

NAVAR 19-15-32

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TECHNICAL MANUAL

OPERATION AND INTERMEDIATE  
MAINTENANCE INSTRUCTIONS  
WITH ILLUSTRATED PARTS BREAKDOWN

AIRCRAFT MAINTENANCE PLATFORM

TYPE B-1  
PART NO. 47R16420

(R. E. ATCKISON CO.)

EFFECTIVITY: SERIAL NO. 1984-001 THROUGH 1984-259

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- d. Tape vent holes in reservoir filler cup.
- e. Remove platform handrails and secure to stairs with banding.
- f. Remove stair handrails and secure in brackets on base assembly.
- g. Install handrail attaching bolts and nuts in sockets.
- h. For long term storage, block frame with wheels off ground and cover tires for environmental protection.
- i. For shipment, crating may be necessary.

#### 14. OPERATION INSTRUCTIONS.

#### 15. PREOPERATION.

- a. Visually inspect platform for damage.
- b. Make sure handrails are securely in place.
- c. Inspect for hydraulic fluid leaks.

#### 16. OPERATION.

- a. Release tow-bar from tow vehicle and release caster brakes, as applicable.
- b. Maneuver into position and lock both caster brakes.

#### WARNING

The tow bar should be completely retracted to avoid a tripping hazard.

- c. Retract tow bar.
- d. Rotate barrel lock on cylinder to ON (closed) position.

#### WARNING

Do not attempt to raise or lower loads exceeding 500 pounds.

- e. Close needle valve (turn CW), check overhead clearance, and activate hand pump until work platform is at height desired.

#### WARNING

The use of the barrel lock is mandatory for safety of personnel. Do not release barrel lock nor change platform height with personnel on any part of platform. Personnel should not be permitted on the platform without the lock being engaged and all handrails in place. Without these precautions, a failure in the hydraulic system could cause the platform to descend rapidly and throw occupants violently to the pavement.

- f. Momentarily open needle valve until load settles on lock and close valve.

#### CAUTION

The work platform moves forward as it is lowered. Provide adequate clearance before releasing hydraulic pressure.

- g. To lower platform, rotate barrel lock (CW or CCW) to OFF (open) position. If lock binds, operate pump slightly to relieve load.

- h. Release hydraulic pressure by slowly opening needle valve (turn CCW).

- i. Leave needle valve in open position.
- j. Release caster brakes.
- k. Tow platform to new location.

#### 17. TOWING.

- a. Short distances on smooth pavement: Extend tow bar to longest (jointed) position by means of cap screw (53, Figure 1) and attach to tow vehicle.

- b. Long distances on rough pavement: Fully retract tow bar, attach to tow vehicle. Tow only on pneumatic tires.

#### 18. TROUBLESHOOTING.

#### 19. PLATFORM DOES NOT RAISE.

Yes No

- a. Check hydraulic system for leakage. j. b. Does system leak?



# 1. INTRODUCTION.

2. This manual contains Operation and Maintenance Instructions with Illustrated Parts Breakdown for the Type B-1 Aircraft Maintenance Platform hereafter referred to as the platform. It is manufactured by the R. E. Atkinson Company, Azusa, California.

## 3. LEADING PARTICULARS.

Item	Characteristic
Height	
Extended	120 inches
Retracted	36 inches
Length including	
tow bar	132 inches
Width	48 inches
Hydraulic reservoir	
capacity	4.5 gallons (MIL-H-5606)
Weight dry	850 pounds

## 4. QUALITY ASSURANCE REQUIREMENT.

Improper performance of certain procedures may cause equipment failure or personnel hazard. These procedures will be designated with the letters QA enclosed in parentheses following the procedure to which it applies. For example (QA).

## 5. DESCRIPTION.

6. The platform consists of a base assembly, stair assembly, work platform, and a hydraulic system to adjust the height. The base is equipped with wheels and a towbar. Handrails are provided on the stair and work platform.

## 7. PRINCIPLE OF OPERATION.

8. The stair assembly is attached to the base at its lower end and to the work platform at the upper end. Two parallel step supports on each side of the stair assembly form parallelograms. These parallelograms maintain the steps and work platform in a horizontal position.

9. A hydraulic cylinder is mounted between work platform and base. A hand operated hydraulic pump forces fluid into cylinder which extends to raise platform to desired height.

## 10. PREPARATION FOR U SHIPMENT.

11. PREPARATION FOR USE. Platform fully assembled except for handrails, wheels, step, and part of the fasteners for the top step hydraulic cylinder.

a. Uncrate platform and inspect for damage.

b. Support platform assembly (16, Figure 1) by suitable overhead hoist to relieve weight on cylinder pivot pin (4).

c. Lubricate pivot pin with dry film lubricant, MIL-L-46147, and install through base mounting points and cylinder assembly. Install cotter pins on both ends of pin.

d. Install wheels in accordance with paragraph 102.

e. Install bottom step with pivot bolts (32), washers (33), nuts (34), and bushings (35). Install rear braces of top step with same parts (32), (33), (34), and (35).

f. Remove bolts and nuts from handrail mounting sockets.

g. Install handrails on stair and work platform.

h. Install bolts and nuts in handrails and sockets.

i. Fill reservoir in accordance with paragraph 114a.

j. Raise and lower the platform and inspect for hydraulic fluid leaks.

12. PREPARATION FOR SHORT TERM STORAGE. For storage up to two months, no special procedure is required. Perform usual maintenance and lower work level to its lowest position.

## 13. PREPARATION FOR STORAGE OR SHIPMENT.

a. Paint areas where paint has deteriorated.

b. Lower work platform to lowest position.

c. Drain hydraulic fluid from reservoir.

Yes No

Yes No

b. Close needle valve (CW) firmly. Does this correct problem? — c.

c. Check hydraulic reservoir. Is fluid level low? k. d.

d. Clean strainer assembly (paragraph 49). Does this correct problem? — e.

e. Actuate pump and observe movement of cylinder. Does cylinder move up slightly with each upward handle stroke and lower with each down stroke? g. f.

f. Actuate pump and observe movement of cylinder. Does cylinder move down slightly with each upward handle stroke and raise with each down stroke? h. i.

g. Repair plunger check valve (paragraph 33b/37b). — —

h. Repair inlet check valve (paragraph 33c/37a). — —

i. Overhaul complete pump assembly (paragraph 31). — —

j. Tighten fittings at point of leakage. — —

k. Service hydraulic reservoir (paragraph 111a). — —

## 20. PLATFORM DOES NOT LOWER.

a. Check lock on cylinder assembly. Is lock rotated to OFF (open)? b. e.

### WARNING

No personnel permitted on platform.

b. Open needle valve (CCW). Does this correct problem? — c.

c. Does pump activation (valve closed) raise platform? d. f.

