

## GROUP . . . Power Plant Structure

## Detail Unit . . . Quick Change Power Plant

*Constellation*

STRUCTURE

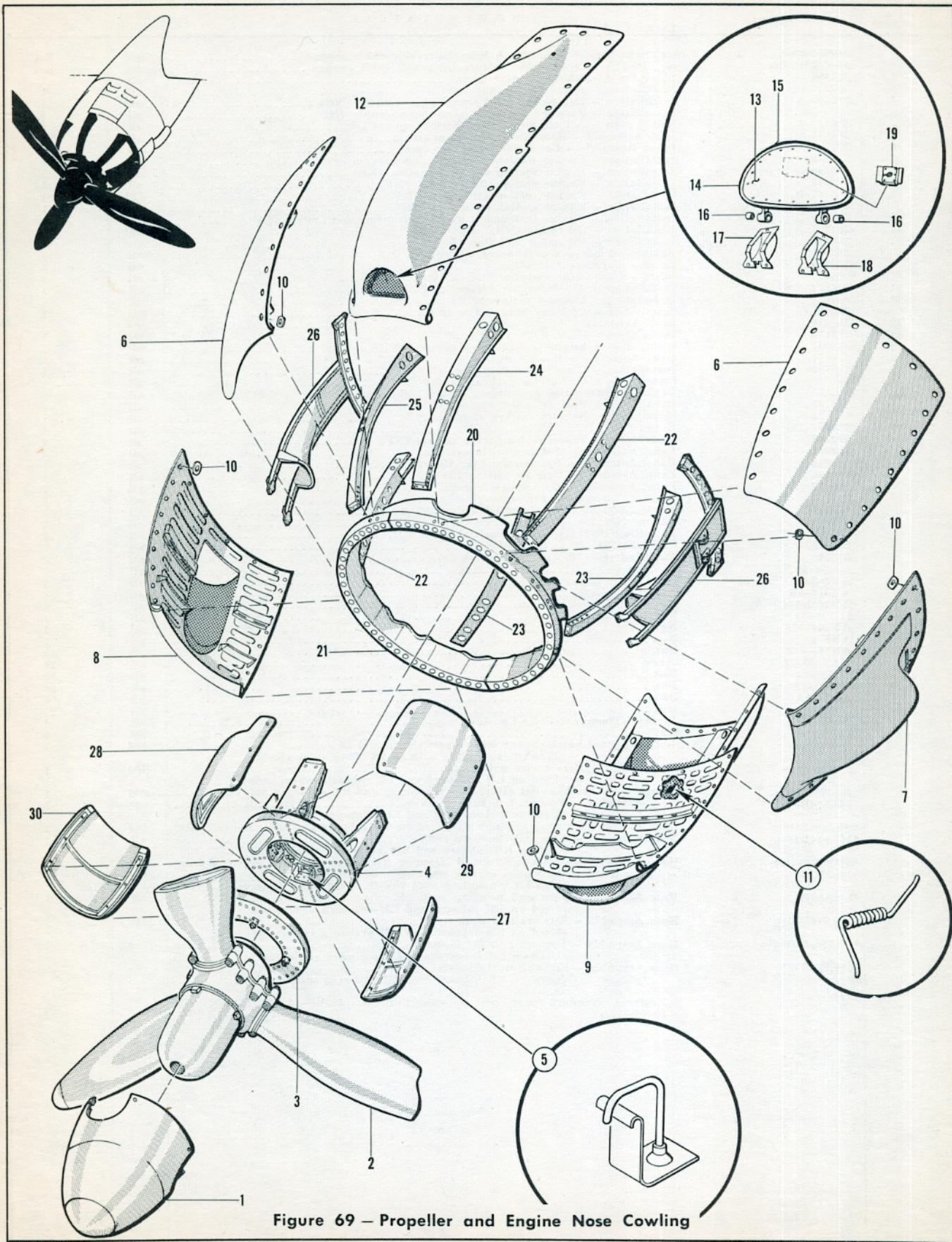
FIGURE & INDEX NUMBER	PART NUMBER		N O M E N C L A T U R E						SERIAL CODE	UNITS PER ASSY.
			1	2	3	4	5	6		
68 - 1	08-282869-6	Power Plant Service Assembly - Interchangeable quick change							ddd	Ref
	08-282869-10	Power Plant Service Assembly - Interchangeable quick change							ccc	Ref
2	287087	Structure Assembly - Engine mount							all	1
3	288876	Installation - Engine blast tubes (NP)							all	1
4	281300-2	Installation - Engine sectional electrical equipment (NP)							all	1
5	286842-2	Installation - Forward engine section thermocouple (NP)							all	1
6	286842-3	Installation - Aft engine section thermocouple (NP)							all	1
7	284643	Base Assembly - Generator terminal guard							all	1
8	284642	Cover Assembly - Generator terminal guard							all	1
9	288150	Installation - Engine section hydraulic and vacuum system (NP)							all	1
10	288149	Installation - Engine section anti-icer system (NP)							all	1
	288146	Installation - Engine section fuel system (NP)							all	1
8	288147-2	Installation - Engine section oil system (NP)							ddd	1
	292510-2	Installation - Engine section oil system (NP)							ccc	1
9	288148-2	Installation - Engine instrument pressure transmission system (NP)							all	1
10	261041	Installation - Oil cooler (NP)							ddd	1
	289355	Installation - Oil cooler and flap (NP)							ccc	1
	262743	Fitting - Speed supercharger control							all	1
	255724	Lever - Carburetor throttle							all	1
	*291357	Lever - Carburetor throttle							all	1
11	276172	Installation - Air induction system (NP)							all	1
12	287088	Installation - Exhaust system (NP)							all	1
	255437	Installation - Cylinder head baffle shield							all	1
13	254015	Ring Assembly - Engine mount							all	1
14	273253	Installation - Cowl flaps (NP)							all	1
15	285247	Installation - Engine crankcase breathers (NP)							all	1
16	276173	Cowl Assembly - Engine nose							all	1
17	283732	Installation - Distribution vent lines (NP)							all	1
	287089	Installation - Carburetor preheat shroud (NP)							all	1
18	RL35	Dynafoal Suspension Assembly - For Wright engine R3350 (Lord J1248) (638002)							all	1
	*293767	Installation - Fuel injection engine fire seal (NP)							all	1
19	265195	Installation - Spinner fairing support (NP)							all	1
	227900-10	Hinge Pin							all	1
	274986	Installation - Propeller feathering system (NP)							all	1
	280034	Panel Assembly - Spinner fairing (lower)							all	1
	280035	Panel Assembly - Spinner fairing (Upper)							all	1
	280036	Panel Assembly - Spinner fairing LH							all	1
	280037	Panel Assembly - Spinner fairing RH							all	1
	271747	Bracket Assembly - Fire extinguisher front cylinder							all	9
	SK703	Shield (652140) (B. F. Goodrich Co.)							all	3
	SK699	Tubing (652139) (B. F. Goodrich Co.)							all	3
	E778	Feed Ring (652137) (B. F. Goodrich Co.)							all	3
	SK642	Pad (652138) (B. F. Goodrich Co.)							all	3
	37572	Feed Pad (652136) (B. F. Goodrich Co.)							all	3
	LS778-56	Bonding Link							all	1
	AN5-3	Bolt							all	1
	AN316-5R	Nut							all	5
	AN364B624	Nut							all	2
	LS778-80	Bonding Link							all	1
	AN364-428	Nut							all	1
	AN5-4	Bolt							all	1
	AN365-524	Nut							all	19
	NAS205-22	Screw							all	24
	LS587-24	Bolt							all	18
	AC365-720	Nut							all	26
	AN7-41A	Bolt							all	8
	LS85-13	Bolt							all	18
	ASST	Jumper (Thomas & Befts Co., Inc.)							all	4
	268724	Washer							all	6
	09-282869	Kit - Power plant quick change service assembly model 49 (This kit is required with 08-282869-6 quick change)							ddd	1
	278749	Elbow - Oil system cooler outlet (Used on LH outboard and LH inboard engine only)							ddd	1
	262777	Flange - Oil cooler outlet (Used on RH inboard and RH outboard only)							ddd	1
	*340A24D11	Hose Assembly - Fire wall to sump tank (Used on LH inboard and LH outboard only)							all	1
	*SK528-20D32	Hose Assembly - Cooler to fire wall (Used on LH inboard and LH outboard only)							ddd	1
	*340A24D36½	Hose Assembly - Fire wall to sump tank (Used on RH inboard and RH outboard only)							all	1
	*SK527-20D34	Hose Assembly - Cooler to fire wall (Used on RH inboard and RH outboard only)							ddd	1
	10-282869	Kit - Power plant quick change service assembly - Model 49 (This kit is required with 08-282869-10 quick change)							ccc	1
	*340A24D11	Hose Assembly - Fire wall to sump tank (Used on LH inboard and LH outboard engine only)							all	1
	*340A24D36½	Hose Assembly - Fire wall to sump tank (Used on RH inboard and RH outboard engine only)							all	1
	*SK530-20D24½	Hose Assembly - Fire wall to thermostat (Used on LH inboard and LH outboard engine only)							ccc	1
	*340A20D38¼	Hose Assembly - Firewall to thermostat (Used on RH inboard and RH outboard engine only)							ccc	1
		* Replaces standard part per Service Bulletins 49/SB-14, 49/SB-103 and 49/SB-108.								

GROUP . . . Power Plant Structure

Detail Unit . . . Propeller and Engine Nose Cowling

# Constellation

STRUCTURE



Reissued July 1947

LOCKHEED AIRCRAFT CORPORATION

## GROUP . . . Power Plant Structure

## Detail Unit . . . Propeller and Engine Nose Cowling

*Constellation*

FIGURE & INDEX NUMBER	PART NUMBER		N O M E N C L A T U R E						SERIAL CODE	UNITS PER ASSY.
			1	2	3	4	5	6		
69 - 1	58430		Spinner - Propeller (632041) (See figure 67 for using assembly) .....						all	Ref
2	6801A0		Blade - Propeller (Hamilton) (632038) (See figure 67 for using assembly) .....						all	Ref
3	33E60		Hub (With slinger) (Hamilton) (632038) (See figure 67 for using assembly) .....						all	Ref
	265195		Installation + Spinner fairing support (See figure 67 for using assembly) .....						all	Ref
4	265198		Support Assembly - Spinner fairing .....						all	1
5	263128		Tube Assembly - Propeller de-icer feeder (See figure 170) .....						all	1
	276173		Cowl Assembly - Engine nose (See figure 67 for using assembly) .....						all	Ref
6	268690-500		Panel Assembly - Nose cowl upper left & right .....						all	2
7	268693-18		Panel Assembly - Nose cowl lower left .....						all	1
8	268693-19		Panel Assembly - Nose cowl lower right .....						all	1
9	268692		Panel Assembly - Nose cowl lower .....						all	1
10	276164-38		Spacer .....						all	23
11	233261		Spring - Access doors (Only on 268692) .....						all	2
12	276164		Panel Assembly - Nose cowl upper .....						all	1
	276164-38		Spacer (Same as index No. 10) .....						all	36
	276963		Valve Assembly - Nose cowl leading edge .....						all	1
13	276963-2		Valve - Nose cowl leading edge .....						all	1
14	276963-5		Seal (1/8 Fireproof asbestos sheet packing) (Johns-Manville) .....						all	1
15	276963-6		Seal (1/8 Fireproof asbestos sheet packing) (Johns-Manville) .....						all	1
16	277277		Bushing - Nose cowl leading edge valve .....						all	2
	MRE4		Bearing (Shafer) .....						all	1
17	277678L		Cover - Leading edge valve hinge .....						vvv	1
18	277678R		Cover - Leading edge valve hinge .....						vvv	1
	288316L		Cover - Leading edge valve hinge .....						www	1
	288316R		Cover - Leading edge valve hinge .....						www	1
19	277679-2		Seal Assembly - Leading edge valve actuating rod .....						all	1
	276699		Installation + Nose cowl support structure (NP) .....						all	1
	268723		Shroud Assembly - Nose cowl .....						all	1
20	268723-21		Shroud Assembly - LH .....						all	1
21	268723-22		Shroud Assembly - RH .....						all	1
	268820		Bulkhead Assembly - Nose shroud aft left (On -16 only) .....						all	1
	284649		Nut .....						all	2
	22HA102		Nut (Elastic Stopnut) .....						all	3
	270528		Bulkhead Assembly - Nose shroud aft right (On -17 only) .....						all	1
	268723-18		Cover Assembly .....						all	1
	268723-20		Pin .....						all	1
22	254236-16		Beam Assembly - Nose cowl support (Center LH and RH) .....						all	2
23	254236-17		Beam Assembly - Nose cowl support (Lower LH and RH) .....						all	2
24	276820-2		Beam Assembly - Nose cowl support (Upper LH) .....						all	1
25	276820-3		Beam Assembly - Nose cowl support (Upper RH) .....						all	1
	9979C130		Spring - Airloc (United Carr) .....						all	18
26	254234		Support Assembly - Front tail pipe .....						all	2
	280318		Bracket Assembly - Forward tail pipe attaching .....						all	1
27	280034		Panel Assembly - Spinner fairing lower (See figure 67 for using assembly) .....						all	Ref
28	280035		Panel Assembly - Spinner fairing upper (See figure 67 for using assembly) .....						all	Ref
29	280036		Panel Assembly - Spinner fairing LH (See figure 67 for using assembly) .....						all	Ref
30	280037		Panel Assembly - Spinner fairing RH (See figure 67 for using assembly) .....						all	Ref

GROUP . . . . Power Plant Structure

Detail Unit . . . Engine Mount

# Constellation

STRUCTURE

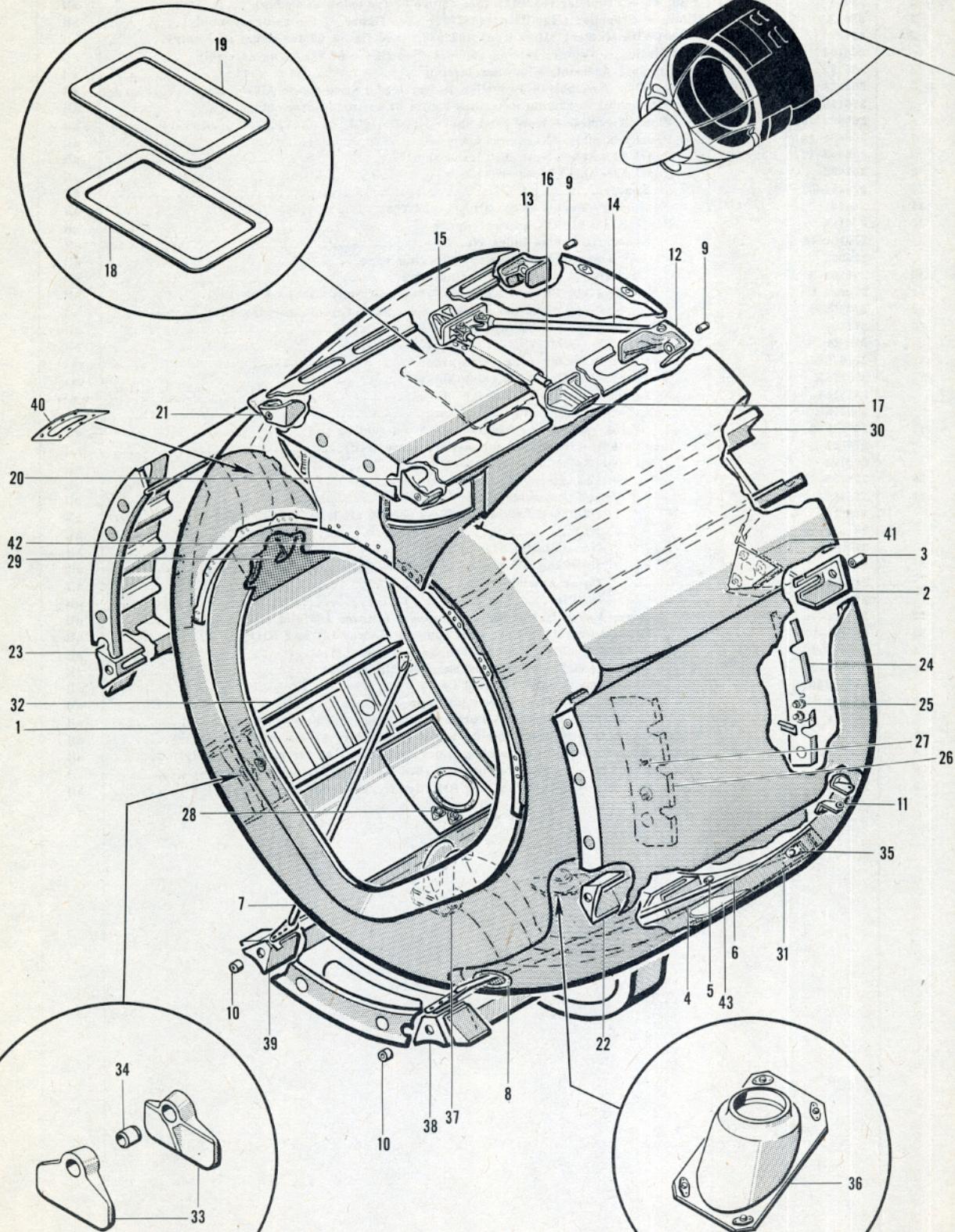


Figure 70 — Engine Mount

## GROUP . . . Power Plant Structure

*Constellation*

## Detail Unit . . . Engine Mount

STRUCTURE

FIGURE & INDEX NUMBER	PART NUMBER		N O M E N C L A T U R E						SERIAL CODE	UNITS PER ASSY.
			1	2	3	4	5	6		
70 - 1	282851	Structure Assembly	- Engine mount (See figure 67 for using assembly)						y	Ref
	287087	Structure Assembly	- Engine mount (See figure 67 for using assembly)						z	Ref
2	255987-3	Fitting - Engine mount firewall							all	4
3	255978	Pin - Engine mount firewall							all	4
4	268052L	Fitting - Engine mount firewall lower beam							all	1
	268052R	Fitting - Engine mount firewall lower beam							all	1
5	262407-2	Bushing - Engine mount firewall							all	2
6	255988L	Tube Assembly + Engine mount brace							n	1
7	255988R	Tube Assembly + Engine mount brace							n	1
	288060L	Tube Assembly + Engine mount brace							t	1
	288060R	Tube Assembly + Engine mount brace							t	1
8	261992	Gasket - Engine mount brace tube seal							all	2
9	262106	Pin - Engine mount firewall upper							all	2
10	268147	Bushing - Engine mount beam forward							all	6
11	280317	Bracket Assembly - Rear tail pipe attaching							all	2
	275859	Installation - Engine mount upper beam (N.P.)							all	1
	277601	Installation - Air filter intake fairing (NP)							all	1
	277601-3	Fairing + Air filter intake							all	1
	*295272-2	Cover - Engine mount upper beam							all	1
12	276785	Fitting + Engine mount upper beam LH rear							all	1
13	261277R	Fitting - Engine mount upper beam RH rear							all	1
14	277397	Rod Assembly - Engine mount upper beam diagonal							all	1
	275859-2	Beam Assembly - Engine mount upper							all	1
15	277224	Fitting + Engine mount upper beam RH center							all	1
16	277398	Rod Assembly - Engine mount up beam center							all	1
17	277163	Fitting + Engine mount up beam LH center							all	1
18	262278	Pad - Upper beam air induction tubing							all	1
19	262279	Ring - Upper beam air induction							all	1
20	267900L	Fitting - Engine mount upper beam forward							all	1
21	267900R	Fitting - Engine mount upper beam forward							all	1
	282852L	Installation + Engine mount side beam (N.P.)							all	1
	282852R	Installation + Engine mount side beam (N.P.)							all	1
	282852-2L	Beam Assembly							all	1
	282852-2R	Beam Assembly							all	1
	268359L	Fitting Assembly - Side beam forward (Used on LH and RH)							all	1
	268359R	Fitting Assembly - Side beam forward (Used on LH and RH)							all	1
22	267822-2L	Fitting - Engine mount side and lower beam forward							all	1
23	267822-2R	Fitting - Engine mount side and lower beam forward							all	1
24	278618-2	Bulkhead Assembly - Engine mount side beam LH							all	1
	278618-3	Bulkhead Assembly - Engine mount side beam RH							all	1
25	*11-2246-76NS	Fitting - $\frac{3}{8}$ Internal pipe thread (Used on LH and RH)							all	1
26	278647L	Bulkhead Assembly - Engine mount side beam No. 2 LH							all	1
	278647R	Bulkhead Assembly - Engine mount side beam No. 2 RH							all	1
27	*11-2246-76NS	Fitting - $\frac{3}{8}$ Internal pipe thread (1 used on LH, 2 used on RH)							all	AR
	276175	Diaphragm Assembly - Engine cowl							y	1
	287086	Diaphragm Assembly - Engine cowl							z	1
	262666	Flange - $\frac{1}{4}$ Outer diaphragm drain tube							all	3
28	262667	Flange - $\frac{3}{8}$ Outer diaphragm drain tube							all	1
29	264980	Support Assembly - Upper RH cowl diaphragm flap drive							all	1
30	273958-2	Support Assembly - Cowl diaphragm flap							all	1
31	273958-3L	Support Assembly - Cowl diaphragm flap							all	1
32	273958-3R	Support Assembly - Cowl diaphragm flap							all	1
33	254071	Bracket Assembly - Cowl and oil cooler flap jack							all	2
34	202929	Bushing - Oil cooler flap jack							all	1
	261278	Installation - Engine mount lower beam (N.P.)							all	1
	261083	Beam Assembly - Engine mount lower							all	1
	261268	Duct Assembly - Lower beam aft							all	1
35	254071	Bracket Assembly - Cowl and oil cooler flap jack							all	2
	202929	Bushing - Oil cooler flap jack							all	1
36	274133	Flange Assembly - Oil cooler flap drive seal							all	1
	261272	Support Assembly - Lower beam flap							all	1
	261703	Hinge - Oil cooler exit flap front							all	1
37	264976	Flange Assembly - Engine blast tubes scoop							all	1
38	267822-3L	Fitting - Engine mount side and lower beam forward							all	1
39	267822-3R	Fitting - Engine mount side and lower beam forward							all	1
40	284495	Door Assembly - Lower beam forward access							ss	1
	99834-1-130	Stud (United Carr)							ss	10
	99836	Pin (United Carr)							ss	10
	265780	Installation - Fuel flow transmitter bracket (N.P.)							all	1
41	265559	Bracket Assembly - Fuel flow transmitter							all	1
42	262749	Installation - Carburetor pre-heat duct (N.P.)							y	1
	287092	(See figure 119 for detailed illustration)							z	1
43	279765	Installation - Carburetor pre-heat duct (N.P.)							all	1
	279765-2	(See figure 119 for detailed illustration)							all	2
	99834-1-060	Installation - Engine oil system drain accessory door (N.P.)							all	3
	99836	Door Assembly - Oil drain access							all	1
	99836	Stud - Airlac (United Carr)							all	2
	99836	Pin - Airlac cross (United Carr)							all	3
	99834-1-090	Stud - Airlac (United Carr)							all	1

\* Replaces standard part per Service Bulletins 49/SB-97, 49/SB-191 and Mod. Print 295272.

GROUP . . . Power Plant Structure

Detail Unit . . . Fire Seals, Monocoque Mount & Dynafocal Suspension

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STRUCTURE

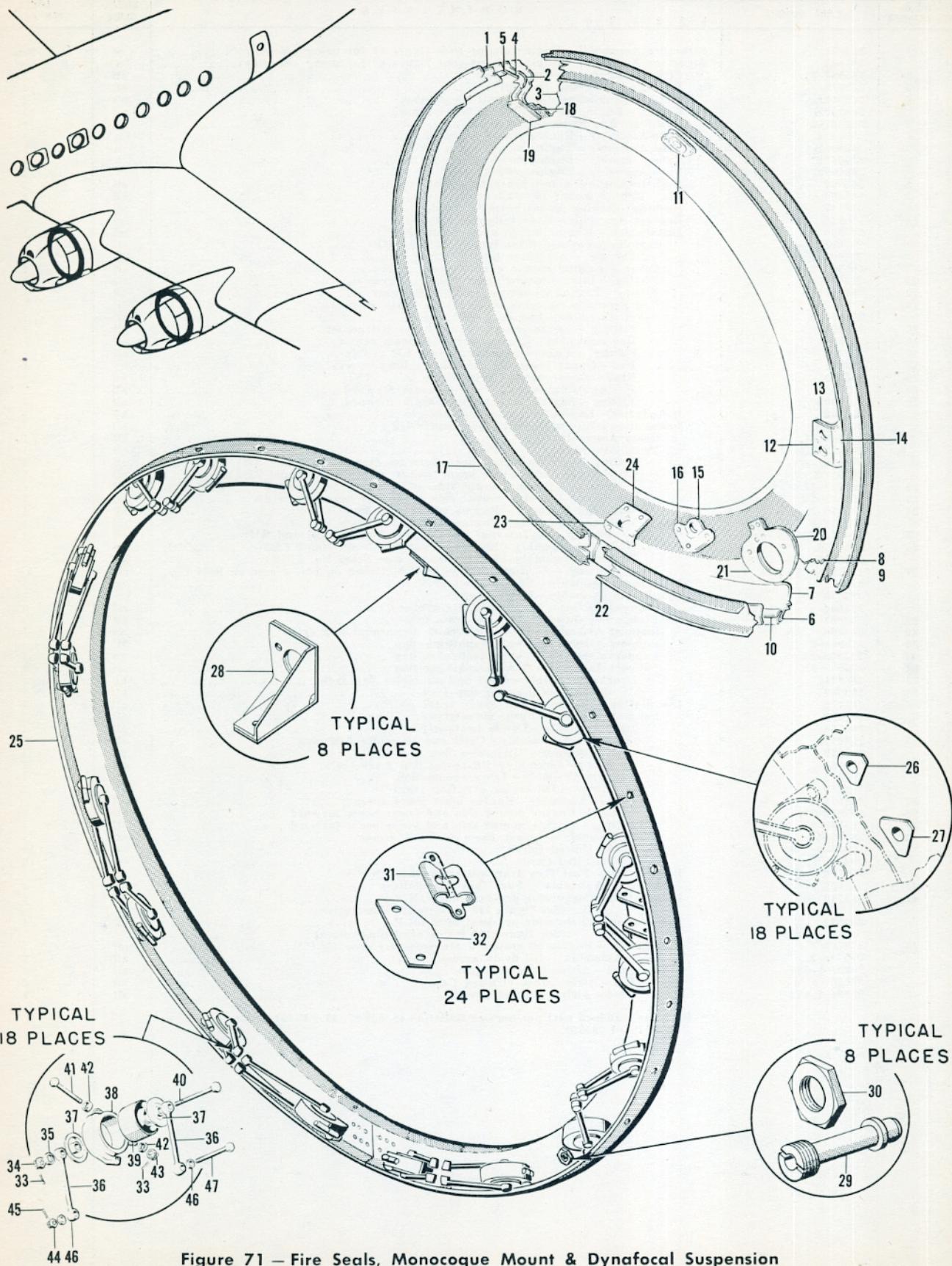


Figure 71 — Fire Seals, Monocoque Mount & Dynafocal Suspension

## GROUP . . . Power Plant Structure

## Detail Unit . . . Fire Seals, Monocoque Mount &amp; Dynafocal Suspension

*Constellation*

FIGURE & INDEX NUMBER	PART NUMBER		N O M E N C L A T U R E						SERIAL CODE	UNITS PER ASSY.
			1	2	3	4	5	6		
71 - 1	*293767	Installation + Fuel injection engine fire seal (See figure 67 for using assembly)							all	Ref
	293767-4	Segment Assembly - Fire seal							all	1
2	293767-20	Seal - Fire							all	2
3	293767-8L	Segment - Fire seal							all	1
4	293767-8R	Segment - Fire seal							all	1
5	293767-9	Splice - Fire seal							all	1
	293767-10	Retainer - Fire seal							all	2
	293767-5	Segment Assembly - Fire seal							all	1
6	293767-21	Seal - Fire							all	1
7	293767-11	Segment - Fire seal							all	1
8	293767-13	Retainer - Fire seal							all	1
9	293767-17	Seal - Fire							all	1
10	293767-12	Retainer - Fire seal							all	1
11	293767-16	Seal - Fire							all	1
12	293767-15	Retainer - Fire seal							all	1
13	293767-19	Seal - Fire							all	1
14	293767-14	Retainer - Fire seal							all	1
15	293767-27	Seal - Fire							all	1
16	293767-26	Retainer - Fire seal							all	1
17	293767-2	Baffle - Fire seal							all	2
18	293767-25	Seal - Fire							all	1
19	293767-24	Retainer - Fire seal							all	1
20	293767-23	Seal - Fire							all	1
21	293767-22	Retainer							all	1
22	293767-3	Baffle - Fire seal							all	1
23	293767-6	Retainer - Fire seal							all	1
24	293767-7	Retainer - Fire seal							all	1
	293767-18	Seal + Fire							all	1
25	254015	Ring Assembly - Monocoque engine mount (See figure 67 for using assembly)							all	Ref
26	275547	Bushing + Engine mount ring large flange							all	18
27	275548	Bushing - Engine mount ring small flange							all	18
28	*293828	Support Assembly - Mounting ring fire detector							all	8
29	254044	Spacer - Engine mounting bolt							all	8
30	254053	Locknut - Engine mounting spacer							all	8
31	99797C130	Spring - "Airloc" (United Carr)							all	24
32	254015-12	Plate - Reinforcing							all	24
	RL35	Dynafocal Suspension Assembly for Wright R3350 Engine (Lord J-1248) (638002) (See figure 67 for using assembly)							all	Ref
33	RL35-16	Pin - Cotter							all	36
34	RL35-14	Nut - Mounting bolt							all	18
35	RL35-15	Washer - Mounting bolt							all	18
36	RL35-2	Link							all	36
37	RL35-12A	Plate - Mounting end							all	36
38	RL35-4	Bracket - Mounting LH							all	9
	RL35-3	Bracket - Mounting RH							all	9
39	RL35-1	Mounting - Rubber							all	18
40	RL35-13	Bolt + Mounting							all	18
41	RL35-9	Bolt - Bracket clamp							all	36
42	RL35-11	Washer - Clamp bolt							all	18
43	RL35-10	Nut - Clamp bolt							all	18
44	RL35-6	Nut - Rocker bolt							all	18
45	RL35-8	Pin - Cotter							all	18
46	RL35-7	Washer - Rocker bolt							all	36
47	RL35-5	Bolt - Rocker							all	18

\* Replaces standard part per Service Bulletin 49/SB-14.

