

# 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.

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.

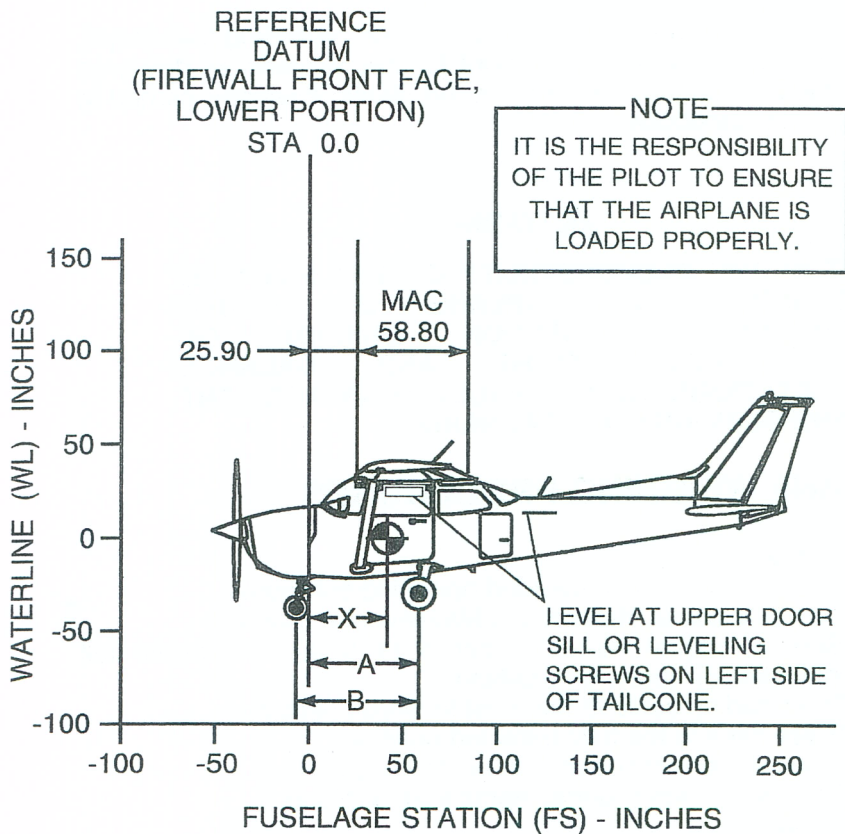
### WARNING

**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:

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

**LOCATING PERCENT MAC**

FORMULA for Percent MAC:

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

**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.

**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	0.83
BASIC EMPTY WEIGHT			

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.

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

[illegible]

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.

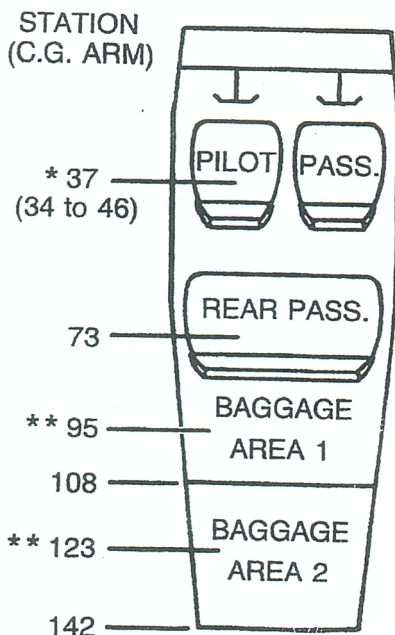
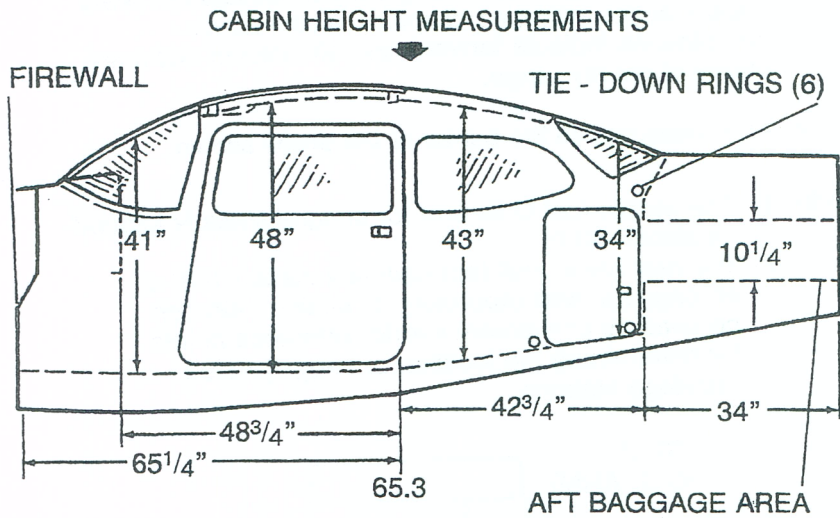