### WARNING

Have barrel lock ON (closed) during next test.

d. Operate pump until locking fingers are between grooves. Partially release a hose fitting at cylinder slowly and drain small amount of fluid. Does platform lower? g. f.

e. Rotate cylinder lock to OFF.

f. Overhaul cylinder assembly (paragraph 22).

g. Repair needle valve (paragraph 40) and flush hoses and tubing (paragraph 58). — —

## 21. MAINTENANCE.

### CAUTION

Relieve all pressure in hydraulic system before making hydraulic repairs.

## 22. HYDRAULIC CYLINDER ASSEMBLY.

Support equipment required.

Part Number	Nomenclature
No part number.	500 lb deadweight
No part number.	Overhead hoist - 1 ton capacity

Materials required.

Specification	Nomenclature
P-D-680	Cleaning Solvent
MIL-L-46147	Lubricant
P-C-1673	Cloth, Emery, Grade 120
MIL-H-83282	Hydraulic Fluid

## 23. Removal.

a. Support platform assembly (16, Figure 1) by suitable overhead hoist to relieve weight on cylinder pivot pins (4) and (28).

b. Relieve hydraulic pressure by opening needle valve (18, Figure 4) (turn CCW).

c. Disconnect flexible hose (2) from bottom of cylinder and drain hydraulic fluid into waste pan.



**CAUTION**

Provide secure support for cylinder assembly before removing pivot pins.

d. Remove cotter pins (3 and 29, Figure 1) from one end of each pivot pin (4) and (28) at top and bottom of cylinder assembly and remove pivot pins. Remove cylinder assembly.

**24. Disassembly.**

- a. Remove two nuts (3, Figure 2), washers (2), and bolt (1) that secure mount (5) to sleeve (6) and piston rod (14).
- b. Remove sleeve (6) and mount (5) from piston rod (14).
- c. Compress retaining ring (8) and remove from barrel (9).
- d. Remove bushing (7) and assembled piston rod (14) from barrel (9).
- e. Expand retaining ring (11) and remove piston (10), packing (13), and packing (12) from piston rod (14).

**25. Cleaning.****WARNING**

Keep solvents away from sparks and flame. Use only in well-ventilated area. Avoid prolonged breathing of vapors and eye or skin contact.

- a. Clean all parts with cleaning solvent and dry thoroughly.
- b. Store items on clean dry surface.

**26. Inspection.**

- a. Inspect packing (13) for damage. Damage to packing may indicate cylinder wall scoring.
- b. Visually inspect piston rod (14) for straightness.
- c. Inspect piston (10), bushing (7), and internal wall of barrel (9) for scoring, nicks, or scratches.

**27. Repair.**

- a. Replace all packings.

b. Remove small blemishes in bushings and barrel wall by polishing with emery cloth to match finish on surrounding surface.

- c. Replace any other defective parts.

**28. Assembly.**

- a. Install packing (13) on piston (10) and packing (12) on piston rod (14).
- b. Place piston (10) on piston rod (14) and install retaining ring (11) in groove on piston rod.
- c. Lubricate packing (13) and piston (10) with hydraulic fluid, and install in barrel (9) carefully to avoid damage to packing.
- d. Lubricate bore of bushing (7) with lubricant MIL-L-46147 and install over piston rod (14) and into barrel (9). Install retaining ring (8) into groove on inside of barrel (9).
- e. Install assembled piston and barrel into sleeve (6).
- f. Install mount (5) into sleeve (6), align holes and secure with bolts (1), washers (2), and nuts (3). Tighten to point where all end play in bolt is removed.

**29. Installation. (Fig 1)**

- a. Raise and support cylinder assembly into position between upper structure (1) and base frame (71) mounting points.
- b. Lubricate pivot pins (4) with dry film lubricant MIL-L-46147 and install through mounts and cylinder assembly.
- c. Install new cotter pins (3) on end of both pivot pins.
- d. Connect flexible hose (2, Figure 4) to cylinder assembly. Before tightening, operate pump to remove (bleed) air from hose.
- e. Close needle valve (18) (turn CW) and pressure hydraulic system with hand pump until weight of platform assembly is supported by the cylinder assembly. Remove any temporary supports used during cylinder removal.

**30. Test.**

- a. Check hydraulic fluid level in reservoir and fill in accordance with paragraph 111a.

b. Load platform with 500 pounds deadweight and raise platform 54 to 60 inches above ground and let stand for one hour. There should be no observable settling or leakage. Barrel lock should be off during test. (QA)

### 31. HYDRAULIC HAND PUMP. (Fig 4)

Support equipment required.

Part Number	Nomenclature
No part number	500 lb deadweight

Materials required.

Specification	Nomenclature
P-D-680	Cleaning Solvent
MIL-H-7606	Hydraulic Fluid
P-C-1673	Cloth, Emery, Grade 120

#### 32. Removal.

a. Relieve hydraulic pressure by opening needle valve (18) (turn CCW) and lowering platform completely.

b. Disconnect hose (2) and tubes (3) and (11) and catch hydraulic fluid in waste pan.

c. Disconnect links (37) from plunger rod by removing cotter pin (39) and pin (38).

d. Loosen set screw (41), remove pin (42) and place handle assembly to one side.

e. Loosen nut (29) and remove tee (28) and packing (30).

f. Remove adapter (31) and packing (32).

g. Remove two screws (63, Fig 1), washers (64), nuts (65).

#### 33. Disassembly.

a. Unscrew retainer (1, Figure 5) and remove packing (3), guide (2), packing (4), and plunger assembly (5).

b. Remove the packing (11), cap (8), ball (10) and spring (9) from plunger head (7).

c. Remove the spring (15), ball (14), packing (13) by unscrewing check valve (12).

#### 34. Cleaning.

#### WARNING

Keep solvents away from sparks and flame. Use only in well-ventilated area. Avoid prolonged breathing of vapors and eye or skin contact.

a. Clean all parts with cleaning solvent and dry thoroughly.

b. Store items on clean dry surface.

#### 35. Inspection.

a. Visually inspect plunger head (7) and pump internal cylinder wall (16) for scoring, scratches, or nicks.

b. Inspect balls (10 and 14) and their seats for imperfections.

#### 36. Repair.

a. Replace all packings.

b. Remove small blemishes in guide (2), plunger rod (6), and bore of pump body (16) by polishing with emery cloth to match finish on surrounding surface.

c. Replace any other defective parts.

#### 37. Assembly.

a. Install spring (15), ball (14), packing (13), and check valve (12) in pump body (16).

b. Install packing (11) in groove and spring (9), ball (10), cap (8) into plunger head (7).

c. Install packings (3 and 4) into grooves on outside and inside of guide (2).

d. Lubricate all packings with hydraulic fluid and insert plunger assembly (5) into pump body.

e. Insert guide (2) into pump body and secure with retainer (1).



