

# SECTION 6 WEIGHT & BALANCE/ EQUIPMENT LIST

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## INTRODUCTION

This section describes the procedure for establishing the basic empty weight and moment of the airplane. Sample forms are provided for reference. Procedures for calculating the weight and moment for various operations are also provided. A comprehensive list of all Cessna equipment available for this airplane is included at the back of this section.

It should be noted that specific information regarding the weight, arm, moment and installed equipment for this airplane as delivered from the factory can only be found in the plastic envelope carried in the back of this handbook.

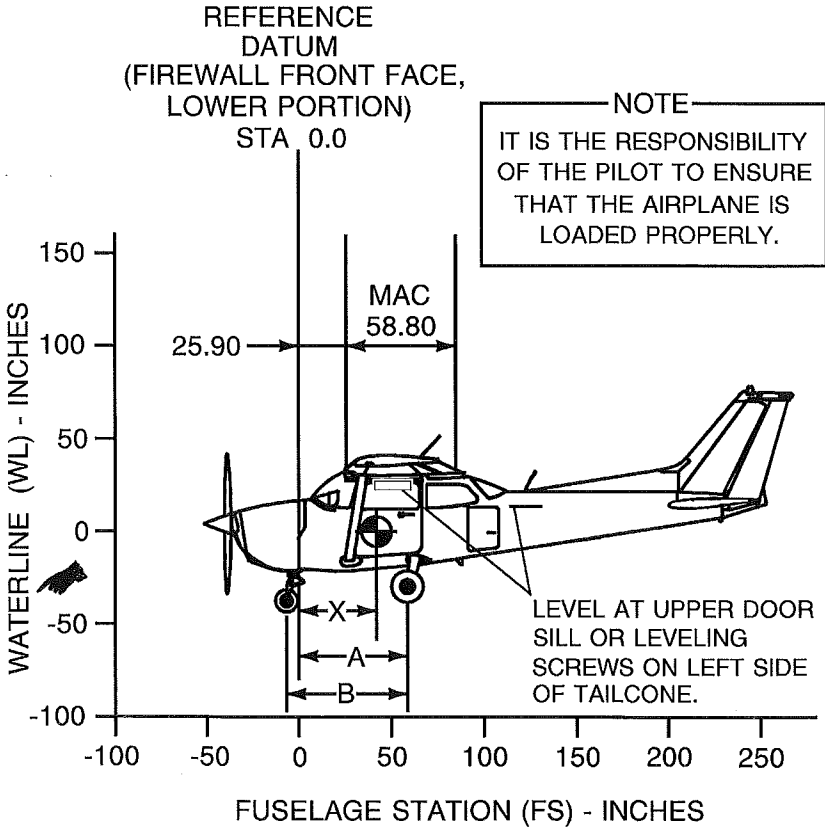
### WARNING

**IT IS THE RESPONSIBILITY OF THE PILOT TO ENSURE THE AIRPLANE IS LOADED PROPERLY. OPERATION OUTSIDE OF PRESCRIBED WEIGHT AND BALANCE LIMITATIONS COULD RESULT IN AN ACCIDENT AND SERIOUS OR FATAL INJURY.**

## AIRPLANE WEIGHING PROCEDURES

1. Preparation:
  - a. Inflate tires to recommended operating pressures.
  - b. Defuel airplane. Refer to the Maintenance Manual.
  - c. Service engine oil as required to obtain a normal full indication (8 quarts on dipstick).
  - d. Move sliding seats to the most forward position.
  - e. Raise flaps to the fully retracted position.
  - f. Place all control surfaces in neutral position.
  - g. Remove all non-required items from airplane.
2. Leveling:
  - a. Place scales under each wheel (minimum scale capacity, 500-pounds nose, 1000 pounds each main).
  - b. Deflate the nose tire and/or lower or raise the nose strut to properly center the bubble in the level (Refer to Figure 6-1).

AIRPLANE WEIGHING FORM



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Figure 6-1. Airplane Weighing Form (Sheet 1 of 2)

**LOCATING CG WITH AIRPLANE ON LANDING GEAR**

FORMULA for Longitudinal CG:

$$(X) = (A) - \frac{(\text{NOSE GEAR NET WEIGHT}) ( ) \times (B)}{\text{NOSE AND MAIN LANDING GEAR WEIGHT TOTALED} ( )} = ( ) \text{ INCHES AFT OF DATUM}$$

**MEASURING A AND B**

MEASURE A AND B PER PILOT'S OPERATING HANDBOOK INSTRUCTIONS TO ASSIST IN LOCATING CG WITH AIRPLANE WEIGHED ON LANDING GEAR.

**LOCATING PERCENT MAC**

FORMULA for Percent MAC:

$$\text{CG Percent MAC} = \frac{(\text{CG Arm of Airplane}) - 25.90}{0.5880}$$

**LEVELING PROVISIONS**

LONGITUDINAL - LEFT SIDE OF TAILCONE AT FS 108.00 & 142.00

**AIRPLANE AS WEIGHED TABLE**

POSITION	SCALE READING	SCALE DRIFT	TARE	NET WEIGHT
LEFT SIDE				
RIGHT SIDE				
NOSE				
AIRPLANE TOTAL AS WEIGHED				

**BASIC EMPTY WEIGHT AND CENTER-OF-GRAVITY TABLE**

ITEM	WEIGHT POUNDS	CG ARM (INCHES)	MOMENT (INCH-POUNDS /1000)
AIRPLANE (CALCULATED OR AS WEIGHED) (INCLUDES ALL UNDRAINABLE FLUIDS AND FULL OIL)			
DRAINABLE UNUSABLE FUEL AT 6.0 POUNDS PER GALLON - (3 GALLONS)	18.0	46.0	0.87
<b>BASIC EMPTY WEIGHT</b>			

Figure 6-1. Airplane Weighing Form (Sheet 2 of 2)

3. Weighing:
  - a. Weigh airplane in a closed hangar to avoid errors caused by air currents.
  - b. With the airplane level and brakes released, record the weight shown on each scale. Deduct the tare, if any, from each reading.
4. Measuring:
  - a. Obtain measurement A by measuring horizontally (along the airplane centerline) from a line stretched between the main wheel centers to a plumb bob dropped from the firewall.
  - b. Obtain measurement B by measuring horizontally and parallel to the airplane centerline, from center of nose wheel axle, left side, to a plumb bob dropped from the line between the main wheel centers. Repeat on right side and average the measurements.
5. Using weights from item 3 and measurements from item 4, the airplane weight and C.G. can be determined.
6. Basic Empty Weight may be determined by completing Figure 6-1.