Figure 6-3. Loading Arrangements

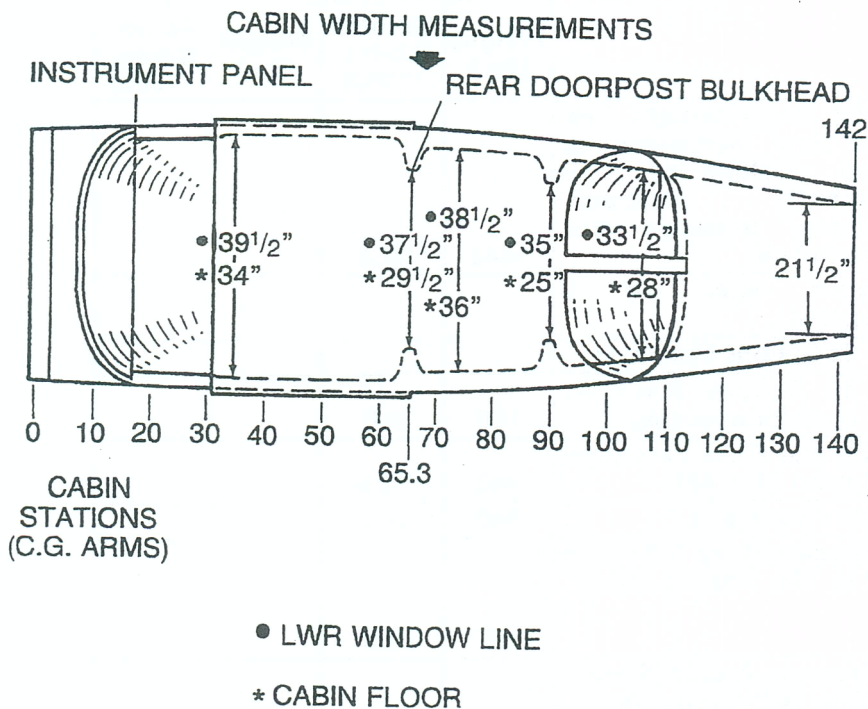
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**DOOR OPENING DIMENSIONS**

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

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



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)	1642	62.6		
2. Usable Fuel (At 6 Lbs./Gal.)				
53 Gallons Maximum				
30 Gallons (Quantity used for example)	180	8.6		
3. Pilot and Front Passenger (Station 34 to 46)	340	12.6		
4. Rear Passengers	340	24.8		
5. *Baggage Area 1 (Station 82 to 108; 120 Lbs. Max.)	56	4.6		
6. *Baggage Area 2 (Station 108 to 142; 50 Lbs. Max.)				
7. RAMP WEIGHT AND MOMENT (add columns)	2558	113.2		
8. Fuel allowance for engine start, taxi and runup	-8.0	-0.4		
9. TAKEOFF WEIGHT AND MOMENT (Subtract Step 8 from Step 7)	2550	112.8		
10. Locate this point (2550 at 112.8) 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)



## DA 739

Authorised	Date	Date of Expiry	Issue
A. R. Parsons	17.3.2006	Indefinite (CAO 100.7)	Two

Item	Weight(kg)	Arm(mm)	Index Units	Configuration
Empty Weight	764.0	1000	763999	4 Seats
Imperial Units				
Item	Weight(lbs)	Arm(inch)	Index Units	Configuration
Empty Weight	1684.3	39.37	66311	4 Seats

Empty : Unusable Fuel and Full Off.

APPROVED

SIGNED

DATED / 17.3.2006

A. R. Parsons AQ 40

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## The Allen Parsons Project



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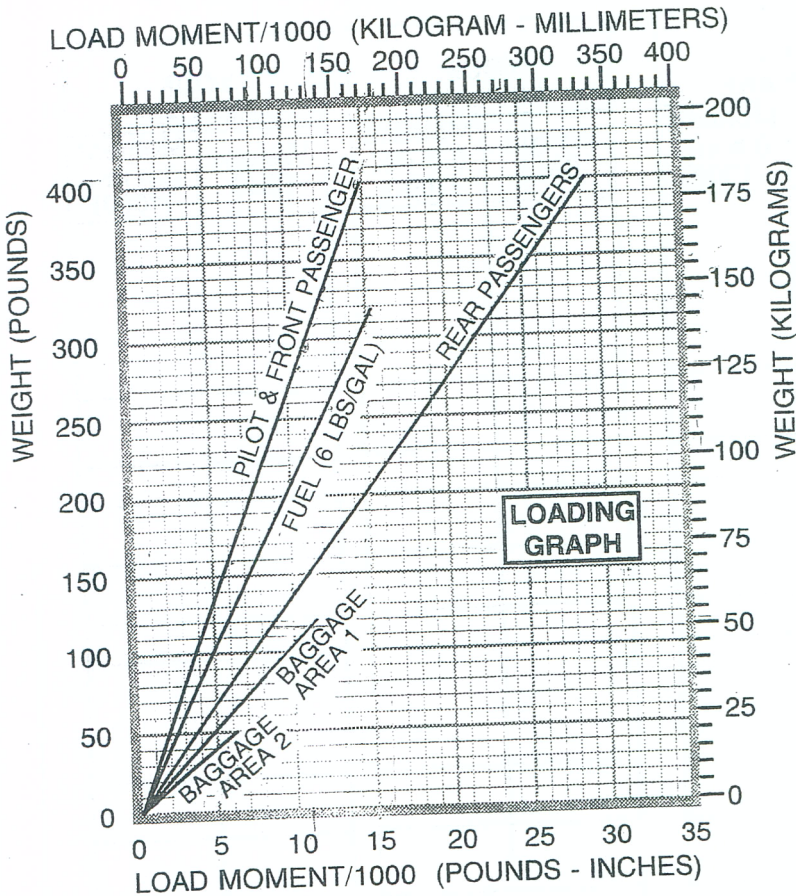
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### NOTE