38. Installation.

- a. Install pump in brackets on base and install screws (63, Figure 1) through brackets and pump. Secure screws with washers (64) and nuts (65).
- b. Install adapter (31, Figure 4) and packing (32) into pump body.
- c. Install nut (29) and packing (30) on tee (28) and screw into pump, hand tight only.
- d. Place handle assembly into pump (43), insert pin (42) and secure pin by set screw (41).
- e. Align links (37) on both sides of hole in plunger and insert pin (38). Secure pin on plunger with cotter pin (39).
- f. Connect hose (2) and tubes (3 and 11), hand tight.
- g. Align tee (28) with tube (3) and tighten nut (29).
- h. Tighten hose (2) and tubes (3 and 11).
- i. Close needle valve (18, Figure 4) (turn CW) and pressurize hydraulic system with hand pump.

39. Test.

- a. Check hydraulic fluid level in reservoir and fill in accordance with paragraph 111a.
- b. Load platform with 500 pounds deadweight and raise platform 54 to 60 inches above ground level and let stand for one hour. There should be no observable settling or leakage. Barrel lock should be off during test. (QA)

40. NEEDLE VALVE. (Fig 4)Support Equipment Required

Part Number	Nomenclature
No part number	500 lb deadweight

Materials Required

Specification	Nomenclature
P-D-680	Cleaning Solvent
MIL-H-5606	Hydraulic Fluid
MIL-A-907	Compound, Anti-Seize

41. Removal.

- a. Relieve hydraulic pressure by opening valve (18) (turn CCW) and lowering platform completely.
- b. Disconnect tubing (7 and 3, Figure 4).
- c. Remove elbows (16 and 17).
- d. Remove screws (66, Figure 1), nuts (68), and lockwashers (67).

42. Disassembly.

- a. Unscrew packing nut and remove stem.

43. Cleaning.

- a. Wipe stem with a lint-free cloth.
- b. Clean body with cleaning solvent and dry thoroughly.

44. Inspection.

- a. Inspect tip of stem and seat in body for damage in the area where their surfaces meet.

45. Repair.

- a. Replace valve if either part is damaged.

46. Assembly.

- a. Install stem and tighten packing nut.

47. Installation.

- a. Install valve on bracket, insert screws (66), lockwashers (67), and nuts (68) and tighten.
- b. Apply anti-seize compound and install elbows (16 and 17, Figure 4). Tighten to a position aligned with tubing, (7 and 3).
- c. Install tubing (7 and 3), and tighten nuts (5 and 9).
- d. Close needle valve (18) (turn CW) and pressurize hydraulic system with hand pump.

48. Test.

a. Check hydraulic fluid level in reservoir and fill in accordance with paragraph 111a

b. Load platform with 500 pounds deadweight and raise platform 54 to 60 inches above ground level and let stand for one hour. There should be no observable settling or leakage. Barrel lock should be off during test. (QA)

49. STRAINER ASSEMBLY.

## Support Equipment Required

Part Number	Nomenclature
No part number	500 lb deadweight

## Materials Required

Specification	Nomenclature
P-D-680	Cleaning Solvent
MIL-H-5606	Hydraulic Fluid
MIL-A-907	Compound, Anti-Seize

50. Removal.

a. Relieve hydraulic pressure by opening needle valve (18, Figure 4) (turn CCW).

b. Disconnect tubing (11) from elbow (20) and remove elbow (20) from strainer body (22).

c. Hold nipple (25) and remove complete strainer assembly (21).

51. Disassembly.

a. Unscrew cage assembly (24) from body (22) and gasket (23).

52. Cleaning.**WARNING**

Keep solvents away from sparks and flame. Use only in well-ventilated area. Avoid prolonged breathing of vapors and eye or skin contact.

a. Clean gasket (23), body (22), and cage assembly (24) with cleaning solvent and dry thoroughly.

b. Store items on clean dry surface.

53. Inspection.

a. Inspect gasket for damage.

b. Inspect screen on cage assembly for enlarged openings or clogging.

54. Repair.

a. Replace damaged gasket.

b. Replace damaged or clogged cage assembly.

55. Assembly.

a. Place gasket (23) on cage assembly (24) and screw cage assembly into strainer body (22) until hand tight.

56. Installation.

a. Apply anti-seize compound and install strainer assembly (21) on nipple (25). Tighten so strainer cage assembly points down.

b. Apply anti-seize compound and install elbow (20) in strainer body (22) so elbow points up and aligns with tubing (11).

c. Install tubing (11) on elbow (20).

d. Close needle valve (18) (turn CW) and pressurize hydraulic system with hand pump.

57. Test.

a. Check hydraulic fluid level in reservoir and fill in accordance with paragraph 111a.

b. Load platform with 500 pounds deadweight and raise platform 54 to 60 inches above ground level and let stand one hour. There should be no observable settling or leakage. Barrel lock should be off during test. (QA)

58. HOSES AND TUBING.

## Support Equipment Required

Part Number	Nomenclature
No part number	500 lb deadweight

## Materials Required

Specification	Nomenclature
P-D-680	Cleaning Solvent
MIL-H-83282	Hydraulic Fluid



59. Removal.

a. Relieve hydraulic pressure by opening needle valve (18, Figure 4) (turn CCW). Place drain pan under parts to be removed.

b. Remove tube assembly (11) by disconnecting coupling nuts (13).

c. Remove tube assembly (3) by disconnecting coupling nuts (5).

d. Remove tube assembly (7) by disconnecting coupling nuts (9).

e. Remove hose assembly (2) by disconnecting end fittings.

60. Cleaning.**WARNING**

Keep solvents away from sparks and flame. Use only in well-ventilated area. Avoid prolonged breathing of vapors and eye or skin contact.

a. Flush hose with solvent and dry with compressed air.

b. Cap end fittings to prevent contamination unless hose and tubes are promptly installed.

61. Inspection.

a. Inspect hose for cracks, swelling, and damaged threads.

b. Inspect tube assemblies for cracks, damaged threads, or damaged ferrules.

62. Repair.

a. Replace hose or tubes if damage or leakage is indicated.

63. Installation.

a. Install hose assembly (2) by connecting end fittings.

b. Install tube assembly (7) by connecting coupling nuts (9).

c. Install tube assembly (3) by connecting coupling nuts (5).

d. Install tube assembly (11) by connecting coupling nuts (13).

e. Close needle valve (18) (turn CW) and pressurize hydraulic system with hand pump.