GROUP . . . Power Plant Structure

Detail Unit . . . Cowl Flaps and Shaft Driven Actuator

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STRUCTURE

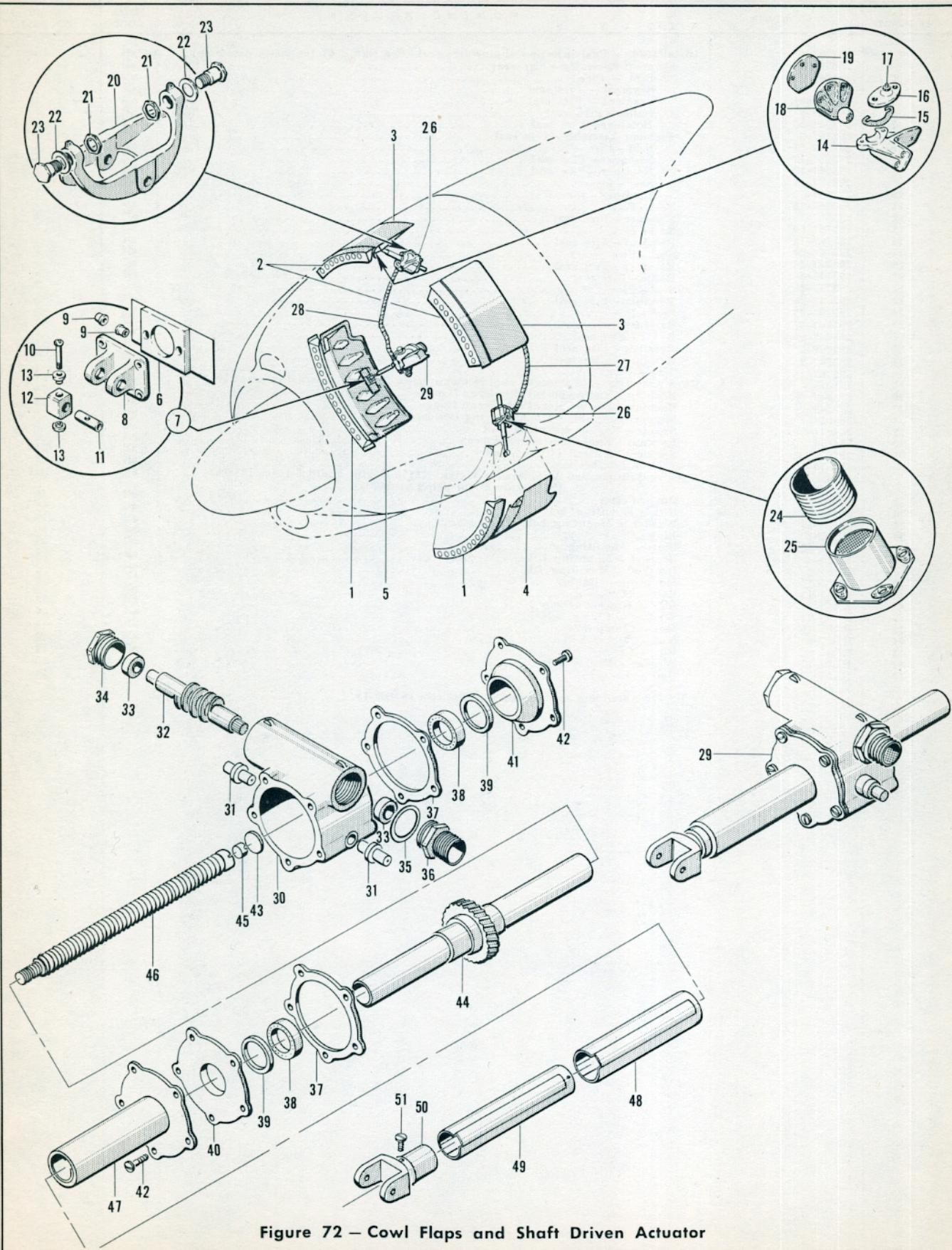


Figure 72 – Cowl Flaps and Shaft Driven Actuator

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## Detail Unit . . . Cowl Flaps and Shaft Driven Actuator

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STRUCTURE

FIGURE & INDEX NUMBER	PART NUMBER		N O M E N C L A T U R E						SERIAL CODE	UNITS PER ASSY.
			1	2	3	4	5	6		
72 - 1	273253	Installation - Cowl flaps (See figure 67 for using assembly)							all	Ref
2	254209	Fairing Assembly - Lower cowl flap							all	2
3	265101	Fairing Assembly - Upper cowl flap							all	2
4	273573	Flap Assembly + Engine cowl upper (Components same as for index 4 and 5)							all	2
5	273427L	Flap Assembly - Engine cowl lower							all	1
6	273427R	Flap Assembly - Engine cowl lower							all	1
7	273179	Block Assembly - Cowl flap lug							all	1
8	273177	Lug Assembly - Flap drive universal							all	1
9	273176	Lug Assembly - Flap drive lug							all	2
10	273173	Bushing - Flap drive lug							all	1
11	273175	Bolt - Flap drive universal							all	1
12	273178	Pin - Flap drive universal							all	1
13	273174	Block Assembly - Flap drive universal							all	2
	273825L	Bushing - Flap drive universal							all	1
	273825R	Hinge Assembly - Cowl flap ball type							all	1
14	273825-2L	Hinge Assembly - Cowl flap ball type							all	1
	273825-2R	Bracket - Flap hinge							all	1
15	273979	Bracket - Flap hinge							all	1
16	273825-3	Shim - Ball type flap hinge							all	1
17	NAS2-301	Cap - Cowl ball type flap hinge							all	1
		Fitting - Lubrication							all	1
18	273724	Bracket - Ball type hinge							all	8
19	273835	Shim - Hinge bracket							all	8
20	273152	Cradle Assembly - Cowl flap drive (Lower LH and upper RH)							all	2
	273153	Cradle Assembly - Cowl flap drive (Lower RH and upper LH)							all	2
	202929	Bushing - Oil cooler flap jack							all	2
21	273446	Nut - Flap drive cradle lock							all	8
22	275021	Washer - Flap drive cradle spacing							all	A.R.
23	273264	Bushing - Flap drive cradle spacing							all	8
24	273537-2	Seal - Flap drive							all	4
25	273220	Tube Assembly - Flap drive seal							all	4
26	D11201	Actuator - Motor driven cowl flap (Foote Bros.) (635082) (See figure 73 for detailed illustration)							all	2
27	*639012-6	Shaft Assembly + Flexible LH							all	1
28	*639012-5	Shaft Assembly + Flexible RH							all	1
	273580	Washer - Cowl flap drive shaft							all	1
	263010	Sleeve - Flap angle drive							all	4
29	D11101	Actuator - Shaft driven cowl flap (Foote Bros.) (635081)							all	2
30	107007	Housing - Oil cooler flap drive main gear							all	1
31	107006	Fulcrum - Flap actuator							all	2
32	107003	Worm - Cowl flap drive							all	1
33	KP5A	Bearing (Fafnir) (Foote Bros. No. 107002)							all	2
34	107030	Retainer - Flap drive bearing external							all	1
35	108021	Shim - Flap drive automatic control							all	1
36	107005	Attachment - Flap angle drive cable							all	1
37	107019	Shim - Flap drive bearing							all	2
38	B540	Bearing (Fafnir) (Foote Bros. No. 107014)							all	2
39	107004	Packing - Flap drive							all	2
40	107016	Housing - Flap drive bearing							all	2
41	107031	Housing - Bearing							all	1
42	AN502A10-8	Screw (Foote Bros. No. 107015)							all	10
43	107013	Disc - Flap drive nut							all	1
44	111063	Gear and Nut - Flap drive worm							all	1
45	107026	Plug - Flap drive							all	1
46	111002	Screw - Flap drive							all	1
47	11106	Shield Assembly - Outer							all	1
48	11105	Shield Assembly - Center							all	1
49	11104	Shield Assembly - Inner							all	1
50	111001	Piece - Flap drive end							all	1
51	AN500A6-3	Screw (Foote Bros. No. 107021)							all	3
	107029	Fitting - Lubrication							all	1

\* Replaces standard part per Service Bulletin 49/SB-14, Serials 1975 thru 2075 and per Med. Print 293812, Serials 2076 thru 2088.

GROUP . . . Power Plant Structure

Detail Unit . . . Cowl Flap Actuator—Motor Driven

*Constellation*

STRUCTURE

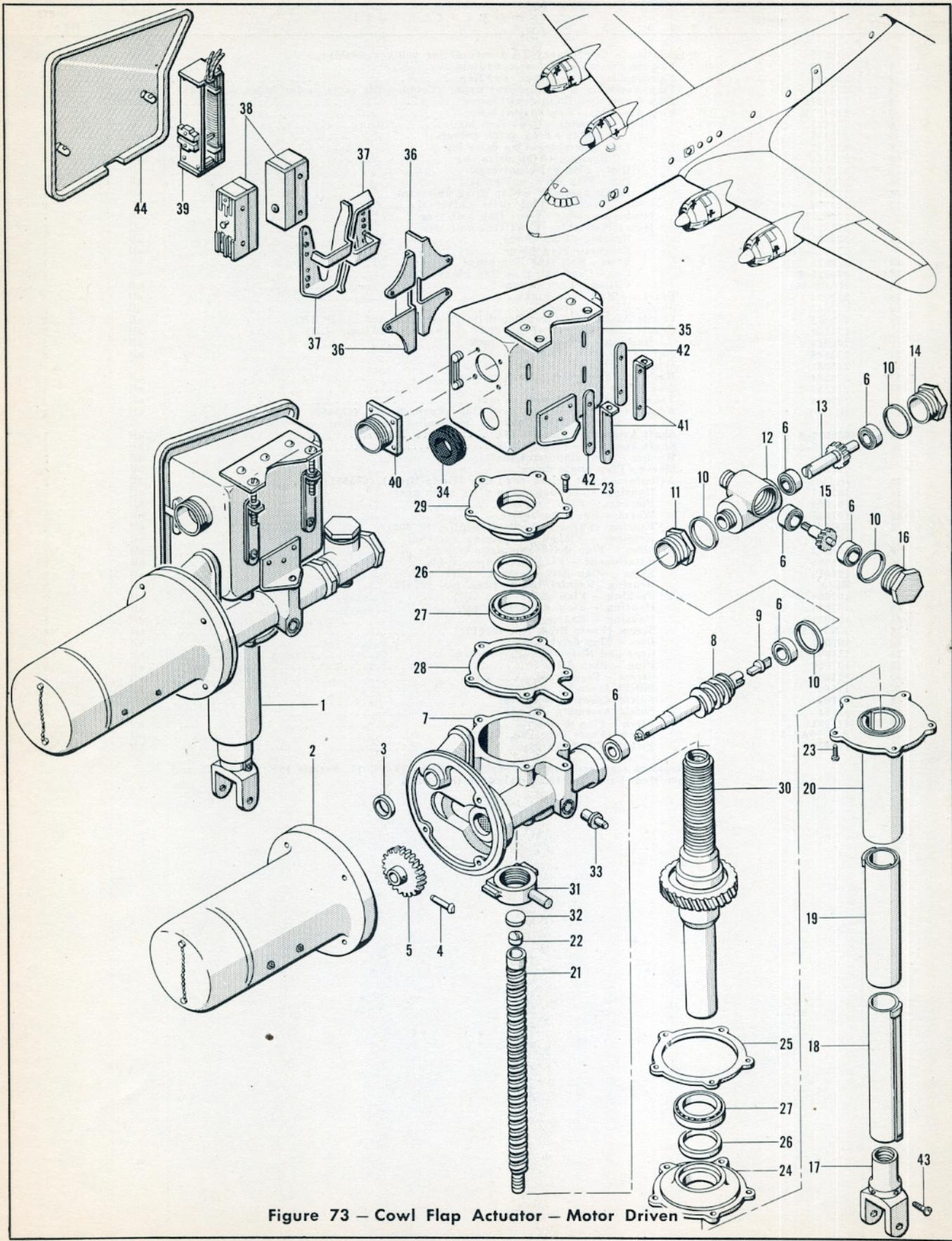


Figure 73 — Cowl Flap Actuator — Motor Driven

## GROUP . . . Power Plant Structure

## Detail Unit . . . Cowl Flap Actuator—Motor Driven

*Constellation*

STRUCTURE

FIGURE & INDEX NUMBER	PART NUMBER		N O M E N C L A T U R E						SERIAL CODE	UNITS PER ASSY.
			1	2	3	4	5	6		
73 - 1	D11201		Actuator	- Motor driven cowl flap (Foote Bros.) (635082) .....					all	Ref
2	5BA25HJ16B		Motor	- Electric box oil cooler flap (General Electric) .....					all	1
3	108028		Gasket	- Motor flap drive .....					all	1
4	108018		Pin	- Flap drive gear (May be made from AN392-17) .....					all	1
5	108019		Gear	- Spur motor .....					all	1
6	KP5A		Bearing	- Actuator (Fafnir) .....					all	6
7	108022		Housing	- Main gear .....					all	1
8	108020		Worm	- Cowl and oil cooler flap drive .....					all	1
9	109001		Coupling	- Flap drive angle .....					all	1
10	108021		Shim	- Flap drive automatic control .....					all	4
11	109002		Fitting	- Flap angle drive .....					all	1
12	109004		Housing	- Flap angle drive .....					all	1
13	109003		Gear	- Driving flap angle drive .....					all	1
14	107030		Retainer	- Bearing external .....					all	1
15	109006		Drive	- Gear driven flap angle .....					all	1
16	107001		Retainer	- Flap drive bearing external .....					all	1
17	111001		Piece	- Flap drive end .....					all	1
18	11104		Shield	- Inner .....					all	1
19	11105		Shield	- Center .....					all	1
20	11106		Shield Assembly	- Outer .....					all	1
21	111002		Screw	- Flap drive .....					all	1
22	107026		Plug	- Flap drive .....					all	1
23	AN502A10-8		Screw	(Foote Bros. No. 107015) .....					all	13
24	107016		Housing	- Bearing flap drive .....					all	1
25	107019		Shim	- Bearing flap drive .....					all	1
26	107004		Packing	- Flap drive .....					all	2
27	B540		Bearing	(Fafnir) (Foote Bros. No. 107014) .....					all	2
28	108027		Shim	- Flap drive .....					all	1
29	107023		Housing	- Flap drive bearing .....					all	1
30	112001		Gear and Nut	- Flap drive worm .....					all	1
31	112002		Nut	- Flap drive limit switch .....					all	1
32	107013		Disc	- Nut flap drive .....					all	1
33	107006		Fulcrum	- Flap actuator .....					all	2
34	108025		Grommet	- Limit switch box .....					all	1
35	11204		Limit Switch Assembly	- Cowl flap .....					all	1
36	108015		Guide	- Flap drive limit switch .....					all	2
37	11505		Spring Assembly	- Limit switch .....					all	2
38	WZ7RTC		Switch (Micro)	(Foote Bros. No. 115002) .....					all	2
39	112038		Transmitter	- Flap drive 500 ohms (General Electric) .....					all	1
40	WK6-32S		Plug (Cannon)	(Foote Bros. No. 112011) .....					all	1
41	112032		Seal	- Flap drive limit switch .....					all	2
42	108005		Gasket	- Flap drive limit switch .....					all	2
	112035		Panel Assembly	- Terminal flap drive .....					all	2
43	AN500A6-3		Screw	(Foote Bros. No. 107021) .....					all	3
	AN502A-10-10		Screw	- Motor attaching (Foote Bros. No. 115027) .....					all	4
	AN3-4A		Screw	- Box attaching (Foote Bros. No. 145002) .....					all	4
44	11205		Cover	- Switch box .....					all	1

# Constellation

GROUP . . . Power Plant Structure

Detail Unit . . . Exhaust System

STRUCTURE

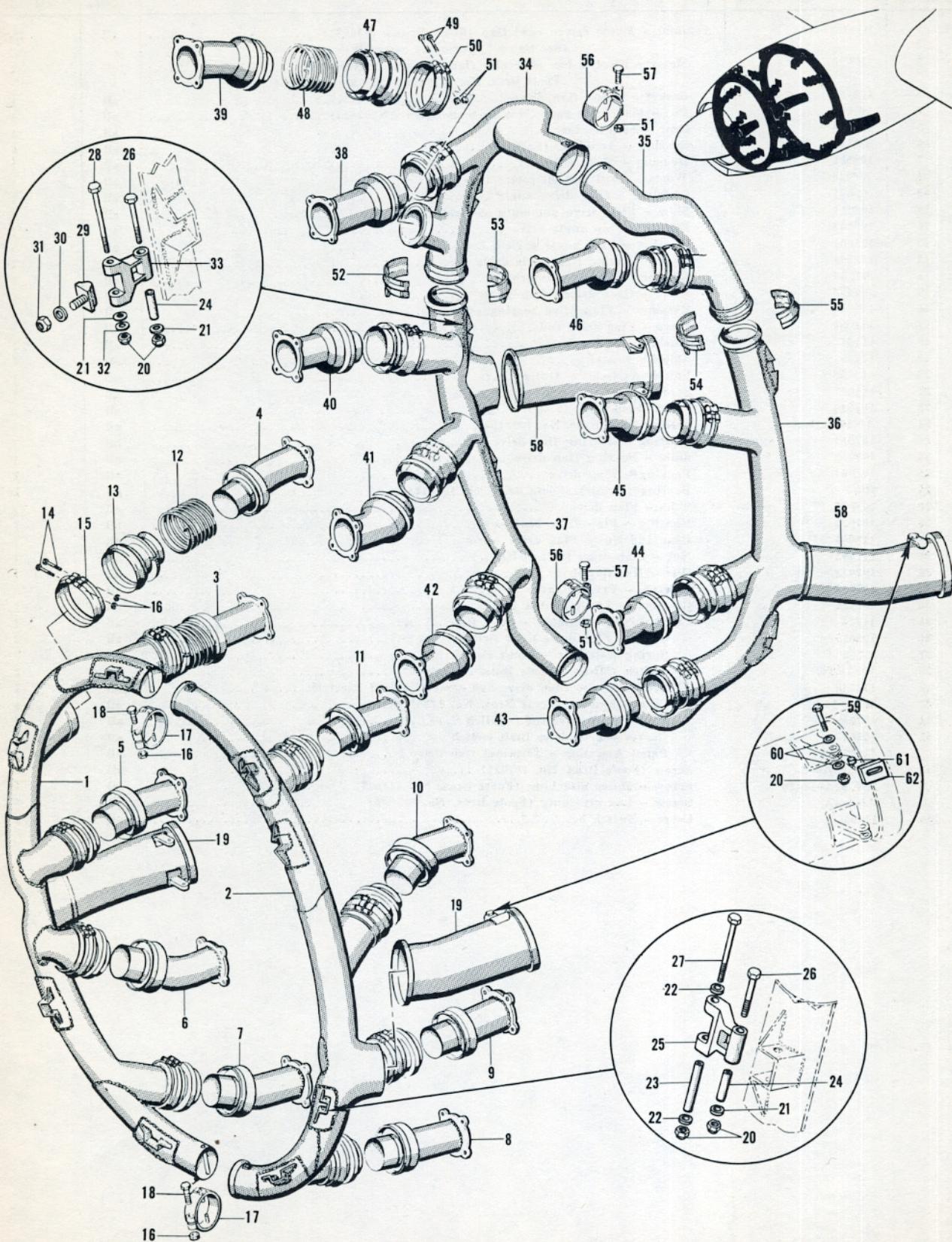


Figure 74 — Exhaust System

GROUP . . . . Power Plant Structure  
Detail Unit . . . Blast Tubes and Breathers

*Constellation*

STRUCTURE

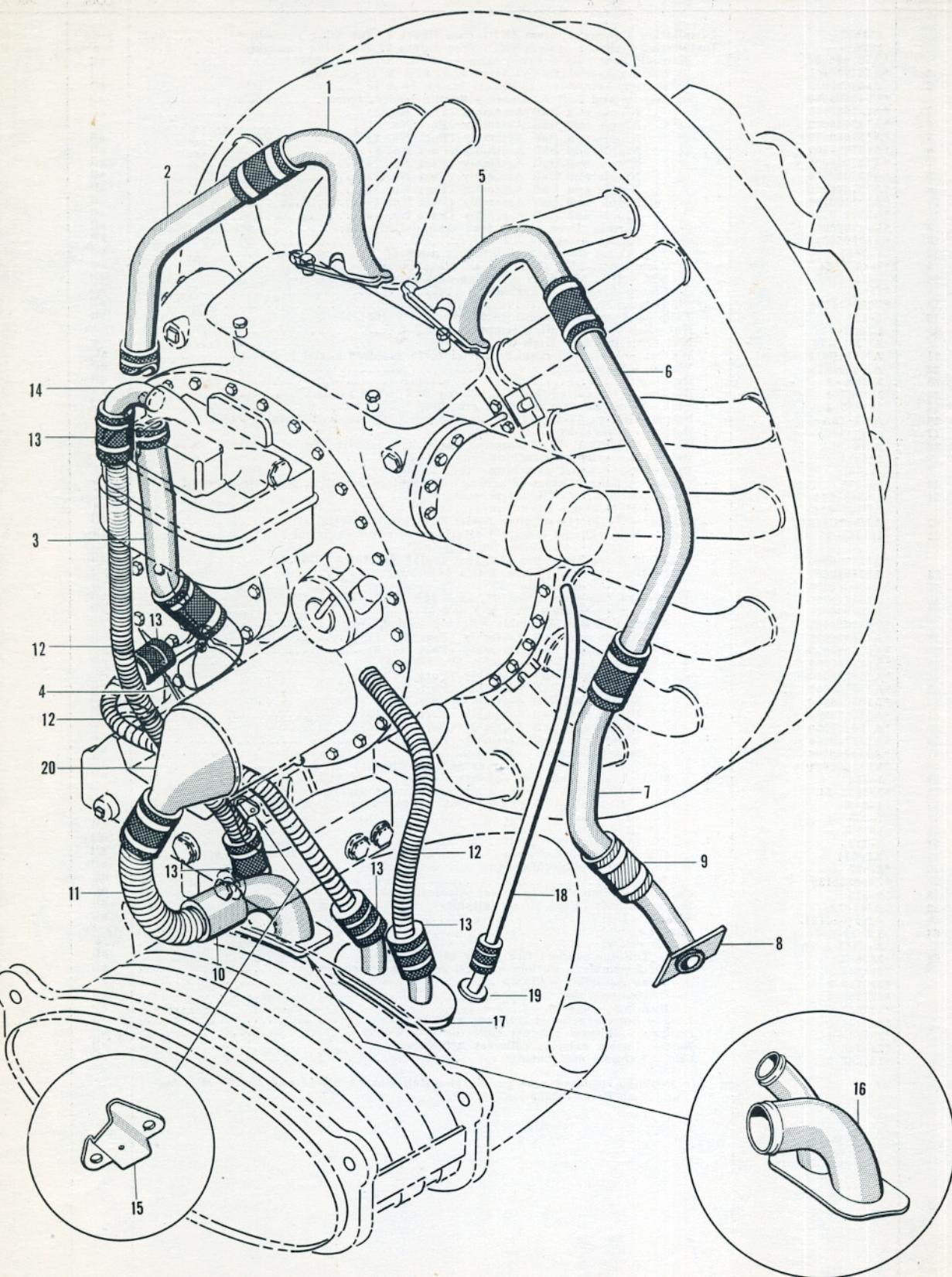


Figure 75 — Blast Tubes and Breathers

## GROUP . . . Power Plant Structure

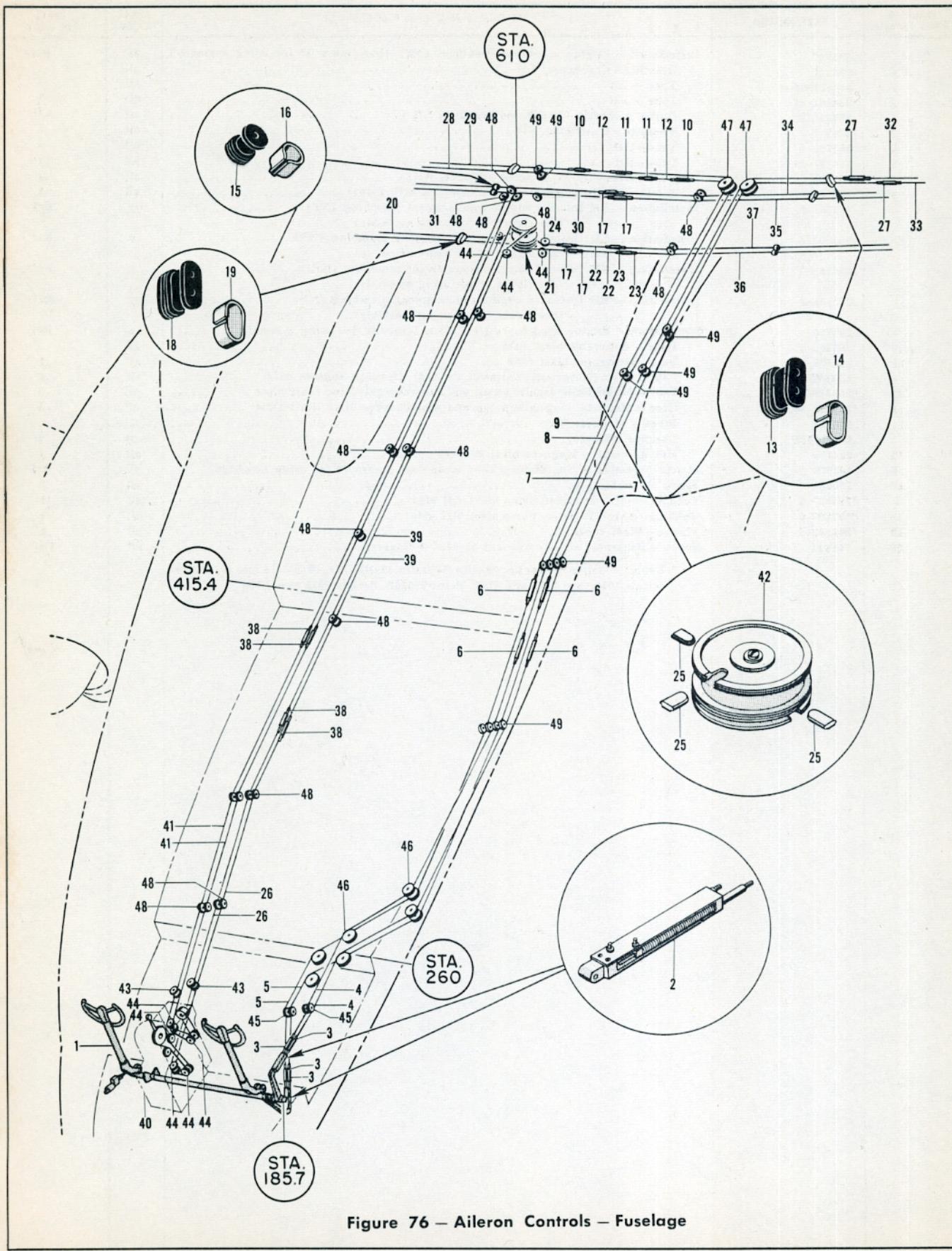
## Detail Unit . . . Blast Tubes and Breathers