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

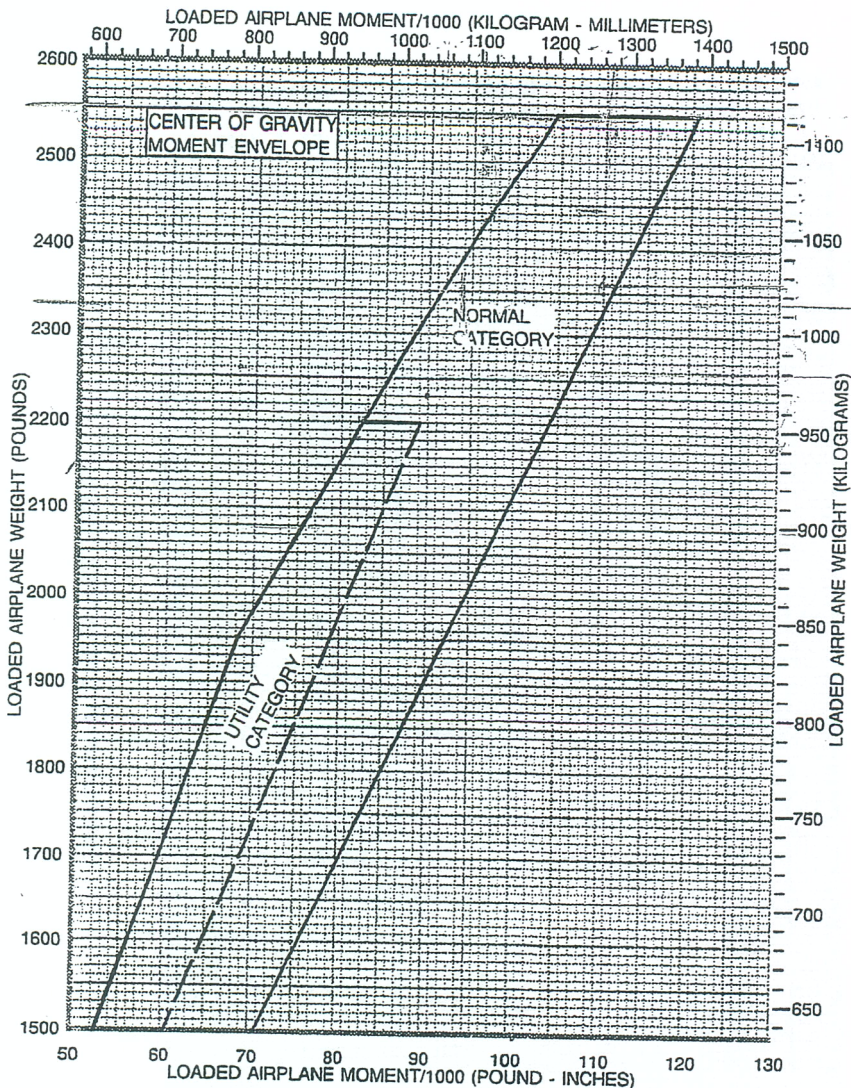


**NOTE:** LINE REPRESENTING ADJUSTABLE SEATS SHOWS THE PILOT OR PASSENGER CENTER OF GRAVITY ON ADJUSTABLE SEATS POSITIONED FOR AN AVERAGE OCCUPANT. REFER TO THE LOADING ARRANGEMENTS DIAGRAM FOR FORWARD AND AFT LIMITS OF OCCUPANT C.G. RANGE.

