CHAPTER 3
DISASSEMBLY

3.1 PRELIMINARY INSTRUCTIONS.

Prepare Afterburner Control (ABC) for disassembly as follows:

WARNING

- Solvent, P-D-680, Type II or III, may affect skin, eyes, and respiratory tract. Use in a well ventilated area. Avoid prolonged breathing of vapors. Avoid eye and repeated skin contact. Keep away from sparks and flames.
- Prolonged contact of skin with liquid can cause dermatitis. Repeated inhalation of vapor can irritate nose and throat and can cause dizziness.
- If any liquid contacts skin or eyes, immediately flush affected area thoroughly with water. Remove solvent-saturated clothing. If vapors cause dizziness, go to fresh air.
- When handling liquid or when applying it in an air-exhausted, partially covered tank, wear approved gloves.
- When handling liquid or when applying it at unexhausted, uncovered tank or workbench, wear approved respirator, gloves, and goggles.

a. Thoroughly wash external surfaces with dry cleaning Solvent, P-D-680, Type II or III.

b. Remove and discard all external lockwiring by cutting and not by breaking.

c. Remove shipping caps and plugs. Remove plugs (57, 85, Figure 3-1) and packing (58, 86, 88).

d. Drain all fuel from the control.

e. Parts removed during disassembly shall be cleaned and stored in clean, covered containers as a protection against possible damage and corrosion.

f. Unless otherwise specified, avoid unnecessary disassembly of such items as identification plates, studs, spring pins, spiral pins, threaded inserts and similar parts that are in good condition and which serve a more or less permanent function.

WARNING

- Lubrication Oil
- If oil is decomposed by heat, toxic gases are released.
- Prolonged contact with liquid or mist may cause dermatitis and irritation.
- If there is any prolonged contact with skin, wash area with soap and water. If solution contacts eyes, flush eyes with water immediately. Remove saturated clothing.
- If oil is swallowed, do not try to vomit. Get immediate medical attention.
- When handling liquid, wear rubber gloves. If prolonged contact with mist is likely, wear approved respirator.

g. When removing internal screws of ABC, apply a drop of Lubricating Oil, MIL-L-6081 (Grade 1010, or equivalent) to ease their removal. Work the screws in and out so oil will penetrate, then remove screws.

3.2 REMOVAL AND DISASSEMBLY OF SUBASSEMBLIES.

3.3 REMOVAL AND DISASSEMBLY OF PILOT BURNER PRESSURE REGULATOR ASSEMBLY.

Remove and disassemble pilot burner pressure regulator assembly (1, Figure 3-1) as follows:

a. Unscrew body (14, Figure 3-2) from control housing. The following parts will remain in body (14): preformed packing (9), pin (10), knob (11), scale (12), detent spring (13), nut (15), adjusting screw (16), and preformed packing (17). The following parts will remain in control housing: retainer (1), piston (2), sleeve (3), spring (4), filter (5), trim spring (6), retainer (7), and preformed packing (8).

CAUTION

Valve and sleeve assembly, consisting of piston (2) and metering sleeve (3), is a matched assembly and parts must be kept together.

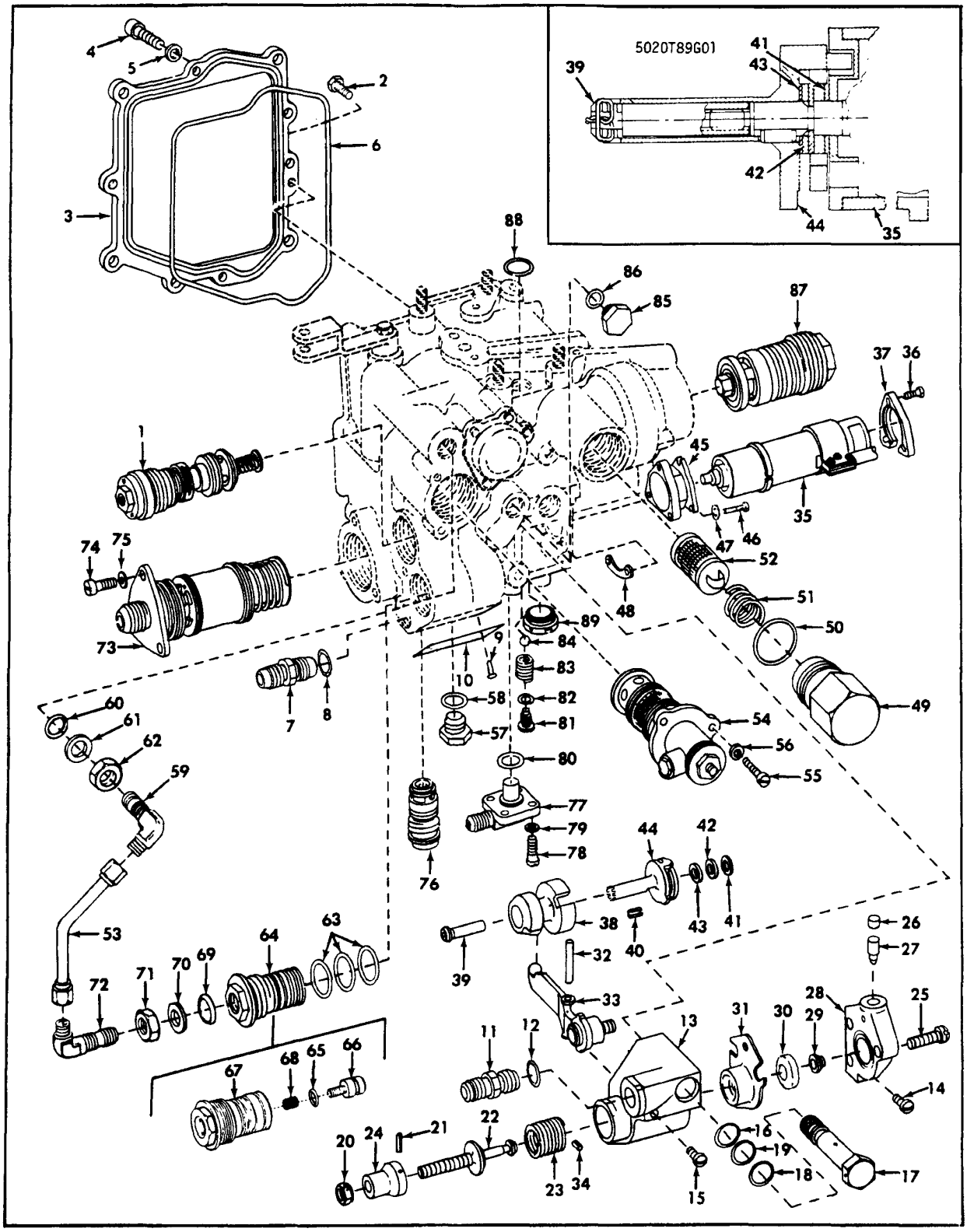


Figure 3-1. Afterburner Control Assembly - View No. 1 (Sheet 1 of 2)

LEGEND

1. Pilot Burner Pressure Regulator Assembly
2. Screw
3. AB Control Cover
4. Screw
5. Washer
6. Preformed Packing
7. Tube Nipple
8. Preformed Packing
9. Screw
10. Identification Plate
11. Tube Union
12. Preformed Packing
13. Actuating Cylinder
14. Screw
15. Screw
16. Preformed Packing
17. Bolt
18. Preformed Packing
19. Preformed Packing
20. Nut
21. Spring Pin
22. Adjustable Stop
23. Spring
24. Insert
25. Screw
26. Plug
27. Lee Jet
28. Cylinder Head
29. Nut
30. Retainer
31. Diaphragm
32. Pin
33. Actuating Lever
34. Spring Pin
35. Tachometer (T5) Motor
36. Screw
37. Clamp
38. Control Cam
39. Sleeve Nut
40. Spring Pin
41. Shaft Spacer
42. Shaft Shim (AR)
43. Shaft Shim (AR)
44. Extension Shaft
45. Servo Spacer
46. Screw
47. Washer
48. Clamp
49. End Cap
50. Preformed Packing
51. Spring
52. Strainer
53. Tube
54. Pressure Regulator Assembly
55. Screw
56. Washer
57. Plug
58. Preformed Packing
59. Elbow
60. Preformed Packing
61. Backup Washer
62. Locknut
63. Preformed Packing
64. Restrictor Assembly
65. Preformed Packing
66. Adjusting Screw
67. Restrictor Body
68. Insert
69. Preformed Packing
70. Backup Washer
71. Locknut
72. Elbow
73. Main Burner Check (CDR) Valve Assembly
74. Screw
75. Washer
76. Pilot Burner Check Valve Assembly
77. Acceleration Signal Elbow
78. Screw
79. Washer
80. Preformed Packing
81. Check Valve Plug
82. Preformed Packing
83. Spring
84. Ball
85. Plug
86. Preformed Packing
87. Check and Drain Valve Assembly
88. Preformed Packing
89. Screw Plug

Figure 3-1. Afterburner Control Assembly - View No. 1 (Sheet 2)

