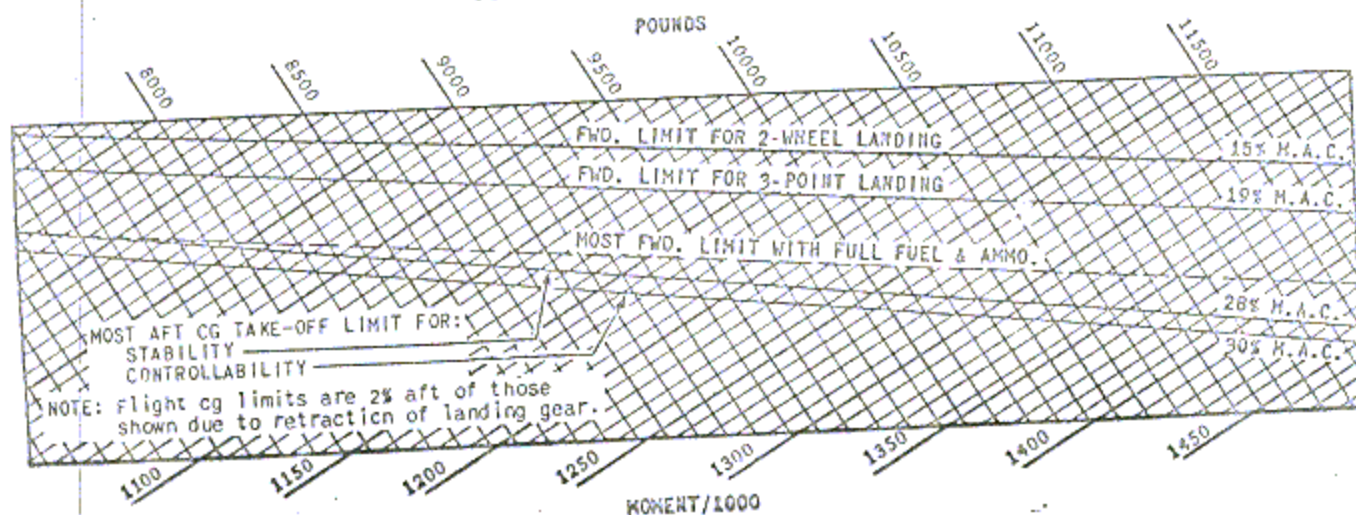
FOR USE AS CHART E IN SECTION 7  
OF AN 01-1-40

RESTRICTED  
T.O. No. 01-25CN-5  
AIRPLANE DIAGRAM



- NOTE:
1. SCR-214K RADIO INTERCHANGEABLE WITH SCR-522A RADIO
  2. THE JIG POINT IS 101.25 FROM THE REF. DATUM LINE LOCATED ON THE LEADING EDGE OF THE WING AT STATION 66. OR THE OUTBOARD EDGE OF THE MAIN WHEEL. OR WING JACK POINTS MAY BE USED AS JIG POINTS.