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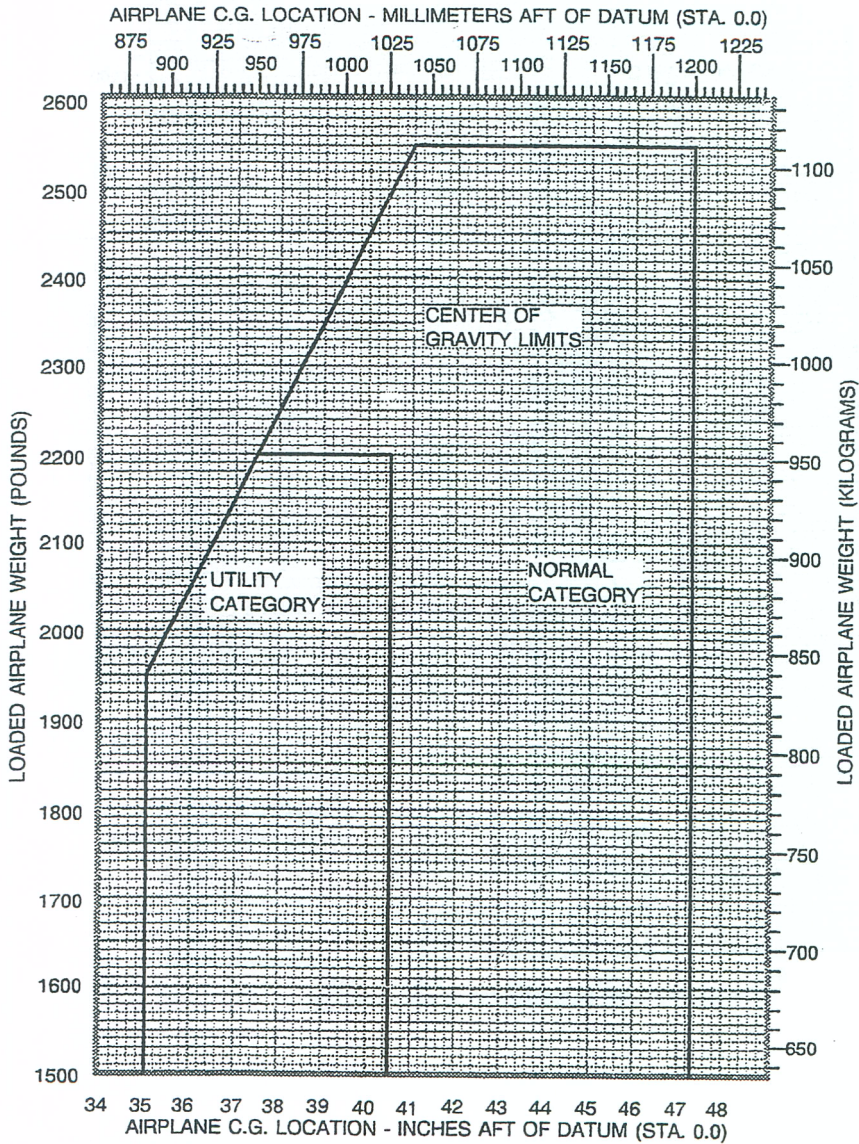
Figure 6-6. Loading Graph





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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 172S 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 172S**

ITEM NO	EQUIPMENT LIST DESCRIPTION	REF DRAWING	WT LBS	ARM INS.
<b>11 - PLACARDS AND MARKINGS</b>				
11-01-R	PLACARD, OPERATIONAL LIMITATIONS	0505087-23	0.0	43.0
11-02-S	PAINT, OVERALL EXTERIOR	0504051	19.2*	95.4*
	- OVERALL WHITE	870-003	18.4	93.6
	- COLORED STRIPE DECALS	119916	0.8	135.9
<b>21 - AIR CONDITIONING</b>				
21-01-S	REAR SEAT VENTS	0513575-28	1.7	60.0
21-02-S	CABIN HEATER SYSTEM (EXHAUST SHROUD ASSY, HEATER & HOSES)	9954100-1	2.5	-4.0
<b>22 - AUTO FLIGHT</b>				
22-01-S	WING LEVELER PROVISIONS	3900003	2.2*	23.0*
	- CABLE ASSEMBLY	3924109-1	1.6	14.8
	- WING CABLE ASSEMBLY	3924110-1	0.6	45.0
22-02-A	SINGLE AXIS AUTOPILOT	3900004	7.2*	43.6*
	- AUTOPILOT COMPUTER/CONTROLLER	065-00176-2501	3.1	12.1
	- ROLL ACTUATOR, WITH MOUNT	3940400-1	3.6	68.5
	- CONFIGURATION MODULE	071-00073-5000	0.1	9.0
22-03-A	TWO AXIS AUTOPILOT	3900021	19.7*	104.4*
	- AUTOPILOT COMPUTER/CONTROLLER	065-00176-5201	3.1	12.1
	- ROLL ACTUATOR WITH MOUNT	3940400-1	3.6	68.5
	- PITCH ACTUATOR, WITH MOUNT	0501145-1	4.5	173.8
	- MISC STRUCTURE, WIRE & HARDWARE	3924126-1	3.0	60.0
	- PITCH TRIM OPTION, REQUIRES 22-03A	3900021-1	4.1*	139.8*
	- PITCH TRIM ACTUATOR	0501153-1	2.1	174.5
	- PITCH TRIM ELECTRICAL WIRING		1.6	87.8
	- ACCESS PANEL		1.4	170.0
	- MISCELLANEOUS STRUCTURE, WIRE & HARDWARE		3.0	60.0
22-04-A	ALTITUDE ALERT CONTROLLER REPLACES STANDARD 2-AXIS AUTOPILOT CONTROLLER & REQUIRES GPS ALT ALERT BE DISABLED - WT CHG	3910299	0.0	- - -
<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 G.S.	3930407-1	7.9*	52.7*
	- KX 155A BENDIX/KING NAV/COM	069-01032-0102	3.5	12.5
	- KI 208 INDICATOR	066-03056-0002	1.0	13.9
	- VHF COM ANTENNA		0.5	61.2
	- COM ANTENNA CABLE		0.4	26.5
	- OMNI NAV ANTENNA		0.5	253.4
	- OMNI ANTENNA CABLE		1.5	123.8
	- HARDWARE & CABLE ASSEMBLY	3921100-1	0.5*	9.7*