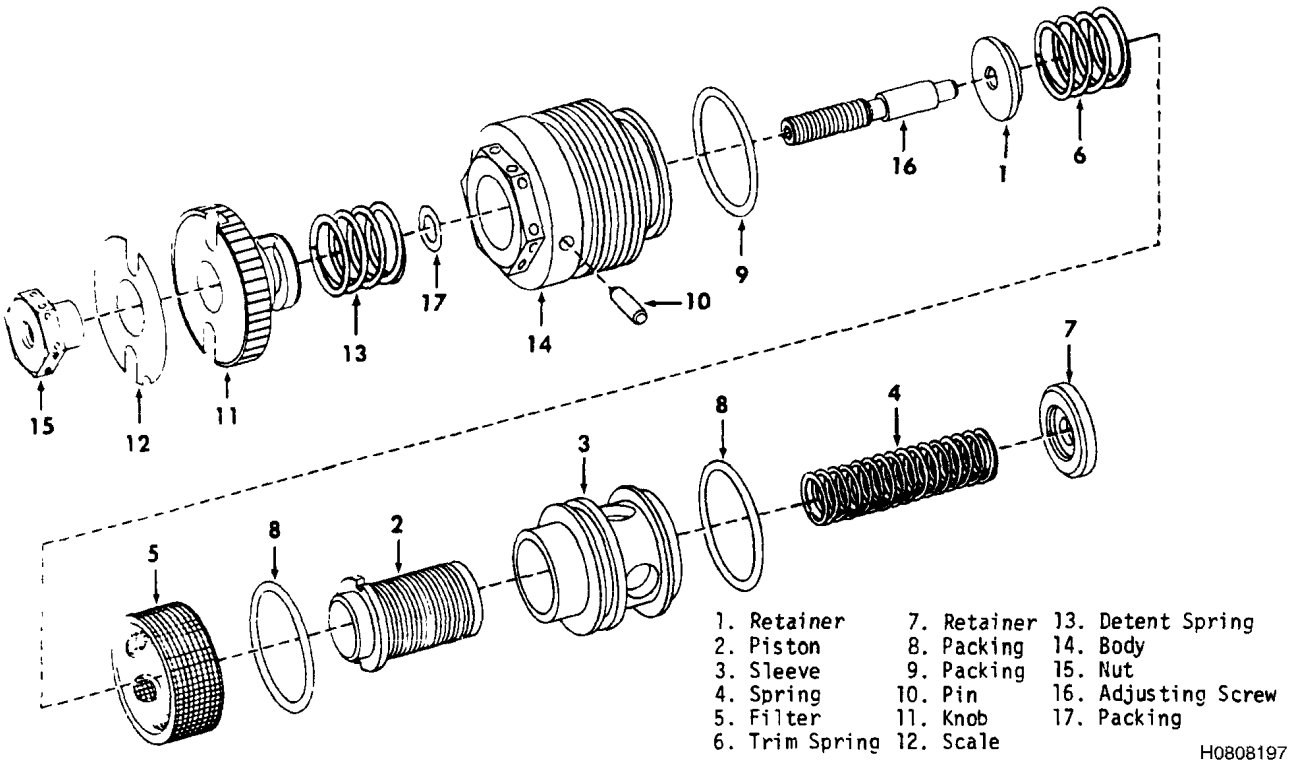


Figure 3-2. Pilot Burner Pressure Regulator Assembly

b. Remove retainer (1), trim spring (6), filter (5), piston (2) and actuator spring (4) from control housing.

c. Remove metering sleeve (3) using metering valve sleeve expanding Puller, PN 21C3605G001; remove spring retainer (7). Remove preformed packings (8) from metering sleeve (3).

d. Remove preformed packing (9) from body (14). Inspect the following parts: pin (10), knob (11), scale (12), detent spring (13), body (14), nut (15), adjusting screw (16), and preformed packing (17) (5.1). If serviceable, do not disassemble. If unserviceable, disassemble as follows:

(1) Insert a 3/32 inch hex key through nut (15) and into adjusting screw (16). Hold adjusting screw (16) to keep it from turning; remove nut (15).

(2) Remove pin (10), then remove adjusting screw (16) and indicator knob (11) together from body (14). Remove adjusting screw (16) from indicator knob (11).

(3) Do not remove indicator scale (12) unless it is damaged. Remove detent spring (13) and preformed packing (17) from body (14).

3.4 REMOVAL OF CASING COVER AND IDENTIFICATION PLATE.

a. Remove screw (2, Figure 3-1), screws (4), washers (5) and lift off AB control cover (3). Remove preformed packing (6).

b. Remove screws (9) and identification plate (10).

3.5 REMOVAL AND DISASSEMBLY OF ACTUATING CYLINDER.

a. Remove bolt (17, Figure 3-1), preformed packings (16, 18, and 19), screws (14 and 15), and lift out actuating cylinder (13). Disassemble actuating cylinder as follows:

(1) Remove nut (20), pin (21), and insert (24). Remove pin (34) and adjustable stop (22). Remove spring (23).

(2) Remove screws (25) and cylinder head (28).

(3) Remove nut (29), retainer (30), and diaphragm (31).

(4) Remove pin (32) and actuating lever (33) from actuating cylinder (13).

(5) Remove tube union (11) and preformed packing (12).

3.6 REMOVAL OF TACHOMETER GENERATOR (T5 SERVO MOTOR).

a. Remove screws (Figure 3-1, 36), clamp (37), and screw plug (89).

CAUTION

Do not allow engine fuel or oil to contact insert in connector. Some connector inserts will swell excessively if contaminated with fuel or oil.

b. Carefully remove tachometer (T5) motor (35) and clamp (37). Cover the connector of the motor electrical lead with a plastic protective cap.

CAUTION

Do not remove servo spacer (Figure 3-1, 45) on AB Control, PN 6006T18G11. Servo spacer (45) is an integral part of AB Control. Scribed line on servo spacer is pre-indexed to the setting of the T5 cam with the T5 follower.

NOTE

Clamp (48) is located against thin wall of control housing in hole from which actuating cylinder (13) was removed.

c. Remove screws (46), washers (47), clamp (48), and servo spacer (45).

d. Process T5 Motor in accordance with T.O. 8D1-87-8-3.

3.7 REMOVAL OF STRAINER.

a. Remove strainer and cap (Figure 3-1, 49) and preformed packing (50).

b. Remove spring (51) and strainer (52).

3.8 REMOVAL AND DISASSEMBLY OF PRESSURE REGULATOR ASSEMBLY.

a. Remove screws (Figure 3-1, 55) and washers (56); then lift out pressure regulator assembly (54). Sleeve (1, Figure 3-3), with preformed packings (2, and 3), will remain in control housing. Remove sleeve using Pressure Regulator Puller, PN 21C3601G001.

b. Remove preformed packing (2) from bore of control housing and remove preformed packings (3) from sleeve (1). Remove preformed packing (13) from body (12).

NOTE

Some controls will not contain detent spring (8), detent pin (9) and indicator scale (10). However, these parts must be added at assembly. For proper configuration, see Figure 3-3 and TO 6J3-2-31-4.

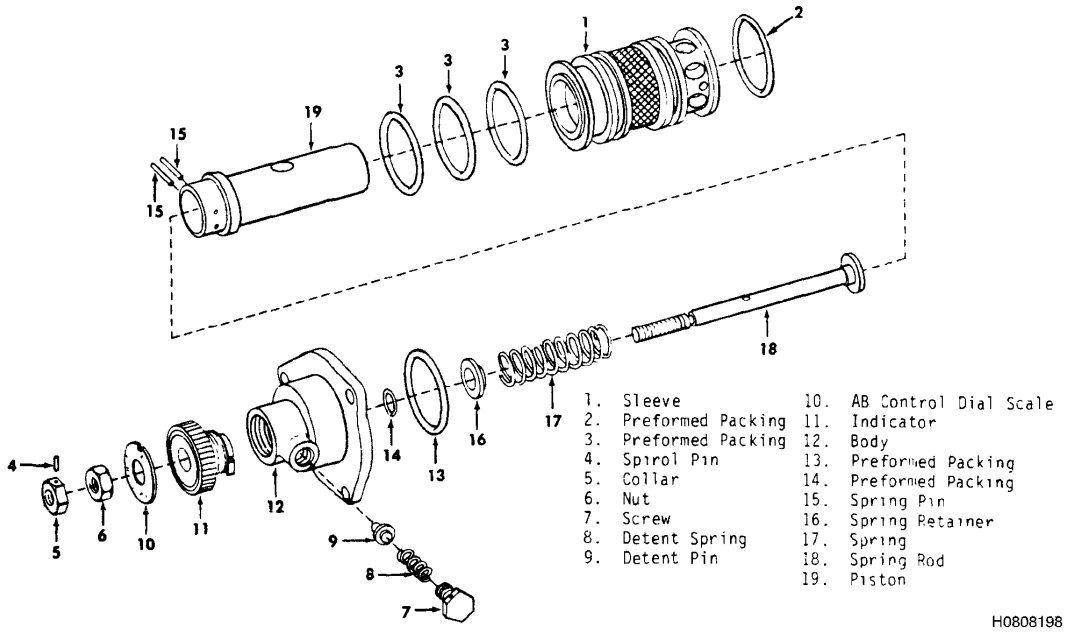


Figure 3-3. Pressure Regulator Assembly

c. Inspect pressure regulator assembly as described in Paragraph 5.9. If serviceable, do not disassemble. If unserviceable, disassemble screw (7), detent spring (8), and detent pin (9) from body (12).

d. Remove spirol pin (4), collar (5) and nut (6) from spring rod (18). Remove indicator scale (10).

e. Unscrew indicator (11) from spring rod (18) and from body (12). Remove body (12) from spring rod (18). Remove packing (14) from body.

f. Remove spring pins (15) from piston (19) using fixture 21C3602G001. Remove spring retainer (16), spring (17) and spring rod (18) from piston (19).

3.9 REMOVAL OF TUBE ASSEMBLY.

a. Remove tube (53, Figure 3-1).

b. Loosen locknuts (62, 71); remove elbows (59, 72).

c. Remove backup washers (61, 70), preformed packings (60, 66) and locknuts (62, 71).