*Constellation*

STRUCTURE

FIGURE & INDEX NUMBER	PART NUMBER		N O M E N C L A T U R E						SERIAL CODE	UNITS PER ASSY.
			1	2	3	4	5	6		
75 - 1	285247	Installation - Engine crankcase breathers (NP) (See figure 67 for using assembly)							all	Ref
	285172	Breather - Crankcase, LH							all	1
2	284131-36	Tube - LH							all	1
3	284131-37	Tube - LH							all	1
4	285246	Outlet Assembly - Crankcase breather, LH							all	1
5	285310	Breather - Crankcase, RH							all	1
6	287795-6	Tube - RH							all	1
7	284131-39	Tube - RH							all	1
8	287094	Outlet Assembly - Crankcase breather, RH							all	1
9	285247-2	Shield - $\frac{1}{16}$ Thick asbestos sheet (Spec. L.A.C. 1-401)							all	1
	282867-2	Installation - LH Inboard engine compartment plumbing (NP) (See figure 67 for using assembly)							y	Ref
	282867-3	Installation - LH Outboard engine compartment plumbing (NP) (See figure 67 for using assembly)							y	Ref
	282868-2	Installation - RH Inboard engine compartment plumbing (NP) (See figure 67 for using assembly)							y	Ref
	282868-3	Installation - RH Outboard engine compartment plumbing (NP) (See figure 67 for using assembly)							y	Ref
	288876	Installation - Engine blast tubes (NP) (See figure 67 for using assembly)							z	Ref
10	263555-501	Hose - Generator blast tube							all	2
11	264978	Tube - Generator blast tube							all	1
	C1457D	Cap - Tube (Neoprene) (Kirkhill Rubber) (Inboard engines only)							all	1
12	*263316	Tube - Magneto, hydraulic pump and supercharger drive shaft blast							all	3
13	*263555-500	Hose - Magneto, hydraulic pump and supercharger drive shaft blast							all	5
14	263315	Elbow - Magneto blast							all	1
	6-1-0750P	Lockout (Breeze)							all	1
15	264176	Hat Assembly - Magneto blast support							all	1
16	264976	Flange Assembly - Engine blast tube scoop (See figure 70 for using assembly)							all	Ref
17	*295251	Elbow Assembly							all	1
	*293807-5	Tube Assembly - Injection pump blast, LH side							all	1
18	*293807-6	Tube Assembly - Injection pump blast, RH side							all	1
19	*293807-4	Flange - Blast tubes							all	2
20	105871	Spout - Generator air (Component of 1193-3-Generator)							all	Ref

\* Replaces standard part per Service Bulletins 49/SB-109, 49/SB-14 and 49/SB-107  
serials 1975 thru 2075 and Mod. Print 295252, Serials 2076 thru 2088



**Figure 76 – Aileron Controls – Fuselage**

## GROUP . . . Surface Controls

## Detail Unit . . . Aileron Controls—Fuselage

*Constellation*

FIGURE & INDEX NUMBER	PART NUMBER	1 2 3 4 5 6	N O M E N C L A T U R E			SERIAL CODE	UNITS PER ASSY.
			1	2	3		
76 - 1	267391		Installation - Surface controls (NP) (See figure 1 for using assembly)			all	Ref
	256001		Installation - Control column (NP) (See figure 99 for detailed illustration)			all	1
	267611		Installation - Station 165-278 surface controls (NP)			all	1
2	282275		Absorber Assembly - Double cable slack (See fig. 105 for detailed illustration)			all	2
3	AN155-32S		Barrel - Turnbuckle			a	4
4	282371-2		Cable Assembly - Aileron control forward			a	2
5	282371-4		Cable Assembly - Aileron control forward			a	2
	287371-2		Cable Assembly - Aileron control			b	2
	287371-4		Cable Assembly - Aileron control			b	2
	267393		Installation - Station 278-603 surface control (NP)			all	1
6	AN155-21L		Barrel - Turnbuckle			all	4
7	279167-12		Cable Assembly - Aileron control			all	2
8	279167-32		Cable Assembly - Aileron control			all	1
9	279172-2		Cable Assembly - Aileron control			all	1
	256800		Installation - Center section surface controls (NP)			all	1
10	AN155-21L		Barrel - Turnbuckle			all	2
11	263006-4		Barrel			all	2
12	279172-4		Cable Assembly - Inner wing aileron control			all	2
13	*289222-2		Seal - 1/8 double cable			all	2
			(Replaces 256734 for spares per service bulletin 49/SB-18)				
14	258490		Clip - 1/4 Double cable special seal			all	2
15	256680		Seal - 3/32 Single cable			all	4
16	255388		Clip - 3/32 Single cable seal			all	4
17	263006-3		Barrel			all	4
18	256675		Seal - 3/32 Double cable			all	2
19	255389		Clip - 3/32 Double cable seal			all	2
20	258897-2		Cable Assembly - Aileron control			all	1
21	270268-2		Cable Assembly - Aileron booster by-pass control			all	1
22	258774-6		Cable Assembly - Fuel system control			all	2
23	AN155-16L		Barrel - Turnbuckle			all	2
24	258901-2		Cable Assembly - Aileron control			c	1
	258901-6		Cable Assembly - Aileron control			d	1
25	LS821		Cable - Lock			all	3
	267392		Installation - Station 165-238 controls (NP)			all	1
26	256424-27		Cable Assembly - Aileron controls			all	1
27	AN155-21L		Barrel - Turnbuckle			all	Ref
28	279172-6		Cable Assembly - Inner wing aileron control (See figure 78 for using assembly)			all	Ref
29	279167-38		Cable Assembly - Aileron controls (See figure 78 for using assembly)			all	Ref
30	258901-4		Cable Assembly - Aileron controls (See figure 78 for using assembly)			all	Ref
31	256424-48		Cable Assembly - Aileron controls (See figure 78 for using assembly)			all	Ref
32	279167-34		Cable Assembly - Aileron controls (See figure 77 for using assembly)			all	Ref
33	279167-36		Cable Assembly - Aileron controls (See figure 77 for using assembly)			all	Ref
34	258899-4		Cable Assembly - Aileron controls (See figure 77 for using assembly)			all	Ref
35	258899-5		Cable Assembly - Aileron controls (See figure 77 for using assembly)			all	Ref
36	256424-46		Cable Assembly - Aileron controls (See figure 77 for using assembly)			all	Ref
37	256424-45		Cable Assembly - Aileron controls (See figure 77 for using assembly)			all	Ref
	267417		Installation - Fuselage power plant controls (NP) (See figure 1 for using assembly)			all	Ref
	269331		Installation - Station 333-527 controls (NP)			all	1
38	AN155-16L		Barrel - Turnbuckle			all	2
39	256424-29		Cable Assembly - Aileron control			all	1
40	269039-500		Stand Assembly - Pilot's control (See figure 94 for using assembly)			all	Ref
	256643-2		Control Assembly - Aileron tab			c	Ref
	256643-6		Control Assembly - Aileron tab			d	Ref
	285189-16		Cable Assembly - Aileron tab control			d	Ref
41	285189-2		Cable Assembly - Aileron tab control			c	Ref
	265844		Structure Assembly - Fuselage center section (See figure 1 for using assembly)			all	Ref
	258685		Installation - Rear beam pulley bracket (N.P.)			all	1
42	260198		Pulley Assembly - Aileron booster by-pass			all	1
	AN201K6A		Bearing - Intermediate duty			all	2
43	AN210-1A		Pulley			all	A.R.
44	AN210-2A		Pulley			all	A.R.
45	AN210-3A		Pulley			all	A.R.
46	AN210-4A		Pulley			all	A.R.
47	AN210-5A		Pulley			all	A.R.
48	FL3C3		Idler (Fafnir)			all	A.R.
49	FL3C6		Idler (Fafnir)			all	A.R.

\*Replaces standard part per service bulletin 49/SB-18.

GROUP . . . Surface Controls

Detail Unit . . . Aileron Controls—L. H. Wing

*Constellation*

CONTROLS

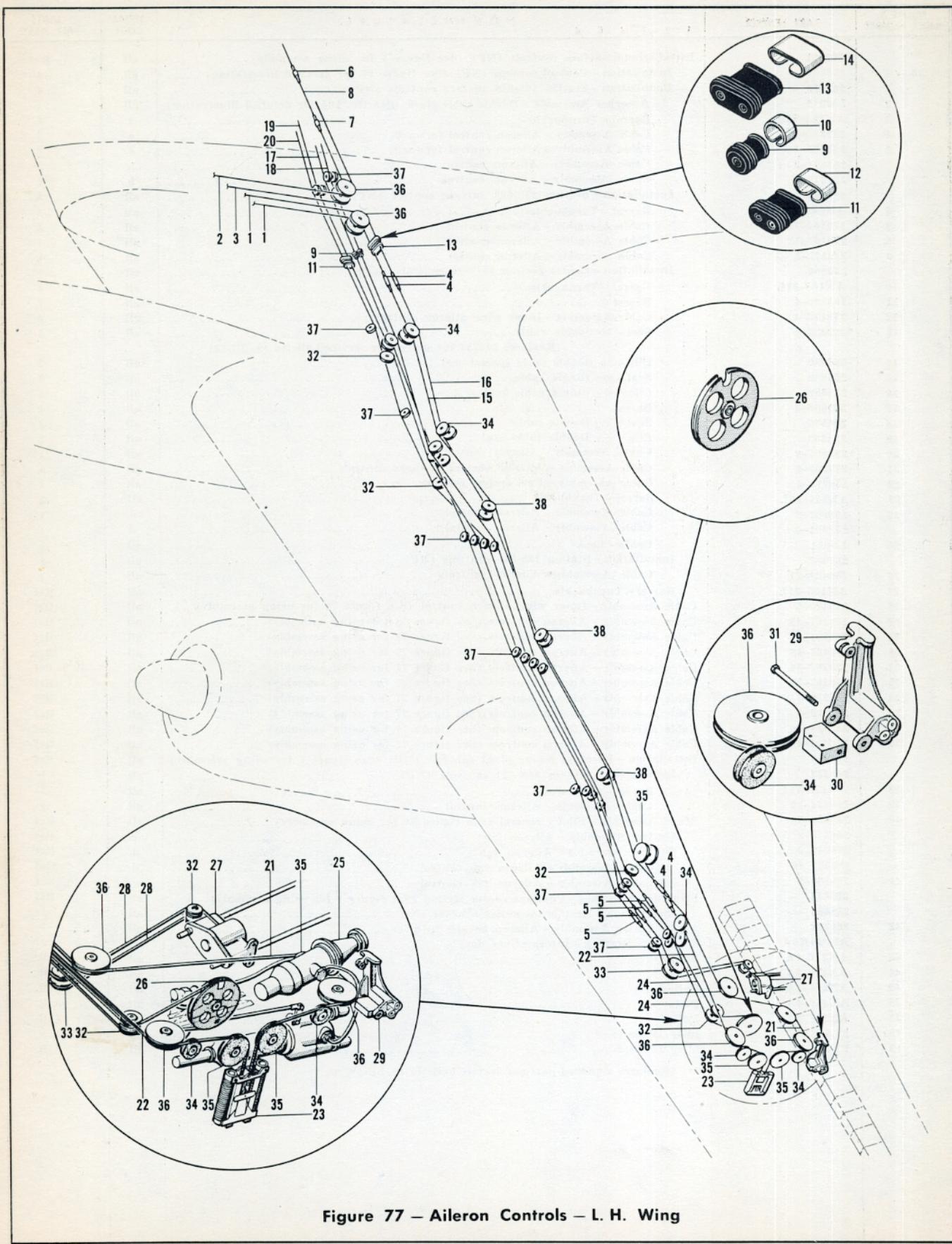


Figure 77 — Aileron Controls — L. H. Wing

## GROUP . . . Surface Controls

## Detail Unit . . . Aileron Controls—LH Wing

*Constellation*

FIGURE & INDEX NUMBER	PART NUMBER	1 2 3 4 5 6	N O M E N C L A T U R E	SERIAL CODE	U N I T S P E R A S S Y .
77 - 1	279167-12		Cable Assembly - Aileron control (See figure 76 for using assembly) .....	all	Ref
2	279167-32		Cable Assembly - Aileron control (See figure 76 for using assembly) .....	all	Ref
3	279172-2		Cable Assembly - Aileron control (See figure 76 for using assembly) .....	all	Ref
	267391		Installation - Surface controls (NP) (See figure 1 for using assembly) .....	all	Ref
4	AN155-21L		Barrel - Turnbuckle .....	all	4
5	AN155-16L		Barrel - Turnbuckle .....	all	4
6	AN155-21L		Barrel (See figure 76 for using assembly) .....	all	Ref
7	263006-4		Barrel (See figure 76 for using assembly) .....	all	Ref
8	279172-4		Cable Assembly - Inner wing aileron control (See figure 76 for using assembly) .....	all	Ref
9	256680		Seal - $\frac{3}{32}$ Single cable (See figure 76 for using assembly) .....	all	Ref
10	258388		Clip - $\frac{3}{32}$ Single cable seal (See figure 76 for using assembly) .....	all	Ref
11	256675		Seal - $\frac{3}{32}$ Double cable (See figure 76 for using assembly) .....	all	Ref
12	258389		Clip - $\frac{3}{32}$ Double cable seal (See figure 76 for using assembly) .....	all	Ref
13	*289222-2		Seal + $\frac{1}{8}$ Double cable (See figure 76 for using assembly) .....	all	Ref
14	258490		Clip + $\frac{1}{8}$ (See figure 76 for using assembly) .....	all	Ref
	256004		Installation - Wing inner section surface and dump valve controls L.H. (NP) .....	all	Ref
			(See figure 2 for using assembly)		
15	279167-36		Cable Assembly - Aileron control .....	all	1
16	279167-34		Cable Assembly - Aileron control .....	all	1
17	258899-4		Cable Assembly - Aileron control .....	c	1
18	258899-5		Cable Assembly - Aileron control .....	c	1
	258899-6		Cable Assembly - Aileron control .....	d	1
	258899-7		Cable Assembly - Aileron control .....	d	1
19	256424-46		Cable Assembly - Aileron control .....	all	1
20	256424-45		Cable Assembly - Aileron control .....	all	1
	256005L		Installation - Outer wing surface controls (NP) (See figure 24 for using assembly) .....	all	Ref
21	279171-2		Cable Assembly - Surface control tension regulator .....	all	1
22	279171-4		Cable Assembly - Surface control tension regulator .....	all	1
23	R66-2		Regulator - Cable tension (Pacific Scientific) (649006-2) .....	c	1
	R66-A40-2		(See figure 105 for detailed illustration)		
			Regulator - Cable tension (Pacific Scientific) (649019-2) .....	d	1
			(See figure 105 for detailed illustration)		
24	256424-38		Cable Assembly - Aileron control .....	all	1
25	268969L		Installation - Aileron differential and booster (NP) .....	all	1
			(See figure 130 for detailed illustration)		
26	256823		Pulley - Valve actuating release .....	all	Ref
27	219390-2		Mechanism Assembly - Tab operating (See figure 109 for detailed illustration) .....	c	1
	219390-8		Mechanism Assembly - Tab operating (See figure 109 for detailed illustration) .....	d	1
28	285189-8		Cable Assembly - Aileron tab control .....	c	Ref
	285189-14		Cable Assembly - Aileron tab control .....	d	Ref
	281177L		Bracket Assembly - Aileron outboard aft .....	all	1
29	255545L		Bracket - Wing station 522 pulley support .....	all	1
30	282610		Block - Aileron outboard aft .....	all	1
31	NAS141-48		Bolt - Internal wrenching $\frac{1}{4}$ -28 .....	all	1
32	AN210-1A		Pulley - Anti-friction bearing control .....	all	A.R.
33	AN210-2A		Pulley - Anti-friction bearing control .....	all	A.R.
34	AN210-3A		Pulley - Anti-friction bearing control .....	all	A.R.
35	AN210-4A		Pulley - Anti-friction bearing control .....	all	A.R.
36	AN210-5A		Pulley - Anti-friction bearing control .....	all	A.R.
37	FL3C3		Idler (Fafnir) .....	all	A.R.
38	FL3C6		Idler (Fafnir) .....	all	A.R.

\* Replaces standard part per Service Bulletin 49/SB-18.

CONTROLS

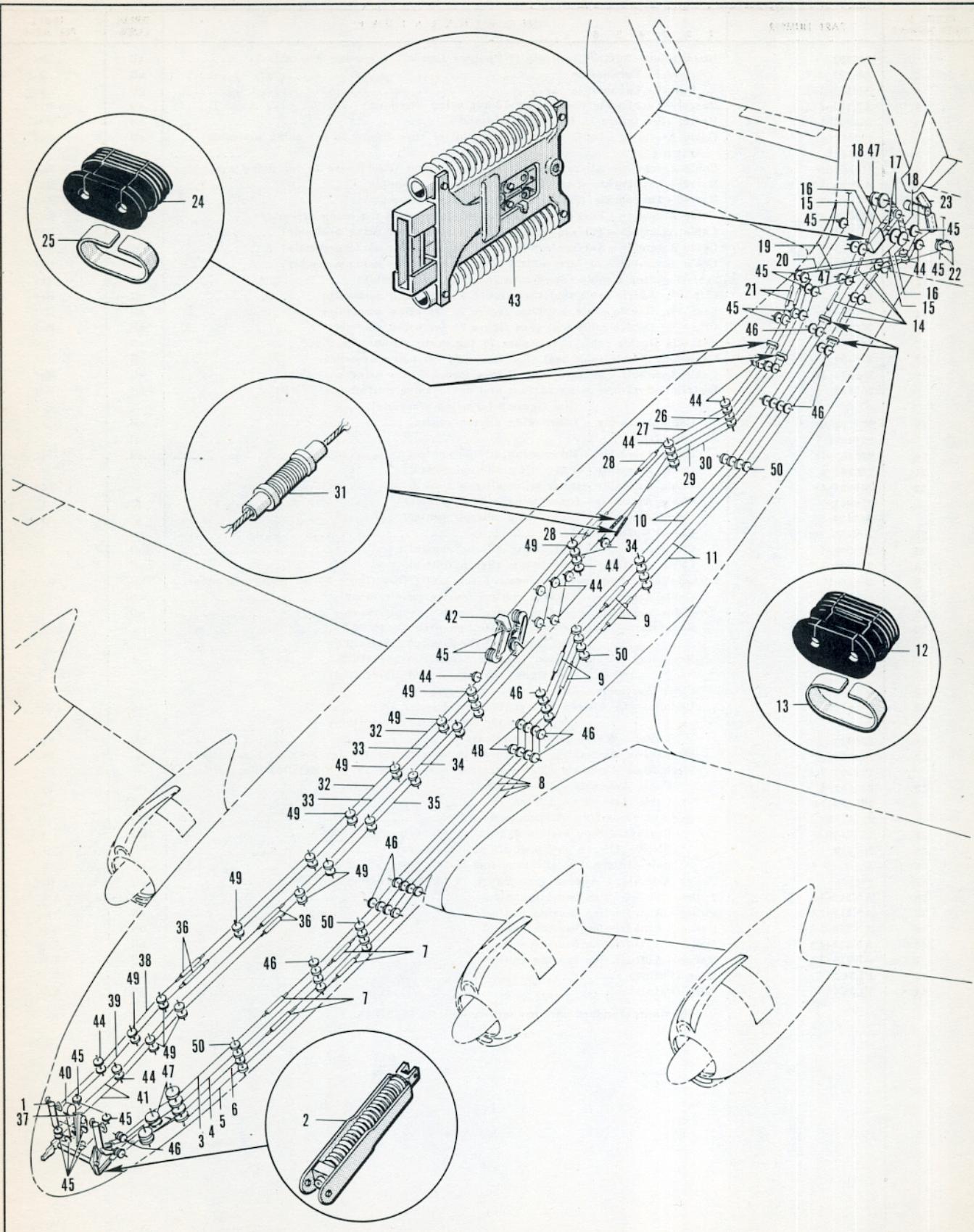
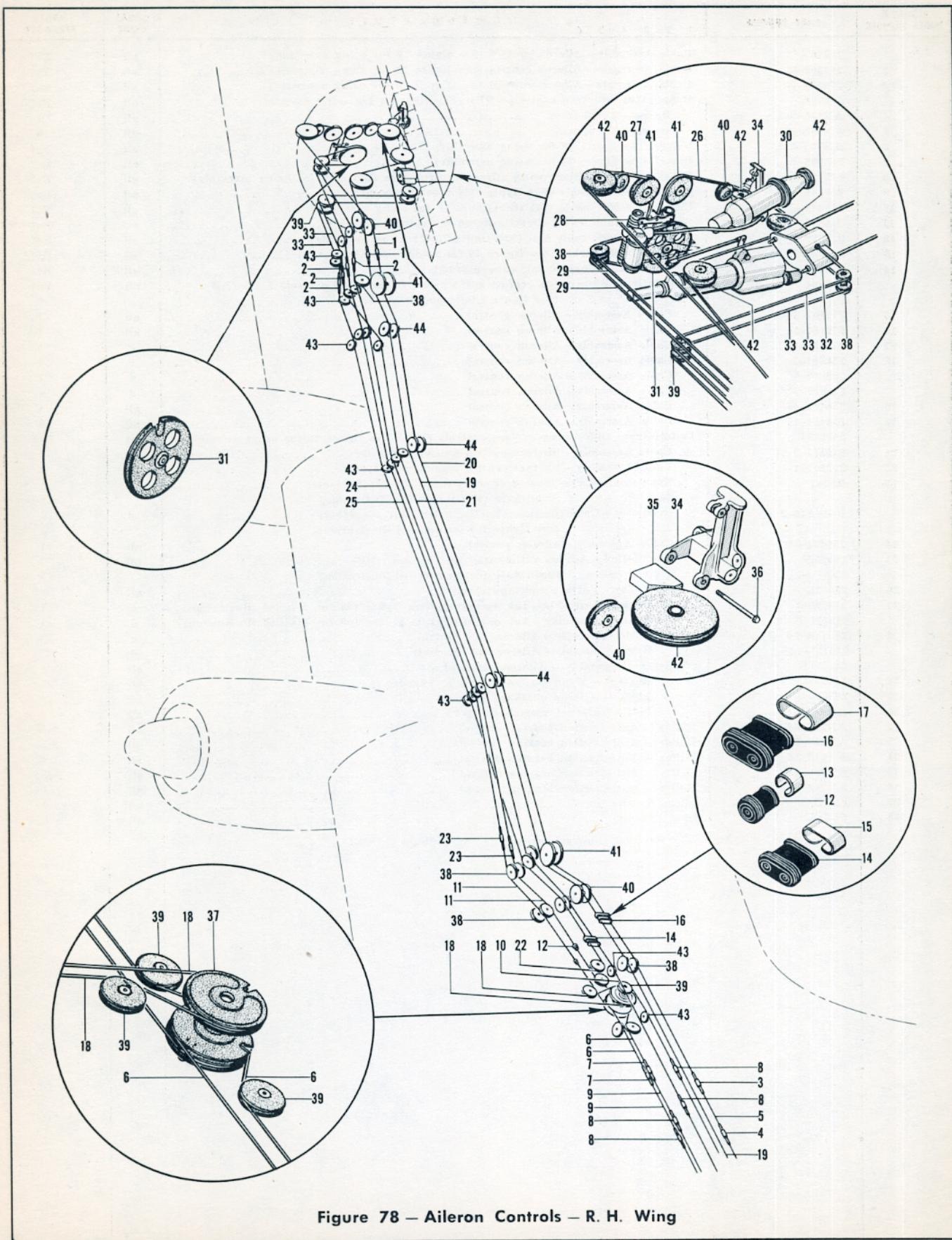


Figure 79 — Elevator Controls — Fuselage



**Figure 78 – Aileron Controls – R. H. Wing**

## GROUP . . . Surface Controls

## Detail Unit . . . Aileron Controls—RH Wing

*Constellation*

CONTROLS

FIGURE & INDEX NUMBER	PART NUMBER	1	2	3	4	5	6	N O M E N C L A T U R E		SERIAL CODE	U N I T S P E R A S S Y.
78 - 1	267391							Installation - Surface controls (NP) (See figure 1 for using assembly)	.....	all	Ref
	AN155-21L							Barrel - Turnbuckle .....	.....	all	2
2	AN155-16L							Barrel - Turnbuckle .....	.....	all	4
3	AN155-21L							Barrel - Turnbuckle (See figure 76 for using assembly) .....	.....	all	Ref
4	263006-4							Barrel (See figure 76 for using assembly) .....	.....	all	Ref
5	279172-4							Cable Assembly - Inner wing aileron control (See figure 76 for using assembly) .....	.....	all	Ref
	271150L							Fitting .....	.....	all	1
6	270268-2							Cable Assembly - Aileron booster by-pass control (See figure 76 for using assembly)	.....	all	Ref
7	AN155-16L							Barrel - Turnbuckle (See figure 76 for using assembly) .....	.....	all	Ref
8	263006-3							Barrel - Turnbuckle (See figure 76 for using assembly) .....	.....	all	Ref
9	258774-6							Cable Assembly - Fuel system control (See figure 76 for using assembly) .....	.....	all	Ref
10	258901-2							Cable Assembly - Surface control (See figure 76 for using assembly) .....	.....	c	Ref
	258901-6							Cable Assembly - Surface control (See figure 76 for using assembly) .....	.....	d	Ref
11	258897-2							Cable Assembly - Surface control (See figure 76 for using assembly) .....	.....	all	Ref
12	256680							Seal - $\frac{3}{32}$ Single cable (See figure 76 for using assembly) .....	.....	all	Ref
13	258388							Clip - $\frac{3}{32}$ Single cable seal (See figure 76 for using assembly) .....	.....	all	Ref
14	256675							Seal - $\frac{3}{32}$ Double cable seal (See figure 76 for using assembly) .....	.....	all	Ref
15	258389							Clip - $\frac{3}{32}$ Double cable seal (See figure 76 for using assembly) .....	.....	all	Ref
16	*289222-2							Seal - $\frac{1}{16}$ Double cable (See figure 76 for using assembly) .....	.....	all	Ref
17	258490							Cable - $\frac{1}{16}$ Double cable seal (See figure 76 for using assembly) .....	.....	all	Ref
18	256424-29							Cable Assembly - Surface control (See figure 76 for using assembly) .....	.....	all	Ref
	256802							Installation - Inner wing surface and dump valve control R.H. (NP) (See figure 2 for using assembly)	.....	all	Ref
19	279172-6							Cable Assembly - Inner wing aileron control .....	.....	all	1
	271150R							Fitting .....	.....	all	1
20	279167-38							Cable Assembly - Inner wing aileron control .....	.....	all	1
21	258901-4							Cable Assembly - Inner wing aileron control .....	.....	c	1
22	256424-18							Cable Assembly - Inner wing aileron control .....	.....	c	1
	258901-5							Cable Assembly - Inner wing aileron control .....	.....	d	1
	256424-68							Cable Assembly - Inner wing aileron control .....	.....	d	1
23	AN155-16S							Barrel - Turnbuckle .....	.....	all	2
24	258898-4							Cable Assembly - Inner wing aileron control .....	.....	all	1
25	258898-5							Cable Assembly - Inner wing aileron control .....	.....	all	1
	256005R							Installation - Outer wing surface controls (NP) (See figure 20 for using assembly)	.....	all	Ref
26	279171-2							Cable Assembly - Surface control tension requirement .....	.....	all	1
27	279171-4							Cable Assembly - Surface control tension requirement .....	.....	all	1
28	R66-2							Regulator - Cable tension (Pacific Scientific) (649006-2) (See figure 105 for detailed illustration)	.....	c	1
	R66-A40-2							Regulator - Cable tension (Pacific Scientific) (649019-2) (See figure 105 for detailed illustration)	.....	d	1
29	256424-38							Cable Assembly - Aileron controls .....	.....	all	1
30	268969R							Installation - Aileron differential and booster (NP) (See figure 130 for detailed illustration)	.....	all	Ref
31	256823							Pulley - Valve actuating release .....	.....	all	Ref
32	219390-2							Mechanism Assembly - Tab operating (See figure 109 for detailed illustration)	.....	c	Ref
	219390-8							Mechanism Assembly - Tab operating (See figure 109 for detailed illustration)	.....	d	Ref
33	285189-8							Cable Assembly - Aileron tab .....	.....	c	Ref
	285189-14							Cable Assembly - Aileron tab .....	.....	d	Ref
	281177R							Bracket Assembly - Aileron outboard aft .....	.....	all	1
34	255545R							Bracket - Wing station 522 pulley support .....	.....	all	1
35	282610							Block - Aileron outboard aft pulley support .....	.....	all	1
36	NAS114-48							Bolt - Internal wrenching steel $\frac{1}{4}$ -28 .....	.....	all	1
37	260198							Pulley Assembly - Aileron (See figure 76 for using assembly)	.....	all	Ref
38	AN210-1A							Pulley - Anti-friction bearing control .....	.....	all	A.R.
39	AN210-2A							Pulley - Anti-friction bearing control .....	.....	all	A.R.
40	AN210-3A							Pulley - Anti-friction bearing control .....	.....	all	A.R.
41	AN210-4A							Pulley - Anti-friction bearing control .....	.....	all	A.R.
42	AN210-5A							Pulley - Anti-friction bearing control .....	.....	all	A.R.
43	FL3C3							Idler (Fafnir) .....	.....	all	A.R.
44	FL3C6							Idler (Fafnir) .....	.....	all	A.R.