Figure 6-9. Equipment List Description (Sheet 1 of 8)



ITEM NO	EQUIPMENT LIST DESCRIPTION	REF DRAWING	WT LBS	ARM INS.
23-03-A	NAV/COM #2 INSTALLATION - WITH G.S.		6.5"	17.1"
	- KX 155A NAV/COM WITH GLIDESLOPE	069-01032-0101	4.0	12.5
	- KI 209A INDICATOR WITH GLIDESLOPE	066-03056-0003	1.2	13.9
	- NAV ANTENNA WITH G.S. COUPLER		0.2	14.0
	- CO-AX COM ANTENNA		0.5	61.2
	- HARDWARE & CABLE ASSEMBLY	3921101-1	0.2	3.5
23-04-A	AUDIO/INTECOM/MARKER BEACON INSTL	3930407-1	2.5"	19.7"
	- KMA-26 AUDIO/RECEIVER PANEL	066-01155-0201	1.7	14.8
	- HARDWARE & CABLE ASSEMBLY	3900003-2	0.8	30.0
23-05-S	BASIC AVIONICS EQUIP/LESS BLACK BOXES		11.3"	27.4"
	- MARKER BEACON ANTENNA INSTL	3960188-1	0.5	131.0
	- FUSELAGE AND AUDIO WIRING	3921114-1	7.9	26.5
	- MICROPHONE INSTL, HAND HELD	3970124-9	0.2	18.0
	- AVN COOLING FAN INSTL	3930400-1	1.2	5.9
	- BASIC CIRCUIT BREAKER PANEL	3930417-2	0.4	16.5
	- AVN GROUND INSTL	3940357-1	0.2	15.0
	- MISCELLANEOUS HARDWARE		0.9	16.0
	<b>24 - ELECTRICAL POWER</b>			
24-01-R	ALTERNATOR, 28 VOLT 60 AMP	9910591-11	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 CORP. MC01-2A) INCLUDES:	MC01-2A	6.4"	2.5"
	- ALTERNATOR CONTROL UNIT-AC2101	1270101-1	0.2	3.0
	- MASTER CONTACTOR P/N X61-0007	1270101-1	0.7	2.4
	- STARTER CONTACTOR P/N X61-0012	3930400-1	0.7	2.4
	- AMMETER TRANSDUCER P/N CS3100	3930417-2	0.1	3.0
	<b>25 - EQUIPMENT/FURNISHINGS</b>			
25-01-R	PILOT SEAT, CLOTH COVER	0514211-1	34.3	41.5
25-02-O	PILOT SEAT, LEATHER COVER	0514211-5	35.0	41.5
25-03-O	PILOT SEAT, LEATHER/VINYL COVER	0514211-8	34.8	41.5
25-04-O	PILOT SEAT, MILLENNIUM COVER	0514211-11		41.5
25-05-S	COPILOT SEAT, CLOTH COVER	0512211-1	34.3	41.5
25-06-O	COPILOT SEAT, LEATHER COVER	0514211-5	35.0	41.5
25-07-O	COPILOT SEAT, LEATHER/VINYL COVER	0512211-8	34.8	41.5
25-08-O	COPILOT SEAT, MILLENNIUM COVER	0512211-11		41.5
25-09-S	REAR SEAT, CLOTH COVER	0514219-1	43.3	79.5
25-10-O	REAR SEAT, LEATHER COVER	0514219-2	44.7	79.5
25-11-O	REAR SEAT, LEATHER/VINYL COVER	0514219-3	44.3	79.5
25-12-O	REAR SEAT, MILLENNIUM COVER	0514219-4		79.5
25-13-R	CREW RESTRAINT SYSTEM, INERTIA REEL	2000031-9,-10	5.2	54.0
25-14-O	CREW RESTRAINT SYSTEM, MANUAL ADJUST	2000031-9,-10	4.0	54.0

Figure 6-9. Equipment List Description (Sheet 2 of 8)