3.10 REMOVAL OF RESTRICTOR ASSEMBLY.

a. Remove restrictor assembly (64, Figure 3-1). Remove packings (63) from restrictor assembly. Inspect restrictor assembly as specified in Paragraph 5.3 and Paragraph 5.7.

b. If serviceable, do not disassemble. If unserviceable, disassemble restrictor assembly by removing adjusting screw (66) and preformed packing (65) from body (67).

3.11 REMOVAL AND DISASSEMBLY OF MAIN BURNER CHECK (CDR) VALVE ASSEMBLY.

WARNING

Pusher, PN 21C3116G01 shall be used to relieve spring pressure when removing main burner check valve. If pusher is not used, spring pressure can drive parts out with enough force to cause personal injury.

a. Remove one screw (74, Figure 3-1) and its washer (75).

b. Remove two bolts from Pusher, 21C3116G01. Position pusher over adapter (17, Figure 3-4) and thread remaining bolt on pusher in hole where screw and washer were removed.

c. Remove a second screw (74, Figure 3-1) and its washer (75). Install a second bolt on pusher and thread bolt into hole.

d. Press Pusher, PN 21C3116G01, in, remove third screw (74) and washer (75). Slowly back off pusher to relieve spring pressure.

e. Unscrew bolts and remove Pusher, PN 21C3116G01.

f. Remove adapter (17, Figure 3-4). The following items will remain in control housing: outer spring (1), inner spring (2), valve seat (3), restrictor (4), preformed packing (5), spring (6), spring retainer (7), piston (8), kapseal (9), preformed packings (10, 11, 12), and housing (13). Remove seal (14) from adapter (17) using Puller, PN 21C3604G001. Remove preformed packing (16) from adapter (17) and preformed packing (15) from check valve seal assembly (14).

g. Remove piston (8) and housing (13) as an assembly, using Puller, PN 21C3115G001. Remove piston from housing. Remove Kapseal (9), preformed packing (10) from piston and preformed packings (11, 12) from housing.

h. Remove springs (1, 2).

i. Inspect assembly of valve seat, restrictor and retainer (3 through 7) as specified in Paragraph 5.12. If serviceable, do not disassemble. If unserviceable, use Puller, PN 21C3634G001, to pull retainer (7) from valve seat (3). Remove spring (6), restrictor (4) and preformed packing (5) from restrictor.

3.12 REMOVAL AND DISASSEMBLY OF PILOT BURNER CHECK VALVE ASSEMBLY.

Remove pilot burner check valve assembly (76, Figure 3-1) and disassemble as follows:

a. Remove retainer (2, Figure 3-5). Remove preformed packing (1) from retainer, then remove spring (3).

b. Remove piston (5) using Puller, PN 21C3604G002. Remove sleeve (9) and seat (4) together using Puller, PN 21C3603G001. Remove preformed packings (6 and 7) from sleeve (9).

c. Remove seat (4) from sleeve (9), then remove preformed packing (8, 10).

3.13 REMOVAL OF ACCELERATION SIGNAL ELBOW.

a. Remove screws (78, Figure 3-1) and washers (79).

b. Remove acceleration signal elbow (77) and preformed packing (80).

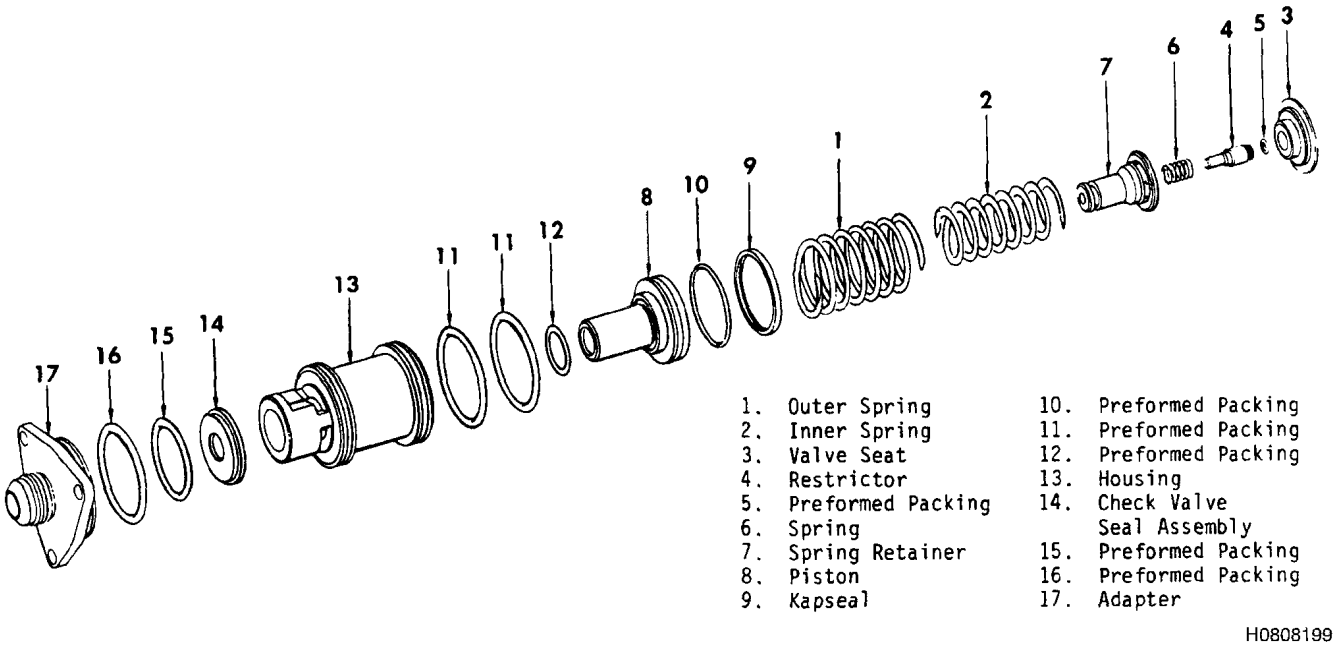


Figure 3-4. Main Burner Check Valve Assembly

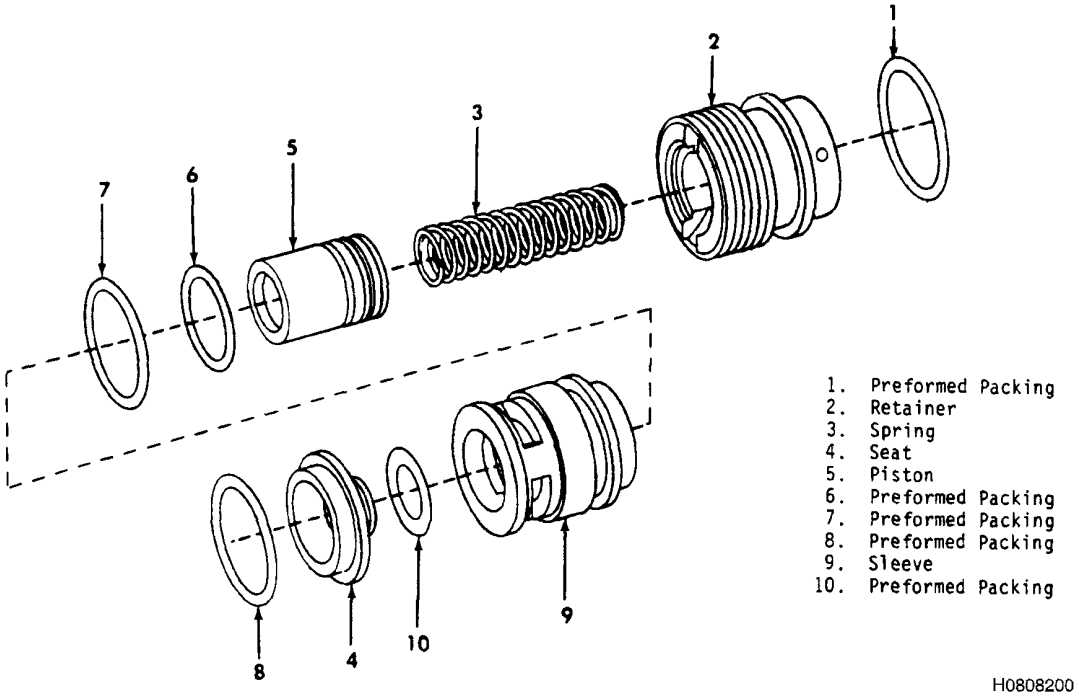


Figure 3-5. Pilot Burner Check Valve Assembly

3.14 REMOVAL OF NOZZLE LIMIT CHECK VALVE.

a. Remove check valve plug (81, Figure 3-1). Breakaway torque shall be 3.5 pound-inch minimum when removing check valve plug (81). Replace insert (31, Figure 3-15) if breakaway torque is below limit.

b. Remove preformed packing (82, Figure 3-1), check valve spring (83) and ball (84).