64. Test.

a. Check hydraulic fluid level in reservoir and fill in accordance with paragraph 111a.

b. Load platform with 500 pounds deadweight and raise platform 54 to 60 inches above ground level and let stand for one hour. There should be no observable settling or leakage. The barrel lock should off during test. (QA)

65. HANDRAILS. (Fig 1)Materials Required

Specification	Nomenclature
P-D-680	Cleaning Solvent
MIL-P-8585	Zinc-Chromate Primer
MIL-L-7178	Lacquer, Yellow

66. Removal.

a. Lower platform to its lowest position.

b. Remove platform handrails (8) by removing bolts (9), washers (10), and nuts (11) and lifting rails from sockets.

c. Remove stair handrails (12) by removing bolts (13), washers (14), and nuts (15) and lifting rails from sockets.

67. Cleaning.

a. The rails may be cleaned with cleaning solvent. Rinse and dry thoroughly.

68. Inspection.

a. Inspect rails for damaged welds, damaged sockets, and loose swivel joints in the stair rails.

69. Repair.

- a. Straighten bent sections and weld weak joints.
- b. Replace parts damaged beyond repair.
- c. Paint bare welded areas.

70. Installation.

- a. Align stair handrails (12) on stair posts and secure with bolts (13), washers (14), and nuts (15).
- b. Align platform handrails (8) on platform posts and secure with bolts (9), washers (10), and nuts (11).

71. Test.

- a. Visually inspect the rails for security of welds and fasteners.

72. PLATFORM ASSEMBLY.

## Material Required

Specification	Nomenclature
P-D-680	Cleaning Solvent
MIL-P-8585	Zinc-Chromate Primer
MIL-L-7178	Lacquer, Yellow
MIL-L-46147	Lubricant

73. Removal.

- a. Brace stair supports (36 and 37, Figure 1) to relieve load on cylinder pivot pin (28) and platform pivot pins (17).
- b. Remove handrails. (Para. 66)

**WARNING**

Provide secure support for cylinder assembly (24) before removing pivot pin.

- c. Remove cotter pin (29) from one end of pivot pin (28) at top of cylinder assembly and remove pivot pin. Lower upper end of cylinder assembly to ground level.
- d. Remove four cotter pins (18) and four pivot pins (17) from platform and stair supports.

**WARNING**

Platform weighs 150 pounds. Ensure proper support while removing.

- e. Lower platform to ground.

74. Cleaning.

- a. The platform may be cleaned with solvent. Rinse and dry thoroughly. Special attention should be given to clearing drain holes in handrail sockets.

75. Inspection.

- a. Inspect platform for damaged welds, damaged sockets, enlarged pivot pin holes, bent parts, and worn bumper material.

76. Repair.

- a. Straighten bent sections and weld weak joints.
- b. Replace parts or complete platform as indicated by inspection.
- c. Paint bare welded areas.

77. Installation.

- a. Lift platform to position on top of stair supports.
- b. Coat all pivot pins (17) and (28) with lubricant MIL-L-46147.
- c. Insert four pivot pins (17) through platform frame and stair support. Secure each pin with new cotter pin (18).
- d. Lift upper end of cylinder assembly into position at platform frame and insert pivot pin (28) through braces (27), platform lugs, and cylinder (24). Secure pivot pins with new cotter pins (29).
- e. Install handrails. (Para. 70)

78. Test.

- a. Operate the platform throughout its entire range to insure freedom from binding.



## 79. STAIRS.

## Materials Required

Specification	Nomenclature
P-D-680	Cleaning Solvent
MIL-P-8585	Zinc-Chromate Primer
MIL-L-7178	Lacquer, Yellow
MIL-L-46147	Lubricant

80. Removal.

a. Brace stair supports (36 and 37, Figure 1) and cylinder assembly (24) and remove work platform and handrails in accordance with paragraph 73.

b. Remove the stair pivot bolts (32), washers (33), nuts (34), and bushings (35) starting at top step (30) and working down. As each step is released, remove it.

c. Remove cotter pins (3) from one end of lower pivot pins (2) and remove pivot pins. As each stair support (36 and 37) is released, lower to ground.

81. Cleaning.

a. The platform, steps, and stair supports may be cleaned with solvent. Rinse and dry thoroughly.

82. Inspection.

a. Visually inspect all pivot bolts (32) and bushings (35) for excessive wear.

b. Inspect platform and steps for damaged welds, enlarged pivot holes, damaged handrail sockets, bent parts, and worn bumper material.

83. Repair.

a. Straighten bent sections and weld weak joints.

b. Replace portions or complete parts as indicated by inspection.

c. Paint bare welded areas.

84. Installation.

a. Install front and rear stair supports (36 and 37) into base mounting points and provide temporary shoring.

b. Coat all pivot pins (2) and bushings (35) with lubricant, MIL-L-46147.

c. Install pivot pins through base and stair supports in four places and secure with new cotter pins (3).

## CAUTION

All pivot bolts should be tightened to the point where there is zero to  $\frac{1}{16}$  inch end play in the connection.

d. Starting at the bottom, install each step with pivot bolts (32), bushings (35), washers (33), and nuts (34). Note that the top step differs from all others with an offset in the arms.

e. Install the platform and handrails in accordance with paragraph 77.

85. Test.

a. Operate platform throughout its entire range to insure freedom from binding.

## 86. WHEELS AND TIRES.

## Support Equipment Required

Part Number	Nomenclature
93657	Jack, 1 Ton Capacity
G-G-91	Tire Gage

## Materials Required

Specification	Nomenclature
MIL-P-8585	Zinc-Chromate Primer
MIL-L-7178	Lacquer, Yellow

87. Removal.

a. Jack platform until tire clears the ground.

b. Remove valve core from tube.

c. Remove five nuts (4, Figure 3) and washers (5) from inner bolt circle. Remove wheel and tire.

88. Disassembly.

a. Remove eight bolts (8), nuts (6), and lockwashers (7).

- b. Separate wheel halves (3).
- c. Remove tube (2) from tire (1).

89. Cleaning.

- a. Wire brush outer rim of wheel halves to remove rust and scale.
- b. Wipe foreign matter from tube and inside tire casing.

90. Inspection.

- a. Visually inspect wheel halves for damage.
- b. Check tire casing for cuts, nails, glass or other defects.
- c. Inspect tube for punctures.

91. Repair.

- a. Replace damaged wheels.
- b. Repair or replace tire and tube, as required.
- c. Repaint bare areas.

92. Assembly.

- a. Install tube (2) in tire (1).
- b. Place wheel halves (3) on tire with tube stem aligned through stem hole.
- c. Install eight bolts (8), nuts (6) and lockwashers (7). Tighten in place. (35-39 lb/ft)

93. Installation.

- a. Align wheel's inner bolt hole circle on hub (19) and install five nuts (4) and washers (5). Tighten securely. (83-93 lb/ft)
- b. Install valve core in tube stem.

94. Test.

- a. Check tire for proper inflation (60  $\pm$  5 psi).

## NOTE

Use and ambient temperatures have a direct relationship to tire pressure. The higher the temperature the higher the tire pressure. Recognize that tire gaged after usage or during heat of day may exceed specified pressure and should not be lowered.