SECTION 6  
WEIGHT & BALANCE / EQUIPMENT LIST

CESSNA  
MODEL 172S

ITEM NO	EQUIPMENT LIST DESCRIPTION	REF DRAWING	WT LBS	ARM INS.
25-15-S	REAR SEAT RESTRAINT SYSTEM, INERTIA REEL	2000031-11,-12	5.2	90.0
25-16-O	REAR SEAT RESTRAINT SYSTEM, MANUAL ADJUST	2000031-11,-12	4.0	90.0
25-17-S	PADDED GLARESHIELD	0514230-1	1.2	21.0
25-18-S	SUN VISORS	0514166-2	1.1	32.8
25-19-S	SUN VISOR INSTL - MILLENNIUM	0519004-1		
25-20-S	BAGGAGE RESTRAINT NET	2015009-7	0.5	95.0
25-21-S	CARGO TIE DOWN RINGS	0515055-6	0.2	95.0
25-22-S	PILOT'S OPERATING CHECKLIST (STOWED IN MAP CASE)	0500835-1	0.3	14.3
25-23-R	PILOT'S OPERATING HANDBOOK AND FAA APPROVED AIRPLANE FLIGHT MANUAL (STOWED IN PILOT'S SEAT BACK CASE)	0500835-1	1.2	50.0
25-24-S	FUEL SAMPLING CUP (STOWED)	S2107-1	0.1	14.3
25-25-S	TOW BAR, NOSE GEAR (STOWED)	0501019-1	1.7	124.0
25-26-R	EMERGENCY LOCATOR TRANSMITTER	3940401-1	3.2"	101.0"
	- ELT TRANSMITTER	3000-11	1.8	113.3
	- ANTENNA AND CABLE ASSY	3003-45	0.5	122.0
	<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	1290010-1	0.5	42.2
	<b>27 - FLIGHT CONTROLS</b>			
27-01-S	RIGHT SEAT CONTROLS	0506009-1	6.1"	13.7"
	- COPILOT CONTROL WHEEL	0513576-4	2.6	26.0
	- COPILOT RUDDER & BRAKE PEDAL INSTL,	0510402-16	1.1	6.8
27-02-S	PILOTS CONTROL WHEEL WITH MAP LIGHT, MIC SWITCH AND JACK	0513576-5	0.2	22.0
	<b>28 - FUEL</b>			
28-01-R	FUEL QUANTITY INDICATORS	S3281-2	0.4	16.5
28-02-R	AUXILIARY FUEL PUMP (UNDER FLOORBOARD)	5100-00-1	1.9	9.5
	<b>31 - INDICATING/RECORDING SYSTEM</b>			
31-01-S	DIGITAL ELECTRONIC CLOCK/OAT	M803B-2-0/28V-B	0.7	16.5
31-02-S	HOURLY RECORDER "HOBBS TIME"	C664503-0103	0.5	9.1
31-03-R	ANNUNCIATOR	CSEWCA-01	0.5	16.0
31-04-R	PNEUMATIC STALL WARNING SYSTEM	0523112-2	0.4	28.5

Figure 6-9. Equipment List Description (Sheet 3 of 8)

ITEM NO	EQUIPMENT LIST DESCRIPTION	REF DRAWING	WT LBS	ARM INS.
<b>32 - LANDING GEAR</b>				
32-01-R	WHEEL BRAKE AND TIRE, 6.00 X 6 MAIN	0541200-9,-10	34.4"	57.8"
	- WHEEL ASSY, CLEVELAND (EACH)	C163001-0104	6.2	58.2
	- BRAKE ASSY, CLEVELAND (EACH)	C163030-1111	1.8	54.5
	- TIRE, 6-PLY, 6.00 X 6 BLACKWALL	C262003-0204	7.9	58.2
	- TUBE (EACH)	C262023-0102	1.3	58.2
32-02-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, 5.00 X 5 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)	0541223-16, -17	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
32-04-O	PREMIUM TIRES, 6.00 X 6, 160 MPH RATING, EXCHANGE WITH STANDARD TIRES (NET CHANGE)	0501166-1	4.1	47.1
<b>33 - LIGHTS</b>				
33-01-S	MAP LIGHT IN CONTROL WHEEL (PART OF 27-02-S)	0560059	(0.2)	(21.5)
33-02-S	UNDER WING COURTESY LIGHTS (SET OF 2)	0521101-8	0.5	61.0
33-03-S	NAVIGATION LIGHT DETECTORS	1221201-3,-4	0.0	40.8
33-04-S	FLASHING BEACON	0506003-6	1.4	204.7
33-05-S	WING TIP STROBE LIGHT	0501027-6	3.4	43.3
33-06-S	LANDING AND TAXI LIGHT INSTL IN WING	0523029-7	2.4	28.7
<b>34 - NAVIGATION</b>				
34-01-R	INDICATOR, AIRSPEED	S3225-6	0.6	16.2
34-02-S	ALTERNATE STATIC AIR SOURCE	0501017-2	0.2	15.5
34-03-R	SENSITIVE ALTIMETER	S3288-1	0.9	14.0
34-04-S	BLIND ALTITUDE ENCODER INSTL	3930402-1	0.9	11.0
34-05-R	COMPASS INSTL, MAGNETIC	0513262-3	0.5	14.0
34-06-S	GYRO, INSTALLATION, REQUIRES 37-01-S	0501135-1	6.0"	13.0"
	- DIRECTIONAL GYRO	S3330-1	2.5	14.0
	- ATTITUDE GYRO	S3326-1	2.1	14.0
	- HOSES AND MISC HARDWARE	0501135-1	1.5	10.0
34-07-O	GYRO INSTL, REQUIRES 37-01-S & USED WITH 22-02-A OR 22-03-A	3900005	6.5"	13.1"
	- ATTITUDE GYRO	S3326-1	2.3	14.0
	- DIRECTIONAL GYRO	S3330-2	2.8	14.0
	- HOSES & MSIC HARDWARE	3900005	1.5	10.0

Figure 6-9. Equipment List Description (Sheet 4 of 8)