## WEIGHT AND BALANCE

The following information will enable you to operate your Cessna within the prescribed weight and center of gravity limitations. To calculate weight and balance, use the Sample Loading Problem, Loading Graph, and Center of Gravity Moment Envelope as follows:

Take the basic empty weight and moment from appropriate weight and balance records carried in your airplane, and enter them in the column titled YOUR AIRPLANE on the Sample Loading Problem.

### NOTE

In addition to the basic empty weight and moment noted on these records, the C.G. arm (fuselage station) is also shown, but need not be used on the Sample Loading Problem. The moment which is shown must be divided by 1000 and this value used as the moment/1000 on the loading problem.

Use the Loading Graph to determine the moment/1000 for each additional item to be carried; then list these on the loading problem.

# SAMPLE WEIGHT AND BALANCE RECORD

(CONTINUOUS HISTORY OF CHANGES IN STRUCTURE OR EQUIPMENT AFFECTING WEIGHT AND BALANCE)

AIRPLANE MODEL				SERIAL NO.				PAGE NUMBER	
DATE	ITEM NO.		DESCRIPTION OF ARTICLE OR MODIFICATION	WEIGHT CHANGE				RUNNING BASIC EMPTY WEIGHT	
	IN	OUT		ADDED (+)		REMOVED (-)			
				WT. (LB.)	ARM (IN.)	WT. (LB.)	ARM (IN.)		MOMENT /1000
			AS DELIVERED						

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Figure 6-2. Sample Weight and Balance Record

### NOTE

Loading Graph information for the pilot, passengers and baggage is based on seats positioned for average occupants and baggage loaded in the center of the baggage areas as shown on the Loading Arrangements diagram. For loadings which may differ from these, the Sample Loading Problem lists fuselage stations for these items to indicate their forward and aft C.G. range limitations (seat travel and baggage area limitation). Additional moment calculations, based on the actual weight and C.G. arm (fuselage station) of the item being loaded, must be made if the position of the load is different from that shown on the Loading Graph.

Total the weights and moments/1000 and plot these values on the Center of Gravity Moment Envelope to determine whether the point falls within the envelope, and if the loading is acceptable.

### BAGGAGE TIE-DOWN

A nylon baggage net having tie-down straps is provided as standard equipment to secure baggage on the cabin floor aft of the rear seat (baggage area 1) and in the aft baggage area (baggage area 2). Six eyebolts serve as attaching points for the net. Two eyebolts for the forward tie-down straps are mounted on the cabin floor near each sidewall just forward of the baggage door approximately at station 90; two eyebolts are installed on the cabin floor slightly inboard of each sidewall approximately at station 107; and two eyebolts are located below the aft window near each sidewall approximately at station 107. A placard on the baggage door defines the weight limitations in the baggage areas.

When baggage area 1 is utilized for baggage only, the two forward floor mounted eyebolts and the two aft floor mounted eyebolts (or the two eyebolts below the aft window) may be used, depending on the height of the baggage. When baggage is carried in the baggage area 2 only, the aft floor mounted eyebolts and the eyebolts below the aft window should be used. When baggage is loaded in both areas, all six eyebolts should be utilized.

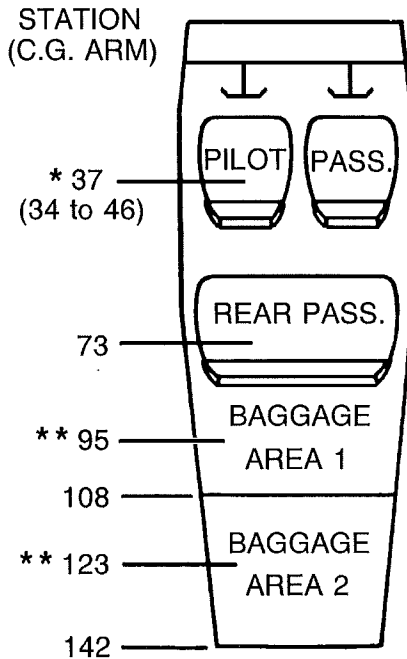


# LOADING ARRANGEMENTS

\* Pilot or passenger center of gravity on adjustable seats positioned for average occupant. Numbers in parentheses indicate forward and aft limits of occupant center of gravity range.

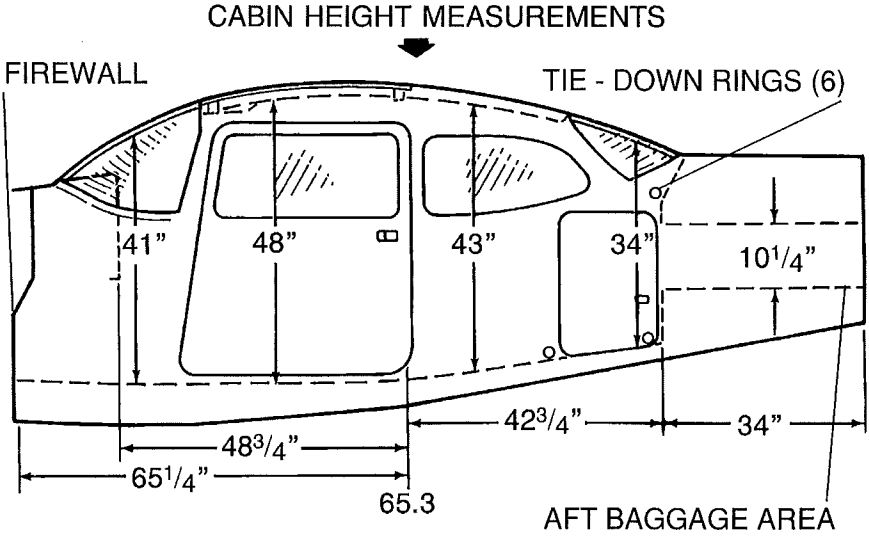
\*\* Arm measured to the center of the areas shown.

- NOTES:**
1. The usable fuel C.G. arm for integral tanks is located at station 48.0.
  2. The rear cabin wall (approximate station 108) or aft baggage wall (approximate station 142) can be used as convenient interior reference points for determining the location of baggage area fuselage stations.