3.15 REMOVAL AND DISASSEMBLY OF CHECK AND DRAIN VALVE ASSEMBLY.

Remove check and drain valve assembly (87, Figure 3-1) as follows:

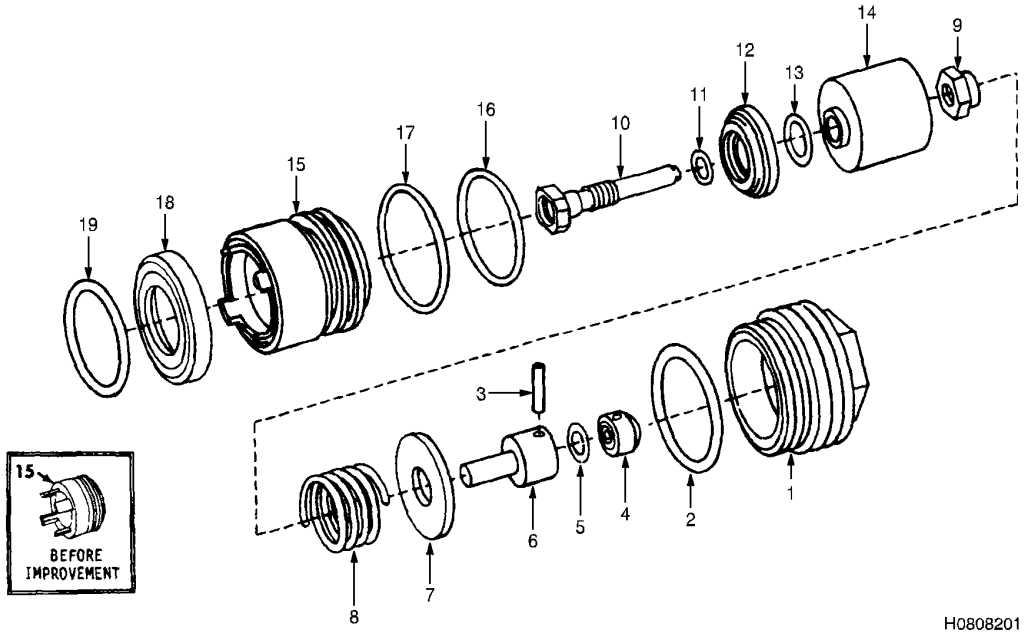
a. Remove cap (1, Figure 3-6) from control housing.

b. Remove preformed packing (2), washer (7) and valve slide assembly (parts 3 through 6). Remove spring pin (3) and separate the seat (4) from slide (6). Remove preformed packing (5) from slide (6).

c. Remove and discard spring (8). Remove piston assembly (9 through 14) and sleeve (15) together. Remove piston assembly from sleeve. Remove preformed packings (16 and 17) from sleeve.

d. Remove nut (9), fuel nozzle (10) and sealing ring (12) from piston (14). Remove preformed packings (11 and 13).

e. Remove valve seat (18) from bore of control housing. Remove preformed packing (19).



LEGEND

1.	Cap	10.	Fuel Nozzle
2.	Preformed Packing	11.	Preformed Packing
3.	Spring Pin	12.	Sealing Ring
4.	Seat	13.	Preformed Packing
5.	Preformed Packing	14.	Piston
6.	Check and Drain Valve Slide	15.	Sleeve
		16.	Preformed Packing
7.	Washer	17.	Preformed Packing
8.	Spring	18.	Valve Seat
9.	Nut	19.	Preformed Packing

Figure 3-6. Check and Drain Valve Assembly

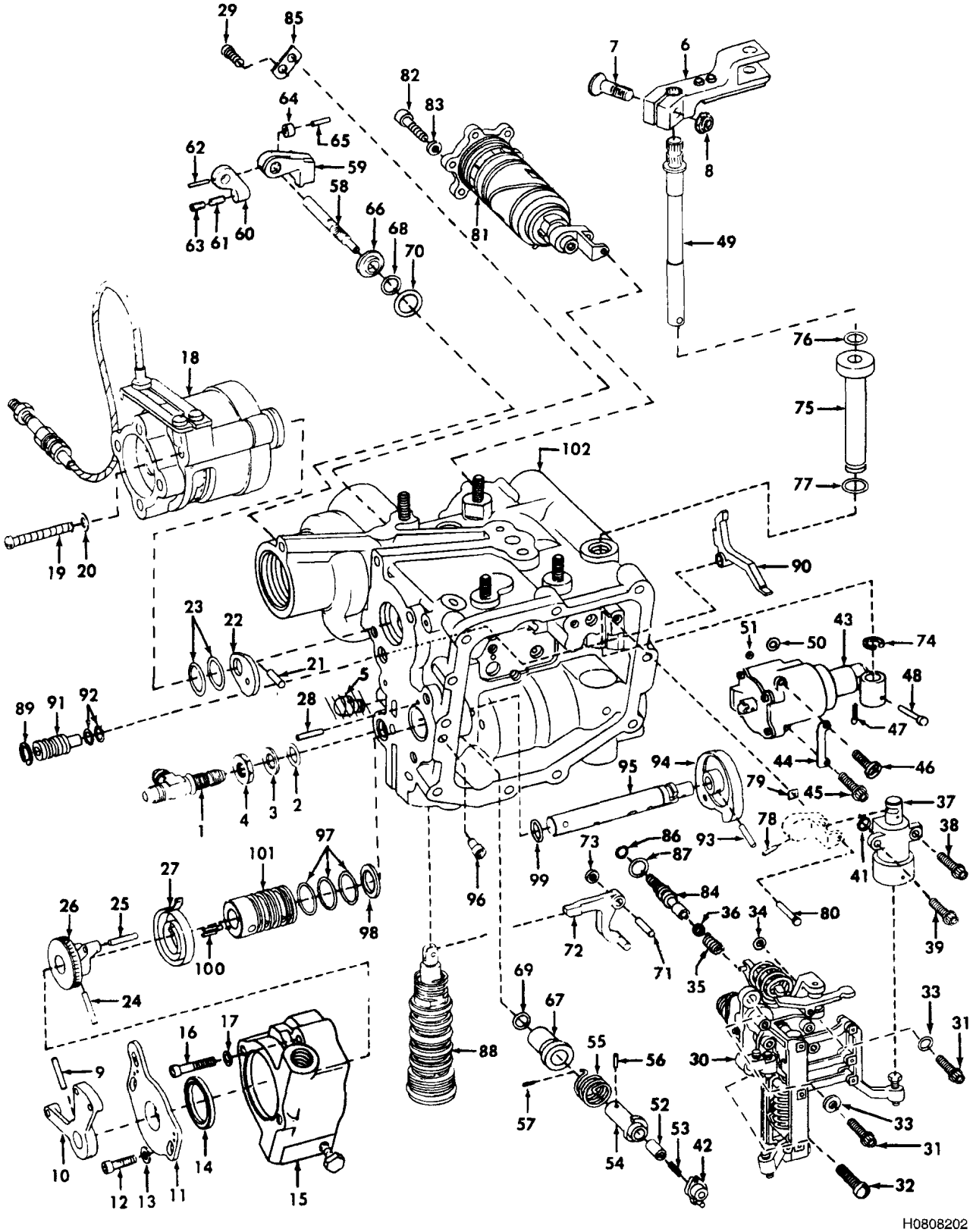


Figure 3-7. Afterburner Control Assembly - View No. 2 (Sheet 1 of 2)

LEGEND

1. Flared Tube Tee
2. Preformed Packing
3. Backup Washer
4. Locknut
5. Screw Plug
6. Clevis Lever Assembly
7. Screw
8. Locknut
9. Spring Pin
10. Indicator Arm
11. Control Box Cover
12. Screw
13. Washer
14. Thrust Washer
15. Flexible Cable Control Box
16. Screw
17. Washer
18. A8 Position Input Box
19. Screw
20. Washer
21. Spring Pin
22. Nozzle Control Limit Cam
23. Preformed Packing
24. Spring Pin
25. Spring Pin
26. Control Box Wheel
27. Spring
28. Spring Pin
29. Screw
30. Linkage Assembly
31. Screw
32. Screw
33. Washer
34. Preformed Packing
35. Trim Spring
36. Spring Retainer
37. Servo Cylinder Assembly
38. Screw
39. Screw
40. Deleted
41. Preformed Packing
42. T5 Lever
43. Nozzle Servo Assembly
44. Strap
45. Screw
46. Screw
47. Cotter Pin
48. Pin
49. Nozzle Servo Shaft
50. Preformed Packing
51. Preformed Packing
52. Nut
53. Insert
54. Spool
55. Spring
56. Spirol Pin
57. Pin
58. T5 Drive Shaft
59. T5 Drive Follower
60. T5 Drive Lever
61. Insert
62. Spring Pin
63. Setscrew
64. Roller
65. Pin
66. Thrust Bearing
67. Bushing
68. Preformed Packing
69. Preformed Packing
70. Preformed Packing
71. Pivot Pin
72. Lockout Lever
73. Washer
74. Retaining Ring
75. Nozzle Servo Bearing
76. Preformed Packing
77. Preformed Packing
78. Pin
79. Clip
80. Pin
81. Metering Valve Assembly
82. Screw
83. Washer
84. Linkage Trim Screw
85. Lock Plate
86. Preformed Packing
87. Preformed Packing
88. Lockout Switch Assembly
89. Retaining Ring
90. Nozzle Control Limit Lever
91. Pivot Plug
92. Preformed Packing
93. Spring Pin
94. Power Cam
95. Power Cam Shaft
96. Bushing
97. Preformed Packing
98. Seal
99. Preformed Packing
100. Spring Pin
101. Trigger Valve Sleeve
102. Housing Assembly

Figure 3-7. Afterburner Control Assembly - View No. 2 (Sheet 2)

3.16 REMOVAL AND DISASSEMBLY OF FUEL COMPUTING SERVO ASSEMBLY.

NOTE

Washers removed with screws (38, 39) are not required on servo cylinder assembly installation.

a. Remove screws (Figure 3-7, 38 and 39). Disengage piston of fuel computing servo assembly (37) from metering valve assembly yoke, then remove fuel computing servo assembly. Remove preformed packing (41).

b. Disassemble fuel computing servo assembly as follows:

(1) Remove nut (Figure 3-8, 1) using Spanner Wrench, PN 21C2512P010. Remove cover (3) and preformed packings (2, 4) from cover. Remove shims (5) resting on housing (9).

(2) Remove piston (6) from housing (9) with parts 10 through 14 attached. Remove preformed packing (10) and the spring pin (11) from piston.

CAUTION

Do not twist orifice (12) when removing it from piston.