SECTION 6  
WEIGHT & BALANCE / EQUIPMENT LIST

CESSNA  
MODEL 172S

ITEM NO	EQUIPMENT LIST DESCRIPTION	REF DRAWING	WT LBS	ARM INS.
34-08-O	GYRO INSTL, REQUIRES 37-01-S & USED WITH 34-14-O	3900016	3.9"	11.8"
	- ATTITUDE GYRO	S3326-1	2.3	14.0
	- HOSES & MSIC HARDWARE	3900016	1.5	10.0
34-09-S	TURN COORDINATOR INDICATOR	S3291-1	1.0	15.8
34-10-S	VERTICAL SPEED INDICATOR	S3327-1	0.8	15.7
34-11-A	ADF INSTALLATION	3930408-1	10.4"	26.9"
	- KR 87 ADF RECEIVER	066-01072-0014	3.2	11.4
	- KI 227 ADF INDICATOR	066-03063-0000	0.7	15.8
	- ADF ANTENNA	3960187-1	4.2	39.3
	- ADF CABLE ASSEMBLY	3922102-1	2.3	29.0
34-12-A	GPS INSTALLATION	3930408-1	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		0.8	14.1
34-13-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	0.9	10.9
	- TRANSPONDER ANTENNA	3960191-1	0.2	85.3
	- HARDWARE & CABLE ASSEMBLY	3923102-1	0.6	28.9
34-14-O	HORIZONTAL SITUATION INDICATOR INSTL - NET WT INCREASE, REQUIRES 37-01-S	3900016-1	15.3"	84.1"
	- HSI	066-03046-0001	3.4	13.4
	- GYRO SLAVING METER	071-01242-0006	0.3	15.8
	- FLUX DETECTOR INSTL	3940264	0.7	52.6
	- REMOTE DIR GYRO-SLAVED	3940265	5.1	112.5
	- NAV CONVERTER INSTL	3940266	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	11.0	1.6
	- REMOVE #1 NAV INDICATOR		-1.2	13.9
<b>37 - VACUUM</b>				
37-01-S	DUAL PUMP ENGINE DRIVEN VACUUM SYSTEM	0501135	5.4"	-1.8"
	- AIRBORNE VACUUM PUMP	E211CC	1.9	-6.5
	- AIRBORNE VACUUM PUMP	E212CW	1.9	-3.9
	- COOLING SHROUD	1201998-1	0.1	-6.5
	- COOLING SHROUD	1201998-1	0.1	-3.9
	- FILTER INSTALLATION	1201075-2	0.3	5.3
	- COMBINATION VACUUM INDICATOR/AMMETER	S3280-1	0.3	14.3
	- VACUUM RELIEF VALVE	2H3-48	0.3	4.7
	- MANIFOLD	1H5-25	0.5	-0.2
37-02-R	COMBINATION VACUUM GAGE/AMMETER	S3280-1	0.3	14.3

Figure 6-9. Equipment List Description (Sheet 5 of 8)

ITEM NO	EQUIPMENT LIST DESCRIPTION	REF DRAWING	WT LBS	ARM INS.
<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 - RIGHT HAND DOOR, OPENABLE	0517001-40	5.8*	48.5*
56-02-S	WINDOW - LEFT HAND DOOR, OPENABLE	0517001-39	5.8*	48.5*
<b>57 - WINGS</b>				
57-01-O	HEAVY DUTY FLAPS, WT SHOWN NET CHG	0501165	- - -	- - -
	- TWO (2) FLAPS EXCHANGED	0523902	2.2	83.2
	- ONE (1) FLAP EXCHANGED	0523902	1.1	83.2
<b>61 - PROPELLER</b>				
61-01-R	FIXED PITCH PROPELLER INSTALLATION	0550320-11	38.8*	-38.2*
	- MCCAULEY 76 INCH PROPELLER	1A170E/JHA7660	35.0	-38.4
	- MCCAULEY 3.5 INCH PROPELLER SPACER	C5464	3.6	-36.0
61-02-R	SPINNER INSTALLATION, PROPELLER	0550320-11	1.8*	-41.0*
	- SPINNER DOME ASSEMBLY	0550236-14	1.0	-42.6
	- FWD SPINNER BULKHEAD	0552231-1	0.3	-40.8
	- AFT SPINNER BULKHEAD	0550321-10	0.4	-37.3
61-03-O	POLISHED SPINNER - MILLENNIUM INSTL (NET CHANGE)	0550371-1	0.0	-41.0*
<b>71 - POWERPLANT</b>				
71-01-R	AIR INTAKE FILTER, DONALDSON	P198281	0.3	-27.5
71-02-S	WINTERIZATION KIT INSTALLATION (STOWED) (INSTALLED ARM SHOWN)	0501128-3	0.8*	-20.3*
	- BREATHER TUBE INSULATION	0552011	0.4	-13.8
	- COWL INLET COVERS (INSTALLED)	0552229-3,-4	0.3	-32.0
	- COWL INLET COVERS (STOWED)	0552229-3,-4	0.3	95.0
71-03-R	ENGINE, LYCOMING IO-360-L2A	0550365-1	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 (CHAMPION)	CH48110	2.5	-18.5
	- SPARK PLUGS (CHAMPION)		1.9	-13.9
	- STARTER, LAMAR 31B22207		11.2	-23.0
71-04-O	MILLENNIUM ENGINE INSTL LYCOMING IO-360-L2A9918 (NET CHANGE)	0550372-1	0.0	-18.6

Figure 6-9. Equipment List Description (Sheet 6 of 8)