\*Replaces standard part per service bulletin 49/SB-18.

## GROUP . . . Surface Controls

## Detail Unit . . . Elevator Controls—Fuselage

*Constellation*

FIGURE & INDEX NUMBER	PART NUMBER		N O M E N C L A T U R E						SERIAL CODE	U N I T S P E R A S S Y.
			1	2	3	4	5	6		
79 - 1	267391	Installation - Surface controls (N.P.) (See figure 1 for using assembly) .....							all	Ref
	256001	Installation - Control column (N.P.) (See figure 99 for detailed illustration) .....							all	Ref
	267611	Installation - Station 165-278.4 surface controls (N.P.) .....							all	Ref
2	282085	Absorber Assembly - Cable slack (See figure 105 for detailed illustration) .....							all	2
3	281105-2	Cable Assembly - Fork fitting .....							all	1
4	281105-4	Cable Assembly - Fork fitting .....							all	1
5	281105-6	Cable Assembly - Fork fitting .....							all	1
6	281105-8	Cable Assembly - Fork fitting .....							all	1
	267393	Installation - Station 278.4-603.2 surface controls (N.P.) .....							all	Ref
7	AN155-21L	Barrel - Turnbuckle .....							all	4
	256273	Installation - Fuselage center section controls L.H. (N.P.) .....							all	Ref
8	279167-10	Cable Assembly - Elevator controls .....							all	4
9	AN155-21L	Barrel - Turnbuckle .....							all	4
10	279167-22	Cable Assembly - Elevator controls .....							all	2
11	279167-24	Cable Assembly - Elevator controls .....							all	2
12	289222-3	Seal - 1 $\frac{1}{8}$ Double cable (Replaces 256677 for spares .....							all	2
		per service bulletin 49/SB-208)								
13	258387	Clip - 1 $\frac{1}{8}$ Double cable seal .....							all	2
	256897	Installation - Fuselage aft section controls (N.P.) .....							all	Ref
14	AN155-21L	Barrel - Turnbuckle .....							all	4
15	279171-14	Cable Assembly - Elevator controls .....							all	2
16	279171-16	Cable Assembly - Elevator controls .....							all	2
17	281151	Clamp - Control cable spreader .....							all	4
18	281162	Clamp - Control cable converger .....							all	4
19	278531-2	Cable Assembly - Elevator booster shifter control .....							all	1
20	278531-3	Cable Assembly - Elevator booster shifter control .....							all	1
21	AN155-16L	Barrel - Turnbuckle .....							all	2
22	279457	Bracket Assembly - Station 1189 tab control .....							all	1
23	262995	Installation - Elevator booster (N.P.) (See figure 131 for detailed illustration) .....							all	1
	256786	Installation - Fuselage center section controls R.H. (N.P.) .....							all	Ref
24	256675	Seal - 3 $\frac{1}{2}$ Double cable .....							all	2
25	258389	Clip - 3 $\frac{1}{2}$ Double cable seal .....							all	2
26	256424-22	Cable Assembly - Elevator controls .....							all	1
27	256424-23	Cable Assembly - Elevator controls .....							all	1
28	AN155-16L	Barrel - Turnbuckle .....							all	2
29	282157-4	Cable Assembly - Elevator tab .....							all	1
30	282157-8	Cable Assembly - Elevator tab .....							all	1
31	282130	Absorber Assembly - Elevator tab cable (See fig. 105 for detailed illustration) .....							all	2
32	256424-18	Cable Assembly - Elevator controls .....							all	1
33	256424-19	Cable Assembly - Elevator controls .....							all	1
34	282157-2	Cable Assembly - Elevator tab .....							all	1
35	282157-6	Cable Assembly - Elevator tab .....							all	1
	269331	Installation - Station 333-527 controls (N.P.) .....							all	Ref
36	AN155-16L	Barrel .....							all	4
	267392	Installation - Station 165-238 controls (N.P.) .....							all	Ref
37	278564	Installation - Elevator booster shift controls .....							all	1
		(See figure 106 for detailed illustration)								
38	278676-2	Cable Assembly - Elevator booster shift .....							all	1
39	278676-3	Cable Assembly - Elevator booster shift .....							all	1
40	269039-500	Stand Assembly - Pilot's control (See figure 94 for using assembly) .....							all	Ref
41	285189-6	Cable Assembly - Surface control .....							all	Ref
	265844	Structure Assembly - Fuselage center section (See figure 1 for using assembly) .....							all	Ref
42	280162	Installation - Take-up mechanism rudder tab cable (N.P.) .....							all	Ref
		(See figure 80 for detailed illustration)								
	267448	Structure Assembly - Fuselage rear (See figure 1 for using assembly) .....							all	Ref
	279390	Installation - Elevator tension governor bracket assembly (N.P.) .....							all	1
	279390-14	Bracket Assembly .....							all	1
43	R66A70-2	Regulator Assembly - Cable tension (Pacific Scientific) (649019-3) .....							all	1
		(See figure 105 for detailed illustration)								
44	AN210-1A	Pulley - Anti-friction bearing control .....							all	A.R
45	AN210-2A	Pulley - Anti-friction bearing control .....							all	A.R
46	AN210-3A	Pulley - Anti-friction bearing control .....							all	A.R
47	AN210-4A	Pulley - Anti-friction bearing control .....							all	A.R
48	AN210-5A	Pulley - Anti-friction bearing control .....							all	A.R
49	FL3C3	Idler .....							all	A.R
50	FL3C6	Idler .....							all	A.R

GROUP . . . Surface Controls  
Detail Unit . . . Rudder Controls—Fuselage

# Constellation

## CONTROLS

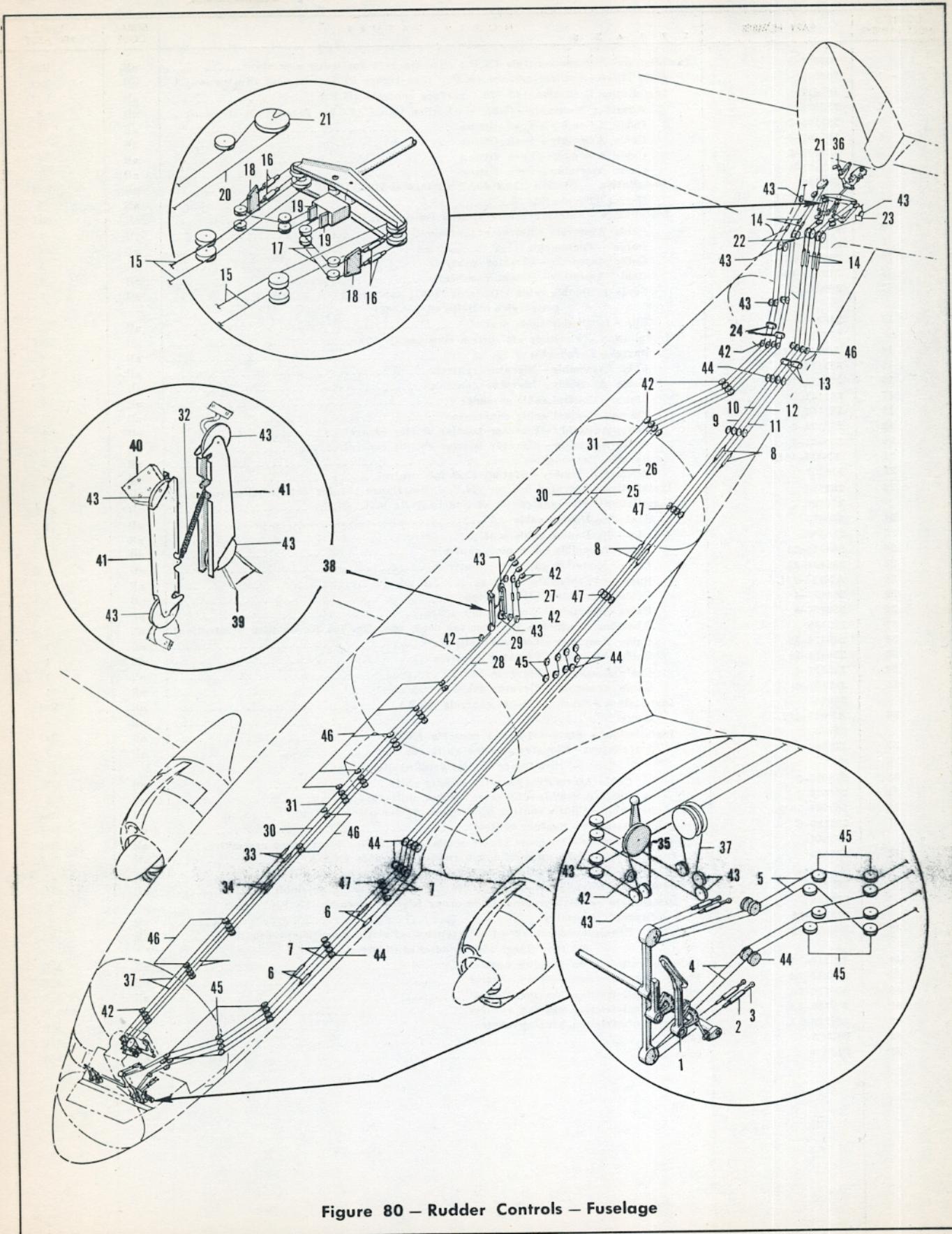


Figure 80 — Rudder Controls — Fuselage

## GROUP . . . Surface Controls

## Detail Unit . . . Rudder Controls—Fuselage

*Constellation*

FIGURE & INDEX NUMBER	PART NUMBER	1 2 3 4 5 6	N O M E N C L A T U R E			SERIAL CODE	UNITS PER ASSY.
80 - 1	267391		Installation - Surface controls (N.P.) (See figure 1 for using assembly)			all	Ref
	256578		Installation - Rudder pedals, brake and controls (N.P.)		(See figure 107 for detailed illustration)	all	1
	267611		Installation - Station 165-278 surface control (N.P.)			all	Ref
2	AN155-21S		Barrel - Turnbuckle			all	4
3	AN165-21LS		Eye - Turnbuckle (for pin)			all	4
4	279167-2		Cable Assembly - Rudder controls			all	2
5	279167-4		Cable Assembly - Rudder controls			all	2
	267393		Installation - Station 278.4-603.2 surface control (N.P.)			all	Ref
6	AN155-21L		Barrel - Turnbuckle			all	4
	256273		Installation - Fuselage center section controls LH (N.P.)			all	1
7	279167-10		Cable Assembly - Rudder controls			all	4
8	AN155-21L		Barrel - Turnbuckle			all	4
9	279167-14		Cable Assembly - Rudder controls			all	1
10	279167-16		Cable Assembly - Rudder controls			all	1
11	279167-18		Cable Assembly - Rudder controls			all	1
12	279167-20		Cable Assembly - Rudder controls			all	1
13	289222-2		Seal - 1/8 Double cable (Replaces 277958 for spares per service bulletin 49/SB-18)			all	2
	258387		Clip - 1/8 Double cable seal			all	2
	256897		Installation - Fuselage aft section control (N.P.)			all	Ref
14	AN155-21S		Barrel - Turnbuckle			all	6
15	279167-26		Cable Assembly - Rudder controls			all	4
16	AN155-21L		Barrel - Turnbuckle			all	4
17	279170		Cable Assembly - Rudder cable tension governor			all	2
18	254662		Deflector - Tension governor cable			all	1
19	272839		Spreader - Tension governor cable			all	1
20	256424-32		Cable Assembly - Rudder controls			all	1
21	LS821		Lock - Cable			all	1
22	AN155-16L		Barrel - Turnbuckle			all	2
23	279457		Bracket Assembly - Station 1189 tab control			all	Ref
	256786		Installation - Fuselage center section controls R.H. (N.P.)			all	Ref
24	256675		Seal - 3/32 Double cable			all	2
	258389		Clip - 3/32 Double cable seal			all	2
25	256424-24		Cable Assembly - Rudder booster by-pass			all	1
26	256424-25		Cable Assembly - Rudder booster by-pass			all	1
27	AN155-16L		Barrel - Turnbuckle			all	2
28	256424-16		Cable Assembly - Rudder booster by-pass			all	1
29	256424-17		Cable Assembly - Rudder booster by-pass			all	1
30	256424-15		Cable Assembly - L.H. Rudder tab control			all	1
31	256424-13		Cable Assembly - R.H. Rudder tab control			all	1
32	280161		Spring Assembly - Rudder tab cable take-up			all	1
	269331		Installation - Station 333.6-527.6 controls (N.P.)			all	Ref
33	AN155-16L		Barrel - Turnbuckle			all	2
	267392		Installation - Station 165-238 booster and tab control (N.P.)			all	Ref
34	AN155-16L		Barrel - Turnbuckle			all	2
35	256424-26		Cable Assembly - Rudder tab controls			all	1
36	256998		Installation - Rudder booster (N.P.) (See figure 134 for detailed illustration)			all	Ref
	269039-500		Stand Assembly - Pilot's control (See figure 94 for using assembly)			all	Ref
	*297132		Control Assembly - Rudder tab			ce	Ref
	256643-3		Control Assembly - Rudder tab			bx	Ref
37	256424-3		Cable Assembly - Rudder tab controls			all	1
	265844		Structure Assembly - Fuselage center section (See figure 1 for using assembly)			all	Ref
38	280162		Installation - Take-up mechanism rudder tab cable (N.P.)			all	1
39	280162-15		Bracket Assembly - Rudder tab take-up mechanism			all	1
40	280162-16		Bracket Assembly - Rudder tab take-up mechanism			all	1
	AN210-2A		Pulley - Anti-friction bearing control (Used on -15 and -16)			all	2
41	280432		Arm Assembly - Tab cable take-up mechanism (Used on -15 and -16)			all	1
	AN210-2A		Pulley - Anti-friction bearing control			all	1
42	AN210-1A		Pulley - Anti-friction bearing control			all	A.R.
43	AN210-2A		Pulley - Anti-friction bearing control			all	A.R.
44	AN210-3A		Pulley - Anti-friction bearing control			all	A.R.
45	AN210-4A		Pulley - Anti-friction bearing control			all	A.R.
46	FL3C3		Idler			all	A.R.
47	FL3C6		Idler			all	A.R.

\*Replaces standard part per service instruction 49/SI-18.

GROUP . . . . Surface Controls

Detail Unit . . . Elevator and Rudder Controls—Empennage

# Constellation

CONTROLS

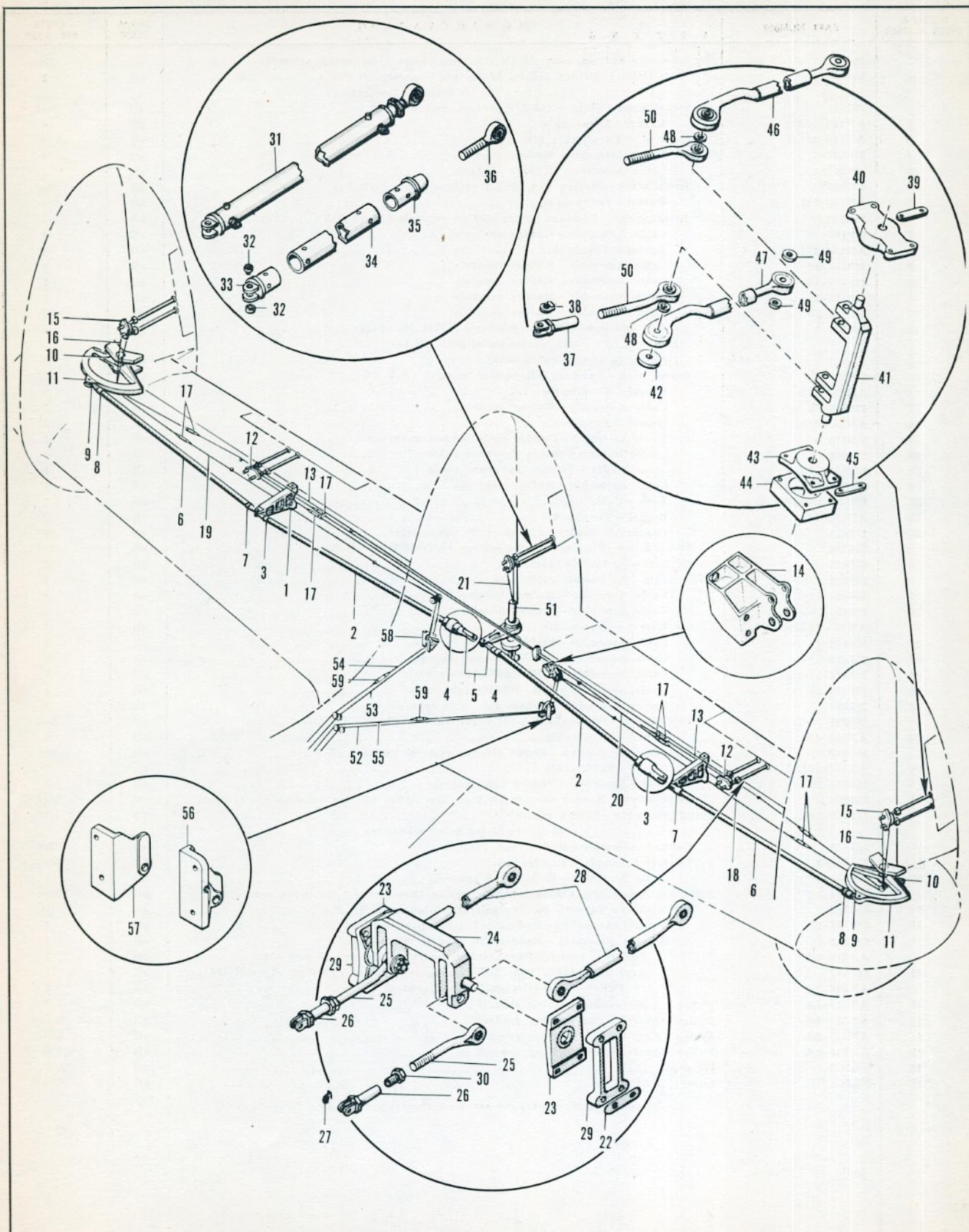


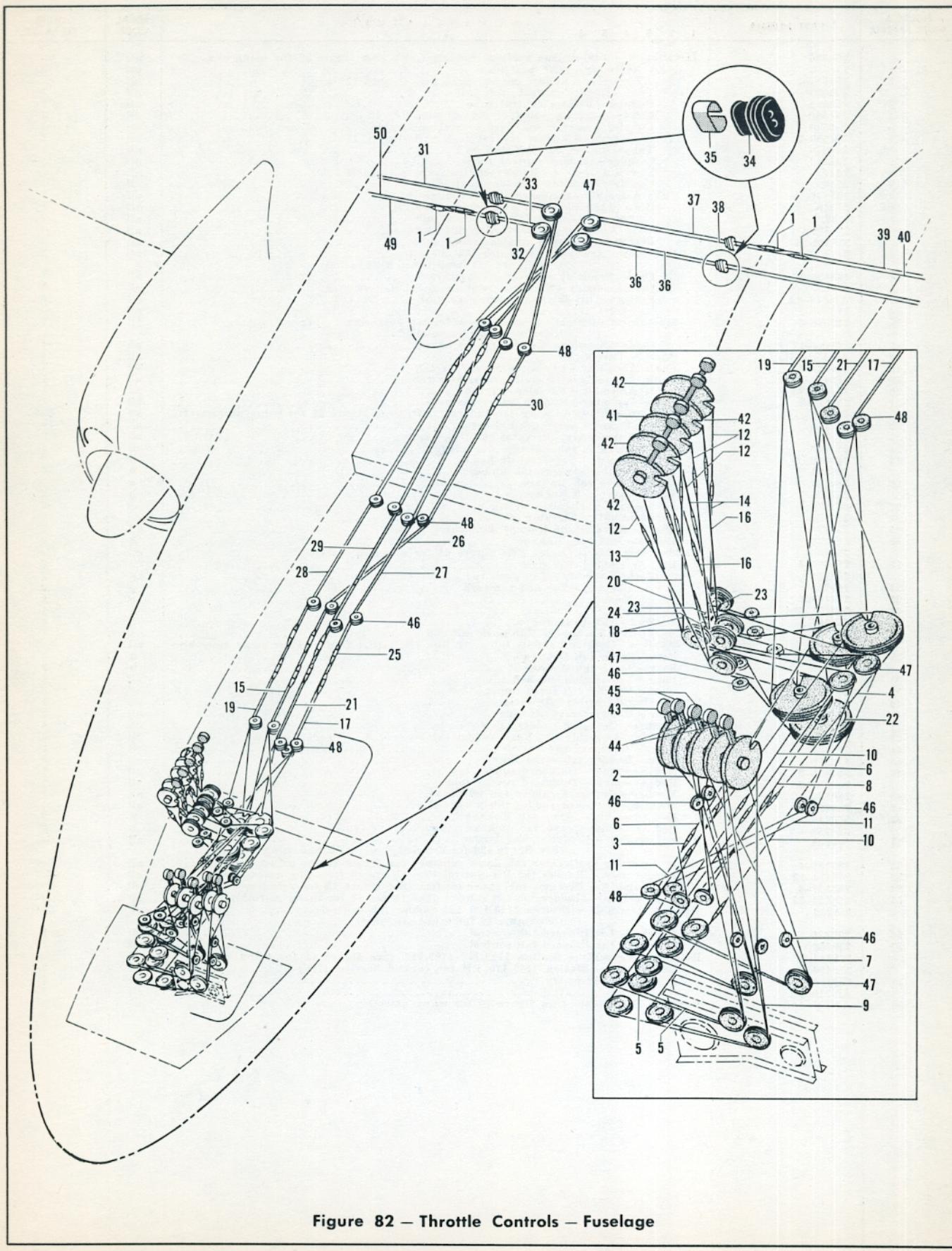
Figure 81 — Elevator and Rudder Controls — Empennage

## GROUP . . . Surface Controls

## Detail Unit . . . Elevator and Rudder Controls—Empennage

*Constellation*

FIGURE & INDEX NUMBER	PART NUMBER	1 2 3 4 5 6	N O M E N C L A T U R E	SERIAL CODE	U N I T S P E R A S S Y.
81 - 1	256006		Installation + Empennage surface controls (NP) (See figure 22 for using assembly)	all	Ref
2	254618		Arm Assembly - Push pull idler	all	2
2	254697-2		Tube Assembly - Rudder control push pull (length 1275%)	all	2
3	254689		Tube - Rudder control push pull	all	1
4	254699		Coupler - Rudder control tube	all	1
5	254688		Sleeve Assembly - Rudder control tube adjusting	all	1
6	254698		Coupler Assembly - Rudder control adjustable	all	1
	254697-3		Tube Assembly - Rudder control push pull (length 127%)	all	2
7	254689		Tube - Rudder control push pull	all	1
8	254688		Coupler - Rudder control tube	all	1
9	254698		Sleeve Assembly - Rudder control tube adjustable	all	1
10	255407		Coupler Assembly - Rudder control	all	1
11	255485		Tube Assembly - Outboard rudder torque	all	2
	255322		Horn Assembly - Outboard rudder control	all	1
	255578		Flange - Outboard rudder torque tube	all	1
	256921		Tube Assembly - Outboard rudder torque	all	1
12	219390-4		Flange - Outboard rudder torque tube	all	1
			Mechanism Assembly - Elevator tab operating (See figure 109 for detailed illustration)	all	2
13	285189-10		Cable Assembly - Elevator tab operating	all	1
	279281		Bracket Assembly - Stabilizer station 19.15L tab control	all	1
14	AN210-2A		Pulley - Anti-friction bearing control	all	2
15	279281-2		Bracket	all	1
	219390-7		Mechanism Assembly - Outboard rudder tab operating (See figure 109 for detailed illustration)	all	2
16	285189-12		Cable Assembly - Rudder tab outboard	all	1
17	AN155-16L		Barrel - Turnbuckle	all	8
18	256424-67		Cable Assembly - LH outboard rudder tab	all	1
19	256424-20		Cable Assembly - RH outboard rudder tab	all	1
20	256424-65		Cable Assembly - LH elevator tab	all	1
21	256424-9		Cable Assembly - Rudder tab center rear	all	1
	280442		Installation + Elevator servo tab linkage (NP) (See figure 23 for using assembly)	all	Ref
22	279257		Shim - Elevator servo tab linkage	all	16
23	278221		Housing Assembly - Elevator tab link bearing	all	2
24	280892		Yoke - Elevator tab linkage	all	1
25	280446		End Assembly - Servo tab linkage	a	2
	286953		Rod Assembly - Servo tab linkage	b	2
26	280445		Fork - Servo tab linkage	a	2
	287665		Fork - Servo tab linkage	b	2
27	278276		Lock - Tab mechanism bolt	all	2
28	280977		Rod Assembly - Elevator tab	all	2
29	278230		Block - Elevator tab linkage mounting	all	2
30	287666		Sleeve - Servo tab linkage	b	2
	253008		Rudder Assembly - Center (See figure 25 for using assembly)	all	Ref
31	258775-4		Rod Assembly - Tab push	a	2
	258903		Fork Assembly - Tab push rod	a	1
32	258918		Bushing - Tab and rod fork	a	2
33	258903-2		Fork	a	1
34	258775-504		Tube	a	1
35	258904		End - Tab push rod	a	1
36	258776		Fitting Assembly - Tab push rod end	a	1
	280686		Installation + Outboard rudder tab servo link (NP) (See figure 24 for using assembly)	all	Ref
37	280445		Fork - Servo tab linkage	a	2
	287665		Fork - Servo tab linkage	b	2
38	278276		Lock - Tab mechanism bolt	all	2
39	279287		Shim - Rudder tab servo upper	all	8
40	278237		Housing Assembly - $\frac{1}{2}$ ratio	all	1
41	280651		Yoke - Rudder servo linkage	all	1
42	280973		Washer - Outboard rudder tab yoke	all	2
43	278236		Housing Assembly - $\frac{1}{2}$ Ratio rudder tab lower	all	1
44	278235		Filter - Outboard rudder tab	all	1
45	279288		Shim - Rudder tab servo lower	all	8
46	280685-2		Rod Assembly - Outboard rudder tab	all	1
47	280685-3		Rod Assembly - Outboard rudder tab	all	1
48	280893		Washer - Outboard rudder tab push rod	all	4
49	280924		Washer - Outboard rudder tab push rod	all	4
50	280446		End Assembly - Servo tab linkage	a	2
	286953		Rod Assembly - Servo tab linkage	b	2
51	271209		Tube Assembly - Center rudder torque (See figure 134 for detailed illustration and using assembly)	all	Ref
52	282157-4		Cable Assembly - Elevator tab down control (See figure 79 for using assembly)	all	Ref
53	256424-13		Cable Assembly - Rudder tab RH control (See figure 80 for using assembly)	all	Ref
54	282157-8		Cable Assembly - Elevator tab upper control (See figure 79 for using assembly)	all	Ref
55	256424-15		Cable Assembly - Rudder tab LH control (See figure 80 for using assembly)	all	Ref
	279457		Bracket Assembly - Station 1189.170 LH rudder tab control (See figure 80 for using assembly)	all	Ref
56	279725		Bracket - LH Inboard tab control	all	1
57	279726		Bracket - LH Inboard tab control	all	1
	278444-2		Bulkhead Assembly - Station 1189.170-1189.367 (See figure 41 for using assembly)	all	Ref
	279490		Installation - Station 1189.170 RH tab control bracket (NP)	all	1
58	279490-2		Bracket Assembly	all	1
	AN210-2A		Pulley	all	2
59	AN155-16L		Barrel - Turnbuckle (See figure 79 for using assembly)	all	Ref