(3) Screw the Inserter, PN 21C3630P026, into orifice (12). Carefully pull orifice from bore of piston.

(4) Remove preformed packings (13, 14) from orifice (12) and seal (7) from housing (9).

3.17 REMOVAL AND DISASSEMBLY OF LINKAGE ASSEMBLY.

a. Remove linkage spring (Figure 3-9, 2) and lift off metering valve spring (1) from compressor discharge pressure feedback lever (35).

b. Send metering valve spring (1) to qualified vendor for relubrication with tungsten disulfide. See drawing number 2000T77 for further instructions.

c. Remove screws (Figure 3-7, 31, 32), washers (33) and lift out linkage assembly (30). Breakaway torque shall be 1.5 pound-inch minimum when removing screws (31, 32). Replace inserts (Figure 3-15, 3) if breakaway torque is below limit.

d. Remove preformed packing (Figure 3-7, 34), linkage trim spring (35), spring retainer (36) and T5 lever (42).

e. Disassembly linkage assembly as follows:

NOTE

- Linkage spring (Figure 3-9, 2) and metering valve spring (1) were disassembled before linkage assembly was removed from control housing.
- If CDP feedback lever (35) and/or CDP sensor lever (44) are disassembled for needed repairs or replacement, they shall be inspected and repaired as instructed in Chapter 5, and then sent to qualified vendor for relubrication with tungsten disulfide. Further relubrication instructions can be found on individual part drawings: CDP feedback lever, 37B201717, and CDP sensor lever, 4004T67.

(1) Inspect linkage assembly (3 through 59) as specified in paragraph 5.18. If serviceable, do not disassemble. Perform additional disassembly as follows only to the extent necessary to make it serviceable and/or to make needed repairs or replace parts. Setscrew (26) must be removed to measure length.

(2) Remove screws (3) and separate linkage cage (4) from linkage bracket (52). Replace insert (51) if breakaway torque for screw is less than 1.5 pound-inch.

(3) Remove retaining clip (6), yoke pin (7), and fuel computing lever (8). Do not remove nut (27), power cam followers (28, 29) or inserts (9) unless damaged, worn or loose.

(4) Remove retaining clips (10) and yoke pins (11); lift off fuel computing link (12). Do not remove zero trim screw (24) or insert (13) unless damaged, worn or loose. Replace insert (13) if breakaway torque for screw (24) is less than 2.0 pound-inch.

(5) Remove screw (25), retaining clip (21), yoke pin (22); then remove nozzle servo input lever (16). Do not remove power cam follower (31) or inserts (17) unless damaged, worn or loose. Replace inserts (5, 17) if breakaway torque for screw (25) is less than 2.0 pound-inch.

(6) Remove retaining clip (18), yoke pin (19), maximum fuel lever (20), retaining clip (14), yoke pin (15) and minimum fuel lever (23). Remove pin (32). Remove insert (5) from linkage cage (4) only if damaged, loose or worn.

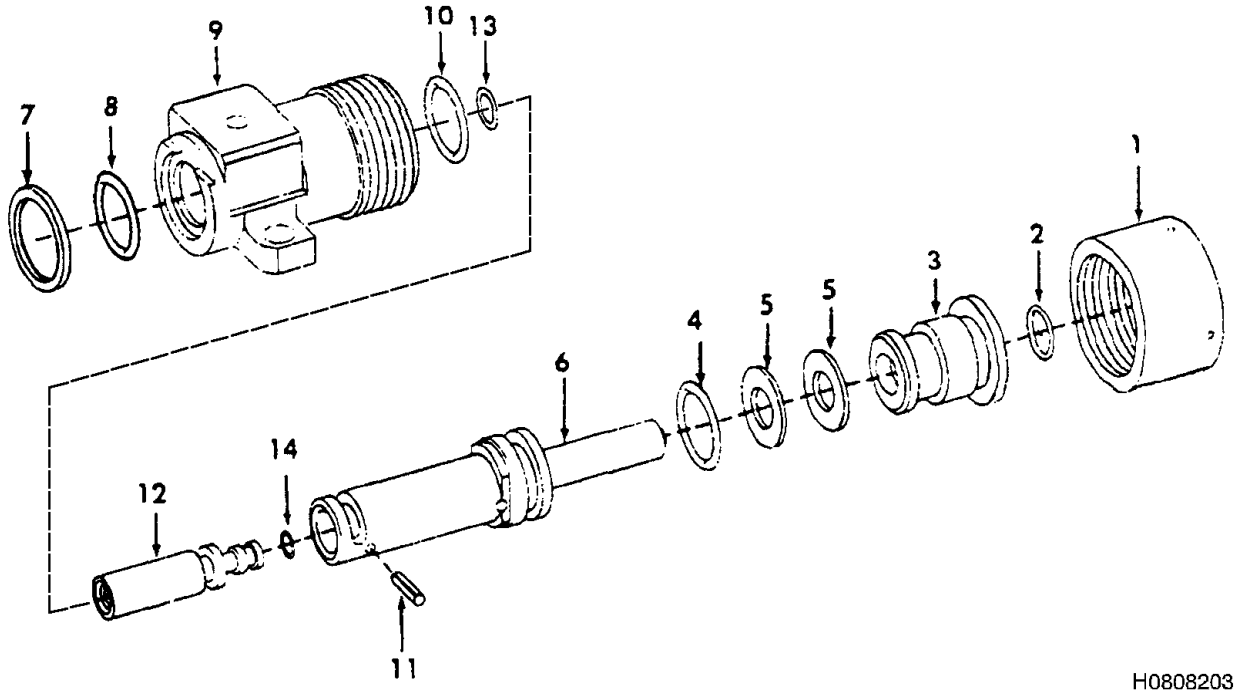
(7) Remove spirol pin (33), bearing pin (36); then lift off spacer (34) and feedback lever (35).

(8) Remove nut (55), metering valve nozzle (57) and preformed packings (58, 59). Do not remove pin plug (56). Replace insert (50) if breakaway torque for nozzle is less than 6.5 pound-inch.

CAUTION

Be sure that pin holes in linkage bracket are not enlarged when removing spirol pins (37).

(9) Remove spirol pins (37); remove spacers (38) from bore of linkage bracket (52). Remove preformed packings (39) from spacers (38).



LEGEND

1.	Nut	8.	Preformed Packing
2.	Preformed Packing	9.	Housing
3.	Cover	10.	Preformed Packing
4.	Preformed Packing	11.	Spring Pin
5.	Shim	12.	Orifice
6.	Piston	13.	Preformed Packing
7.	Seal	14.	Preformed Packing

Figure 3-8. Fuel Computing Servo Assembly

(10) Support linkage bracket (52). Using a 0.030 inch max diameter pin punch, drive out spirol pins (37). Using a 0.112 (#4) -40 NC 3A screw, pull out spacers (38) from bore of linkage bracket.

(11) Carefully slide pin (40) out of the shaft of sensor bellows (45); then remove screws (41). Removal torque for screws (41) shall be 1.5 pound-inch minimum. Replace inserts (49) if torque is below limit.

(12) Remove sensor lever shaft (42). Remove sensor lever (44) by lifting the sensor bellows slightly to permit separation. Remove preformed packing (46).

CAUTION

Exercise care not to overstretch the bellows while removing, as permanent deformation will occur.

(13) Remove sensor bellows. After pin (Figure 3-9, 40) has been removed, carefully remove bellows by pulling on the flange end while pushing the other end. Remove preformed packings (53, 54, 60) from the sensor bellows and preformed packing (47) from the bore of linkage bracket.