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Figure 6-3. Loading Arrangements

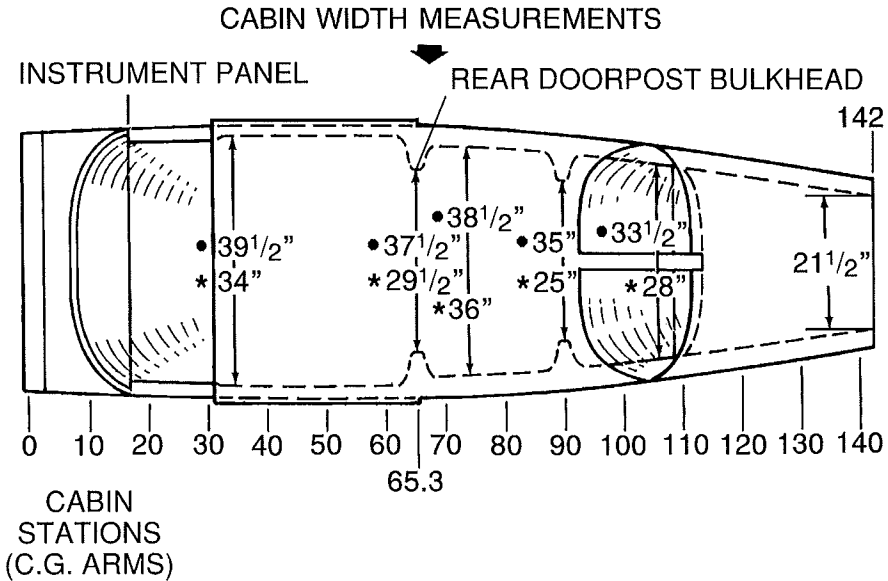


**DOOR OPENING DIMENSIONS**

	WIDTH (TOP)	WIDTH (BOTTOM)	HEIGHT (FRONT)	HEIGHT (REAR)
<b>CABIN DOORS</b>	32 1/2"	37"	40 1/2"	39"
<b>BAGGAGE DOOR</b>	15 1/4"	15 1/4"	22"	21"

0585X1023

Figure 6-4. Internal Cabin Dimensions (Sheet 1 of 2)



• LWR WINDOW LINE

\* CABIN FLOOR

0585X1023

Figure 6-4. Internal Cabin Dimensions (Sheet 2 of 2)

ITEM DESCRIPTION	WEIGHT AND MOMENT TABULATION			
	SAMPLE AIRPLANE		YOUR AIRPLANE	
	Weight (lbs.)	Moment (Lb-ins. /1000)	Weight (lbs.)	Moment (Lb-ins. /1000)
1. Basic Empty Weight (Use the data pertaining to your airplane as it is presently equipped. Includes unusable fuel and full oil)	1639	64.4		
2. Usable Fuel (At 6 Lbs./Gal.)				
53 Gallons Maximum				
35 Gallons (To reduced fuel indicator tab)	210	10.1		
3. Pilot and Front Passenger (Station 34 to 46)	340	12.6		
4. Rear Passengers	220	16.0		
5. *Baggage Area 1 (Station 82 to 108; 120 Lbs. Max.)	48	3.4		
6. *Baggage Area 2 (Station 108 to 142; 50 Lbs. Max.)				
7. <b>RAMP WEIGHT AND MOMENT</b> (add columns)	<b>2457</b>	<b>106.5</b>		
8. Fuel allowance for engine start, taxi and runup	-7.0	-0.3		
9. <b>TAKEOFF WEIGHT AND MOMENT</b> (Subtract Step 8 from Step 7)	<b>2450</b>	<b>106.2</b>		
10. Locate this point (2450 at 106.2) on the Center of Gravity Moment Envelope, and since this point falls within the envelope, the loading is acceptable. * The maximum allowable combined weight capacity for baggage areas 1 and 2 is 120 pounds.				

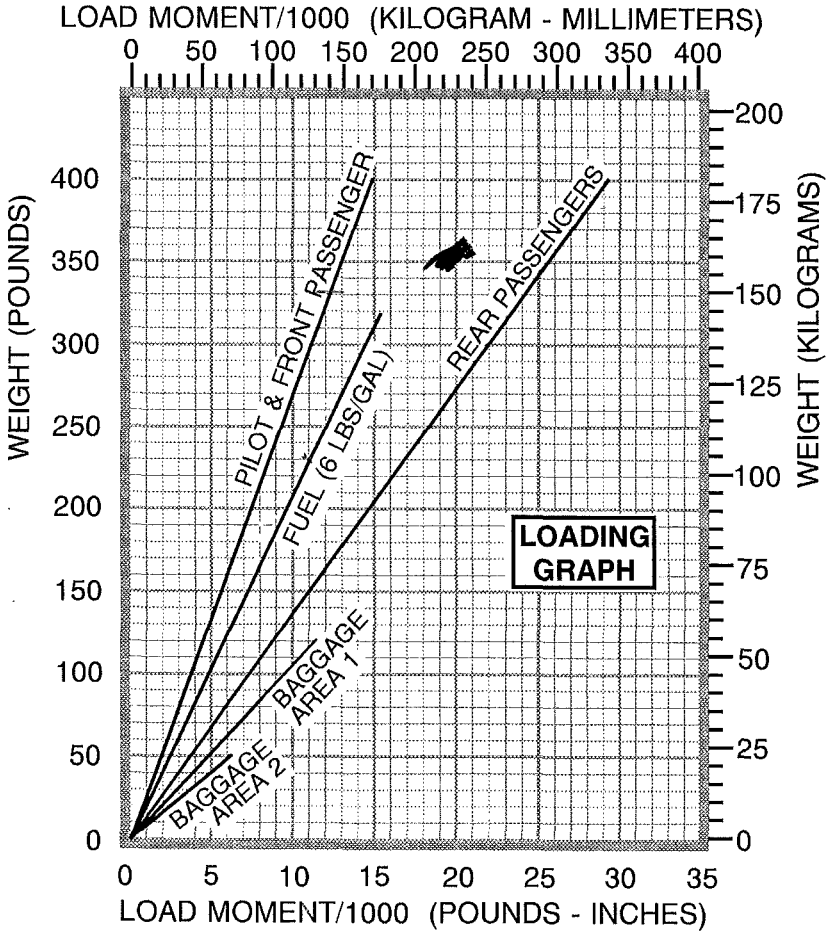
Figure 6-5. Sample Loading Problem (Sheet 1 of 2)

YOUR AIRPLANE		YOUR AIRPLANE		YOUR AIRPLANE	
Weight (lbs.)	Moment (Lb-ins. /1000)	Weight (lbs.)	Moment (Lb-ins. /1000)	Weight (lbs.)	Moment (Lb-ins. /1000)

**NOTE**

When several loading configurations are representative of your operations, it may be useful to fill out one or more of the above columns so specific loadings are available at a glance.