**Figure 82 – Throttle Controls – Fuselage**

## GROUP . . . Systems Controls

*Constellation*

## Detail Unit . . . Throttle Controls—Fuselage

FIGURE & INDEX NUMBER	PART NUMBER		N O M E N C L A T U R E						SERIAL CODE	UNITS PER ASSY.
			1	2	3	4	5	6		
82 - 1	267417	Installation - Fuselage Power Plant Controls (N.P.) (See figure 1 for using assembly)							all	Ref
	AN155-16S	Barrel - Turnbuckle							all	4
	268828	Installation - Pilot's stand power plant controls (N.P.)							all	1
2	262891-20	Cable Assembly - No. 4 engine throttle control							all	1
3	AN155-16L	Barrel - Turnbuckle							all	8
4	262891-16	Cable Assembly - No. 4 engine throttle control							all	1
5	262891-21	Cable Assembly - No. 3 engine throttle control							all	1
6	262891-17	Cable Assembly - No. 3 engine throttle control							all	1
7	262891-22	Cable Assembly - No. 2 engine throttle control							all	1
8	262891-18	Cable Assembly - No. 2 engine throttle control							all	1
9	262891-23	Cable Assembly - No. 1 engine throttle control							all	1
10	262891-19	Cable Assembly - No. 1 engine throttle control							all	1
11	262891-11	Cable Assembly - Throttle lock							all	1
	267414	Installation - Station 205-333.6 power plant controls (N.P.)							all	1
12	262891-6	Cable Assembly - Throttle controls							all	5
13	AN155-16L	Barrel - Turnbuckle							all	10
14	262891-7	Cable Assembly - No. 4 engine throttle control							all	1
15	262891-12	Cable Assembly - No. 4 engine throttle control							all	1
16	262891-8	Cable Assembly - No. 3 engine throttle control							all	1
17	262891-13	Cable Assembly - No. 3 engine throttle control							all	1
18	262891-9	Cable Assembly - No. 2 engine throttle control							all	1
19	262891-14	Cable Assembly - No. 2 engine throttle control							all	1
20	262891-10	Cable Assembly - No. 1 engine throttle control							all	1
21	262891-15	Cable Assembly - No. 1 engine throttle control							all	1
	267619	Bracket Assembly - Engine control inboard							all	1
22	256432	Pulley Assembly - Throttle control							all	4
	256989	Pulley - Throttle control							all	1
	AR6-1	Bearing - Needle (Torrington)							all	1
	257272	Bracket Assembly - Engine control outboard							all	1
23	260444-2	Spacer - Throttle control pulley							all	2
24	260444-3	Spacer - Throttle control pulley							all	1
	269331	Installation - Station 333.6-527.6 power plant control (N.P.)							all	1
25	AN155-16L	Barrel - Turnbuckle							all	8
26	258762-26	Cable Assembly - No. 4 engine throttle control							all	2
27	258762-27	Cable Assembly - No. 3 engine throttle control							all	2
28	258762-28	Cable Assembly - No. 2 engine throttle control							all	2
29	258762-29	Cable Assembly - No. 1 engine throttle control							all	2
30	263006-3	Barrel - Turnbuckle							all	8
	268826	Installation - Station 527.6 power plant control (N.P.)							all	1
31	258762-68	Cable Assembly - No. 1 engine throttle control							all	2
32	258762-76	Cable Assembly - No. 2 engine throttle control							all	1
33	258762-17	Cable Assembly - No. 2 engine throttle control							all	1
34	256675	Seal - $\frac{3}{32}$ Double cable							all	4
35	258389	Clip - $\frac{3}{32}$ Double cable							all	4
36	258762-98	Cable Assembly - No. 4 engine throttle control							all	2
37	258762-96	Cable Assembly - No. 3 engine throttle control							all	1
38	258762-97	Cable Assembly - No. 3 engine throttle control							all	1
39	258762-71	Cable Assembly - No. 2 engine throttle control (See figure 83 for using assembly)							all	Ref
40	258762-48	Cable Assembly - No. 2 engine throttle control (See figure 83 for using assembly)							all	Ref
41	257174	Lock Assembly - Throttle (See figure 101 for using assembly)							all	Ref
42	256661	Lever Assembly - Throttle (See figure 101 for using assembly)							all	Ref
43	256464	Lever Assembly - Throttle lock (See figure 95 for using assembly)							all	Ref
	257126-3	Knob - Control stand lock lever							all	1
44	256359L	Extension Assembly - Throttle lever (See figure 95 for continuation of breakdown)							all	Ref
45	256359R	Extension Assembly - Throttle lever (See figure 95 for continuation of breakdown)							all	Ref
46	AN210-1A	Pulley							all	A.R.
47	AN210-2A	Pulley							all	A.R.
48	FL3C3	Idler (Fafnir)							all	A.R.
49	262891-103	Cable Assembly - No. 3 engine throttle control (See figure 26 for using assembly)							all	Ref
50	262891-83	Cable Assembly - No. 3 engine throttle control (See figure 26 for using assembly)							all	Ref
	262367	Installation - Station 164-174 keelson lower main bracket assembly (N.P.) (See figure 102 for using assembly)							all	Ref

GROUP . . . Systems Controls  
Detail Unit . . . Throttle Controls—Wing

*Constellation*

CONTROLS

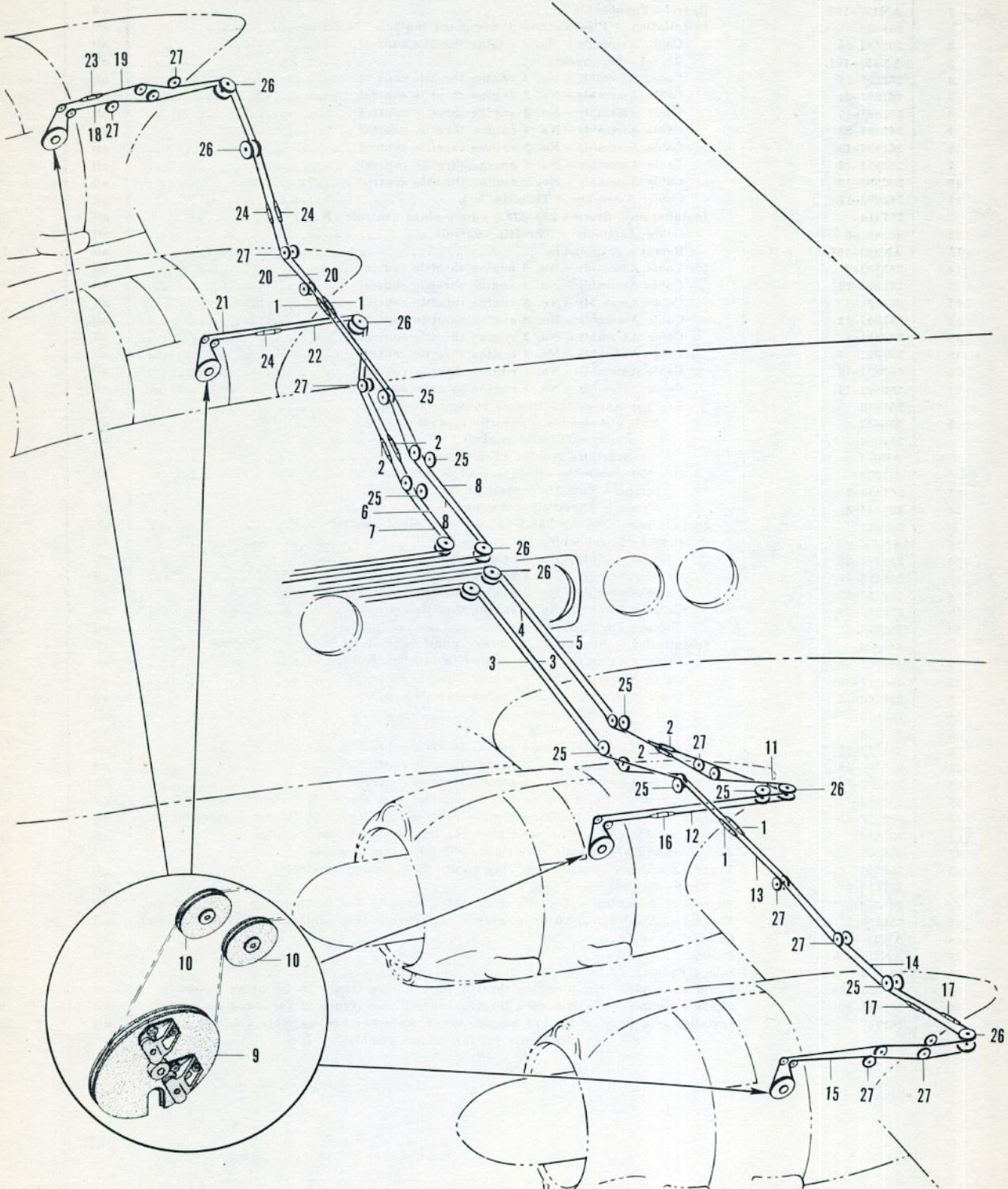


Figure 83 – Throttle Controls – Wing

## GROUP . . . Systems Controls

## Detail Unit . . . Throttle Controls—Wing

*Constellation*

FIGURE & INDEX NUMBER	PART NUMBER		NOMENCLATURE						SERIAL CODE	UNITS PER ASSY.
			1	2	3	4	5	6		
83 - 1	267417	Installation — Fuselage power plant control (NP) (See figure 1 for using assembly)							all	Ref
	AN155-16L	Barrel — Turnbuckle .....							all	4
2	AN155-16S	Barrel — Turnbuckle .....							all	4
3	258762-98	Cable Assembly — No. 4 engine throttle control .....	(See figure 82 for using assembly)						all	Ref
4	258762-97	Cable Assembly — No. 3 engine throttle control .....	(See figure 82 for using assembly)						all	Ref
5	258762-96	Cable Assembly — No. 3 engine throttle control .....	(See figure 82 for using assembly)						all	Ref
6	258762-17	Cable Assembly — No. 2 engine throttle control .....	(See figure 82 for using assembly)						all	Ref
7	258762-76	Cable Assembly — No. 2 engine throttle control .....	(See figure 82 for using assembly)						all	Ref
8	258762-68	Cable Assembly — No. 1 engine throttle control .....	(See figure 82 for using assembly)						all	Ref
	LS841-3R	Cable — Class "D" long .....							all	1
	263007L	Fitting — $\frac{3}{32}$ cable coupling .....							all	1
9	283487	Pulley Assembly — Firewall throttle control (See figure 103 for using assembly) .....							tt	Ref
	291253	Pulley Assembly — Firewall throttle control (See figure 103 for using assembly) .....							uu	Ref
10	254360	Pulley Assembly — Engine control (See figure 103 for using assembly) .....							all	Ref
	267415	Installation — Inner wing power plant control LH (NP) .....	(See figure 2 for using assembly)						all	Ref
11	258762-71	Cable Assembly — No. 2 engine throttle control .....							all	1
	LS838-3L	Fitting — Class "D" cable .....							all	1
	263007R	Fitting — $\frac{3}{32}$ cable coupling .....							all	1
12	258762-48	Cable Assembly — No. 2 engine throttle control .....							all	1
	LS838-3L	Fitting — Class "D" cable .....							all	1
	263007L	Fitting — $\frac{3}{32}$ cable coupling .....							all	1
13	262891-97	Cable Assembly — No. 1 engine throttle control .....							all	1
	LS838-3R	Fitting — Class "D" cable .....							all	1
	LS841-3L	Cable — Class "D" long .....							all	1
14	262891-102	Cable Assembly — No. 1 engine throttle control .....							all	1
	LS841-3L	Cable — Class "D" long .....							all	1
	LS838-3R	Fitting — Class "D" cable .....							all	1
15	262891-99	Cable Assembly — No. 1 engine throttle control .....							all	1
	LS838-3L	Fitting — Class "D" cable .....							all	1
16	263006-3	Barrel .....							all	1
17	AN155-16S	Barrel — Turnbuckle .....							all	2
	267416	Installation — Inner wing power plant control RH (NP) .....	(See figure 2 for using assembly)						all	Ref
18	258762-6	Cable Assembly — No. 4 engine throttle control .....							all	1
	LS841-3L	Cable — Class "D" long .....							all	1
	263007R	Fitting — $\frac{3}{32}$ cable coupling .....							all	1
19	258762-46	Cable Assembly — No. 4 engine throttle control .....							all	1
	LS841-3L	Cable — Class "D" long .....							all	1
	263007L	Fitting — $\frac{3}{32}$ cable coupling .....							all	1
20	262891-82	Cable Assembly — No. 4 engine throttle control .....							all	2
	LS841-3L	Cable — Class "D" long .....							all	1
	LS841-3R	Cable — Class "D" long .....							all	1
21	262891-83	Cable Assembly — No. 3 engine throttle control .....							all	1
	LS838-3L	Fitting .....							all	1
	LS838-3R	Fitting .....							all	1
22	262891-103	Cable Assembly — No. 3 engine throttle control .....							all	1
	LS841-3L	Cable — Class "D" long .....							all	1
	LS838-3L	Fitting — Class "D" cable .....							all	1
23	263006-3	Barrel .....							all	1
24	AN155-16L	Barrel — Turnbuckle .....							all	3
25	AN210-1A	Pulley — Anti-friction bearing control .....							all	A.R.
26	AN210-2A	Pulley — Anti-friction bearing control .....							all	A.R.
27	FL3C3	Idler .....							all	A.R.

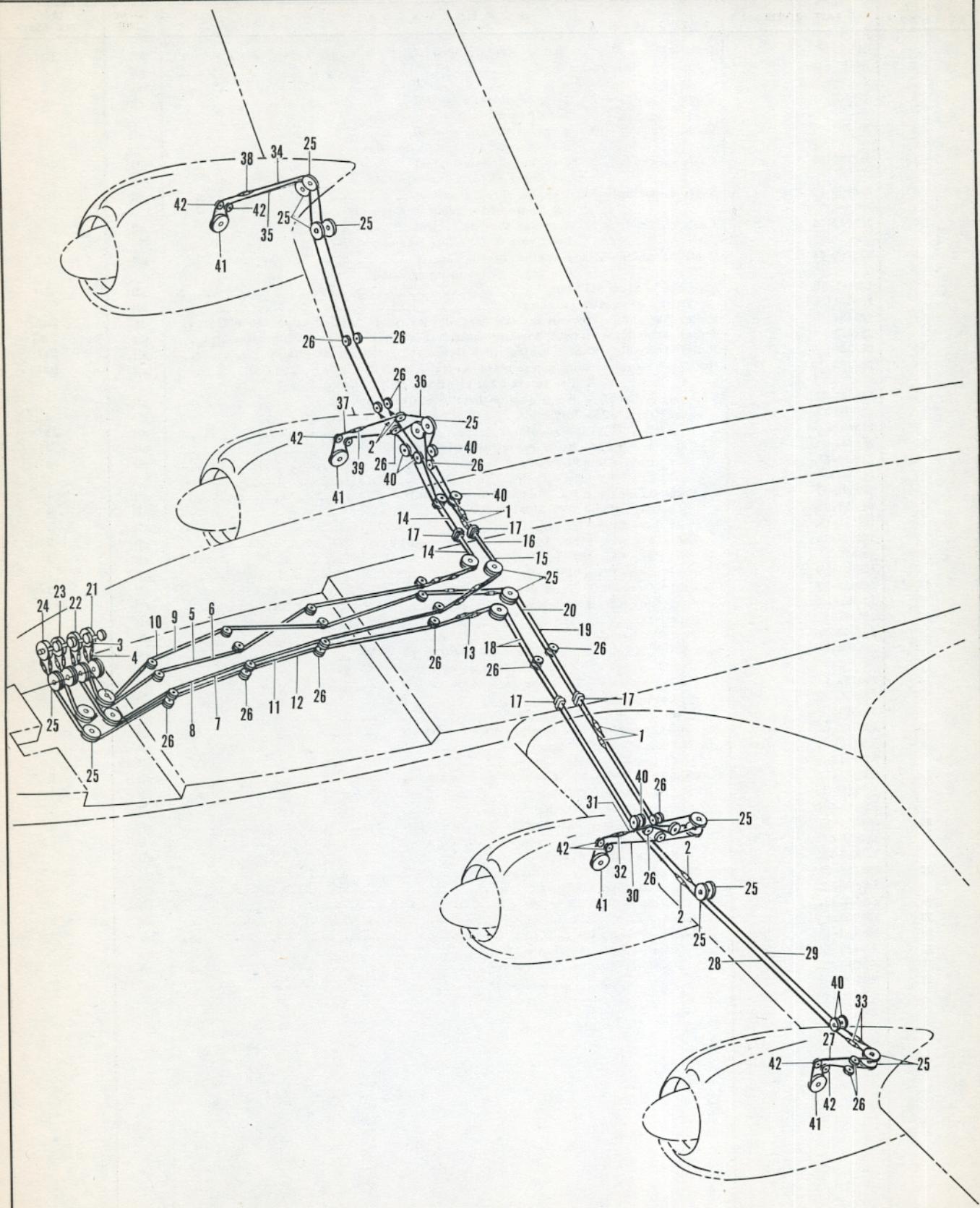


Figure 84 — Fuel Mixture Controls

## GROUP . . . Systems Controls

## Detail Unit . . . Fuel Mixture Controls

*Constellation*

FIGURE & INDEX NUMBER	PART NUMBER	1	2	3	4	5	6	N O M E N C L A T U R E	SERIAL CODE	U N I T S P E R A S S Y.
84 - 1	267417							Installation - Fuselage power plant controls (NP) (See figure 1 for using assembly)	all	Ref
2	AN155-16S							Barrel - Turnbuckle .....	all	4
2	AN155-16L							Barrel - Turnbuckle .....	all	4
3	267414							Installation - Station 205-333.6 power plant control .....	all	Ref
3	262891-6							Cable Assembly - Fuel mixture controls .....	all	4
	LS821							Cable - Lock .....	all	4
4	AN155-16L							Barrel - Turnbuckle .....	all	8
	269331							Installation - Station 333.6-527.6 power plant control (NP) (See figures 82, 88, 92, 80 and 79 for continuation of breakdown)	all	Ref
5	258762-22							Cable Assembly - No. 4 engine mixture control .....	all	1
6	258762-2							Cable Assembly - No. 4 engine mixture control .....	all	1
7	258762-23							Cable Assembly - No. 3 engine mixture control .....	all	1
8	258762-3							Cable Assembly - No. 3 engine mixture control .....	all	1
9	258762-24							Cable Assembly - No. 2 engine mixture control .....	all	1
10	258762-4							Cable Assembly - No. 2 engine mixture control .....	all	1
11	258762-25							Cable Assembly - No. 1 engine mixture control .....	all	1
12	258762-5							Cable Assembly - No. 1 engine mixture control .....	all	1
13	263006-3							Barrel - Cable coupling .....	all	8
	268826							Installation - Station 527.6 power plant control (NP) (See figures 82, 88, 92, 80, and 79 for continuation of breakdown)	all	Ref
14	258762-68							Cable Assembly - No. 4 engine mixture control .....	all	2
15	258762-90							Cable Assembly - No. 3 engine mixture control .....	all	1
16	258762-91							Cable Assembly - No. 3 engine mixture control .....	all	1
17	256675							Seal - $\frac{3}{16}$ Double cable .....	all	4
	258389							Clip - $\frac{3}{32}$ Double cable seal .....	all	4
18	258762-98							Cable Assembly - No. 1 engine mixture control .....	all	2
19	258762-103							Cable Assembly - No. 2 engine mixture control .....	c	1
	258762-108							Cable Assembly - No. 2 engine mixture control .....	d	1
20	258762-104							Cable Assembly - No. 2 engine mixture control .....	e	1
	258762-109							Cable Assembly - No. 2 engine mixture control .....	d	1
21	256377							Pulley Assembly - Mixture control (RH outboard) (See figure 101 for using assembly)	all	Ref
22	256378							Pulley Assembly - Mixture control (RH inboard) (See figure 101 for using assembly)	all	Ref
23	256120							Pulley Assembly - Mixture control (LH inboard) (See figure 101 for using assembly)	all	Ref
24	256123							Pulley Assembly - Mixture control (LH outboard) (See figure 101 for using assembly)	all	Ref
25	AN210-2A							Pulley - Anti-friction bearing .....	all	A.R.
26	FL3C3							Idler (Fafnir) .....	all	A.R.
	267415							Installation - Inner wing power plant control left hand (NP) (See figure 2 for using assembly)	all	Ref
27	262891-98							Cable Assembly - No. 1 engine mixture control .....	all	1
28	262891-102							Cable Assembly - No. 1 engine mixture control .....	all	1
29	262891-97							Cable Assembly - No. 1 engine mixture control .....	all	1
30	258762-78							Cable Assembly - No. 2 engine mixture control .....	all	1
31	258762-36							Cable Assembly - No. 2 engine mixture control .....	all	1
32	263006-3							Barrel .....	all	1
33	AN155-16S							Barrel - Turnbuckle .....	all	2
	267416							Installation - Inner wing power plant control right hand (NP) (See figure 2 for using assembly)	all	Ref
34	258762-42							Cable Assembly - No. 4 engine mixture control .....	all	1
35	258762-34							Cable Assembly - No. 4 engine mixture control .....	all	1
36	262891-75							Cable Assembly - No. 3 engine mixture control .....	all	1
37	262891-84							Cable Assembly - No. 3 engine mixture control .....	all	1
38	263006-3							Barrel .....	all	1
39	AN155-16L							Barrel - Turnbuckle .....	all	1
40	AN210-1A							Pulley - Anti-friction bearing control .....	all	A.R.
41	283489							Pulley Assembly - Firewall engine control (See figure 103 for using assembly) .....	all	Ref
42	254360							Pulley Assembly - Engine control (See figure 103 for using assembly) .....	all	Ref

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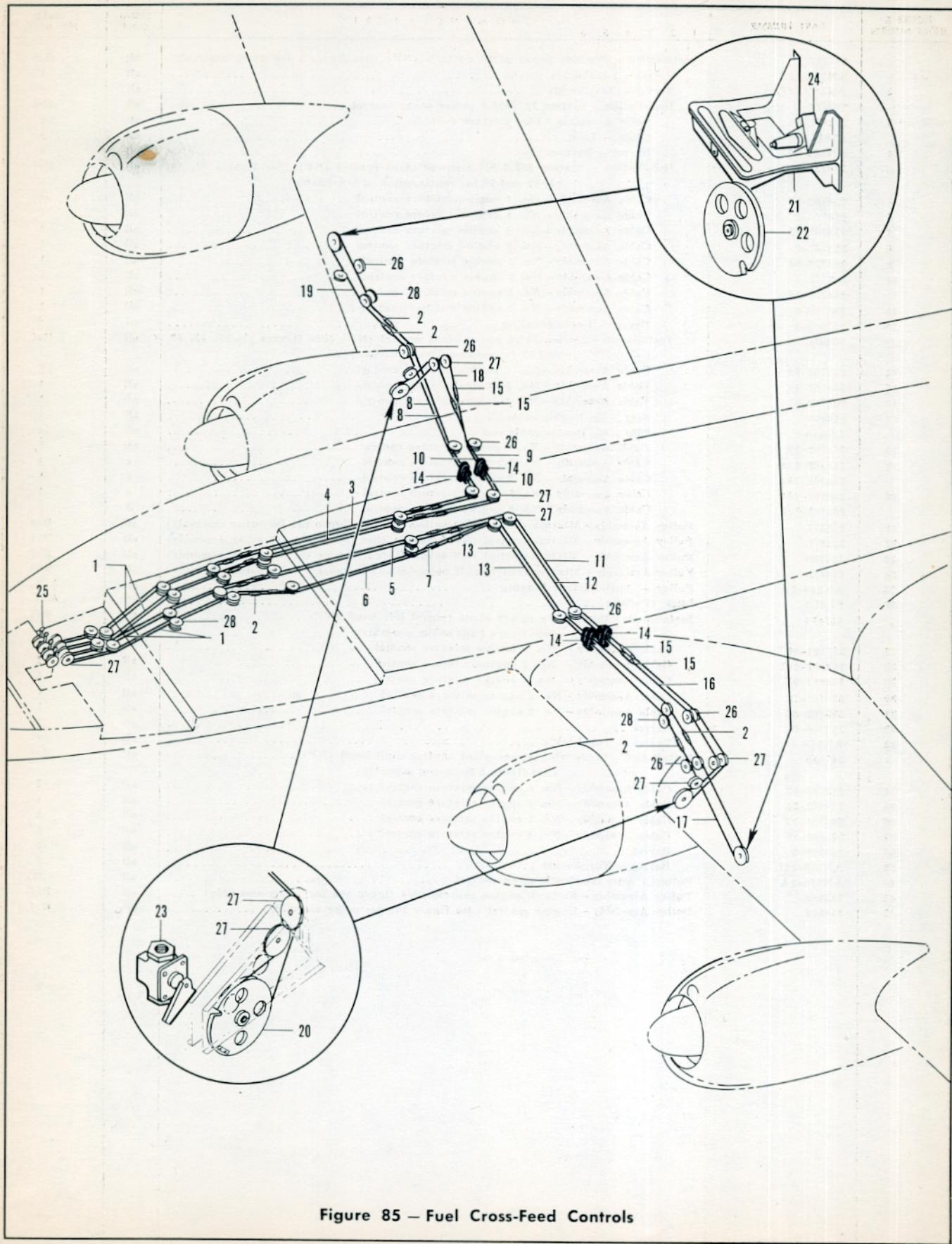


Figure 85 – Fuel Cross-Feed Controls

## GROUP . . . Systems Controls

## Detail Unit . . . Fuel Cross Feed Controls

*Constellation*

CONTROLS

FIGURE & INDEX NUMBER	PART NUMBER		N O M E N C L A T U R E						SERIAL CODE	UNITS PER ASSY.
			1	2	3	4	5	6		
	267535		Installation - Fuel system controls (NP) (See figure 1 for using assembly)						all	Ref
	LS821		Lock - Cable						all	4
85 - 1	262891-50		Cable Assembly - Fuel cross feed controls						all	4
2	AN155-16L		Barrel - Turnbuckle						all	12
3	258774-14		Cable Assembly - No. 4 Engine fuel cross feed control						all	2
4	258774-15		Cable Assembly - No. 3 Engine fuel cross feed control						all	2
5	258774-16		Cable Assembly - No. 2 Engine fuel cross feed control						all	2
6	258774-17		Cable Assembly - No. 1 Engine fuel cross feed control						all	2
7	263006-3		Barrel - Turnbuckle						all	8
8	258762-72		Cable Assembly - No. 4 Engine fuel cross feed control						all	2
9	258762-95		Cable Assembly - No. 3 Engine fuel cross feed control						all	1
10	258762-94		Cable Assembly - No. 3 Engine fuel cross feed control						all	1
11	258762-100		Cable Assembly - No. 2 Engine fuel cross feed control						all	1
12	258762-99		Cable Assembly - No. 2 Engine fuel cross feed control						all	1
13	258762-77		Cable Assembly - No. 1 Engine fuel cross feed control						all	2
14	256675		Seal - Double cable						all	4
	258389		Clip - Double cable seal						all	4
15	AN155-16S		Barrel - Turnbuckle						all	4
	251000L		Wing Assembly - Inner section (See figure 2 for using assembly)						all	Ref
	251000R		Wing Assembly - Inner section (See figure 2 for using assembly)						all	Ref
	267415		Installation - Inner wing power plant control LH (NP)						all	Ref
16	262891-104		Cable Assembly - No. 2 Engine fuel cross feed control						all	1
17	262891-70		Cable Assembly - No. 1 Engine fuel cross feed control						all	1
18	267416		Installation - Inner wing power plant control RH (NP)						all	Ref
	262891-86		Cable Assembly - No. 3 Engine fuel cross feed control						all	1
19	262891- 4		Cable Assembly - No. 4 Engine fuel cross feed control						all	1
	251853L		Installation - Inboard nacelle (NP)						c	Ref
	251853R		Installation - Inboard nacelle (NP)						c	Ref
	280967L		Installation - Inboard nacelle (NP)						d	Ref
	280967R		Installation - Inboard nacelle (NP)						d	Ref
	270621L		Structure Assembly - Inboard nacelle						c	Ref
	270621R		Structure Assembly - Inboard nacelle						c	Ref
	281201L		Structure Assembly - Inboard nacelle						d	Ref
	281201R		Structure Assembly - Inboard nacelle						d	Ref
	269879-2		Installation - Inboard cross feed valve bracket LH (NP)						all	1
	269879-3		Installation - Inboard cross feed valve bracket RH (NP)						all	1
	260019-2		Bracket Assembly - LH Inboard cross feed valve						all	1
	260019-3		Bracket Assembly - RH Inboard cross feed valve						all	1
20	259897R		Pulley Assembly - LH and RH Inboard fuel cross feed control						all	1
	269843L		Installation - Outboard cross feed valve bracket (NP)						all	1
	269843R		Installation - Outboard cross feed valve bracket (NP)						all	1
	260137L		Bracket Assembly - Outboard cross feed valve						all	1
	260137R		Bracket Assembly - Outboard cross feed valve						all	1
21	260021		Bracket + Outboard cross feed valve						all	1
22	259897L		Pulley Assembly - Outboard cross feed control						all	1
	259897R		Pulley Assembly - Outboard cross feed control						all	1
23	259898-5		Valve Assembly - LH and RH Inboard fuel cross feed						all	Ref
			(See figure 114 for using assembly)							
24	259898-2		Valve Assembly - LH Outboard fuel cross feed (See figure 114 for using assembly)						all	Ref
	259898-4		Valve Assembly - RH Outboard fuel cross feed						all	Ref
			(See figure 114 for using assembly) (Similar to index 24)							
25	257270		Lever Assembly - Fuel cross feed control (See figure 100 for using assembly)						all	Ref
26	AN210-1A		Pulley - Anti-friction bearing						all	AR
27	AN210-2A		Pulley - Anti-friction bearing						all	AR
28	FL3C3		Idler (Fafnir)						all	AR