CENTER OF GRAVITY GRAPH



RESTRICTED

RESTRICTED  
T.O. No. 01-25CN-5

FOR USE AS CHART E IN SECTION 7  
OF AN 01-1-40

CENTER OF GRAVITY TABLE

| CONDITION                 | LANDING LIMIT                 |         | FORWARD TAKE-OFF<br>LIMIT WITH FULL<br>FUEL AND MAX.<br>AMMUNITION * | AFT TAKE-OFF LIMIT FOR ** |                 |
|---------------------------|-------------------------------|---------|----------------------------------------------------------------------|---------------------------|-----------------|
|                           | 2 WHEEL                       | 3 POINT |                                                                      | STABILITY                 | CONTROLLABILITY |
|                           | 15%                           | 1%      |                                                                      | 25%                       | 30%             |
| C.G. & M.A.C.             | 113.4"                        | 117.7"  |                                                                      | 125.1"                    | 126.7"          |
| DIST. Fm. REF. DATUM LINE |                               |         |                                                                      |                           |                 |
| GROSS WEIGHT              | FORWARD LIMITING MOMENTS/1000 |         |                                                                      | AFT LIMITING MOMENTS/1000 |                 |
| 6500                      | 744                           | 765     | 821                                                                  | 813                       | 824             |
| 600                       | 755                           | 777     | 833                                                                  | 826                       | 836             |
| 700                       | 766                           | 789     | 845                                                                  | 838                       | 849             |
| 800                       | 778                           | 800     | 855                                                                  | 851                       | 862             |
| 900                       | 789                           | 812     | 868                                                                  | 863                       | 874             |
| 7000                      | 801                           | 824     | 880                                                                  | 876                       | 887             |
| 100                       | 812                           | 836     | 892                                                                  | 888                       | 900             |
| 200                       | 824                           | 847     | 903                                                                  | 901                       | 912             |
| 300                       | 835                           | 859     | 915                                                                  | 913                       | 925             |
| 400                       | 847                           | 871     | 927                                                                  | 926                       | 938             |
| 7500                      | 858                           | 883     | 939                                                                  | 938                       | 950             |
| 600                       | 869                           | 895     | 951                                                                  | 951                       | 963             |
| 700                       | 881                           | 906     | 962                                                                  | 963                       | 976             |
| 800                       | 892                           | 918     | 974                                                                  | 976                       | 988             |
| 900                       | 904                           | 930     | 986                                                                  | 988                       | 1001            |
| 8000                      | 915                           | 942     | 998                                                                  | 1001                      | 1014            |
| 100                       | 927                           | 953     | 1009                                                                 | 1013                      | 1026            |
| 200                       | 938                           | 965     | 1021                                                                 | 1026                      | 1039            |
| 300                       | 950                           | 977     | 1033                                                                 | 1038                      | 1052            |
| 400                       | 961                           | 989     | 1045                                                                 | 1051                      | 1064            |
| 8500                      | 972                           | 1001    | 1057                                                                 | 1063                      | 1077            |
| 600                       | 984                           | 1012    | 1068                                                                 | 1076                      | 1090            |
| 700                       | 995                           | 1024    | 1080                                                                 | 1088                      | 1102            |
| 800                       | 1007                          | 1036    | 1092                                                                 | 1101                      | 1115            |
| 900                       | 1018                          | 1048    | 1104                                                                 | 1113                      | 1128            |
| 9000                      | 1030                          | 1059    | 1115                                                                 | 1126                      | 1140            |
| 100                       | 1041                          | 1071    | 1127                                                                 | 1138                      | 1153            |
| 200                       | 1052                          | 1083    | 1139                                                                 | 1151                      | 1166            |
| 300                       | 1064                          | 1095    | 1151                                                                 | 1163                      | 1178            |
| 400                       | 1075                          | 1106    | 1162                                                                 | 1176                      | 1191            |
| 9500                      | 1087                          | 1118    | 1174                                                                 | 1188                      | 1204            |
| 600                       | 1098                          | 1130    | 1186                                                                 | 1201                      | 1216            |
| 700                       | 1110                          | 1142    | 1198                                                                 | 1213                      | 1229            |
| 800                       | 1121                          | 1154    | 1210                                                                 | 1226                      | 1242            |
| 900                       | 1133                          | 1165    | 1221                                                                 | 1238                      | 1254            |
| 10000                     | 1144                          | 1177    | 1233                                                                 | 1251                      | 1267            |
| 100                       | 1155                          | 1189    | 1245                                                                 | 1264                      | 1280            |
| 200                       | 1167                          | 1201    | 1257                                                                 | 1276                      | 1292            |
| 300                       | 1178                          | 1212    | 1268                                                                 | 1289                      | 1305            |
| 400                       | 1190                          | 1224    | 1280                                                                 | 1301                      | 1318            |
| 10500                     | 1201                          | 1236    | 1292                                                                 | 1314                      | 1330            |
| 600                       | 1213                          | 1248    | 1304                                                                 | 1326                      | 1343            |
| 700                       | 1224                          | 1259    | 1315                                                                 | 1339                      | 1356            |
| 800                       | 1236                          | 1271    | 1327                                                                 | 1351                      | 1368            |
| 900                       | 1247                          | 1283    | 1339                                                                 | 1364                      | 1381            |
| 11000                     | 1258                          | 1295    | 1351                                                                 | 1376                      | 1394            |

\* To give 3 point landing without all fuel and ammunition.