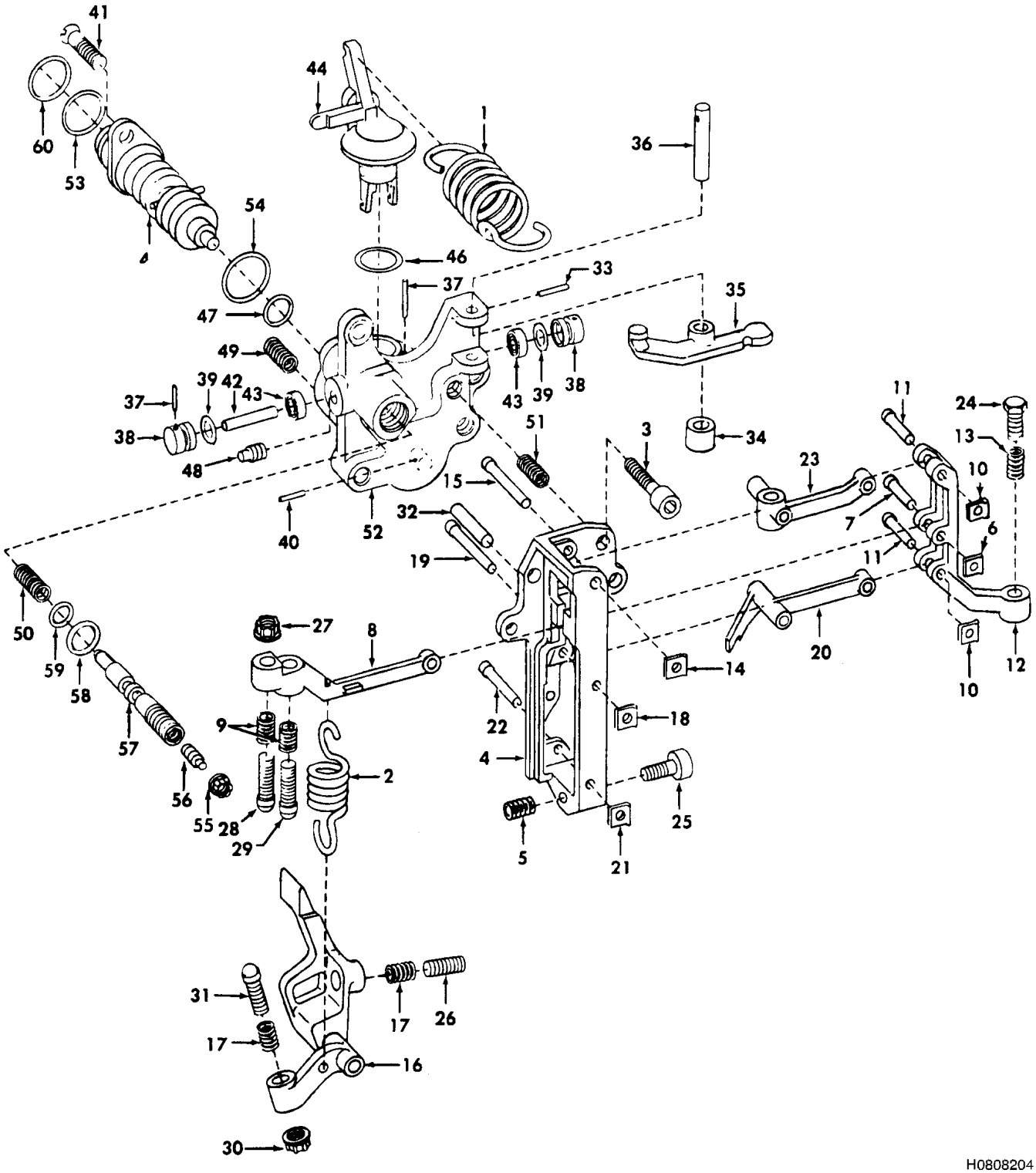


Figure 3-9. Linkage Assembly (Sheet 1 of 2)

LEGEND

1. Metering Valve Spring
2. Linkage Spring
3. Screw
4. Linkage Cage
5. Insert
6. Retaining Clip
7. Yoke Pin
8. Fuel Computing Lever
9. Insert
10. Retaining Clip
11. Yoke Pin
12. Fuel Computing Link
13. Insert
14. Retaining Clip
15. Yoke Pin
16. Nozzle Servo Input Lever
17. Insert
18. Retaining Clip
19. Yoke Pin
20. Maximum Fuel Lever
21. Retaining Clip
22. Yoke Pin
23. Minimum Fuel Lever
24. Zero Trim Screw
25. Screw
26. Setscrew
27. Nut
28. Power Cam Follower (A8 Limit Trim)
29. Power Cam Follower (Wf/P3 Trim)
30. Nut
31. Power Cam Follower
32. Pin
33. spirol Pin
34. Spacer
35. Feedback Lever (Comp. Disch Press.)
36. Bearing Pin
37. spirol Pin
38. Spacer
39. Preformed Packing
40. Pin
41. Screw
42. Sensor Lever Shaft
43. Ball Bearing
44. Sensor Lever (Comp. Diach Press.)
45. Sensor Bellows (Comp. Disch Press.)
46. Preformed Packing
47. Preformed Packing
48. Pin Plug
49. Insert
50. Insert
51. Insert
52. Linkage Bracket
53. preformed Packing
54. Preformed Packing
55. Nut
56. Pin Plug
57. Metering Valve Nozzle
58. Preformed Packing
59. Preformed Packing
60. Preformed Packing

Figure 3-9. Linkage Assembly (Sheet 2)

CAUTION

Do not score bearing bore of linkage bracket when removing bearings.

(14) Push out ball bearings (43) from linkage bracket. Do not remove pin plug (48) from linkage bracket.

3.18 REMOVAL AND DISASSEMBLY OF METERING VALVE ASSEMBLY.

a. Lift yoke of metering valve assembly (81, Figure 3-7) up and rotate it approximately 180 degrees in a clockwise direction. Remove retaining clip (79), yoke pin (80), spring pin (78) and lift off yoke (3, Figure 3-10) of metering valve assembly.

b. Remove screws (82, Figure 3-7) and washers (83), then remove and disassemble metering valve assembly as follows:

(1) Remove cover (1, Figure 3-10). Parts 4, 16 will remain in control housing. Remove preformed packing (2) from cover (1).

(2) Remove metering valve bearing (4) from rod (10), then remove preformed packings (5).

(3) Remove retaining pin (8), bypass valve (11), insert (9), rod (10), standpipe (14), insert (15) and piston (16) as an assembly. Remove retaining pin (8), then remove rod (10) from piston (16).

(4) Remove bypass valve (11) and insert (9) only if clogged or damaged. Remove standpipe (14) and insert (15) only if damaged. Breakaway torque shall be 4.0 pound-inch minimum when removing bypass valve (11). Replace insert (9) if breakaway torque is below limit.

CAUTION

- The preformed packings will be cut when sleeve is removed from control housing. Find and remove all pieces from control housing immediately.
- Metering valve piston and sleeve assembly, consisting of sleeve (13) and piston (16), is a matched assembly keep parts together.

(5) Remove sleeve (13) using Metering Valve Sleeve Puller, PN 21C3605G001. Remove preformed packings (6, 7) from sleeve. Do not remove spring pin (12) from sleeve unless pin is damaged.

3.19 REMOVAL OF LINKAGE TRIM SCREW.

Remove screw (29, Figure 3-7), lockplate (85), linkage trim screw (84) and preformed packings (86, 87). Break away torque shall be 2.0 pound-inch minimum when removing linkage trim screw. Replace insert (15, Figure 3-15) if breakaway torque is below limit.

3.20 REMOVAL OF NOZZLE CONTROL LIMIT LEVER.

a. Remove retaining ring (89, Figure 3-7).

b. Remove pivot plug (91) using T-handle Wrench, PN 21C3609P010.

c. Remove preformed packings (92) and nozzle control limit lever (90).

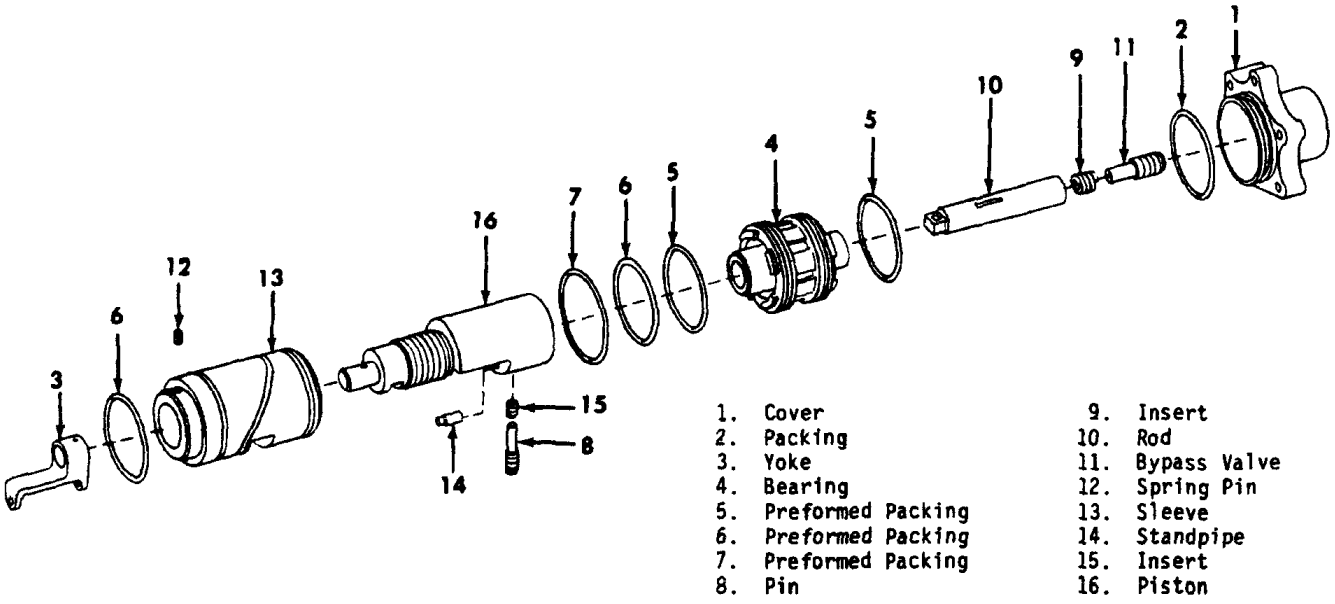


Figure 3-10. Metering Valve Assembly

3.21 REMOVAL AND DISASSEMBLY OF NOZZLE SERVO ASSEMBLY.

a. Remove locknut (Figure 3-7, 8), screw (7) and clevis lever assembly (6).

b. Remove cotter pin (47), servo linkage pin (48), then remove nozzle servo shaft (49).

c. Remove screws (45, 46), strap (44) and lift out nozzle servo assembly (43). Torque shall be 1.5 pound-inch minimum when removing screws (45, 46). Replace inserts (Figure 3-15, 3) if torque is below limit.

d. Remove packings (Figure 3-7, 50,51).

e. Remove retaining ring (74), nozzle servo bearing (75), then remove preformed packings (76, 77).

f. Disassemble nozzle servo assembly as follows:

(1) Remove pin (Figure 3-11, 1), then remove pin (2) and lever (3).

(2) Remove screws (4) and push parts 5 through 15 (as an assembly) out of housing (17).

(3) Remove pin (5) and slide piston rod (9) with parts (6) through (8) attached, out of bearing (10) and piston (15). If damaged, remove pin (6), valve cage (7) and valve ball (8) from piston rod (9).

(4) Remove preformed packings (11, 12) from bearing (10).

(5) Remove preformed packings (13, 14) from piston (15).

(6) Remove preformed packing (16) from housing (17).