## 95. HUB ASSEMBLY (Fig 3).

## Support Equipment Required

Part Number	Nomenclature
93657	Jack, 1 Ton Capacity

## Materials Required

Specification	Nomenclature
P-C-1673	Emery Cloth, Grade 120
P-D-680	Cleaning Solvent
MIL-G-10924	Grease

96. Removal.

- a. Jack the platform until tire clears the ground.

## CAUTION

The wheel bearings are loose items and can fall as the wheel is removed. The bearings should be stored in a clean container.

- b. Remove hub cap (10), cotter pin (11), nut (12), and washer (13), and remove the wheel assembly from the axle.

## WARNING

Do not remove the eight bolts (8) and nuts (6) in the outer bolt circle of the wheel.

- c. Remove wheel and tire, paragraph 87.



97. Disassembly.**NOTE**

Do not disassemble unless evidence of grease leakage, noise, or rough inner bearing is present.

- a. Pry dust seal (14) from hub and discard.
- b. Remove inner bearing (17).
- c. Drive large outer bearing (18) from hub by means of brass rod through front hub opening.
- d. Drive the small outer bearing (16) from the hub by means of brass rod through rear hub opening.

98. Cleaning.**WARNING**

Keep solvents away from sparks and flame. Use only in well-ventilated area. Avoid prolonged breathing of vapors and eye or skin contact.

a. Clean all disassembled loose parts with cleaning solvent and dry thoroughly. Do not clean rubber parts nor dust seal and bearing if left in hub. Clean axle.

b. Store items on clean, dry surface.

99. Inspection.

a. Visually inspect wheel bearings and axle for roughness and inspect dust seal for damage or leakage of grease.

100. Repair.

- a. Replace damaged bearings in complete sets.
- b. Pack both bearings with lubricating grease, MIL-G-10924.
- c. Replace damaged dust seal.
- d. Remove small blemishes on axle by polishing with emery cloth to match surrounding surfaces.

101. Assembly.

- a. Press outer bearings (16 and 18) into hub by arbor press. Tapered inner diameter of bearing should be smallest toward center of hub.
- b. Press dust seal into hub after outer and inner bearings have been inserted. Side of seal having largest metal lip shall be visible after installation.

102. Installation.

- a. Place light coating of lubricating grease, MIL-G-10924 on axle surfaces.
- b. Place hub on axle followed by inner bearing (15), washer (13), and nut (12).
- c. Tighten nut until snug (approximately 20 ft-lbs) and back off one castellation. Secure nut with cotter pin (11). Install hub cap (10).
- d. Install wheel and tire, paragraph 93.

103. Test.

- a. Spin wheel to check for binding.
- b. Grasp opposite sides of tire and check for excessive end play.
- c. Release jack and lower tire to ground.

# 104. CASTERS.

## Support Equipment Required

Part Number	Nomenclature
93657	Jack, 1 Ton Capacity

## Materials Required

Specification	Nomenclature
P-D-680	Cleaning Solvent
MIL-G-10924	Grease

# 105. Removal.

- Jack the platform until caster (42, Figure 1) clears the ground.
- Remove screws (43), lockwashers (44), and remove caster.

# 106. Cleaning.

## WARNING

Keep solvents away from sparks and flame. Use only in well-ventilated area. Avoid prolonged breathing of vapors and eye or skin contact.

- Wash external surfaces of caster with approved cleaning solvent.

# 107. Inspection.

- Visually inspect rubber tires for cuts, flat spots, or breaks that may cause separation of tire from wheel or objectionable vibrations when rolling.
- Inspect position lock and wheel brake for free movement and proper engagement.
- Check wheel for excessive end play or wobble.

# 108. Repair.

- Discard casters that exhibit excessive wear or damage.
- Lubricate caster wheel and swivel bearing with grease, MIL-G-10924 at pressure fittings provided.

# 109. Installation.

- Place caster into position on base assembly and secure with four screws (43) and lockwashers (44).
- Lower platform and remove jack.

# 110. Test.

- Release swivel locks on casters and move platform in all directions. Put wheel locks on. Casters should swivel freely and locks should prevent hand movement.

# 111. LUBRICATION. Scheduled lubrication shall be performed as indicated.

## Materials Required

Specification	Nomenclature
MIL-H-83282	Hydraulic Fluid
MIL-L-46147	Lubricant
MIL-G-10924	Grease

- 52 weeks: Drain and fill reservoir to within 1 inch of filler opening with platform lowered. Use hydraulic fluid, MIL-H-83282, capacity 4½ gallons.
- 52 weeks: Lubricate pump handle pivot pin, 8 stair pivot pins, and 2 cylinder pivot pins with grease, MIL-L-46147.
- 52 weeks: Repack wheel and caster bearings with grease MIL-G-10924.

# 112. ILLUSTRATED PARTS BREAKDOWN.

113. GENERAL. The Illustrated Parts Breakdown lists and describes the parts necessary for equipment support and is used for requisitioning, identifying parts, and for illustrating assembly and disassembly relationship.

114. GROUP ASSEMBLY PARTS LIST (GAPL). The GAPL consists of a breakdown of complete unit into subassemblies and detail parts. Attaching parts are identified immediately following the item they attach.

115. Abbreviations. All symbols and abbreviations used in the GAPL are in accordance with MIL-STD-12. Non-standard abbreviations are defined in the introduction to this manual.



116. Index Number Column. In this column the index numbers are assigned in numerical sequence and are in general disassembly relationship.

117. Part Number Column. This column lists the prime contractor part number, government standard part number, or other vendor part number.

118. Description Column. This column lists the item name plus those modifiers necessary to identify the item. Parts purchased from vendors other than the prime contractor are so indicated by the vendor code in // following the part nomenclature. Attaching parts are listed immediately after the part they attach and preceding any details of the assembly. The caption /ATTACHING PARTS/ precedes the parts and ---\*--- signifies the end of the attaching parts.

119. Vendor Codes. Part numbers other than those of the prime contractor are designated by vendor code numbers in // following the part nomenclature. This code is in accordance with the Federal Supply code for Manufacturers Cataloging Handbook H4 and H3.

120. Make From. For those simple items, hoses, lines, tubes, brackets, etc., source coded for local manufacture, the material from which the item is manufactured is included in // after the item nomenclature.

121. Units Per Assembly Column. Quantities specified in this column are the total number of each part required per assembly or subassembly. The letters 'AR' are used to identify bulk items and indicated 'As Required'.

122. Usable On Codes. This column indicates the usability of parts on different models/series of the equipment. If no letter appears in this column, the part may be used on all models/series of the equipment.