\*\* Flight c.g. limits are 2% further aft due to retracting landing gear.

RESTRICTED

REMOVABLE LOAD LIST

| NO.                                     | ITEM                                      | WEIGHT | ARM         | MOMENT/1000 |
|-----------------------------------------|-------------------------------------------|--------|-------------|-------------|
| 1                                       | Pilot                                     | 200    | 160         | 32          |
| 2                                       | Oil in tank - 8 gals.                     | 60     | 116         | 7           |
| 3                                       | Fuel - internal                           |        |             |             |
| 4                                       | Fuselage tank, 70 gals.                   | 420    | 195         | 82          |
| 5                                       | Rear wing tank, 54 gals.                  | 324    | 151         | 49          |
| 6                                       | Front wing tank, 35 gals.                 | 210    | 126         | 26          |
| 7                                       | Fuel - External                           |        |             |             |
| 8                                       | Belly tank, 75 gals.                      | 450    | 125         | 56          |
| 9                                       | Belly tank, 170 gals.                     | 1060   | 125         | 133         |
| 10                                      | Wing tanks, 450 gals.                     | 2700   | 124         | 335         |
| 11                                      | External fuel tanks                       |        |             |             |
| 12                                      | 1-belly tank, 75 gal. cap. (Steel)        | 50     | 125         | 6           |
| 13                                      | 1-belly tank, 170 gal. cap. (Steel)       | 115    | 125         | 14          |
| 14                                      | 2-wing tanks at 225 gal. each (Al. Alloy) | 320    | 124         | 40          |
| 15                                      | Ammunition                                |        |             |             |
| 16                                      | 1206 rds. max. 4 - guns                   | 362    | 142         | 52          |
| 17                                      | 480 rds. max. 2 - guns                    | 144    | 142         | 20          |
| 18                                      | 1686 rds. total for 6 guns                | 506    |             | 72          |
| 19                                      | Bombs - belly rack                        |        |             |             |
| 20                                      | 1 - 100 lb. bomb                          | 112    | 124         | 14          |
| 21                                      | 1 - 300 lb. bomb                          | 288    | 124         | 36          |
| 22                                      | 1 - 500 lb. bomb                          | 500    | 124         | 62          |
| 23                                      | 1 - 600 lb. bomb                          | 614    | 124         | 76          |
| 24                                      | Bombs - wing rack                         |        |             |             |
| 25                                      | 2 - 100 lb. bomb                          | 224    | 122         | 27          |
| 26                                      | 2 - 300 lb. bomb                          | 576    | 122         | 70          |
| 27                                      | 2 - 500 lb. bomb                          | 1000   | 122         | 122         |
| 28                                      | 2 - 600 lb. bomb                          | 1228   | 122         | 150         |
| 29                                      | Miscellaneous                             |        |             |             |
| 30                                      | Duffle bag (max. capacity)                | 50     | 242         | 12          |
| 31                                      | Tools                                     | 20     | 240         | 5           |
| 32                                      | Container and equipment in rear vision    |        | 190         |             |
| 33                                      | Container and equipment on wing racks     |        | 122         |             |
| 34                                      | Landing gear - wheel retracting moment    |        |             | +9          |
| 35                                      | Landing gear - wheel extending moment     |        |             | -9          |
| Cargo in Baggage Compartment (Sta. 242) |                                           | POUNDS | MOMENT/1000 |             |
|                                         |                                           | 5      | 1           |             |
|                                         |                                           | 10     | 2           |             |
|                                         |                                           | 15     | 4           |             |
|                                         |                                           | 20     | 5           |             |
|                                         |                                           | 25     | 6           |             |
|                                         |                                           | 30     | 7           |             |
|                                         |                                           | 35     | 8           |             |
|                                         |                                           | 40     | 10          |             |
|                                         |                                           | 45     | 11          |             |
|                                         |                                           | 50     | 12          |             |