GROUP . . . Systems Controls

Detail Unit . . . Fuel Shut-off and Dump Valves Controls—Fuselage

*Constellation*

CONTROLS

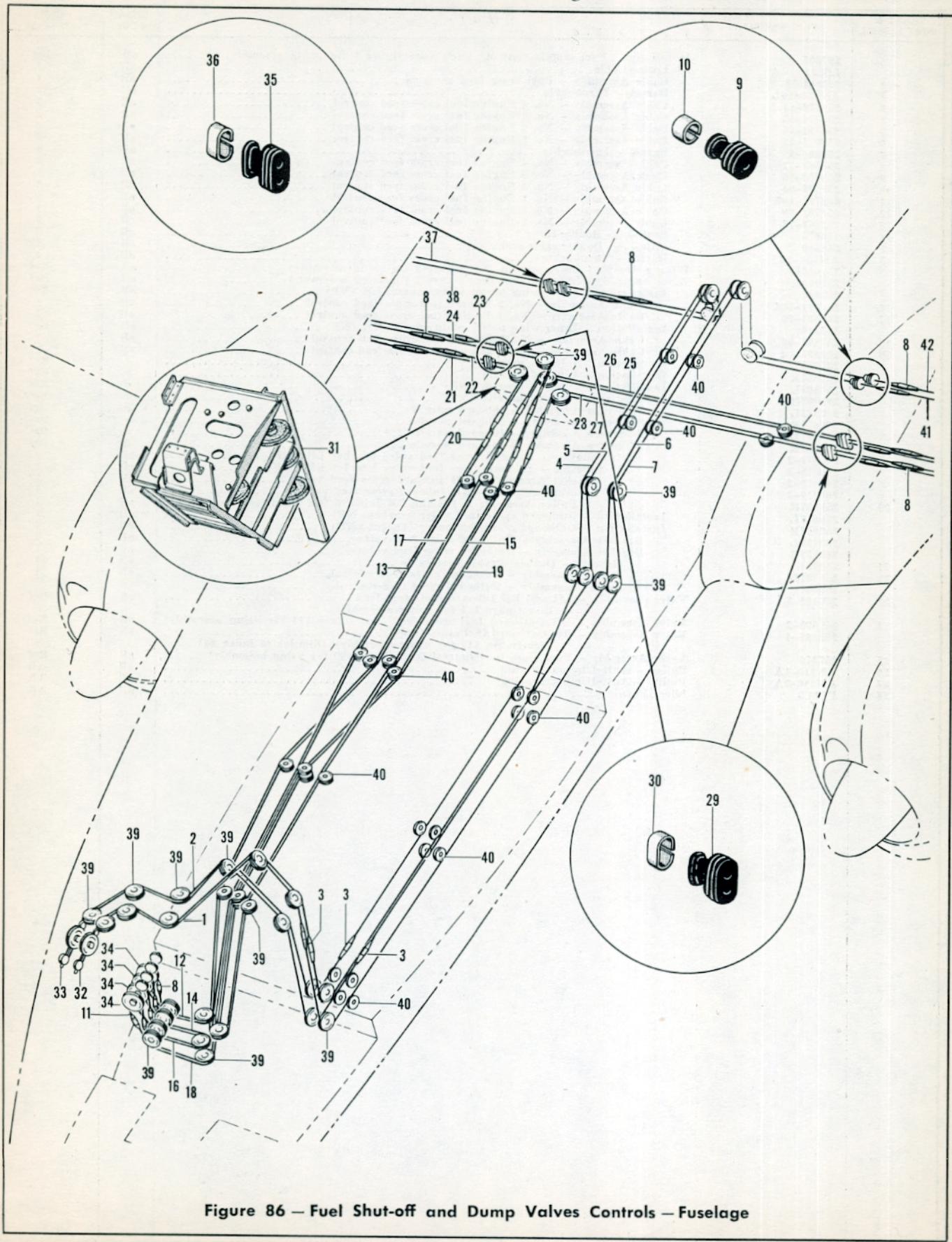


Figure 86 — Fuel Shut-off and Dump Valves Controls — Fuselage

## GROUP . . . Systems Controls

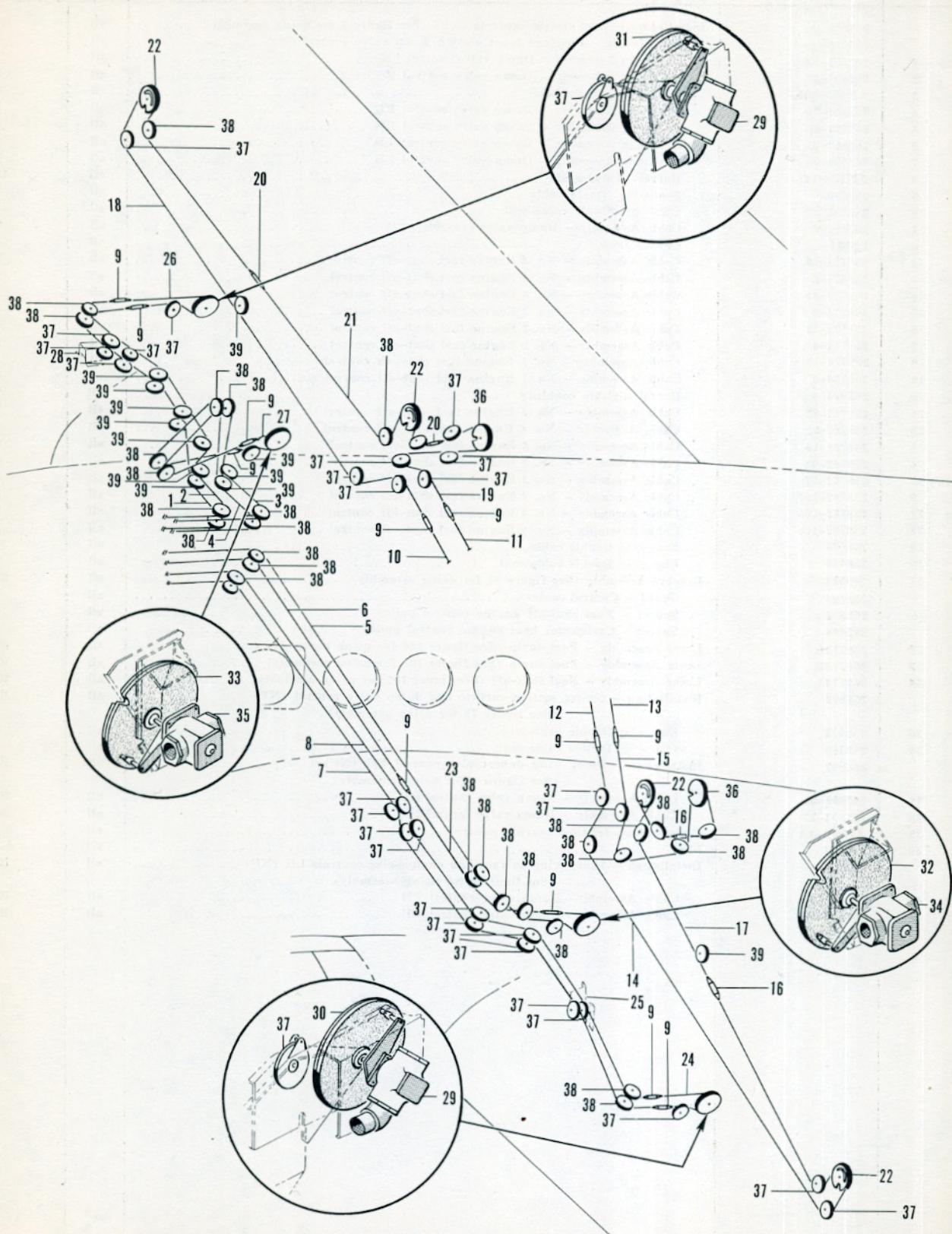
## Detail Unit . . . Fuel Shut-off and Dump Valve Controls—Fuselage

*Constellation*

CONTROLS

FIGURE & INDEX NUMBER	PART NUMBER		N O M E N C L A T U R E						SERIAL CODE	UNITS PER ASSY.
			1	2	3	4	5	6		
	267535		Installation - Fuel system controls (NP) (See figure 1 for using assembly)						all	Ref
	267418		Installation - Fuselage front section dump valve control (NP)						all	1
86 - 1	262891-33		Cable Assembly - Dump valve control LH						all	1
2	262891-32		Cable Assembly - Dump valve control RH						all	1
3	AN155-16L		Barrel - Turnbuckle						all	4
4	262891-30		Cable Assembly - Dump valve control RH						all	1
5	262891-28		Cable Assembly - Dump valve control RH						all	1
6	262891-31		Cable Assembly - Dump valve control LH						all	1
7	262891-29		Cable Assembly - Dump valve control LH						all	1
8	AN155-16L		Barrel - Turnbuckle						all	12
9	256680		Seal - $\frac{3}{32}$ Single cable						all	2
10	258388		Clip - $\frac{3}{32}$ Single cable seal						all	2
11	262891-6		Cable Assembly - Dump valve controls						all	4
	LS821		Cable - Lock						all	4
12	258774-10		Cable Assembly - No. 4 Engine fuel shut-off control						all	1
13	258774-2		Cable Assembly - No. 4 Engine fuel shut-off control						all	1
14	258774-11		Cable Assembly - No. 3 Engine fuel shut-off control						all	1
15	258774-3		Cable Assembly - No. 3 Engine fuel shut-off control						all	1
16	258774-12		Cable Assembly - No. 2 Engine fuel shut-off control						all	1
17	258774-4		Cable Assembly - No. 2 Engine fuel shut-off control						all	1
18	258774-13		Cable Assembly - No. 1 Engine fuel shut-off control						all	1
19	258774-5		Cable Assembly - No. 1 Engine fuel shut-off control						all	1
20	263006-3		Barrel - Cable coupling						all	8
21	258762-73		Cable Assembly - No. 4 Engine fuel shut-off control						all	1
22	258762-92		Cable Assembly - No. 4 Engine fuel shut-off control						all	1
23	258762-70		Cable Assembly - No. 3 Engine fuel shut-off control						all	1
24	258762-93		Cable Assembly - No. 3 Engine fuel shut-off control						all	1
25	258762-67		Cable Assembly - No. 2 Engine fuel shut-off control						all	1
26	258762-107		Cable Assembly - No. 2 Engine fuel shut-off control						all	1
27	258762-105		Cable Assembly - No. 1 Engine fuel shut-off control						all	1
28	258762-106		Cable Assembly - No. 1 Engine fuel shut-off control						all	1
29	256675		Seal - $\frac{3}{32}$ Double cable						all	4
30	258489		Clip - $\frac{3}{32}$ Double cable seal						all	4
31	268334		Bracket Assembly (See figure 88 for using assembly)						all	Ref
	262495		Guard - Control cables						all	1
	262534		Spacer - Fuel shut-off engine control pulley						all	1
	262498		Spacer - Carburetor heat engine control pulley						all	1
32	256713L		Lever Assembly - Fuel dump (See figure 100 for using assembly)						all	Ref
33	256713R		Lever Assembly - Fuel dump (See figure 100 for using assembly)						all	Ref
34	257114L		Lever Assembly - Fuel shut-off (See figure 101 for using assembly)						all	Ref
	256800		Installation - Center section surface and dump valve control (NP) (See figure 77 for using assembly)						all	Ref
35	256675		Seal - $\frac{3}{32}$ Double cable						all	2
36	258389		Clip - $\frac{3}{32}$ Double cable seal						all	2
	256802		Installation - Inner wing dump valve control RH (NP) (See figure 2 for using assembly)						all	Ref
37	262891-53		Cable Assembly - Dump valve control RH						all	Ref
38	262891-27		Cable Assembly - Dump valve control RH						all	Ref
39	AN210-1A		Pulley - Anti-friction bearing control						all	A.R.
40	FL3C3		Idler						all	A.R.
	256004		Installation - Inner wing surface and dump valve controls LH (NP) (See figure 2 for using assembly)						all	Ref
41	262891-60		Cable Assembly - Dump valve control LH						all	Ref
42	262891-61		Cable Assembly - Dump valve control LH						all	Ref

Reissued July, 1947



**Figure 87 – Fuel Shut-off and Dump Valves Controls – Wing**

## GROUP . . . Systems Controls

## Detail Unit . . . Fuel Shut-off and Dump Valve Controls—Wing

*Constellation*

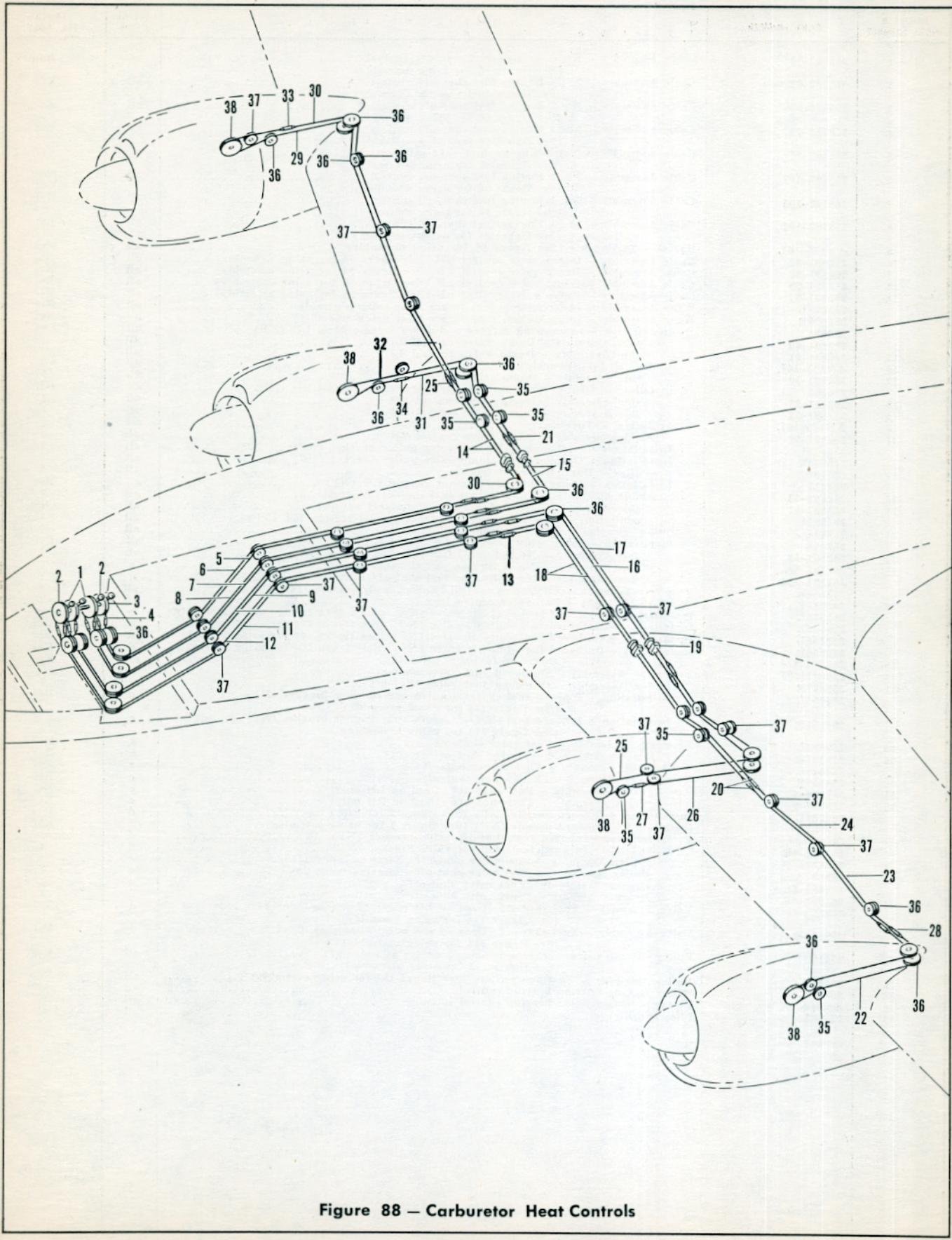
CONTROLS

FIGURE & INDEX NUMBER	PART NUMBER	1 2 3 4 5 6	N O M E N C L A T U R E	SERIAL	UNITS
				CODE	PER ASSY.
87 - 1	258762-73		Cable Assembly - No. 4 Engine fuel shut-off control . . . . . (See figure 86 for using assembly)	all	Ref
2	258762-92		Cable Assembly - No. 4 Engine fuel shut-off control . . . . . (See figure 86 for using assembly)	all	Ref
3	258762-93		Cable Assembly - No. 3 Engine fuel shut-off control . . . . . (See figure 86 for using assembly)	all	Ref
4	258762-70		Cable Assembly - No. 3 Engine fuel shut-off control . . . . . (See figure 86 for using assembly)	all	Ref
5	258762-67		Cable Assembly - No. 2 Engine fuel shut-off control . . . . . (See figure 86 for using assembly)	all	Ref
6	258762-107		Cable Assembly - No. 2 Engine fuel shut-off control . . . . . (See figure 86 for using assembly)	all	Ref
7	258762-105		Cable Assembly - No. 1 Engine fuel shut-off control . . . . . (See figure 86 for using assembly)	all	Ref
8	258762-106		Cable Assembly - No. 1 Engine fuel shut-off control . . . . . (See figure 86 for using assembly)	all	Ref
9	AN155-16L		Barrel - Turnbuckle (See figure 86 for using assembly)	all	Ref
10	262891-30		Cable Assembly - Dump valve control RH (See figure 86 for using assembly)	all	Ref
11	262891-28		Cable Assembly - Dump valve control RH (See figure 86 for using assembly)	all	Ref
12	262891-29		Cable Assembly - Dump valve control LH (See figure 86 for using assembly)	all	Ref
13	262891-31		Cable Assembly - Dump valve control LH (See figure 86 for using assembly)	all	Ref
	251000L		Wing Assembly - Inner section (See figure 2 for using assembly)	all	Ref
	251000R		Wing Assembly - Inner section (See figure 2 for using assembly)	all	Ref
	256004		Installation - Inner wing surface and dump valve control LH (NP)	all	Ref
14	262891-60		Cable Assembly - Dump valve control LH . . . . .	all	1
15	262891-61		Cable Assembly - Dump valve control LH . . . . .	all	1
16	AN155-16L		Barrel - Turnbuckle . . . . .	all	2
17	262891-59		Cable Assembly - Dump valve control LH . . . . .	all	1
	256802		Installation - Inner wing surface and dump valve control RH (NP)	all	Ref
18	262891-27		Cable Assembly - Dump valve control RH . . . . .	all	1
19	262891-53		Cable Assembly - Dump valve control RH . . . . .	all	1
20	AN155-16L		Barrel - Turnbuckle . . . . .	all	2
21	262891-52		Cable Assembly - Dump valve control RH . . . . .	all	1
	275978L		Installation - Outboard fuel dump valve pulley bracket (NP)	all	1
	275978R		Installation - Outboard fuel dump valve pulley bracket (NP)	all	1
22	254198		Pulley - Dump valve mechanism . . . . .	all	1
	267415		Installation - Inner wing power plant control LH (NP)	all	Ref
23	262891-63		Cable Assembly - No. 2 Engine fuel shut-off control . . . . .	all	1
24	262891-62		Cable Assembly - No. 1 Engine fuel shut-off control . . . . .	all	1
	283985L		Installation - Fuel valve control bracket, wing station 174 (NP)	all	1
25	283975L		Bracket - Fuel valve control . . . . .	all	1
	267416		Installation - Inner wing power plant control RH (NP)	all	Ref
26	262891-85		Cable Assembly - No. 4 Engine fuel shut-off control . . . . .	all	1
27	262891-80		Cable Assembly - No. 3 Engine fuel shut-off control . . . . .	c	1
	262891-126		Cable Assembly - No. 3 Engine fuel shut-off control . . . . .	d	1
	283985R		Installation - Fuel valve control bracket, wing station 174 (NP)	all	1
28	283975R		Bracket - Fuel valve control . . . . .	all	1
	255532L		Installation - Outboard fuel shut-off valve (NP) (See figure 114 for using assembly)	c	Ref
	255532R		Installation - Outboard fuel shut-off valve (NP) (See figure 114 for using assembly)	c	Ref
	282356L		Installation - Outboard fuel shut-off valve (NP) (See figure 114 for using assembly)	d	Ref
	282356R		Installation - Outboard fuel shut-off valve (NP) (See figure 114 for using assembly)	d	Ref
29	259898-3		Valve Assembly - Outboard fuel shut-off . . . . .	all	Ref
30	259897L		Pulley Assembly - Outboard fuel valve shut-off . . . . .	all	1
31	259897R		Pulley Assembly - Outboard fuel valve shut-off . . . . .	all	1
	264664L		Installation - Inboard fuel shut-off valve and strainer bracket (NP)	e	Ref
	264664R		(See figure 114 for using assembly)		
	259897L		Installation - Inboard fuel shut-off valve and strainer bracket (NP)	e	Ref
	259897R		(See figure 114 for using assembly)	e	Ref
-	264958L		Pulley Assembly - Fuel valve shut-off . . . . .	e	Ref
-	264958R		Pulley Assembly - Fuel valve shut-off . . . . .	e	Ref
34	259898-4		Bracket Assembly - Fuel valve shut-off . . . . .	e	Ref
35	259898-2		Bracket Assembly - Fuel valve shut-off . . . . .	e	Ref
	280967L		Valve Assembly - Fuel shut-off (Used on LH only) . . . . .	e	Ref
	280967R		Valve Assembly - Fuel shut-off (Used on RH only) . . . . .	e	Ref
	281972-3L		Installation - Inboard nacelle (NP) (See figure 2 for using assembly)	d	Ref
	281972-3R		Installation - Inboard nacelle (NP) (See figure 2 for using assembly)	d	Ref
	259897L		Installation - Inboard fuel shut-off valve bracket (NP)	d	1
	259897R		Installation - Inboard fuel shut-off valve bracket (NP)	d	1
	281972-4L		Pulley Assembly - Fuel valve shut-off (Same as index 32) . . . . .	d	1
	281972-4R		Pulley Assembly - Fuel valve shut-off (Same as index 33) . . . . .	d	1
	259898-4		Bracket Assembly - Fuel valve shut-off . . . . .	d	1
	259898-2		Bracket Assembly - Fuel valve shut-off . . . . .	d	1
	254198		Valve Assembly - Fuel shut-off (Used on LH only) (Same as index 34) . . . . .	d	Ref
			(See figure 114 for using assembly)		
			Valve Assembly - Fuel shut-off (Used on RH only) (Same as index 35) . . . . .	d	Ref
			(See figure 114 for using assembly)		
			Pulley - Dump valve mechanism inboard (Same as index 22) . . . . .	all	Ref
			(See figure 115 for using assembly)		
36	254178		Pulley Assembly - Fuel dump chute (See figure 115 for using assembly) . . . . .	all	Ref
37	AN210-1A		Pulley - Anti-friction bearing control . . . . .	all	AR
38	AN210-2A		Pulley - Anti-friction bearing control . . . . .	all	AR
39	FL3C3		Idler (Pafnir) . . . . .	all	AR

**G R O U P** . . . Systems Controls  
**D e t a i l   U n i t** . . . Carburetor Heat Controls

# Constellation

## CONTROLS



**Figure 88 — Carburetor Heat Controls**

Reissued July 1947

LOCKHEED AIRCRAFT CORPORATION

## GROUP . . . Systems Controls

## Detail Unit . . . Carburetor Heat Controls

*Constellation*

FIGURE & INDEX NUMBER	PART NUMBER		N O M E N C L A T U R E						SERIAL CODE	UNITS PER ASSY.
			1	2	3	4	5	6		
88 - 1	257105	Lever Assembly - Carburetor heat control inboard engines .....							all	Ref
		(See figure 101 for using assembly)								
2	257270	Lever Assembly - Carburetor heat control outboard engines .....							all	Ref
		(See figure 101 for using assembly)								
	267417	Installation - Fuselage power plant controls (NP) (See figure 1 for using assembly)							all	Ref
	267414	Installation - Station 205-333.6 power plant control (NP) .....							all	Ref
3	262891-6	Cable Assembly - Carburetor heat control .....							all	4
4	AN155-16L	Barrel - Turnbuckle .....							all	8
	269331	Installation - Station 333.6-527.6 power plant control (NP) .....							all	Ref
5	258762-38	Cable Assembly - No. 4 Engine carburetor heat control .....							all	1
6	258762-18	Cable Assembly - No. 4 Engine carburetor heat control .....							all	1
7	258762-39	Cable Assembly - No. 3 Engine carburetor heat control .....							all	1
8	258762-19	Cable Assembly - No. 3 Engine carburetor heat control .....							all	1
9	258762-40	Cable Assembly - No. 2 Engine carburetor heat control .....							all	1
10	258762-20	Cable Assembly - No. 2 Engine carburetor heat control .....							all	1
11	258762-41	Cable Assembly - No. 1 Engine carburetor heat control .....							all	1
12	258762-21	Cable Assembly - No. 1 Engine carburetor heat control .....							all	1
13	263006-3	Barrel - Cable coupling .....							all	8
	268826	Installation - Station 527.6 power plant controls (NP) .....							all	Ref
14	258762-68	Cable Assembly - No. 4 Engine carburetor heat control .....							all	2
15	258762-17	Cable Assembly - No. 3 Engine carburetor heat control .....							all	2
16	258762-66	Cable Assembly - No. 2 Engine carburetor heat control .....							all	1
17	258762-69	Cable Assembly - No. 2 Engine carburetor heat control .....							all	1
18	258762-98	Cable Assembly - No. 1 Engine carburetor heat control .....							all	2
	267737	Installation - Station 518.35 control bracket (NP) .....							all	1
	268334	Bracket Assembly - Station 518.35 (See figure 86 for illustration) .....							all	1
19	256675	Seal - $\frac{3}{16}$ Double cable .....							all	4
	258389	Clip - $\frac{3}{16}$ Double cable seal .....							all	4
20	AN155-16S	Barrel - Turnbuckle .....							all	4
21	AN155-16L	Barrel - Turnbuckle .....							all	4
	267415	Installation - Inner wing power plant controls LH (NP) .....							all	Ref
		(See figure 2 for using assembly)								
22	262891-100	Cable Assembly - No. 1 Engine carburetor heat control .....							all	1
23	262891-102	Cable Assembly - No. 1 Engine carburetor heat control .....							all	1
24	262891-97	Cable Assembly - No. 1 Engine carburetor heat control .....							all	1
25	258762-64	Cable Assembly - No. 2 Engine carburetor heat control .....							all	1
26	258762-74	Cable Assembly - No. 2 Engine carburetor heat control .....							all	1
27	263006-3	Barrel - Cable coupling .....							all	1
28	AN155-16S	Barrel - Turnbuckle .....							all	2
	267416	Installation - Inner wing power plant control RH (NP) .....							all	Ref
		(See figure 2 for using assembly)								
29	258762-62	Cable Assembly - No. 4 Engine carburetor heat control .....							all	1
30	258762-58	Cable Assembly - No. 4 Engine carburetor heat control .....							all	1
31	262891-78	Cable Assembly - No. 3 Engine carburetor heat control .....							all	1
32	262891-81	Cable Assembly - No. 3 Engine carburetor heat control .....							all	1
33	263006-3	Barrel - Cable coupling .....							all	1
34	AN155-16L	Barrel - Turnbuckle .....							all	1
35	AN210-1A	Pulley - Anti-friction bearing control .....							all	A.R.
36	AN210-2A	Pulley - Anti-friction bearing control .....							all	A.R.
37	FL3C3	Idler (Fafnir) .....							all	A.R.
38	276503	Pulley Assembly - Carburetor heat control (See figure 103 for using assembly) .....							all	Ref