Figure 6-5. Sample Loading Problem (Sheet 2 of 2)

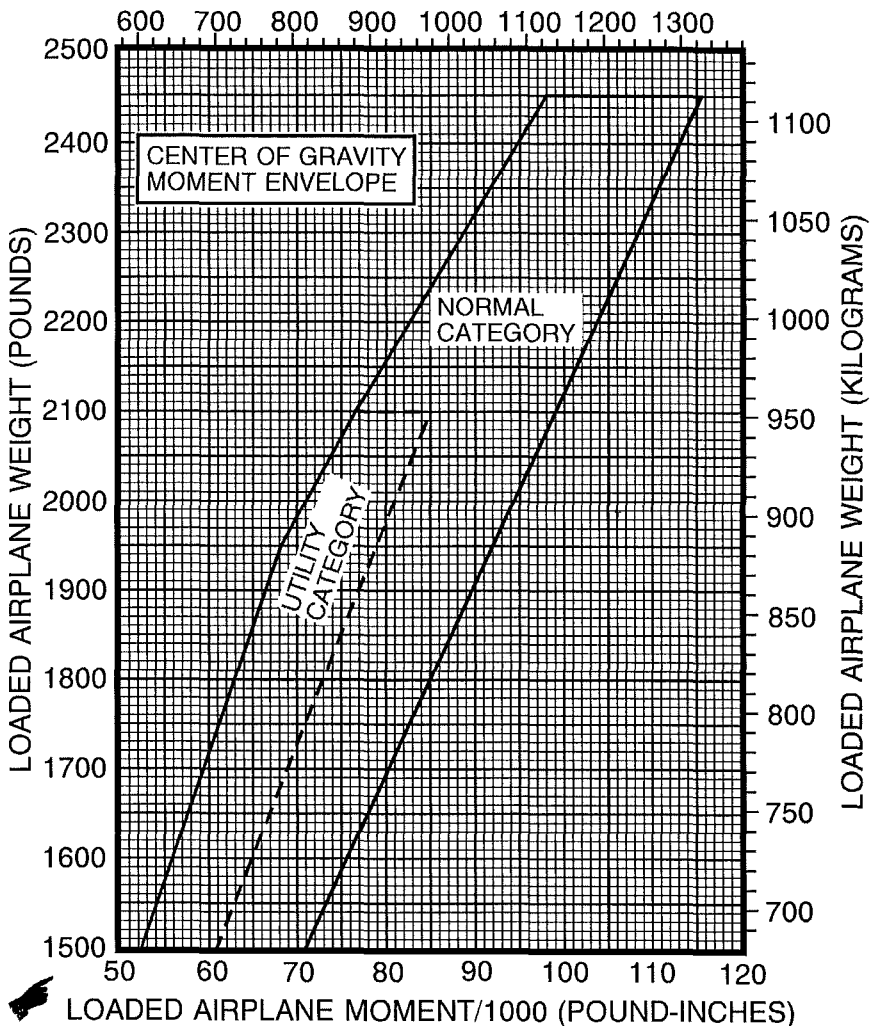


**NOTE:** LINE REPRESENTING ADJUSTABLE SEATS SHOWS THE PILOT OR PASSENGER CENTER OF GRAVITY ON ADJUSTABLE SEATS POSITIONED FOR AN AVERAGE OCCUPANT. REFER TO THE LOADING ARRANGEMENTS DIAGRAM FOR FORWARD AND AFT LIMITS OF OCCUPANT C.G. RANGE.

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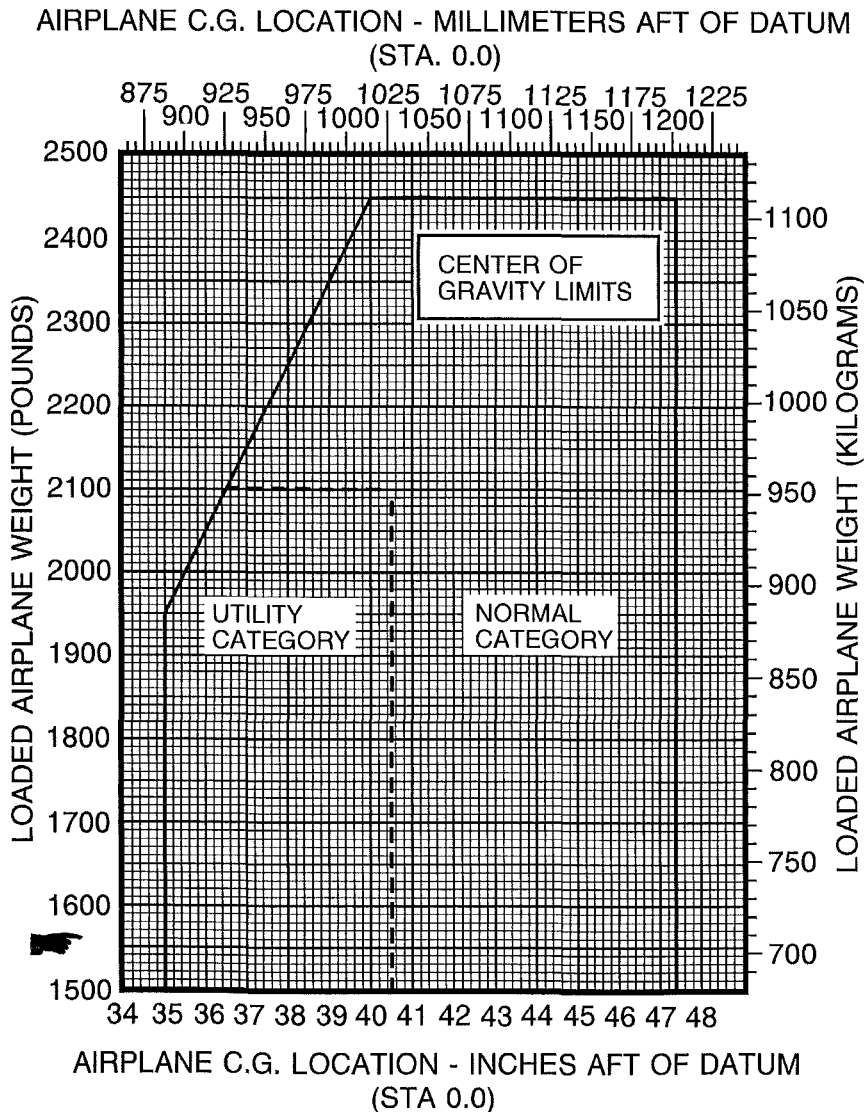
Figure 6-6. Loading Graph