3.22 REMOVAL OF T5 SPRING ASSEMBLY, DRIVE LEVER AND FOLLOWER.

a. Remove nut (Figure 3-7, 52) from T5 drive shaft (58). Replace insert (53) if breakaway torque for nut is less than 2.0 pound-inch. If insert is replaced, do the following:

(1) Run a hardened (Rockwell C-50 minimum), lubricated 8-32 NC-3A screw through the new insert.

(2) Remove the 8-32 screw and check to see that a 0.1246 inch diameter pin will pass through the insert.

b. Remove T5 spring assembly consisting of spirol pin (56), T5 override spring (55) and T5 spool (54). Do not disassemble this assembly.

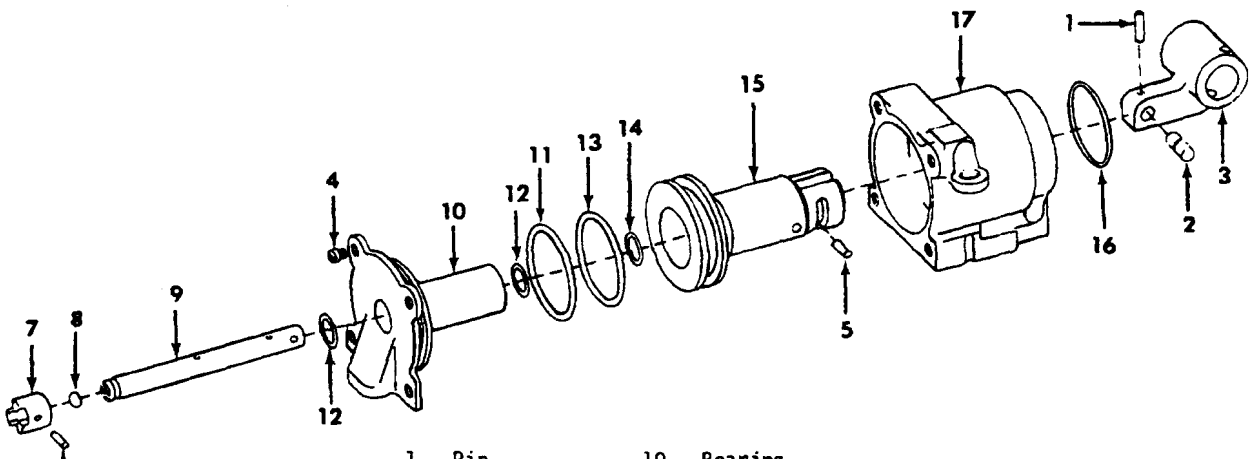


Figure 3-11. Nozzle Servo Assembly

c. Remove pin (57), then remove T5 drive assembly consisting of parts (58 through 65). Remove spring pin (62), T5 drive lever (60) and T5 drive follower (59) from T5 drive shaft (58) only if damaged or loose. Remove setscrew (63) and insert (61) only if damaged or loose. Replace insert (61) if breakaway torque for setscrew (63) is less than 1.5 pound-inch. Remove pin (65) and roller (64) only if damaged or worn.

d. Remove T5 follower thrust bearing (66) and T5 shaft bushing (67). Remove preformed packing (68) from T5 follower thrust bearing (66), preformed packing (69) from T5 shaft bushing (67), and preformed packing (70) from bore in control housing.

3.23 REMOVAL OF T5 LOCKOUT LEVER.

a. Remove pivot pin (Figure 3-7, 71).

b. Remove T5 lockout lever (72) and washer (73).

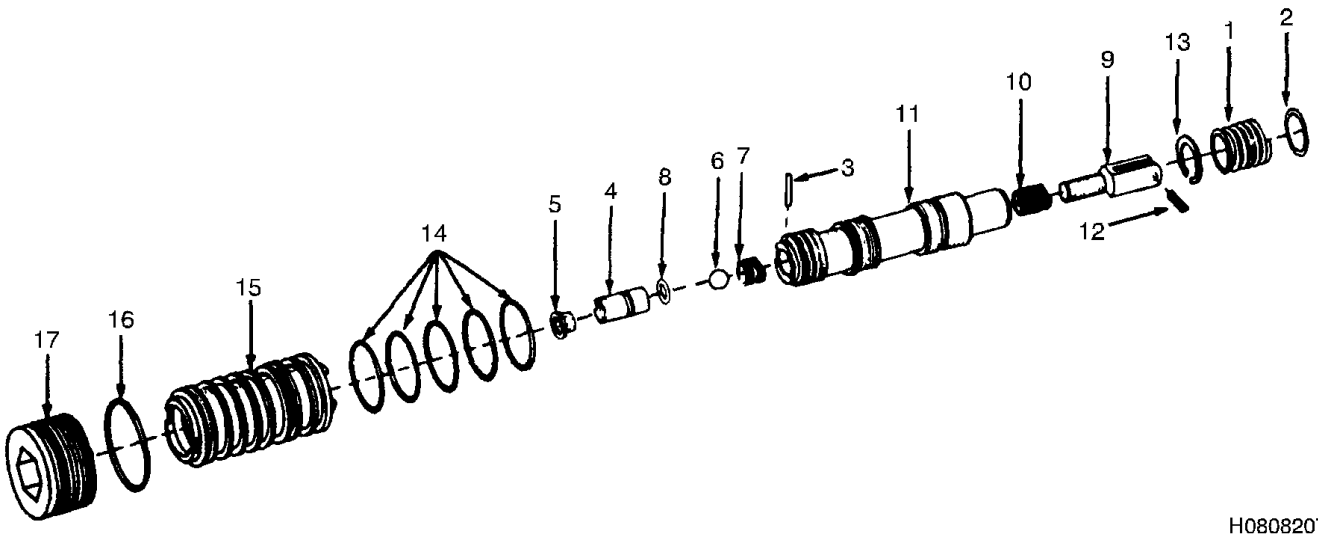
3.24 REMOVAL AND DISASSEMBLY OF LOCKOUT SWITCH ASSEMBLY.

Remove and disassemble lockout switch assembly (Figure 3-7, 88) as follows:

a. Remove retaining cap (Figure 3-12, 17). Parts 1 through 15 will remain in control housing. Remove preformed packing (16) from retaining cap.

b. Remove sleeve (15) using Lockout Switch Tool, PN 21C3606G001. Remove preformed packings (14) from sleeve.

c. Remove retaining ring (13) from piston and check valve assembly (3 through 12) as an assembly. Remove retaining ring (13) from piston (11).



LEGEND

1. Spring
2. Preformed Packing
3. Spring Pin
4. Check Valve Seat
5. Screen
6. Ball
7. Spring
8. Preformed Packing
9. Screw Clevis
10. Insert
11. Piston
12. Spring Pin
13. Retaining Ring
14. Preformed Packing
15. Sleeve
16. Preformed Packing
17. Retaining Cap

Figure 3-12. Lockout Switch Assembly

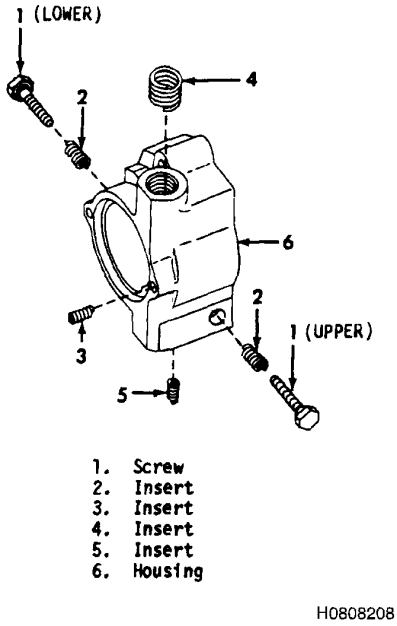


Figure 3-13. Flexible Cable Control Box

d. Remove spring pin (3), check valve seat (4), screen (5), ball (6), spring (7), and preformed packing (8). Do not remove clevis (9) or spring pin (12) unless they are damaged. Do not remove insert (10) unless there is evidence of thread damage or if removal torque of clevis (9) in insert is less than 2.5 pound-inch.

e. Remove spring (1) and preformed packing (2) from bore of control housing.

3.25 REMOVAL OF FLEXIBLE CABLE CONTROL BOX.

CAUTION

Power camshaft (95, Figure 3-7) breaks easily. Support end of shaft when removing spring pin (9).

a. Remove spring pin (9, Figure 3-7) which pins indicator arm (10) to power cam shaft (95). Remove indicator arm from power cam shaft.

b. Before removing flexible cable control box (15, Figure 3-7), check for proper engagement of wheel (26) and engine Teleflex throttle linkage cable. Loosen screws (16) so control box can pivot. With screws (1, Figure 3-13) backed off, press down the control box by hand and pull the cable back-and-forth through the control box. A ratchety condition should be felt. This indicates that sufficient adjustment will be available during engine rigging to remove cable backlash. If ratchety condition cannot be reached before the control box hangs on screws (16, Figure 3-7), repair the control box as described in Paragraph 5.26.

c. Remove two screws (12), washers (13), then remove control box cover (11) and thrust washer (14). Remove two screws (16), washers (17) and flexible cable control box (15). Remove screws (1, Figure 3-13).

3.26 REMOVAL OF CONTROL BOX WHEEL, POWER CAM SHAFT, AND POWER CONTROL CAM.

CAUTION

Power cam shaft (95, Figure 3-7) breaks easily. Support end of shaft when removing spring pin (24).

a. Remove spring pin (24, Figure 3-7) and control box wheel (26) from power cam shaft (95). Remove torsion spring (27). Remove one spring pin (25), three spring pins (28) and two spring pins (100) only if they are damaged.

b. Remove spring pin (93), power control cam (94) and power cam shaft (95) as an assembly. Do not disassemble spring pin and power control cam from power cam shaft unless necessary for parts replacement.

c. Remove alignment bushing (96) using T-handle Wrench, PN 21C3609P010; remove trigger valve sleeve (101). Remove preformed packings (97, 99) and seal (98) from trigger valve sleeve.

d. Remove screw plug (5). Loosen locknut (4) and remove tee (1). Remove preformed packing (2), backup washer (3) and locknut (4) from tee (1).