GROUP . . . Systems Controls

Detail Unit . . . Engine Oil Shut-off Controls

*Constellation*

CONTROLS

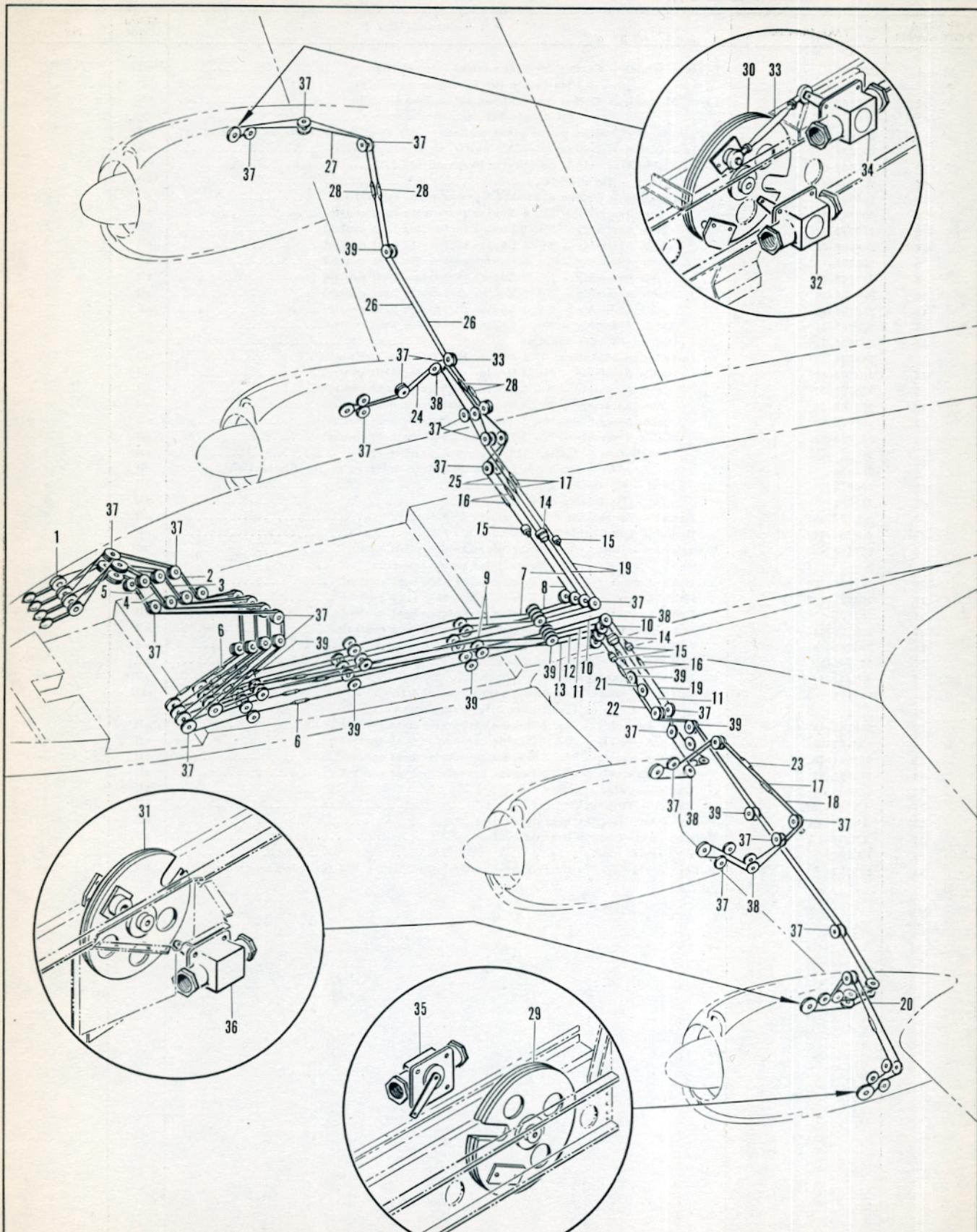


Figure 89 — Engine Oil Shut-off Controls

## GROUP . . . Systems Controls

## Detail Unit . . . Engine Oil Shut-off Controls

*Constellation*

FIGURE & INDEX NUMBER	PART NUMBER	1 2 3 4 5 6	NOMENCLATURE						SERIAL CODE	UNITS PER ASSY.
89 - 1	256280		Lever Assembly - Oil shut-off (See figure 100 for using assembly) . . . . .						all	Ref
	267417		Installation - Fuselage power plant controls (NP) (See figure 1 for using assembly)						all	Ref
	267946		Installation - Fuselage front section oil shut-off control (NP) . . . . .						all	1
2	262891-37		Cable Assembly - No. 4 Engine oil shut-off . . . . .						all	1
3	262891-38		Cable Assembly - No. 3 Engine oil shut-off . . . . .						all	1
4	262891-39		Cable Assembly - No. 2 Engine oil shut-off . . . . .						all	1
5	262891-40		Cable Assembly - No. 1 Engine oil shut-off . . . . .						all	1
6	AN155-16L		Barrel - Turnbuckle . . . . .						all	8
	268826		Installation - Station 527.6 power plant control (NP)						all	Ref
7	262891-41		Cable Assembly - No. 4 Engine oil shut-off . . . . .						all	1
8	262891-90		Cable Assembly - No. 4 Engine oil shut-off . . . . .						all	1
9	262891-42		Cable Assembly - No. 3 Engine oil shut-off . . . . .						all	1
10	262891-88		Cable Assembly - No. 2 Engine oil shut-off . . . . .						all	1
11	262891-43		Cable Assembly - No. 2 Engine oil shut-off . . . . .						all	1
12	262891-44		Cable Assembly - No. 1 Engine oil shut-off . . . . .						all	1
13	262891-89		Cable Assembly - No. 1 Engine oil shut-off . . . . .						all	1
14	256675		Seal - $\frac{3}{32}$ Double cable . . . . .						all	2
	258389		Clip - $\frac{3}{32}$ Double cable seal . . . . .						all	2
15	256680		Seal - $\frac{3}{32}$ Single cable . . . . .						all	4
	258388		Clip - $\frac{3}{32}$ Single cable seal . . . . .						all	4
16	AN155-16S		Barrel - Turnbuckle . . . . .						all	5
17	AN155-16L		Barrel - Turnbuckle . . . . .						all	3
	267415		Installation - Inner wing power plant control LH (NP) (See figure 2 for using assembly)						all	Ref
18	262891-69		Cable Assembly - No. 2 Engine oil shut-off . . . . .						all	1
19	262891-92		Cable Assembly - No. 2 Engine oil shut-off . . . . .						all	1
20	262891-93		Cable Assembly - No. 1 Engine oil shut-off . . . . .						all	1
21	262891-94		Cable Assembly - No. 1 Engine oil shut-off . . . . .						all	1
22	262891-95		Cable Assembly - No. 1 Engine oil shut-off . . . . .						all	1
23	AN155-16L		Barrel - Turnbuckle . . . . .						all	3
	267416		Installation - Inner wing power plant control RH (NP) (See figure 2 for using assembly)						all	Ref
24	262891-79		Cable Assembly - No. 3 Engine oil shut-off . . . . .						all	1
25	262891-72		Cable Assembly - No. 4 Engine oil shut-off . . . . .						all	2
26	262891-82		Cable Assembly - No. 4 Engine oil shut-off . . . . .						all	2
27	262891-45		Cable Assembly - No. 4 Engine oil shut-off . . . . .						all	1
28	AN155-16L		Barrel - Turnbuckle . . . . .						all	4
	269315-2L		Structure Assembly - Outboard nacelle (See figure 15 for using assembly)						all	Ref
	269315-2R		Structure Assembly - Outboard nacelle (See figure 15 for using assembly)						all	Ref
	262318		Installation + LH Outboard engine oil shut-off control bracket (NP)						all	Ref
	262488		Bracket Assembly - LH Outboard engine oil shut-off . . . . .						all	Ref
29	262491L		Pulley Assembly - LH Outboard engine oil shut-off . . . . .						all	1
	271795		Installation - RH Outboard engine oil shut-off control bracket (NP)						all	Ref
	271795-2		Bracket Assembly - RH Outboard engine oil shut-off . . . . .						all	Ref
30	262954		Pulley Assembly - RH Outboard hydraulic oil shut-off . . . . .						all	1
	262319		Installation - LH Outboard hydraulic oil shut-off control bracket (NP)						all	1
	262646		Bracket Assembly - LH Outboard hydraulic oil shut-off . . . . .						all	1
31	280462L		Pulley - LH Hydraulic oil shut-off . . . . .						all	1
	270621L		Structure Assembly - Inboard nacelle (See figure 13 for using assembly)						c	Ref
	270621R		Structure Assembly - Inboard nacelle (See figure 14 for using assembly)						c	Ref
	281201L		Structure Assembly - Inboard nacelle (See figure 13 for using assembly)						d	Ref
	281201R		Structure Assembly - Inboard nacelle (See figure 14 for using assembly)						d	Ref
	270299		Installation + LH Inboard engine oil shut-off control bracket (NP)						all	1
	262683		Bracket Assembly - LH Inboard engine oil shut-off . . . . .						all	1
	262491L		Pulley Assembly - LH Inboard engine oil shut-off (Same as index 29) . . . . .						all	1
	268827		Installation - RH Inboard engine oil shut-off control bracket (NP)						all	1
	268827-2		Bracket Assembly - RH Inboard engine oil shut-off control . . . . .						all	1
	262954		Pulley Assembly - RH Inboard engine oil shut-off (Same as index 30) . . . . .						all	1
	270614		Installation - LH Inboard hydraulic oil shut-off control bracket (NP)						all	1
	270613		Bracket Assembly - LH Inboard hydraulic oil shut-off control . . . . .						all	1
	280462L		Pulley Assembly - LH Inboard hydraulic oil shut-off (Same as index 31) . . . . .						all	1
	261213		Installation - RH Outboard engine nacelle piping (NP) (See figure 2 for using assembly)						all	Ref
32	261356-3		Valve Assembly - Engine oil shut-off . . . . .						all	Ref
33	70256-4		Rod Assembly - Oil shut-off control . . . . .						all	1
34	266879-3		Valve Assembly - Hydraulic oil shut-off . . . . .						all	Ref
	281029		Installation - RH Inboard engine nacelle piping (NP) (See figure 2 for using assembly)						all	Ref
	70256-4		Rod Assembly - Oil shut-off control (Same as index 33) . . . . .						all	1
	266879-3		Valve Assembly - Hydraulic oil shut-off (Same as index 34) . . . . .						all	Ref
	261356-3		Valve Assembly - Engine oil shut-off (Same as index 32) . . . . .						all	Ref
35	261356-2		Valve Assembly - Engine oil shut-off (See figure 120 for using assembly)						all	Ref
36	266879-2		Valve Assembly - Hydraulic oil shut-off (See figure 56 for using assembly)						all	Ref
37	AN210-1A		Pulley - Anti-friction bearing . . . . .						all	A.R.
38	AN210-2A		Pulley - Anti-friction bearing . . . . .						all	A.R.
39	FL3C3		Idler (Fafnir) . . . . .						all	A.R.

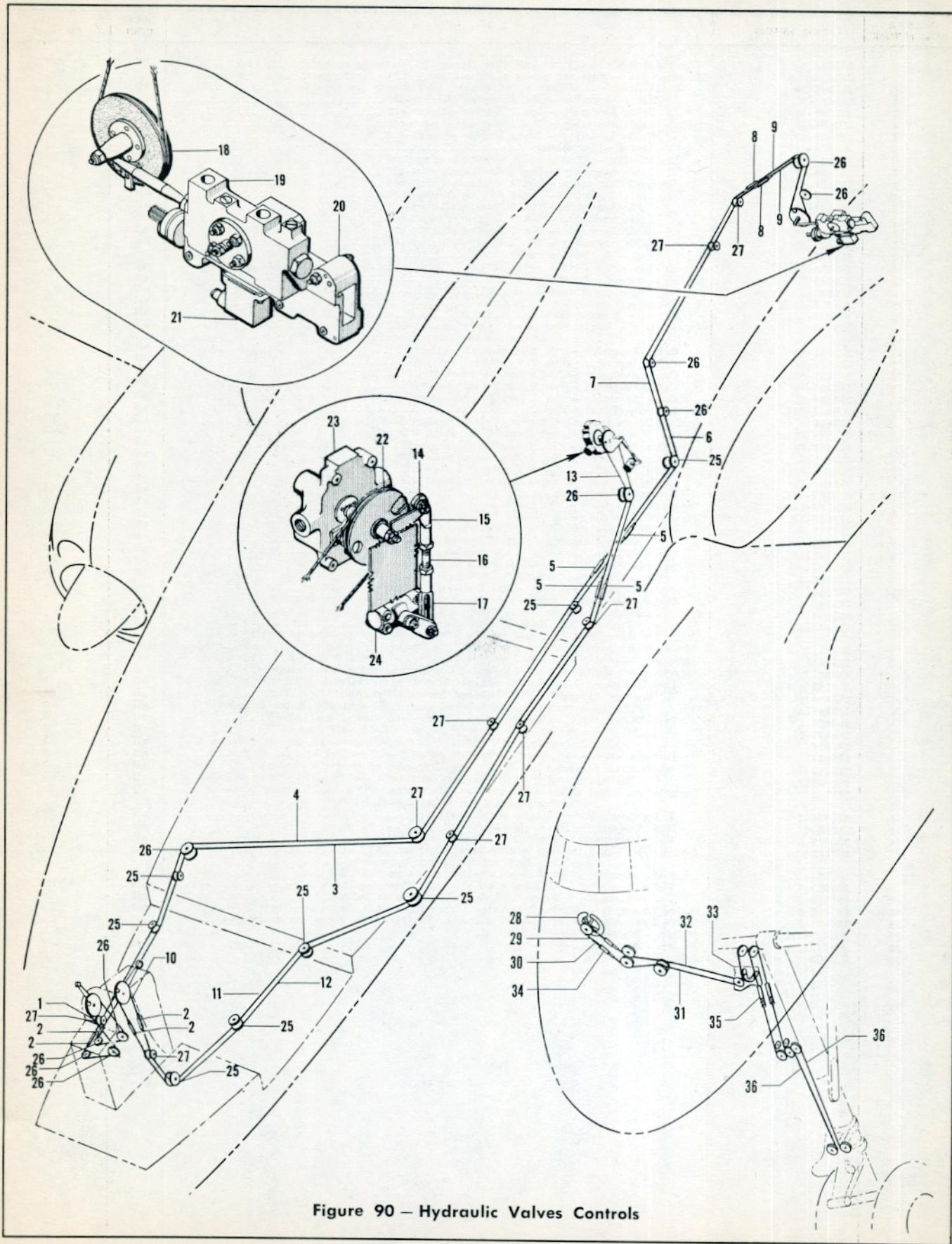


Figure 90 — Hydraulic Valves Controls

## GROUP . . . Systems Controls

## Detail Unit . . . Hydraulic Valves Controls

*Constellation*

FIGURE & INDEX NUMBER	PART NUMBER		N O M E N C L A T U R E						SERIAL CODE	UNITS PER ASSY.
			1	2	3	4	5	6		
	267419	Hydraulic	Valve Controls Installation (See figure 1 for using assembly) .....						all	Ref
90 - 1	256424-52	Cable Assembly	- Flap controls .....						all	1
2	AN155-16S	Barrel	- Turnbuckle .....						all	4
3	256424-50	Cable Assembly	- Flap controls .....						all	1
4	256424-51	Cable Assembly	- Flap controls .....						all	1
5	AN155-16L	Barrel	- Turnbuckle .....						all	4
6	258762-88	Cable Assembly	- Flap controls .....						all	1
7	258762-89	Cable Assembly	- Flap controls .....						all	1
8	263006-3	Barrel	- Cable coupling .....						all	2
9	258762-87	Cable Assembly	- Flap controls .....						all	1
10	256847-7	Cable Assembly	- Landing gear controls .....						all	1
11	256847-8	Cable Assembly	- Landing gear controls .....						all	1
12	256847-9	Cable Assembly	- Landing gear controls .....						all	1
13	256847-10	Cable Assembly	- Landing gear controls .....						all	1
14	279533	Bushing	+ Hydraulic valve link .....						all	1
	279692	Link Assembly	+ Hydraulic valve .....						all	1
15	279531	End	- Hydraulic valve link .....						all	1
16	279530	Stub	- Hydraulic valve link .....						all	1
17	279532	End	- Hydraulic valve link slotted .....						all	1
	282033	Installation	- Wing flap mechanism and control valve .....						all	Ref
			(See figure 110 for using assembly)							
18	282061	Pulley Assembly	- Wing flap control (See figure 138 for detailed illustration) ..						all	Ref
	282034	Valve and Follow-up Assembly	- Flap control .....						all	Ref
			(See figure 138 for detailed illustration)							
19	667429	Valve Assembly	- 4-way Flap selector .....						all	Ref
			(See figure 139 for detailed illustration)							
20	669064	Follow-up Assembly	- Flap valve (See figure 138 for detailed illustration) ..						all	Ref
21	282047	Transmitter Assembly	- Flap (See figure 138 for detailed illustration) .....						all	Ref
	265844	Structure Assembly	- Fuselage center section (See figure 1 for using assembly) .....						all	Ref
	279528	Installation	- Landing gear valve bracket .....						all	1
22	279529	Pulley Assembly	- Landing gear valve .....						all	1
	233304	Pulley	- Control anti-friction .....						all	1
	AN26-29	Bolt	- Clevis $\frac{3}{4}$ -24 .....						all	1
	AN320-6	Nut	- Aircraft shear .....						all	1
	LS642-8-225	Spacer	- Steel .....						all	1
23	272048	Valve Assembly	- Landing gear selector (See figure 126 for using assembly) .....						all	Ref
24	280014	Valve Assembly	- Tail bumper shut-off (See figure 125 for using assembly) .....						all	Ref
25	AN210-1A	Pulley	- Anti-friction bearing control .....						all	A.R.
26	AN210-2A	Pulley	- Anti-friction bearing control .....						all	A.R.
27	FL3C3	Idler (Fafnir)	.....						all	A.R.
	265843	Structure Assembly	- Fuselage front section (See figure 1 for using assembly) .....						all	Ref
	284053	Installation	+ Nose gear steering controls (NP) .....						ccc	1
	287710	Installation	- Nose steering wheel and controls (NP) .....						ccc	1
	287710-2	Control Assembly	- Nose steering .....						ccc	1
28	287764	Wheel Assembly	- Nose steering control .....						ccc	1
	287768	Cam	- Nose steering wheel .....						ccc	1
	282854-11	Spring	- Nose steering wheel .....						ccc	1
	288299	Housing	- Steering wheel control .....						ccc	1
	288240	Sprocket	- Steering wheel control .....						ccc	1
29	288194	Chain Assembly	- Steering control .....						ccc	1
	288198	Fitting	- Steering wheel control chain .....						ccc	1
30	288198	Fitting	- Steering wheel control chain .....						ccc	1
31	285663-2	Cable Assembly	- Nose steering control .....						ccc	1
32	285663-4	Cable Assembly	- Nose steering control .....						ccc	1
	256680	Seal	- $\frac{3}{32}$ Single cable .....						ccc	2
	284027	Gasket	- Steering control pressure seal bracket .....						ccc	1
33	283894	Bracket Assembly	- Steering control pressure seal .....						ccc	1
34	AN155-16L	Barrel	- Turnbuckle .....						ccc	2
35	286351	Spring	- Slack take-up (See figure 160 for using assembly) .....						ccc	Ref
36	285633-6	Cable Assembly	- Nose steering control (See figure 160 for using assembly) .....						ccc	Ref

GROUP . . . Systems Controls  
Detail Unit . . . Air Pressure Controls

# Constellation

CONTROLS

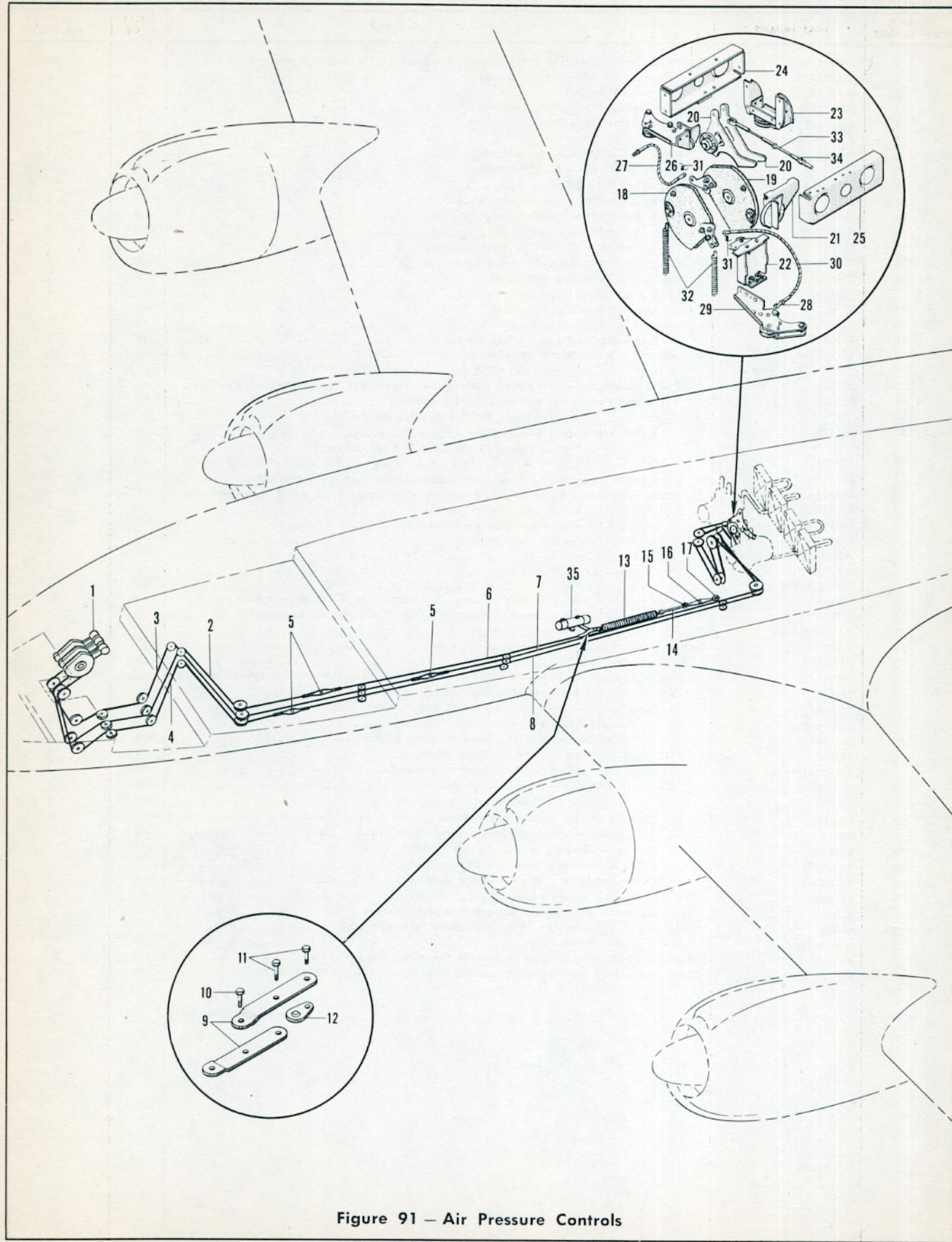


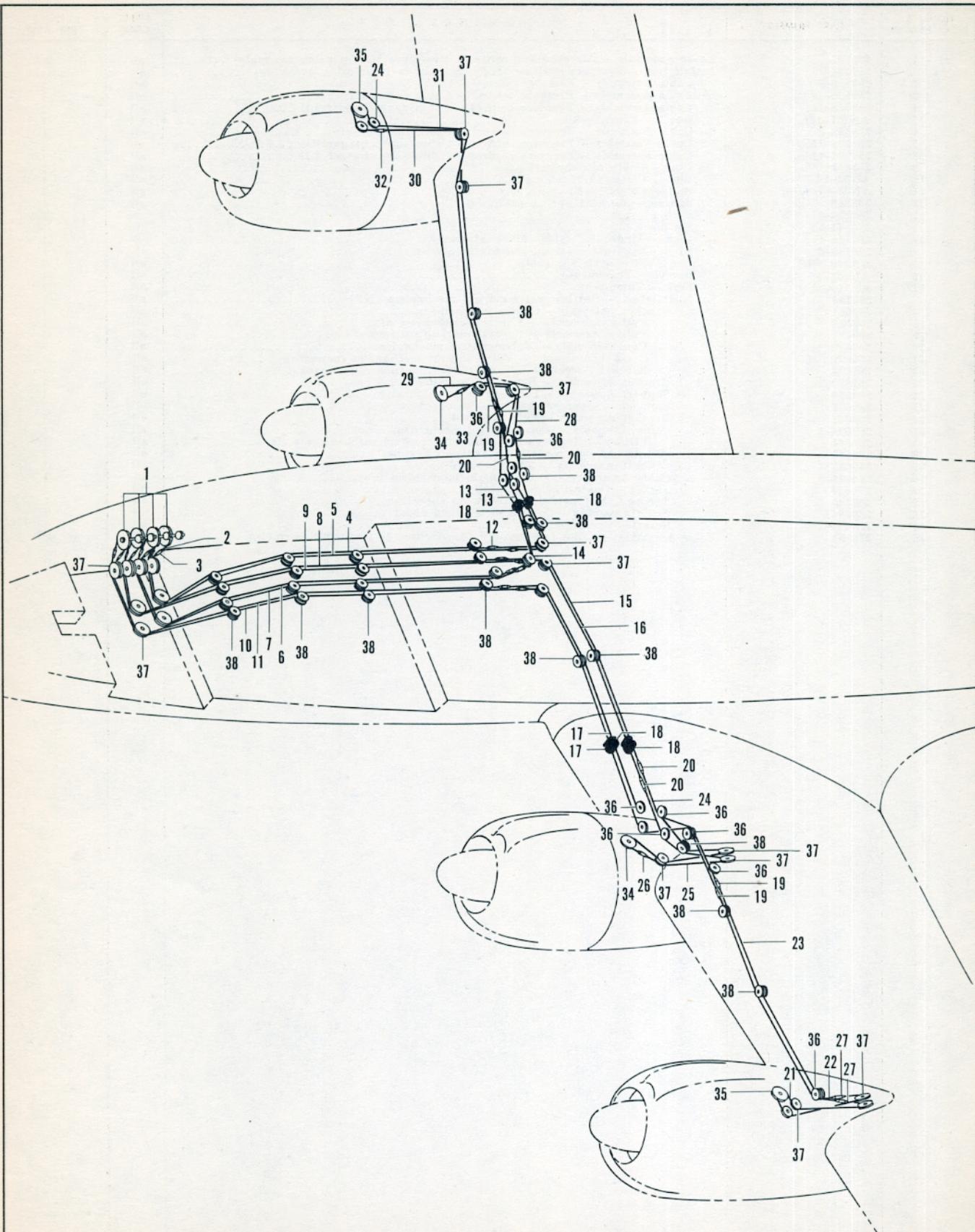
Figure 91 – Air Pressure Controls

**GROUP . . . Systems Controls**

## **Detail Unit . . . Engine Supercharger Controls**

# Constellation

## CONTROLS



**Figure 92 – Engine Supercharger Controls**

## GROUP . . . Systems Controls

## Detail Unit . . . Engine Supercharger Controls

*Constellation*

CONTROLS

FIGURE & INDEX NUMBER	PART NUMBER		N O M E N C L A T U R E						SERIAL CODE	UNITS PER ASSY.
			1	2	3	4	5	6		
92 - 1	257105	Lever Assembly - Supercharger controls (See figure 101 for using assembly) .....							all	Ref
	267417	Installation - Fuselage power plant controls (NP) (See figure 1 for using assembly) .....							all	Ref
	267414	Installation - Station 205-333.6 power plant controls (NP) .....							all	Ref
2	262891-6	Cable Assembly - Engine supercharger controls .....							all	4
	LS821	Lock - Cable .....							all	4
3	AN155-16L	Barrel - Turnbuckle .....							all	8
	269331	Installation - Station 333.6-527.6 controls RH (NP) .....							all	Ref
4	258762-30	Cable Assembly - No. 4 Engine supercharger control .....							all	1
5	258762-10	Cable Assembly - No. 4 Engine supercharger control .....							all	1
6	258762-31	Cable Assembly - No. 3 Engine supercharger control .....							all	1
7	258762-11	Cable Assembly - No. 3 Engine supercharger control .....							all	1
8	258762-32	Cable Assembly - No. 2 Engine supercharger control .....							all	1
9	258762-12	Cable Assembly - No. 2 Engine supercharger control .....							all	1
10	258762-33	Cable Assembly - No. 1 Engine supercharger control .....							all	1
11	258762-13	Cable Assembly - No. 1 Engine supercharger control .....							all	1
12	263006-3	Barrel - Cable coupling .....							all	8
	268826	Installation - Station 527.6 power plant controls (NP) .....							all	Ref
13	258762-68	Cable Assembly - No. 4 Engine supercharger control .....							all	2
14	258762-17	Cable Assembly - No. 3 Engine supercharger control .....							all	2
15	258762-102	Cable Assembly - No. 2 Engine supercharger control .....							all	1
16	258762-101	Cable Assembly - No. 2 Engine supercharger control .....							all	1
17	258762-77	Cable Assembly - No. 1 Engine supercharger control .....							all	2
18	256675	Seal - $\frac{3}{32}$ Double cable .....							all	4
	258389	Clip - $\frac{3}{32}$ Double cable seal .....							all	4
19	AN155-16L	Barrel - Turnbuckle .....							all	4
20	AN155-16S	Barrel - Turnbuckle .....							all	4
	267415	Installation - Inner wing power plant controls LH (NP) (See figure 2 for using assembly)							all	Ref
21	262891-101	Cable Assembly - No. 4 Engine supercharger control .....							all	1
22	262891-102	Cable Assembly - No. 1 Engine supercharger control .....							all	1
23	262891-97	Cable Assembly - No. 1 Engine supercharger control .....							all	1
24	258762-75	Cable Assembly - No. 2 Engine supercharger control .....							all	1
25	258762-52	Cable Assembly - No. 2 Engine supercharger control .....							all	1
26	263006-3	Barrel - Cable coupling .....							all	1
27	AN155-16S	Barrel - Turnbuckle .....							all	2
	267416	Installation - Inner wing power plant controls RH (NP) (See figure 2 for using assembly)							all	Ref
28	262891-66	Cable Assembly - No. 3 Engine supercharger control .....							all	1
29	262891-77	Cable Assembly - No. 3 Engine supercharger control .....							all	1
30	258762-50	Cable Assembly - No. 4 Engine supercharger control .....							all	1
31	258762-54	Cable Assembly - No. 4 Engine supercharger control .....							all	1
32	263006-3	Barrel - Cable coupling .....							all	1
33	AN155-16L	Barrel - Turnbuckle .....							all	1
	261556-2	Bracket Assembly - Two speed supercharger control pulley (See figure 14 for using assembly)							all	Ref
34	261870-2	Pulley Assembly - Engine supercharger control .....							all	1
	261556-3	Bracket Assembly - Two speed supercharger control pulley (See figure 15 for using assembly)							all	Ref
35	261870-3	Pulley Assembly - Engine supercharger control .....							all	1
36	AN210-1A	Pulley - Anti-friction bearing control .....							all	A.R.
37	AN210-2A	Pulley - Anti-friction bearing control .....							all	A.R.
38	FL3C3	Idler (Fafnir) .....							all	A.R.