LOADED AIRPLANE MOMENT/1000 (KILOGRAM-MILLIMETERS)



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Figure 6-7. Center of Gravity Moment Envelope



0585C1008

Figure 6-8. Center of Gravity Limits



## COMPREHENSIVE EQUIPMENT LIST

The following figure (Figure 6-9) is a comprehensive list of all Cessna equipment which is available for the Model 172R airplane. This comprehensive equipment list provides the following information in column form:

In the **ITEM No.** column, each item is assigned a coded number. The first two digits of the code represent the assignment of the item within the Air Transport Association Specification 100 breakdown (11 for Paint and Placards; 24 for Electrical Power; 77 for Engine Indicating, etc...). These assignments also correspond to the Maintenance Manual chapter breakdown for the airplane. After the first two digits (and hyphen), items receive a unique sequence number (01, 02, 03, etc...). After the sequence number (and hyphen), a suffix letter is assigned to identify equipment as a required item, a standard item or an optional item. Suffix letters are as follows:

- R = required items or equipment for FAA certification
- S = standard equipment items
- O = optional equipment items replacing required or standard items
- A = optional equipment items which are in addition to required or standard items

In the **EQUIPMENT LIST DESCRIPTION** column, each item is assigned a descriptive name to help identify its function.

In the **REF DRAWING** column, a Cessna drawing number is provided which corresponds to the item.

### NOTE

If additional equipment is to be installed, it must be done in accordance with the reference drawing, service bulletin or a separate FAA approval.

In the **WT LBS** and **ARM INS** columns, information is provided on the weight (in pounds) and arm (in inches) of the equipment item.

### NOTES

Unless otherwise indicated, true values (not net change values) for the weight and arm are shown. Positive arms are distances aft of the airplane datum; negative arms are distances forward of the datum.

Asterisks (\*) in the weight and arm column indicate complete assembly installations. Some major components of the assembly are listed on the lines immediately following. The sum of these major components does not necessarily equal the complete assembly installation.

SECTION 6  
WEIGHT & BALANCE / EQUIPMENT LIST

CESSNA  
MODEL 172R

ITEM No.	EQUIPMENT LIST DESCRIPTION	REF DRAWING	WT LBS	ARM INS.
<b>11 - PLACARDS AND MARKINGS</b>				
11-01-R	IFR DAY & NIGHT LIMITATIONS PLACARD	0505087-3	0.0	43.0
11-02-S	PAINT, OVERALL EXTERIOR	0504051	19.2*	95.4*
	- OVERALL WHITE		18.4	93.6
	- COLORED STRIP DECALS		0.8	135.9
<b>21 - AIR CONDITIONING</b>				
21-01-S	REAR SEAT AIR VENTS	0513575-1	1.7	60.0
21-02-S	CABIN HEATER SYSTEM	0554001-9	2.5	-4.0
<b>22 - AUTO FLIGHT</b>				
22-02-A	SINGLE AXIS AUTO-PILOT (KAP 140)	065-00176-2602	8.6*	36.8*
	-AUTO-PILOT COMPUTER	065-00179-0300	2.6	12.4
	-ROLL ACTUATOR, WITH MOUNT		3.6	68.5
	-DIRECTIONAL GYRO (EXCHANGE)		0.5	14.0
	-CONFIGURATION MODULE		0.1	12.0
	-CABLE ASSEMBLY		1.4	20.8
<b>23 - COMMUNICATIONS</b>				
23-01-S	STATIC DISCHARGE WICKS (SET OF 10)	0501048-1	0.4	143.2
23-02-S	NAV/COM #1 INSTALLATION NO GS	3930404-1	7.9*	52.7*
	- KX 155A BENDIX/KING NAV/COM w/ GS	066-01032-0201	3.5	12.5
	- KI 208 NAV INDICATOR	066-03056-0002	1.0	13.9
	- VHF COM ANTENNA	3960113-8	0.5	61.2
	- COM ANTENNA CABLE	3921100-1	0.4	26.5
	- OMNI NAV ANTENNA		0.5	253.4
	- OMNI ANTENNA CO-AX CABLE		1.5	123.8
	- HARDWARE AND CABLE ASSEMBLY	3921100-1	0.5*	53.2*
23-03-A	NAV/COM INSTALLATION WITH GS	3930404-1	6.5*	17.1*
	- KX 155A BENDIX/KING NAV/COM w/GS	066-01032-0201	4.0	12.5
	- KI 209 NAV INDICATOR	066-03056-0002	1.2	13.9
	- VHF ANTENNA	3960113-9	0.5	61.2
	- ANTENNA COUPLER	3930403-1	0.2	14.0
	- HARDWARE AND CABLE ASSEMBLY	3921101-1	0.2	3.5
	- CO-AX, COM ANTENNA		0.4	26.5
23-04-S	AUDIO/INTERCOM/MARKER BEACON INSTL	3900003-1	2.5*	19.7*
	- KMA 26 AUDIO SWITCH PANEL	066-01155-0101	1.7	14.8
	- HARDWARE AND CABLE ASSEMBLY	3900003-2	0.8	30.0
23-05-S	BASIC AVIONICS (USED WITH #1 NAV/COM)	3900003-1	11.3*	27.4*
	- MARKER BEACON ANTENNA	3960188-1	0.5	130.7
	- FUSELAGE AUDIO WIRING		7.9	26.5
	- MICROPHONE - HANDHELD		0.2	18.0
	- AVN COOLING FAN INSTL		1.2	6.5
	- BASIC CIRCUIT BREAKER PANEL	3930417	0.4	16.5