# MISCELLANEOUS DATA

Span 37' 3.5" (Approx.)  
Total Wing Area 236 sq. ft. (Approx.)  
Tread 8' 2-1/8" (Approx.)  
Distance from Reference Datum to:  
    ☐ Main Wheels 106.77" (Approx.)  
    ☐ Tail Wheels 321.64" (Approx.)

Reference Datum Line 108.31" fwd. of wing Jack Point  
or  
100" fwd. leading edge of wing at root

Location of leveling points On window ledge of pilot's compartment  
Location of Jig Points 1.25" aft of leading edge of wing at root

Arm of pilot 160"  
CG Range 110.59" to 126.68" (18% to 30%)  
Gear Retraction Moment Change 12,807  
Length of M.A.C. 81.6"  
L.E. of M.A.C. Aft of Reference Datum Line 102.2"  
Weight Empty (Approx.) 5800 lbs.  
Basic Weight 6400 lbs. (Approx.)  
\*Design gross weight 8242 lbs.  
\*Design load factor + 8

\*NOTE: Design gross weight is the weight used for structural design at design load factor, which is applied (limit) load factor.

## FUEL TANKS

| LOCATION   | TYPE                  | ARM | WEIGHT | CAPACITY |
|------------|-----------------------|-----|--------|----------|
| Front Wing | Self Sealing          | 126 | 66     | 35       |
| Rear Wing  | Self Sealing          | 151 | 102    | 54       |
| Fuselage   | Metal or Self Sealing | 195 | 82     | 70       |
| Belly Tank | Metal                 | 122 | 54     | 52       |
| (2) Wing   | Metal                 | 124 | 320    | 450      |
| Belly      | Metal                 | 125 | 50     | 75       |
| Belly      | Metal                 | 125 | 115    | 170      |
| OIL TANK   |                       |     |        |          |
| Fuselage   | Metal                 | 116 | 23     | 8        |

TYPICAL LOADINGS - MODEL P-40N AIRPLANE

| ITEM NO. | REMOVABLE ITEMS OF MILITARY LOAD      | INTERCEPTOR |             | 6-GUN FIGHTER |             | LONG R. FIGHTER |             | ALT. LONG RANGE |             | 500# BOMBER |             |
|----------|---------------------------------------|-------------|-------------|---------------|-------------|-----------------|-------------|-----------------|-------------|-------------|-------------|
|          |                                       | WEIGHT      | MOMENT 1000 | WEIGHT        | MOMENT 1000 | WEIGHT          | MOMENT 1000 | WEIGHT          | MOMENT 1000 | WEIGHT      | MOMENT 1000 |
| 1        | Pilot                                 | 200         | 32          | 200           | 32          | 200             | 32          | 200             | 32          | 200         | 32          |
| 2        | *Belly fuel tank - 79 gal. cap.       |             |             |               |             | 50              | 6           |                 |             |             |             |
| 3        | *2 - wing fuel tanks at 225 gal. cap. |             |             |               |             |                 |             | 320             | 40          |             |             |
| 4        | *500 lb. demolition bomb              |             |             |               |             |                 |             |                 |             | 500         | 62          |
| 5        | *1206 rds. amm. (4 guns)              | 362         | 52          |               |             |                 |             |                 |             |             |             |
| 6        | 1686 rds. amm. (6 guns)               |             |             | 506           | 72          | 506             | 72          | 506             | 72          | 506         | 72          |
| 7        | Oil in tank - 8 gals.                 | 60          | 7           | 60            | 7           | 60              | 7           | 60              | 7           | 60          | 7           |
| 8        | Fuel - front wing - 35 gal.           |             |             | 210           | 26          | 210             | 26          | 210             | 26          | 210         | 26          |
| 9        | Fuel - rear wing - 54 gal.            | 324         | 49          | 324           | 49          | 324             | 49          | 324             | 49          | 324         | 49          |
| 10       | Fuel - fuselage - 70 gal.             | 420         | 82          | 420           | 82          | 420             | 82          | 420             | 82          | 420         | 82          |
| 11       | Fuel - belly tank - 75 gal.           |             |             |               |             | 450             | 58          |                 |             |             |             |
| 12       | Fuel - wing tanks - 450 gal.          |             |             |               |             |                 |             | 2700            | 335         |             |             |
|          | TOTALS                                | 1368        | 222         | 1720          | 265         | 2220            | 330         | 4740            | 643         | 2220        | 330         |