123. Source, Maintenance, and Recoverability Codes. Source, Maintenance, and Recoverability (SM&R) codes have been assigned by the government and applied to the GAPL as indicated in the SM&R code column. Definitions of these codes and parts kit codes are contained in NAVAIRINST 4423.3.

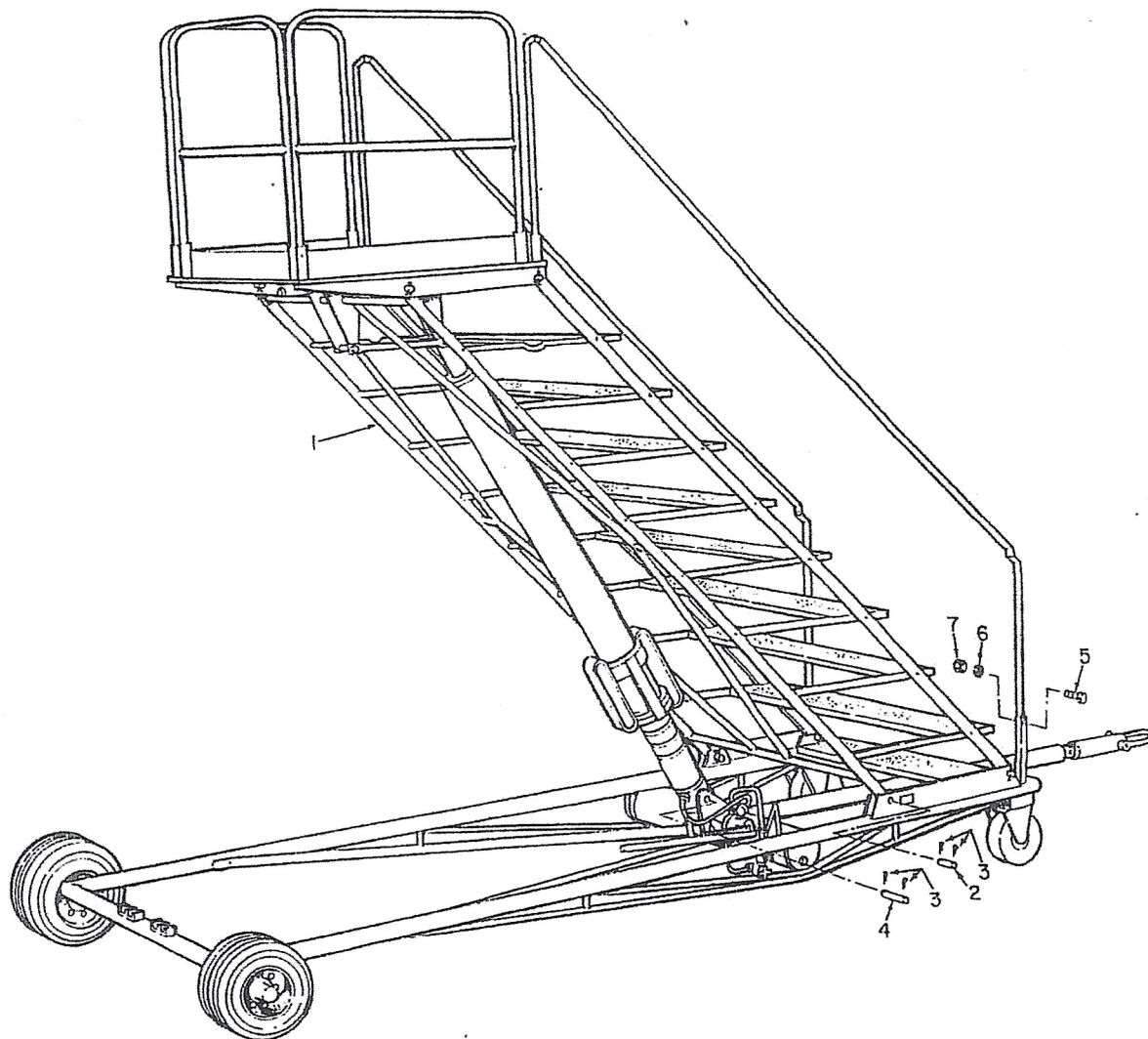


Figure 1. Aircraft Maintenance Platform (Sheet 1 of 5)