Figure 6-9. Equipment List Description (Sheet 1 of 7)

ITEM No.	EQUIPMENT LIST DESCRIPTION	REF DRAWING	WT LBS	ARM INS.
	- AVN GROUND INSTL	3930357	0.2	15.0
	- MISC HARDWARE		0.9	16.0
	<b>24 - ELECTRICAL POWER</b>			
24-01-R	ALTERNATOR, 28 VOLT 60 AMP	9910591-5	10.0	-29.0
24-02-R	BATTERY, 24 VOLT, 12.75 A.H. MANIFOLD TYPE	C614002-0101	23.2	-5.0
24-03-R	POWER JUNCTION BOX (PRECISION AIRMOTIVE)	MC01-2A	6.4*	1.0*
	- ALTERNATOR CONTROL UNIT	AC2101	0.2	1.0
	- MASTER CONTACTOR	X61-0007	0.7	1.0
	- STARTER CONTACTOR	X61-0012	0.7	1.0
	- AMMETER TRANSDUCER	CS 3100	0.1	1.0
24-04-S	BASIC AVIONICS KIT INSTALLATION	3900002-1	3.5*	13.1*
	- AVIONICS POWER AND BUS BAR	3930299-1	0.3	17.0
	<b>25 - EQUIPMENT/FURNISHINGS</b>			
25-01-R	SEAT, PILOT, VERTICAL ADJUST, CLOTH	0514211-1	34.3	41.5
25-02-O	SEAT, PILOT, VERTICAL ADJUST, LEATHER	0514211-5	35.0	41.5
25-03-O	SEAT, PILOT, VERTICAL ADJUST, LEATHER/VINYL	0514211-8	34.8	41.5
25-04-S	SEAT, FRONT PASSENGER, VERTICAL AJUST, CLOTH	0514211-1	34.3	41.5
25-05-O	SEAT, FRONT PASSENGER, VERTICAL AJUST, LEATHER	0514211-5	35.0	41.5
25-06-O	SEAT, FRONT PASSENGER, VERTICAL AJUST, LEATHER/VINYL	0514211-8	34.8	41.5
25-07-S	SEAT, REAR, ONE PIECE BACK CUSHION, CLOTH	0514219-1	43.3	79.5
25-08-O	SEAT, REAR, ONE PIECE BACK CUSHION, LEATHER	0514219-2	44.7	79.5
25-09-O	SEAT, REAR, ONE PIECE BACK CUSHION, LEATHER/VINYL	0514219-3	44.3	79.5
25-10-R	SEAT BELT AND SHOULDER HARNESS, INERTIA REEL, PILOT AND FRONT PASSENGER	504516-401-8013	5.2	54.0
25-11-O	SEAT BELT AND SHOULDER HARNESS, MANUAL ADJUST, PILOT AND FRONT PASSENGER	504851-401-8013	3.5	54.0
25-11-S	SEAT BELT AND SHOULDER HARNESS, INERTIA REEL, REAR SEAT (SET OF 2)	504516-403-8013	5.2	90.0
25-12-O	SEAT BELT AND SHOULDER HARNESS, MANUAL ADJUST, REAR SEAT (SET OF 2)	504851-403-8013	3.5	90.0
25-13-S	PADDED GLARESHIELD	0514230-1	1.2	21.0
25-14-S	SUN VISORS	0514166-2	1.1	32.8
25-15-S	BAGGAGE RETAINING NET	2015009-7	0.5	95.0
25-16-S	CARGO TIE DOWN RINGS	0515055-6	0.2	95.0
25-17-S	PILOT'S OPERATING CHECKLIST (STOWED IN INSTRUMENT PANEL MAP CASE)	0500832-1	0.3	14.3

Figure 6-9. Equipment List Description (Sheet 2 of 7)

SECTION 6  
WEIGHT & BALANCE / EQUIPMENT LIST

CESSNA  
MODEL 172R

ITEM No.	EQUIPMENT LIST DESCRIPTION	REF DRAWING	WT LBS	ARM INS.
25-18-R	PILOT'S OPERATING HANDBOOK AND FAA APPROVED AIRPLANE FLIGHT MANUAL (STOWED IN PILOT'S SEAT BACK CASE)	0500832-1	1.2	50.0
25-19-S	FUEL SAMPLING CUP	S2107-1	0.1	14.3
25-20-S	TOW BAR, NOSE GEAR (STOWED)	0501019-1	1.7	124.0
25-21-R	EMERGENCY LOCATOR TRANSMITTER INSTL	3940401-1	3.1*	101.0*
	- ELT TRANSMITTER 3000-11	3940401-1	1.8	113.3
	- ANTENNA AND CABLE ASSY, 3003-45	3940401-1	0.5	122.0
	- HARDWARE	3940401-1	0.1	118.3
	<b>26 - FIRE PROTECTION</b>			
26-01-S	FIRE EXTINGUISHER INSTALLATION	0501011-2	5.3*	43.8*
	- FIRE EXTINGUISHER	C421001-0201	4.8	44.0
	- MOUNTING CLAMP	C421001-0202	0.5	42.2
	<b>27 - FLIGHT CONTROLS</b>			
27-01-S	DUAL CONTROLS INSTL, RIGHT SEAT	0506008-1	5.5*	12.4*
	- CONTROL WHEEL, RH	0513576-2	2.0	26.0
	- RUDDER & BRAKE PEDAL INSTL, RH	0510402-16	1.1	6.8
27-02-S	CONTROL WHEEL MAP LIGHT AND MIC. SWITCH INSTL (INCLUDES PANEL MOUNTED AUXILIARY MIC. JACK)	0560059-1	0.2	22.0
	<b>28 - FUEL</b>			
28-01-R	FUEL QUANTITY INDICATORS, LEFT & RIGHT	S3281-1	0.4	14.4
28-02-R	AUXILIARY FUEL PUMP	5100-00-1	1.9	9.5
	<b>31 - INDICATING/RECORDING SYSTEM</b>			
31-01-S	CLOCK/OAT INDICATOR, DIGITAL	M803B-2-0	0.7	16.5
31-02-S	HOUR RECORDER "HOBBS TIME"	C664503-0103	0.5*	9.1*
31-03-R	ANNUNCIATOR	90-44001-1	0.5	16.0
31-04-R	STALL WARNING INDICATOR - PNEUMATIC	0523112-2	0.4	28.5
	<b>32 - LANDING GEAR</b>			
32-01-R	WHEEL BRAKE AND TIRE, 6.00 X 6 MAIN	0541200-7,-8	34.4*	57.8*
	- WHEEL ASSY, CLEVELAND (EACH)	C163001-0104	6.2	58.2
	- BRAKE ASSY, CLEVELAND (EACH)	C163030-0111	1.8	54.5
	- TIRE, 4-PLY BLACKWALL (EACH)	C262003-0101	7.9	58.2
	- TUBE (EACH)	C262023-0102	1.3	58.2