3.27 REMOVAL AND DISASSEMBLY OF A8 POSITION INPUT BOX ASSEMBLY.

a. Remove screws (19, Figure 3-7), washers (20) and gently lift out A8 position input box (18).

b. Remove pin (21), then remove cam (22).

c. Remove preformed packings (23).

d. Disassemble A8 position input box assembly as follows:

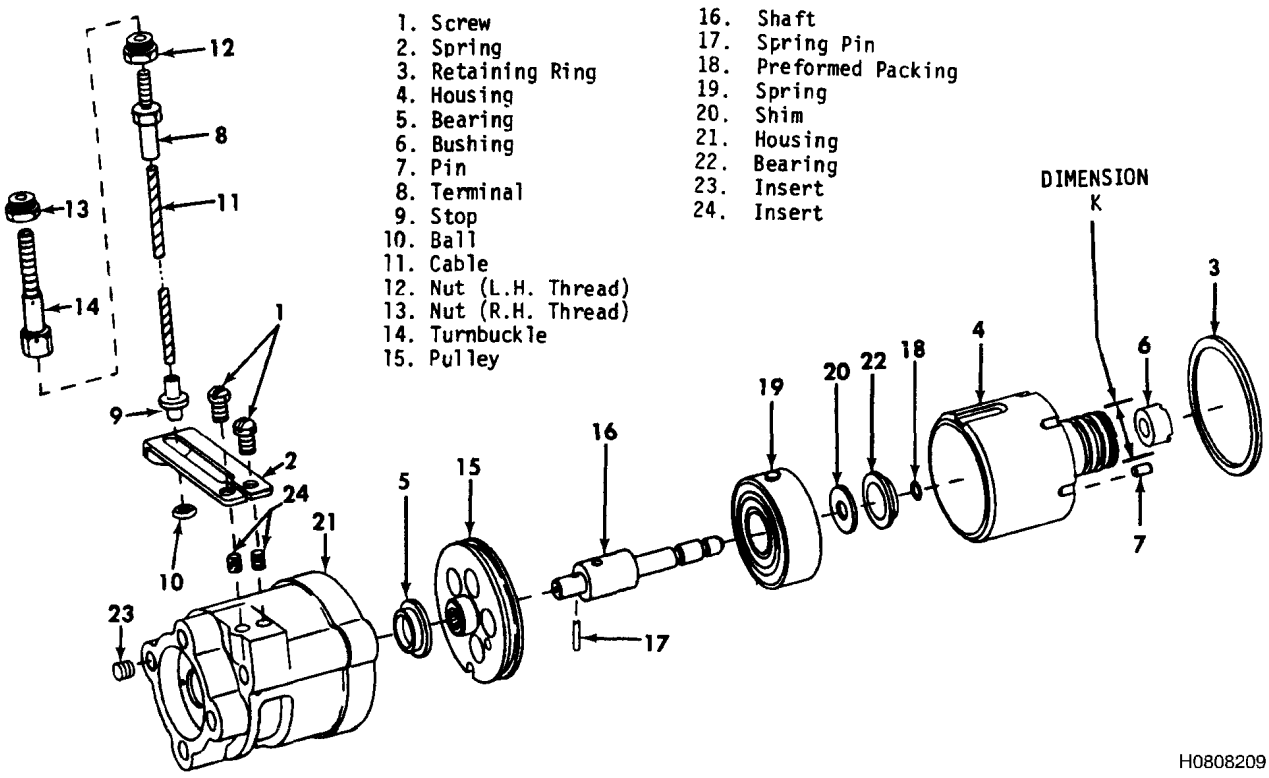


Figure 3-14. A8 Position Input Box Assembly

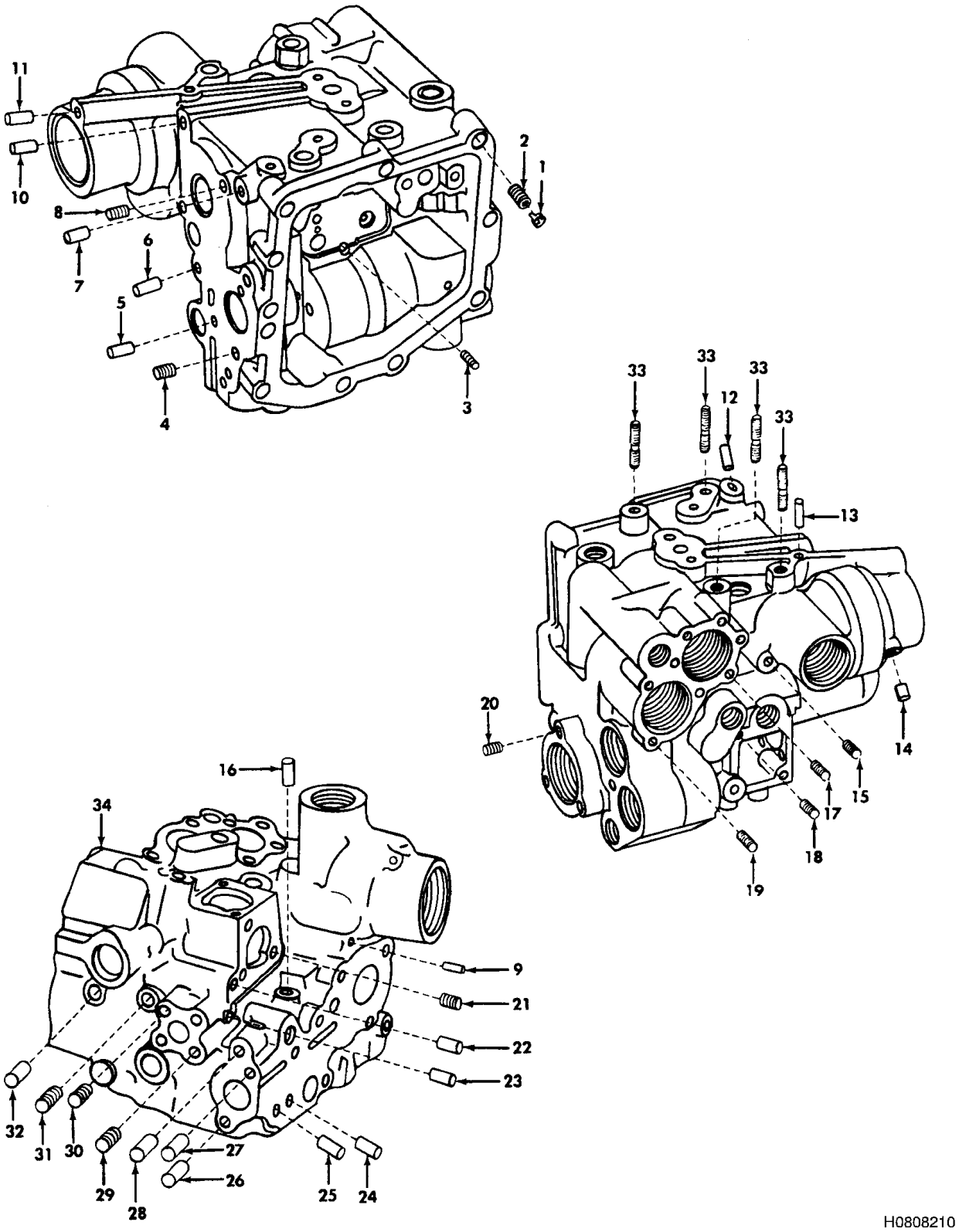


Figure 3-15. Control Housing Assembly (Sheet 1 of 2)

LEGEND

1. Lack Ring
2. Insert
3. Insert
4. Insert
5. Plug
6. Plug
7. Plug
8. Insert
9. Plug
10. Plug
11. Plug
12. Plug
13. Plug
14. Plug
15. Insert
16. Plug
17. Insert
18. Insert
19. Insert
20. Insert
21. Insert
22. Plug
23. Plug
24. Plug
25. Plug
26. Plug
27. Plug
28. Plug
29. Insert
30. Insert
31. Insert
32. Plug
33. Stud
34. Housing

Figure 3-15. Control Housing Assembly (Sheet 2)

(1) Remove screws (1, Figure 3-14), releasing spring (2).

(2) Remove retaining ring (3). Gently separate housing (4) from housing (21) until pin (7) can be removed. Rotate housing (4) and unload spring (19) so that ball (10) can be slipped out of groove in pulley (15).

CAUTION

Cable assembly, consisting of parts 8 through 11, cannot be disassembled without making parts unusable.

(3) Remove pulley (15), shaft (16), pin (17), spring (19), shim (20) and preformed packing (18) as an assembly.

(4) Remove preformed packing (18) and shim (20) from shaft (16).

(5) Remove pin (17) and pulley (15) from shaft (16). Do not disassemble spring (19) from shaft (16).

(6) If damaged, push bushing (6) and bearing (22) out of housing (4).

(7) If damaged, push bearing (5) out of housing (21). Remove inserts (23, 24) only if damaged.

(8) Remove nut (12), turnbuckle (14), and nut (13) from terminal (8).

3.28 DISASSEMBLY OF CONTROL HOUSING ASSEMBLY.

Disassembly of control housing assembly (102, Figure 3-7) is not necessary unless inserts or studs are damaged or unless plugs are leaking. If disassembly is required, use Figure 3-15 as a guide in locating parts.