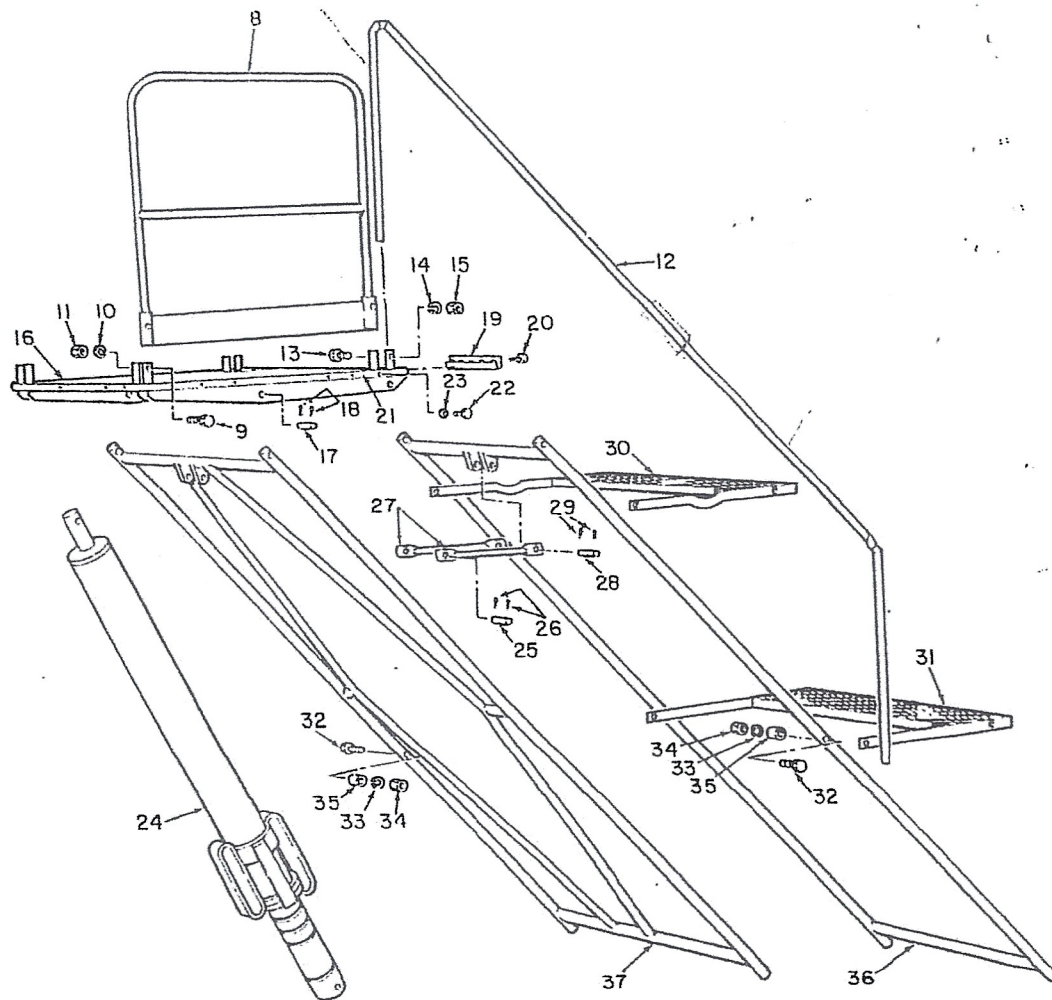
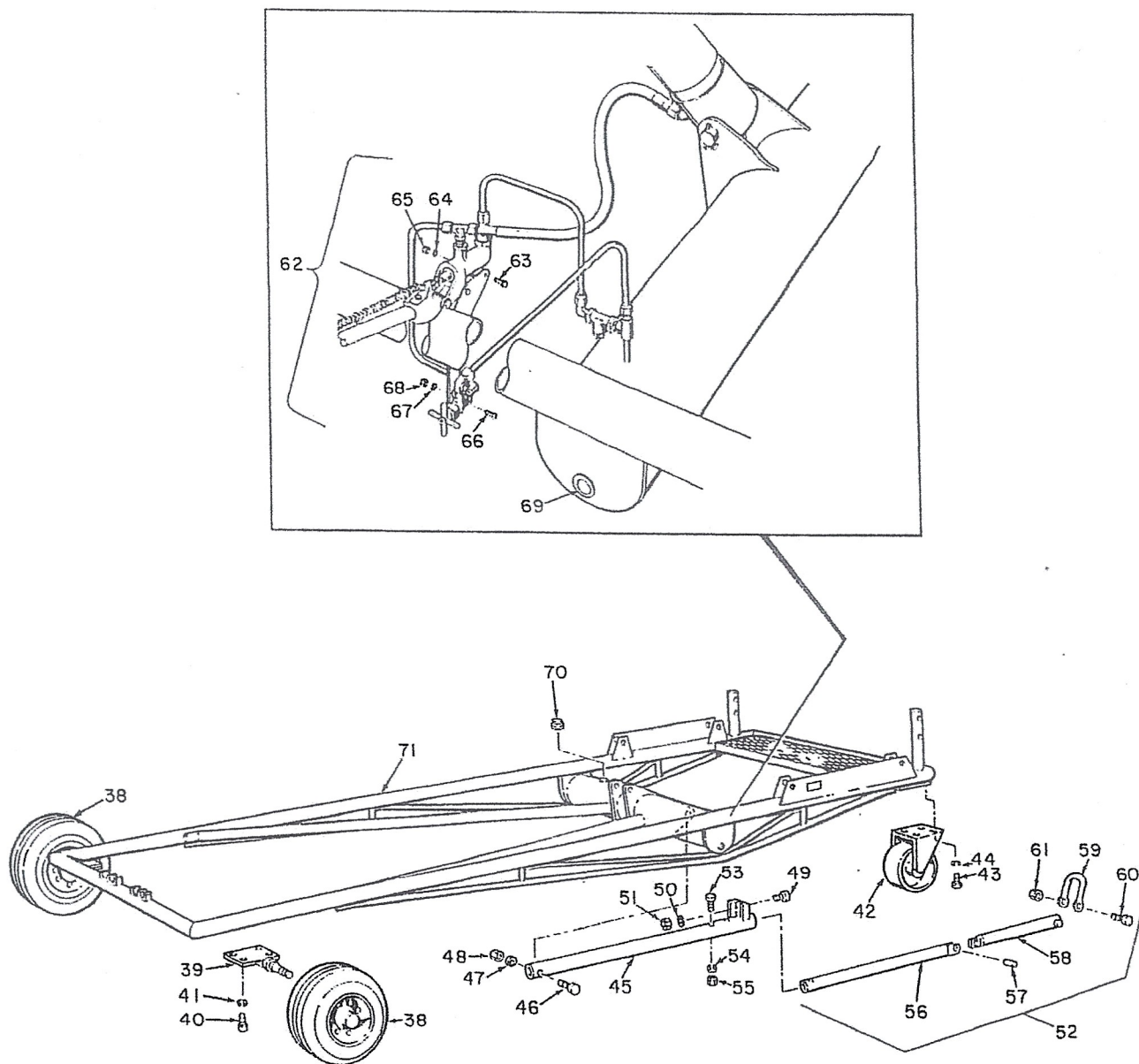


Figure 1. Aircraft Maintenance Platform (Sheet 2)



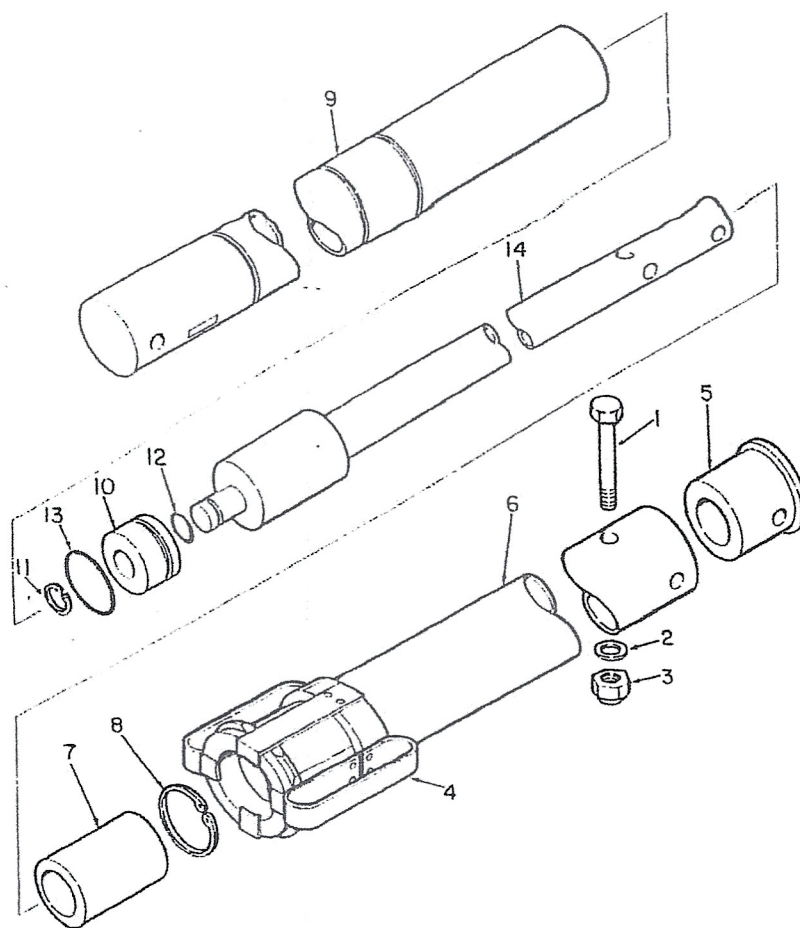
INDEX NO.	PART NUMBER	DESCRIPTION							UNITS PER ASSY	USABLE ON CODE	SM&R CODE
		1	2	3	4	5	6	7			
	47R16420	AIRCRAFT MAINTENANCE PLAT. /98750/							1		PEOHH
1	47R16418	. STRUCTURE, Upper /98750/							1		AHHHH
		/ATTACHING PARTS/									
2	47A16230	. PIN, Pivot, stair /98750/							4		PAHZZ
3	MS24665-513	. PIN, Cotter							10		PAHZZ
4	47A16231	. PIN, Pivot /98750/							1		PAHZZ
5	MS90726-15	. SCREW, Cap, hex hd							2		PAHZZ