Figure 6-9. Equipment List Description (Sheet 3 of 7)

ITEM No.	EQUIPMENT LIST DESCRIPTION	REF DRAWING	WT LBS	ARM INS.
32-03-R	WHEEL AND TIRE, 5.00 X 5 NOSE	0543062-17	9.5*	-6.8*
	- WHEEL ASSY, CLEVELAND	1241156-12	3.5	-6.8
	- TIRE, 6-PLY BLACKWALL	C262003-0202	4.6	-6.8
	- TUBE	C262023-0101	1.4	-6.8
32-03-A	WHEEL FAIRINGS AND INSTALLATION	0541225-1	16.5*	46.1*
	- NOSE WHEEL FAIRING	0543079-3	3.5	-3.5
	- MAIN WHEEL FAIRINGS (SET OF 2)	0541223-1, -2	10.1	61.1
	- BRAKE FAIRINGS (SET OF 2)	0541224-1, -2	1.1	55.6
	- MOUNTING PLATE (SET OF 2)	0541220-1,-2	0.8	59.5
<b>33 - LIGHTS</b>				
33-01-S	COURTESY LIGHTS UNDER WING (SET OF 2)	0521101-8	0.5	61.0
33-02-S	NAVIGATION LIGHT DETECTORS (SET OF 2)	0701013-1,-2	0.0	40.8
33-03-S	FLASHING BEACON LIGHT ON VERTICAL FIN TIP	0506003-6	1.4	204.7
33-04-S	STROBE LIGHT INSTALLATION ON WING TIPS	0501027-6	3.4	43.3
33-05-S	LANDING AND TAXI LIGHT INSTL IN WINGS	0523029-2,-7	2.2	25.3
<b>34 - NAVIGATION</b>				
34-01-R	INDICATOR, AIRSPEED	S3325-1	0.6	16.2
34-02-S	ALTERNATE STATIC AIR SOURCE	0501017-1	0.2	15.5
34-03-R	ALTIMETER WITH 20 FT. MARKINGS, INCHES OF MERCURY	S3328-1	0.9	14.0
34-04-O	ALTIMETER WITH 20 FT. MARKINGS, FEET & MILLIBAR	S3371-1	0.9	14.0
34-05-S	BLIND ALTITUDE ENCODER INSTL	3930402-1	0.9	11.0
34-06-R	COMPASS INSTL, MAGNETIC	0513262-2	0.5	14.0
34-07-S	GYRO, INSTALLATION (REQUIRES 37-01-S)	0501135-1	6.0*	13.0*
	- DIRECTIONAL GYRO	S3330-1	2.3	14.0
	- ATTITUDE GYRO	S3226-1	2.1	14.0
	- HOSE AND MISC HARDWARE	0501135-1	1.5	10.0
34-08-S	TURN COORDINATOR INDICATOR FOR AUTO PILOT	S3291-1	1.2	14.7
34-09-S	VERTICAL SPEED INDICATOR	S3327-1	0.8	15.7
34-10-A	ADF INSTALLATION	3930404-1	10.4*	26.9*
	- KR 87 ADF RECEIVER	066-01072-0014	3.2	12.1
	- KI 227 ADF INDICATOR	066-03063-0000	0.7	15.9
	- ADF ANTENNA	3960187-1	4.2	39.3
	- ADF CABLE ASSEMBLY	3922102-1	2.3	29.0
34-11-A	GPS INSTALLATION	3930404-1	4.4*	15.3*
	- KING GPS-VFR, KLN-89	066-01148-1111	3.3	12.4
	- GPS ANTENNA	3960190-1	0.3	43.5
	- GPS CABLE ASSEMBLY	3928101-1	0.8	14.1

Figure 6-9. Equipment List Description (Sheet 4 of 7)

SECTION 6  
WEIGHT & BALANCE / EQUIPMENT LIST

CESSNA  
MODEL 172R

ITEM No.	EQUIPMENT LIST DESCRIPTION	REF DRAWING	WT LBS	ARM INS.
34-12-S	MODE C TRANSPONDER INSTL	3930404-1	4.1*	18.7*
	- KT 76C TRANSPONDER	066-01156-0101	2.4	13.5
	- TRANS CAL BLIND ENCODER	3930402-1	0.8	10.9
	- TRANSPONDER ANTENNA	3960191-1	0.2	85.3
	- HARDWARE AND CABLE ASSEMBLY	3923102-1	0.6	28.9
34-13-O	HORIZONTAL SITUATION INDICATOR INSTL (NET WT INCREASE) (REQUIRED 37-01-S)	3900016-1	15.3*	84.1*
	- HSI INDICATOR	066-03046-0007	3.4	13.4
	- GYRO SLAVING ACCESSORY	071-01242-0006	0.3	15.8
	- FLUX DETECTOR INSTL IN LH WING	3940364-1	0.7	52.6
	- REMOTE DIRECTION GYRO - SLAVED	3940365-1	5.1	112.5
	- NAV CONVERTER INSTL	3940366-1	1.6	117.0
	- WIRING	3900016	8.0	60.7
	- STD GYRO INSTL (REMOVED)	0501135	-13.6	3.6
	- GYRO INSTL FOR HSI INSTALLED	0501171-1	11.0	1.6
	- REMOVE #1 NAV INDICATOR		-1.2	13.9
<b>37 - VACUUM</b>				
37-01-S	VACUUM SYSTEM, ENGINE DRIVEN, DUAL		5.4*	-1.8*
	- VACUUM PUMP, AIRBORNE 211CC	E211CC	1.9	-6.5
	- VACUUM PUMP, AIRBORNE 212CW	E212CW	1.9	-3.9
	- COOLING SHROUD, AIRBORNE 2CDH	2CDH	0.1	-6.5
	- COOLING SHROUD, AIRBORNE 2CDH	2CDH	0.1	-3.9
	- FILTER INSTALLATION	1201075-2	0.3	5.3
	- VACUUM GAGE/AMMETER	S3280-1	0.3	14.3
	- VACUUM RELIEF VALVE	2H3-48	0.3	4.8
	- MANIFOLD	1H5-25	0.5	-0.2
37-02-R	VACUUM GAGE/AMMETER	S3280-1	0.3	14.3
37-03-S	LOW VACUUM WARNING LIGHT, VACUUM PUMP	0506008-1	0.0	16.0
<b>53 - FUSELAGE</b>				
53-01-S	REFUELING STEPS AND HANDLE INSTL	0513415-2	1.7	16.3
	<b>56 - WINDOWS</b>			
56-01-S	WINDOW, HINGED RIGHT DOOR, OPENABLE	0517001-40	5.8*	48.5*
56-02-R	WINDOW, HINGED LEFT DOOR, OPENABLE	0517001-39	5.8*	48.5*
<b>57 - WINGS</b>				
57-01-O	HEAVY DUTY FLAPS, (WT SHOWN, NET CHNG)			
	- TWO (2) FLAPS (EXCHANGED)	0523902	2.2	83.2
	- ONE (1) FLAP (EXCHANGED)	0523902	1.1	83.2