\* Check Chart "A" for tank supports, bomb supports or 4-gun installation.

5-15-43

## AIRPLANE WEIGHING FORM

DATE WEIGHED 6-15-43 MODEL P-40N SERIAL No. \_\_\_\_\_

PLACE WEIGHED Curtiss-Wright Plant 2 WEIGHING OFFICER C. J. Crane

| WHEEL                 | SCALE<br>READING | TARE | NET<br>WEIGHT | ARM      | MOMENT  |
|-----------------------|------------------|------|---------------|----------|---------|
| LEFT MAIN             | 3125             | 0    | 3125          |          |         |
| RIGHT MAIN            | 3194             | 0    | 3194          |          |         |
| SUB-TOTAL (Both Main) | 6319             |      | 6319          | 105.94 E | 669,435 |
| NOSE OR TAIL          | 442              | 17   | 425           | 924.69 F | 125,243 |
| TOTAL (As Weighed)    |                  |      | 6744          | 117.83 H | 794,678 |

### INSTRUCTIONS

1. Enter scale readings in first column.
2. Subtract tare, if any, from scale reading to obtain net weight.
3. Determine the arms, E and F.
4. Multiply the sub-total net weight of main wheels, and the net weight of nose or tail wheel, by their respective arms (dimensions E and F) to obtain their moments.
5. Add net weights and moments of the main wheels and nose or tail wheel.
6. Divide the total moment by the total net weight to obtain the cg position in inches from the reference datum line (H).

### MEASUREMENTS

- Distance from the jig point or frame to the center line of the main wheels. Obtained by measurements.
- Distance from reference datum line to some accessible exterior jig point or frame of the airplane from which a plumb bob can be dropped to the ground. Obtain from diagram on balance computer or from Chart E.
- Distance from reference datum line to center line of main wheels.  
 $E = B + 1$
- Wheel base. Obtain by measurement.
- Distance from reference datum line to center line of nose or tail wheel.  
 $F = E - D$  (nose wheel airplane)  
 $F = E + D$  (tail wheel airplane)

|     | DESCRIPTION                                          | NET WEIGHT | ARM   | MOMENT   | INDEX |
|-----|------------------------------------------------------|------------|-------|----------|-------|
| *   | TOTAL (As Weighed)                                   | 6744       | 117.8 | 794,678  |       |
| **  | OIL IN AIRPLANE                                      | - 60       |       | - 6,960  |       |
| **  | Total of Items Weighed but Not Part of Basic Weight. | - 99       |       | - 12,978 |       |
| *** | Total of Basic Items Not in Airplane when Weighed    | + 53       |       | + 12,022 |       |
|     | BASIC AIRPLANE<br>(Post to Chart C)                  | 6,638      | 118.5 | 786,762  |       |

\*Post from upper chart to lower chart.

\*\*Subtract weight and moment in accordance with actual weighing instructions in the text.

\*\*\*Be absolutely sure these items are subsequently installed and checked off in chart A as actually being in the airplane.

①Applicable to the load adjusting computer.