Figure 1. Aircraft Maintenance Platform (Sheet 3)



FIG. & INDEX NO.	PART NUMBER	DESCRIPTION							UNITS PER ASSY	USABLE ON CODE	SM&R CODE
		1	2	3	4	5	6	7			
6	AN935-416	.	WASHER, Lock	.	.	.	.	.	2		PAHZZ
7	MS51967-1	.	NUT, Plain, hex	.	.	.	.	.	2		PAHZZ
		---	*	---							
8	47B16355	.	HANDRAIL, Platform /98750/	.	.	.	.	.	3		PAHZZ
		.	ATTACHING PARTS/	.	.	.	.	.			
9	MS90726-16	.	BOLT, Hex hd	.	.	.	.	.	6		PAHZZ
10	AN935-416	.	WASHER, Lock	.	.	.	.	.	6		PAHZZ
11	MS51967-2	.	NUT, Plain, hex	.	.	.	.	.	6		PAHZZ
12	47B16333	.	HANDRAIL, Stair /98750/	.	.	.	.	.	2		PAHZZ
13	MS90726-15	.	BOLT, Hex hd	.	.	.	.	.	2		PAHZZ
14	AN935-416	.	WASHER, Lock	.	.	.	.	.	2		PAHZZ
15	MS51967-2	.	NUT, Plain	.	.	.	.	.	2		PAHZZ
		---	*	---							
16	55J6219	.	PLATFORM ASSEMBLY /98750/	.	.	.	.	.	1		AHHHH
		.	ATTACHING PARTS/	.	.	.	.	.			
17	47A16230	.	PIN, Pivot, stair /98750/	.	.	.	.	.	4		PAHZZ
18	MS24665-513	.	PIN, Cotter	.	.	.	.	.	8		PAHZZ
		---	*	---							
19	47B16284	.	PLATE, Warning /98750/	.	.	.	.	.	1		PAHZZ
		.	ATTACHING PARTS/	.	.	.	.	.			
20	AN535-6-5	.	SCREW, Drive	.	.	.	.	.	5		PAHZZ
		---	*	---							
21	55J6219-9	.	BUMPER, Rubber /98750/	.	.	.	.	.	1		PAHZZ
		.	ATTACHING PARTS/	.	.	.	.	.			
22	AN504-1032-8	.	SCREW, Tapping	.	.	.	.	.	24		PAHZZ
23	AN960-10	.	WASHER, Flat	.	.	.	.	.	24		PAHZZ
		---	*	---							
24	55D21249	.	CYLINDER ASSEMBLY, Hyd. /98750/	.	.	.	.	.	1		PAHHH
		.	(See figure 2 for details)	.	.	.	.	.			
		.	ATTACHING PARTS/	.	.	.	.	.			
25	47A16246	.	PIN, Pivot /98750/	.	.	.	.	.	1		PAHZZ
26	MS24665-513	.	PIN, Cotter	.	.	.	.	.	2		PAHZZ
		---	*	---							
27	47B16357	.	TUBE, Brace /98750/	.	.	.	.	.	2		PAHZZ
		.	ATTACHING PARTS/	.	.	.	.	.			
28	47A16246	.	PIN, Pivot /98750/	.	.	.	.	.	1		PAHZZ
29	MS24665-513	.	PIN, Cotter	.	.	.	.	.	2		PAHZZ
		---	*	---							
30	55D6221	.	STEP, Upper /98750/	.	.	.	.	.	1		PAHZZ
31	55D6220	.	STEP, Standard /98750/	.	.	.	.	.	7		PAHZZ
		.	ATTACHING PARTS/	.	.	.	.	.			
32	MS90726-73	.	BOLT, Hex hd	.	.	.	.	.	32		PAHZZ
33	AN935-616	.	WASHER, Lock	.	.	.	.	.	32		PAHZZ
34	MS51968-8	.	NUT, Hex	.	.	.	.	.	32		PAHZZ
35	48A20007	.	BUSHING, Step rail /98750/	.	.	.	.	.	32		PAHZZ
		---	*	---							
36	47G16412	.	SUPPORT, Stair, front /98750/	.	.	.	.	.	1		PAHZZ
37	47G16413	.	SUPPORT, Stair, rear /98750/	.	.	.	.	.	1		XBHZZN

Figure 1. Aircraft Maintenance Platform (Sheet 4)



INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSY	USABLE ON CODE	SM&R CODE
		1 2 3 4 5 6 7			
	55D21249	CYLINDER ASSEMBLY, Hydraulic /98750/ (See figure 1 for next higher assembly)	REF		PAHHH
1	AN8-43A	. BOLT, Hex hd	2		PAHZZ
2	AN960-816	. WASHER, Flat	2		PAHZZ
3	MS21083-N8	. NUT, Self locking, hex	2		PAHZZ
4	55C21260	. LOCK, Barrel /98750/	1		PAHZZ
5	55B21265	. MOUNT, Piston rod /98750/	1		PAHZZ
6	55B21257	. SLEEVE, Piston rod /98750/	1		PAHZZ
7	55B21263	. BUSHING, Hydraulic cylinder /98750/	1		PAHZZ
8	5000-312	. RING, Retaining /79136/	1		XBHZZN
9	55B21250	. BARREL, Hydraulic cylinder /98750/	1		XBHZZN
10	55B21264	. PISTON, Hydraulic cylinder /98750/	1		PAHZZ
11	MS9013-30	. RING, Retaining	1		PAHZZ
12	AN6227B23	. PACKING, Preformed	1		PAHZZ
13	AN6227B37	. PACKING, Preformed	1		PAHZZ
14	55D21253	. ROD, Piston /98750/	1		PAHZZ

Figure 2. Hydraulic Cylinder Assembly