Figure 6-9. Equipment List Description (Sheet 5 of 7)

ITEM No.	EQUIPMENT LIST DESCRIPTION	REF DRAWING	WT LBS	ARM INS.
<b>61 - PROPELLER</b>				
61-01-R	PROPELLER ASSY, FIXED PITCH	0550320-14	38.8*	-38.2*
	- PROPELLER, 75 INCH MCCAULEY	1C235/LFA7570	35.0	-38.4
	- PROP SPACER ADAPTER, 3.5 INCH MCCAULEY		3.6	-36.0
61-02-R	SPINNER INSTALLATION, PROPELLER	0550320-14	1.8*	-41.0*
	- SPINNER DOME ASSEMBLY	0550367-1	1.0	-42.6
	- FWD SPINNER BULKHEAD	0552231-2	0.3	-40.8
	- AFT SPINNER BULKHEAD	0550321-10	0.4	-37.3
<b>71 - POWERPLANT</b>				
71-01-R	FILTER, AIR INTAKE, DONALDSON	P198281	0.3	-27.5
71-02-S	WINTERIZATION KIT INSTL (INSTALLED ARM SHOWN)	0501128-3	0.8*	-20.3*
	- BREATHER TUBE INSTALLATION	0552011	0.4	-13.8
	- COWL INLET COVERS (INSTALLED)	0552229-3,-4	0.3	-32.0
	- COWL INELT COVERS (STOWED)	0552229-3,-4	0.3	95.0
71-03-R	ENGINE, LYCOMING IO-360-L2A	0550359-2	297.8*	-18.6*
	- FUEL INJECTOR, PAC RSA-5AD1		7.6	-13.9
	- MAGNETOS & HARNESS, SLICK 4371 (SET OF 2)		9.0	-5.0
	- OIL FILTER AND ADAPTER		2.5	-18.5
	- SPARK PLUGS		1.9	-13.9
	- STARTER, LAMAR 31B22207		11.2	-23.0
<b>73 - ENGINE FUEL &amp; CONTROL</b>				
73-01-S	EGT/FUEL FLOW INDICATOR	S3277-4	0.6	7.8
<b>77 - ENGINE INDICATING</b>				
77-01-R	TACHOMETER, RECORDING	S3329-1	1.0	12.1
<b>78 - EXHAUST</b>				
78-01-R	EXHAUST SYSTEM INSTALLATION	0554012-1	16.3*	-20.0*
	- MUFFLER & TAILPIPE WELD ASSY	0554011-2	4.6	-22.7
	- SHROUD ASSY, MUFFLER HEATER	0554001-9	0.8	-22.7
<b>79 - OIL</b>				
79-01-R	OIL COOLER INSTALLATION	0550359-2	3.3*	-11.0*
	- OIL COOLER, STEWART WARNER	8406-R	2.3	-11.0
79-02-R	OIL PRESSURE & TEMPERATURE INDICATORS	S3279-1	0.4	16.5
<b>98 - AVIONICS PACKAGE OPTIONS</b>				
98-01-S	STANDARD AVIONICS PACKAGE	3900003-1	28.0*	32.2*
	- 23-05-S BASIC AVN KIT INSTL	3900002-1	11.3	27.4
	- 23-04-S AUDIO/INTERCOM/MARKER BEACON INSTL	3930404-1	2.5	19.7

Figure 6-9. Equipment List Description (Sheet 6 of 7)

SECTION 6  
WEIGHT & BALANCE / EQUIPMENT LIST

CESSNA  
MODEL 172R

ITEM No.	EQUIPMENT LIST DESCRIPTION	REF DRAWING	WT LBS	ARM INS.
	- 23-02-S NAV/COM INSTL	3930404-1	7.9	52.7
	- MODE C TRANSPONDER INSTL (34-11-S)	3930404-1	4.5	15.2
98-02-A	TRAINER AVIONICS PACKAGE (NET CHG OVER STD AVN PKG)	3900004-1	21.3*	21.5*
	- 23-03-A NAV/COM WITH GLIDESLOPE	3930404-1	6.5	17.1
	- 34-09-A ADF INSTALLATION	3930404-1	10.4	26.9
	- 34-10-A GLOBAL POSITIONING SYSTEM (GPS)		4.4	15.3
98-03-A	NAV II PACKAGE (NET CHG OVER STD AVN PKG)	3900005-1	29.9*	25.9*
	- 98-02-A TRAINER AVN PKG		21.3	21.5
	- 22-02-A SINGLE AXIS AUTOPILOT		8.6	36.8
	- GPS INSTALLATION	3930404-1	4.4	17.6
98-04-A	NAV II PACKAGE WITH HSI (NET CHG OVER STD AVN PKG)	3900016-1	45.2*	45.6*
	- 98-03-A NAV II PACKAGE		29.9	25.9
	- 34-12-O HORIZONTAL SITUATION INDICATOR (HSI) GYRO INSTL		15.3	84.1

Figure 6-9. Equipment List Description (Sheet 7 of 7)