**SECTION 6**  
**WEIGHT & BALANCE / EQUIPMENT LIST**

**CESSNA**  
**MODEL 172S**

ITEM NO	EQUIPMENT LIST DESCRIPTION	REF DRAWING	WT LBS	ARM INS.
	<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	RECORDING TACHOMETER INSTALLATION	S3329-5	1.0	12.1
	<b>78 - EXHAUST</b>			
78-01-R	EXHAUST SYSTEM INSTALLATION	9954100-1	16.3*	-20.0"
	- MUFFLER & TAILPIPE WELD ASSY	9954000-2	4.6	-22.7
	- SHROUD ASSEMBLY, MUFFLER HEATER	9954100-3	0.8	-22.7
	<b>79 - OIL</b>			
79-01-R	OIL COOLER INSTALLATION	0550365-1	3.3*	-11.0"
	- OIL COOLER, STEWART WARNER	10877A	2.3	-11.0
79-02-R	OIL PRESSURE & TEMPERATURE INDICATOR	S3279-1	0.4	16.5
	<b>90 - MISCELLANEOUS</b>			
90-01-A	MILLENNIUM EQUIPMENT OPTION	0501300-1, -2	10.5	39.1
	- 11-04-O MILLENNIUM EXTERIOR STYLING	0504055-1, -2	0.0	95.4
	- 25-08-O SUNVISOR INSTALLATION MILLENNIUM	0519004-1		
	- MILLENNIUM UPHOLSTERY OPTION	0519005-1		
	- 25-03-O PILOT'S LEATHER/VINYL SEATS	0519005-1		
	- SIDEWALL INSERT MILLENNIUM UPHOLSTERY	0519006-1		
	- MILLENNIUM FLOOR MATS (SET OF 2)	0519005-1	2.1	15.0
	- STORAGE CONSOLE INSTALLATION	0519005-2	2.3	27.0
	- 32-04-O PREMIUM TIRE INSTL	0501166-1	4.1	47.1
	- 61-03-O POLISHED SPINNER INSTL	0550371-1	0.0	-41.0"
	- 72-02-O ENGINE INSTL	0550372-1	0.0	-18.6
	- POLISHED FASTENER INSTL	0552236-1	0.0	
	- MILLENNIUM CONTROL WHEEL PAD	1219012-1	0.0	
	<b>98 - AVIONICS PACKAGES</b>			
98-01-S	STANDARD AVIONICS PACKAGE	3900003-1	28.0	32.2
	- 22-01-S -WING LEVELER PROVISIONS	3900003	2.2	23.0
	- 23-05-S -BASIC AVIONICS INSTL	3900003-1	11.3	27.4
	- 23-04-S -MARKER BEACON/INTERCOM INSTL	3930407-1	2.5	19.7
	- 23-02-S -NAV/COM #1 INSTALLATION	3930407-1	7.9	52.7
	- 34-11-S -MODE C TRANSPONDER INSTL	3930407-1	4.1	18.7

Figure 6-9. Equipment List Description (Sheet 7 of 8)

ITEM NO	EQUIPMENT LIST DESCRIPTION	REF DRAWING	WT LBS	ARM INS.
98-02-A	NAV I AVIONICS PKG (NET CHANGE OVER STANDARD AVIONICS PKG)	3900004-1	21.3*	21.5*
	- 34-10-A -GPS INSTALLATION	3930408-1	4.4	15.3
	- 23-03-A -NAV/COM INSTL WITH G.S.	3930408-1	6.5	17.1
	- 34-09-A -ADF INSTALLATION	3930408-1	10.4	26.9
98-03-A	NAV II AVIONICS PKG (NET CHANGE OVER STANDARD AVIONICS PKG)	3900005-1	28.5*	27.1*
	- 98-02-A -NAV I AVN PKG	3900004-1	21.3	21.5
	- 22-02-A -SINGLE AXIS AUTOPILOT	3900005-1	7.2	43.6
98-04-A	NAV II WITH HSI AVIONICS PKG (NET CHANGE OVER STANDARD AVIONICS PKG)	3900016	43.8*	47.0*
	- 98-02-A -NAV I AVN PKG	3900004-1	21.3	21.5
	- 22-02-A -SINGLE AXIS AUTOPILOT	3900005-1	7.2	43.6
	- 34-12-O -HSI GYRO INSTL	3900016-1	15.3	84.1
98-05-A	NAV III WITH HSI AVIONICS PKG (NET CHANGE OVER STANDARD AVIONICS PKG)	3900018	56.3*	67.5*
	- 98-02-A -NAV I AVN PKG	3900004-1	21.3	21.5
	- 22-03-A -2-AXIS AUTOPILOT	3900003	19.7	104.4
	- 34-12-O -HSI GYRO INSTL	3900016-1	15.3	84.1
98-06-A	NAV III WITHOUT HSI AVIONICS PKG (NET CHANGE OVER STANDARD AVIONICS PKG)	3900021	41.0*	61.3*
	- 98-02-A -NAV I AVN PKG	3900004-1	21.3	21.5
	- 22-03-A -2-AXIS AUTOPILOT	3900003	19.7	104.4

Figure 6-9. Equipment List Description (Sheet 8 of 8)