GROUP . . . . Systems Controls  
Detail Unit . . . Fire Extinguisher Controls

# Constellation

CONTROLS

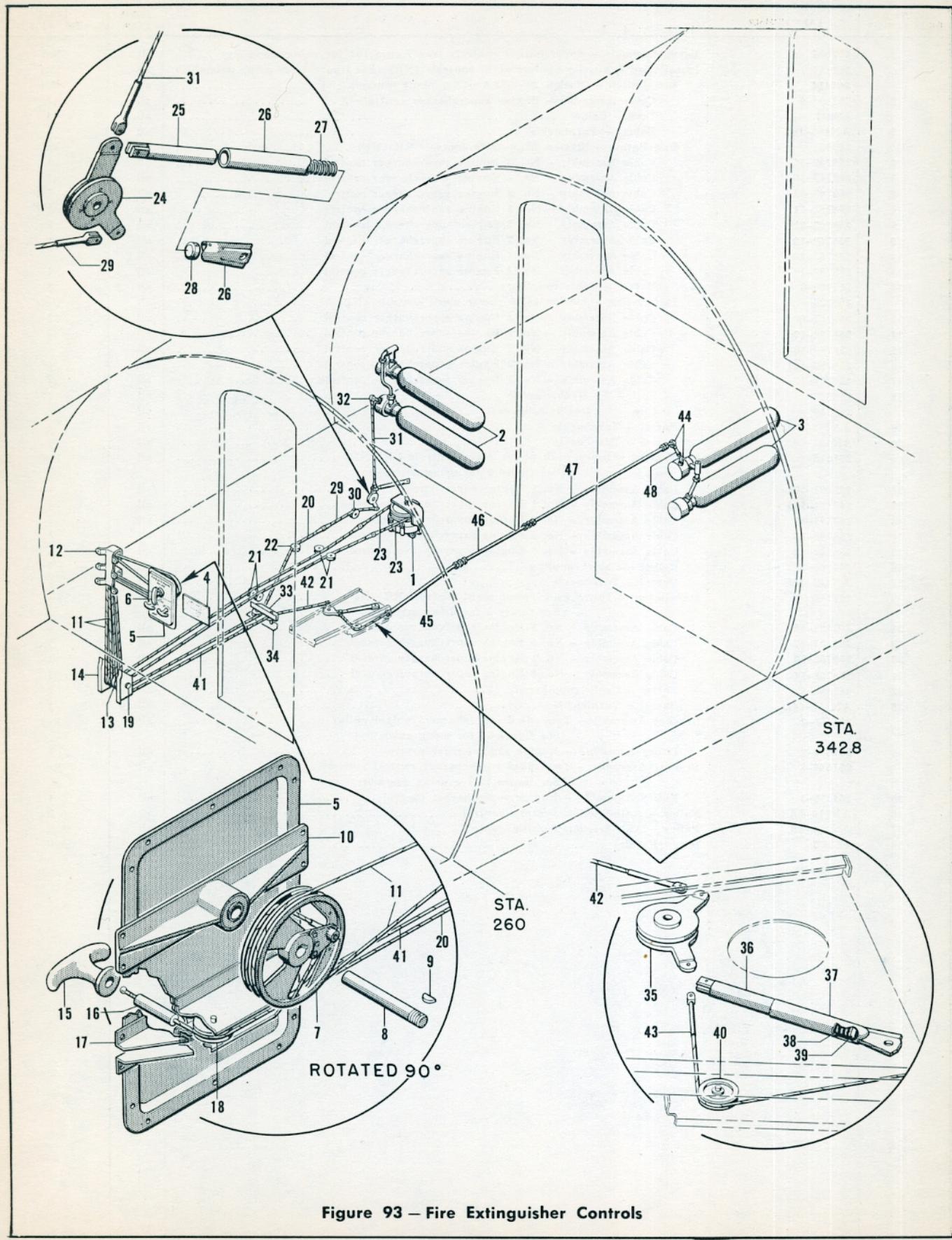


Figure 93 — Fire Extinguisher Controls

## GROUP . . . Systems Controls

## Detail Unit . . . Fire Extinguisher Controls

*Constellation*

FIGURE & INDEX NUMBER	PART NUMBER	1 2 3 4 5 6	N O M E N C L A T U R E		SERIAL CODE	UNITS PER ASSY.
	265942		Installation - Fuselage piping, stations 278.4-527.6 RH (N.P.) .....	(See figure 188 for detailed illustration)	dy	Ref
93 - 1	267386		Valve Assembly + Fire extinguisher selector .....		dy	Ref
2	2CD5516		Cylinder - Fire extinguisher (American La France) (650098) .....		dy	Ref
	295805		Installation - Four 15 lb. fire extinguisher cylinders (N.P.) (Replaces 293466) .....		dy	Ref
3	2CD5516		Cylinder - Fire extinguisher (American La France) (650098) .....		dy	Ref
4	*296785		Nameplate - Engine fire extinguisher procedure .....		ce-du	1
	*296951		Nameplate - Engine fire extinguisher procedure .....		bx	1
	294761		Installation - Fire extinguisher system revision (N.P.) .....	(See figure 1 for using assembly)	ca	Ref
	286087		Installation - ATC Equipment (N.P.) (See figure 1 for using assembly)		du-bu	Ref
	285598		Installation - Fire extinguisher control panel (N.P.) .....		ca	1
	295767		Installation - Fire extinguisher control panel (N.P.) .....		du-bu	1
5	286925		Nameplate Assembly - Control panel .....		dy	1
6	260800		Handle - Selector valve control .....		dy	1
	2CD2625		Seal - (American La France) .....		dy	1
7	258909		Drum Assembly - Selector valve control .....		dy	1
8	285511		Shaft - Drum .....		dy	1
9	AN280-404		Key - Woodruff .....		dy	1
10	285504		Bracket Assembly - Drum .....		dy	1
11	286278-2		Cable Assembly - Selector valve control .....		dy	2
12	286151		Bracket Assembly - Station 260 emergency controls .....		dy	1
13	AN210-2A		Pulley (2 req. with 286151 and 4 req. with 285598-2) .....		dy	6
14	285598-2		Bracket Assembly - Station 260 emergency controls .....		dy	1
15	2CD5031		Handle - Discharge control (American La France) (650035-5) .....		dy	2
16	285505		Fitting - Pull handle cable .....		dy	2
17	285598-6		Bracket Assembly - Discharge control pulley .....		dy	1
18	AN210-1A		Pulley (2 req. with 285598-6 and 2 req. with 286151) .....		dy	4
19	AN23-26		Bolt .....		dy	1
20	292715-4		Cable Assembly - Discharge control, station 342.8 cylinders .....		dy	1
21	284975		Installation - Emergency controls, stations 260-333.6 (N.P.) .....		dy	1
	FL3C3		Pulley - Selector control cable (Fafnir) .....	(2 req. at station 296.8 and 2 req. at station 315.2)	dy	4
22	AN210-1A		Pulley - Discharge control cable .....	(2 req. at station 296.8 with 295806-8 and 295806-9; 2 req. at station 315.2)	dy	4
23	286278-4		Cable Assembly - Selector valve control .....		dy	2
	284976		Installation - Stations 333.6-352 emergency control pulley bracket (N.P.) .....	(See 295874 for requirements removed from this Installation)	dy	1
24	286150L		Bellcrank Assembly - Discharge control, station 342.8 cylinders .....		dy	1
25	286149		Fitting - Control cable spring .....		dy	1
26	286148		Tube - Control spring retainer .....		dy	1
27	286142		Spring - Control cable .....		dy	1
28	287157		Stop - Control cable spring .....		dy	1
29	292715-8		Cable Assembly - Discharge control, station 342.8 cylinders .....		dy	1
30	AN210-1A		Pulley - Discharge control cable, station 333.6 .....		dy	2
31	292715-10		Cable Assembly - Discharge control, station 342.8 cylinders .....		dy	1
32	288014		Elbow Assembly - Discharge control, station 342.8 cylinders .....		dy	1
	295806		Installation - Fire extinguisher cylinder control (N.P.) .....	(Modifies control system station 296.8-407.2)	sss	Ref
33	*295806-8		Bracket - Discharge control cable pulley, station 296.8 .....		dy	1
34	*295806-9		Bracket - Discharge control cable pulley, station 296.8 .....		dy	1
	295874		Installation - Stations 296.8-315.2 emergency control pulley bracket (N.P.) .....	(See 284976)	sss	1
	295874-2		Bracket - Stations 296.8-315.2 emergency control pulley .....		dy	1
35	*286150R		Bellcrank Assembly - Discharge control, cargo compartment cylinders .....		dy	1
36	*286149		Fitting - Control cable spring (Same as index No. 25) .....		dy	1
37	*286148		Tube - Control spring retainer (Same as index No. 26) .....		dy	1
38	*286142		Spring - Control cable (Same as index No. 27) .....		dy	1
39	287157		Stop - Control cable spring (Same as index No. 28) .....		dy	1
40	*AN210-1A		Pulley - Discharge control cable, cargo compartment cylinders .....		dy	1
41	*295806-10		Cable Assembly - Discharge control, cargo compartment cylinders .....		dy	1
42	*295806-7		Cable Assembly - Discharge control, cargo compartment cylinders .....		dy	1
43	*295806-6		Cable Assembly - Discharge control, cargo compartment cylinders .....		dy	1
44	*2CD1755		Elbow - Roller (American La France) (650003) .....		dy	2
45	*295806-4		Tube Assembly + Cable Guide .....		dy	1
46	*295806-3		Tube Assembly - Cable Guide .....		dy	1
47	*295806-2		Tube Assembly - Cable Guide .....		dy	1
48	*295806-5		Tube Assembly - Cable Guide .....		dy	1
	*295806-14		Door - Access .....		dy	Ref
			* Parts used and serialized per Service Bulletin 49/SB-138, 49/SB-184 and Mod. Print 295806			

GROUP . . . Controls Units  
Detail Unit . . . Control Stand—Pilot's

# Constellation

## CONTROLS

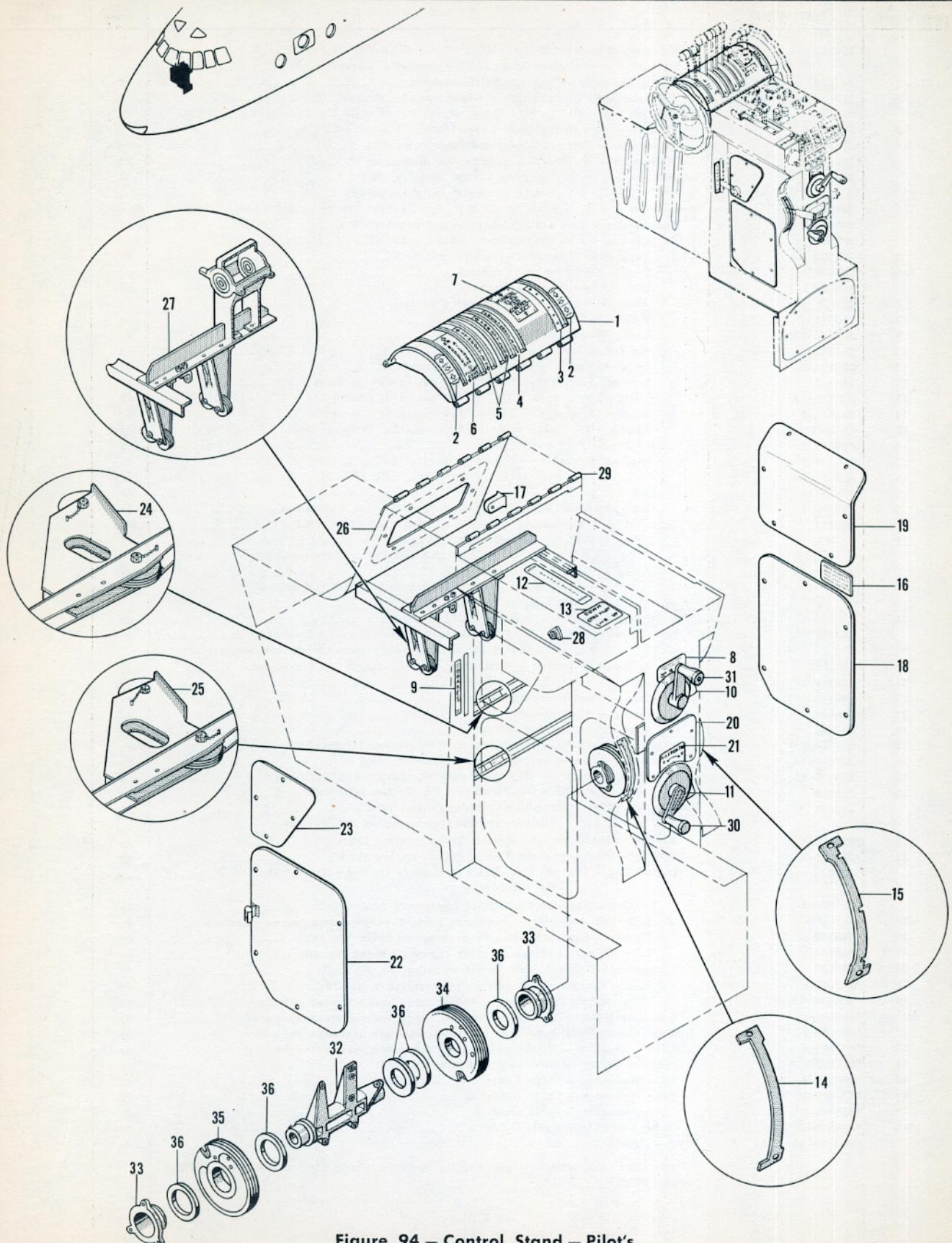


Figure 94 — Control Stand — Pilot's

## GROUP . . . Control Units

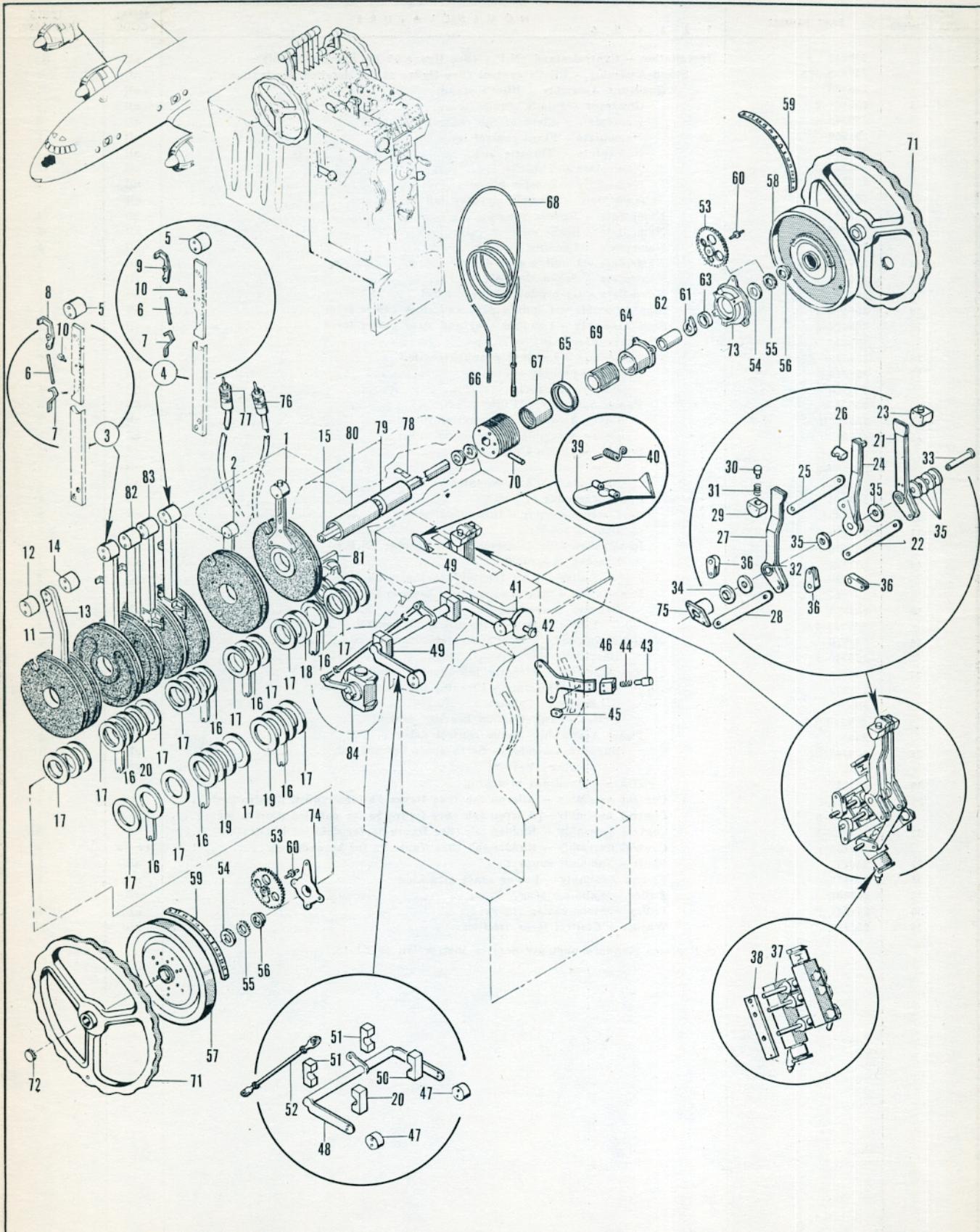
*Constellation*

## Detail Unit . . . Control Stand—Pilot's

CONTROLS

FIGURE & INDEX NUMBER	PART NUMBER	1 2 3 4 5 6	N O M E N C L A T U R E	SERIAL CODE	UNITS PER ASSY.
	256012		Installation - Control stand (N.P.) (See figure 56 for using assembly)	all	Ref
	269039-500		Stand Assembly - Pilot's control (See figure 95 for detailed illustration)	all	1
	256468		Quadrant Assembly - Pilot's stand	all	1
94 - 1	256468-2		Quadrant - Pilot's stand	all	1
2	256504		Naméplate - Elevator tab control unit	all	2
3	291266		Naméplate - Flaps control lever	all	1
4	256503		Naméplate - Throttle lock	all	1
5	256502		Naméplate - Throttle	all	2
6	256505		Naméplate - Booster by-pass	all	1
7	285275		Naméplate - Electric elevator tab	all	1
8	277848		Nameplate - Rudder tab	all	1
9	289215		Nameplate - Brake selector valve	all	2
10	277438		Nameplate - Landing gear up	all	1
11	277437		Nameplate - Landing gear down	all	1
12	256506		Nameplate - Servo shut-off	all	1
13	256500		Nameplate - Gyro pilot remote control	all	1
14	256479-2		Stop Assembly - Landing gear and steer caster lever	all	1
15	256479-3		Stop Assembly - Landing gear and steer caster lever	all	1
	258257		Structure Assembly	all	16
16	274533		Naméplate - Landing gear instruction	all	1
17	258246		Bracket Assembly - Flap	all	1
	FL3C3		Pulley (Fafnir)	all	1
	256565		Panel Assembly - Right	all	1
18	256563R		Cover Assembly - Inspection lower	all	1
19	256385		Cover Assembly - Inspection upper	all	1
	268580		Door Assembly - Upper rear	all	1
20	268580-2		Door	all	1
21	277847		Nameplate - Aileron tab	all	1
	256564		Panel Assembly - Left	all	1
22	256563L		Cover Assembly - Inspection lower	all	1
23	256564-5		Door Assembly	all	1
	259936		Installation - Steer-caster upper bracket (N.P.)	fb	1
24	259934		Bracket Assembly	fb	1
	AN210-1A		Pulley - Anti-friction bearing control	fb	2
	259935		Installation - Steer-caster lower bracket (N.P.)	fb	1
25	259932		Bracket Assembly	fb	1
	AN210-1A		Pulley - Anti-friction bearing control	fb	2
26	256510		Hood Assembly - Pilot's control stand	all	1
	256510-6		Door Assembly	all	1
27	256868		Tee Assembly - Elevator tab housing support	all	1
	273370		Housing Assembly - Elevator tab control drum	all	1
	B340		Bearing (Fafnir)	all	1
	AN210-1A		Pulley - Anti-friction bearing control	all	4
	256556		Panel Assembly - Servo control valve	all	1
28	256787		Support Assembly - Servo shaft inboard	all	1
	K6A		Bearing (Fafnir)	all	1
29	256557		Hinge - Quadrant attaching	all	1
30	256643-2		Control Assembly - Aileron tab (See figure 98 for detailed illustration)	c	1
	256643-6		Control Assembly - Aileron tab (See figure 98 for detailed illustration)	d	1
31	256643-3		Control Assembly - Rudder tab (See figure 98 for detailed illustration)	bx	1
	*297132		Control Assembly - Rudder tab (See figure 98 for breakdown)	ce-du	1
32	256111		Shaft - Tab unit support	all	1
33	256476		Flange Assembly - Lower shaft attaching	all	2
34	256481		Pulley - Landing gear	all	1
35	258241		Pulley - Steer caster	all	1
36	257131		Washer - Control lever friction	all	AR

\* Replaces standard part per Service Instruction 49/SI-18.



**Figure 95 – Lever Mechanism – Pilot's Control Stand**

## GROUP . . . Controls Units

## Detail Unit . . . Lever Mechanism—Pilot's Control Stand

*Constellation*

FIGURE & INDEX NUMBER	PART NUMBER		N O M E N C L A T U R E						SERIAL CODE	UNITS PER ASSY.
			1	2	3	4	5	6		
95 - 1	269039-500	Stand Assembly - Pilot's control (See figure 94 for using assembly)							all	Ref
	256422	Lever Assembly - Wing flap control							all	1
2	256464	Lever Assembly - Throttle lock							all	1
3	256359L	Extension Assembly - Throttle lever							all	1
4	256359R	Extension Assembly - Throttle lever							all	1
	256393L	Lever Assembly							all	1
	256393R	Lever Assembly							all	1
5	256375	Knob - Throttle lever							all	1
6	256395	Spring - Throttle trigger							all	1
	256394L	Sleeve Assembly							all	1
	256394R	Sleeve Assembly							all	1
7	256396	Spring - Extension throttle lever							all	1
8	256392L	Trigger - Extension throttle							all	1
9	256392R	Trigger - Extension throttle							all	1
10	256387	Latch - Throttle extension							all	1
11	280836-2	Lever Assembly - Booster by-pass control							all	1
12	257117-5	Knob - Booster by-pass control lever							all	1
13	280836-3	Lever Assembly - Booster by-pass control							all	1
14	257117-5	Knob - Booster by-pass control lever							all	1
15	256461	Shaft - Elevator tab							all	1
16	257173	Plate - Control pulley $\frac{1}{32}$ friction							all	6
17	257131	Washer - Control lever friction							all	4
18	257128-6	Spacer - Solid							all	1
19	257130-13	Spacer - Emergency control panel							all	2
20	257130-9	Spacer - Emergency control panel							all	1
21	256485	Lever Assembly - Servo control inboard							all	1
22	256486-2	Link - Servo control							all	1
23	256366	Knob - Servo control							all	1
24	256484	Lever Assembly - Servo control center							all	1
25	256486-4	Link - Servo control							all	1
26	256365	Knob - Lever							all	1
27	256483	Lever Assembly - Servo control outboard							all	1
28	256486-3	Link - Servo control							all	1
29	256366	Knob - Servo control							all	1
30	256421	Button - Servo control							all	1
31	57817	Spring - Servo control							all	1
32	256487	Bushing - Servo control							all	1
33	256482	Shaft - Servo controls							all	1
34	256489	Spacer - Servo controls lever							all	1
35	256488	Washer - Servo controls lever							all	7
36	256492	Crank - Servo controls valve							all	3
37	12-340-32	Valve Assembly - Servo controls overall (Parker) (629089)							all	1
38	256498	Block - Servo control bearing							all	1
39	277986	Latch Assembly - Servo lever control							all	1
40	277988	Spring - Servo lever latch							all	1
41	629052	Unit - Remote control (Reworked Sperry 642988)							all	1
42	256384	Lever Assembly - Landing gear							all	1
43	290638	Button - Engine control stand lever push (Landing gear lever) (Replaces 57816 for spares)							all	1
44	57817	Spring - Engine control stand lever push button (Landing gear lever)							all	1
45	57818	Latch - Engine control stand lever (Landing gear lever)							all	1
46	256374	Knob - Landing gear lever							all	1
	271727	Installation - Brake selector mechanism (N.P.)							all	1
47	271725	Knob - Brake selector valve							all	2
48	271726	Lever - Brake selector							all	1
49	271724	Block Assembly - Brake selector lever bearing							all	2
50	271724-2	Block							all	1
51	271724-3	Block							all	1
52	271722	Rod Assembly - Brake selector							all	1
53	256211	Gear Assembly - Elevator tab dial							all	2
54	256154	Washer - Tab control driven gear							all	3
55	256145	Pinion - Rudder and aileron tab control							all	2
56	256212	Adapter - Hex shaft							all	3
57	256400L	Dial Assembly - Elevator tab							all	1
58	256400R	Dial Assembly - Elevator tab							all	1
59	277653	Nameplate - Elevator tab dial							all	1
60	256402	Shaft - Tab dial intermediate gear							all	2
61	256345	Pawl - Elevator tab control							all	1
62	256426	Spacer - Elevator tab control							all	1
63	280975	Spacer - Short elevator tab control							all	1
64	256367	Guide - Drum screw							all	1
	277484	Drum Assembly - Tab control							all	1
65	277485	Plate - Tab control							all	1
66	277486	Drum - Tab control							all	1
67	256172	Nut - Tab control							all	1
68	285189-6	Cable Assembly - Tab control							all	1
69	256457	Screw - Elevator tab control mechanism							all	1
70	277657	Pin - Tab control drum							all	1
71	256214	Wheel - Elevator tab control							all	2
72	50727	Dot - Plug button (United Carr Fastener Corp.)							all	2
73	256368	Support Assembly - Lever shaft RH							all	1
74	256369	Support Assembly - Lever shaft LH							all	1
	A540	Bearing (Fafnir)							all	1
	258257	Structure Assembly - Pilot's stand							all	1
	256370	Support Assembly - Sperry lever shaft							all	1
75	B3164Y53	Shaft Assembly - Flexible drive (S. S. White) (629101-5)							all	1
76	B3164Y50	Shaft Assembly - Flexible drive (S. S. White) (629101-6)							all	1
77	285785	Installation - Electric elevator tab control (N.P.)							all	1
		(See figure 96 for detailed illustration)							all	1
78	285787	Spring - Electric elevator tab control							all	Ref
79	284225-3	Shaft - Elevator tab control							all	Ref
80	284225-2	Shaft - Elevator tab control							all	Ref
81	285785-2	Motor Assembly - Elevator tab							all	Ref
82	284309L	Extension Assembly - Elevator tab control							all	Ref
83	284309R	Extension Assembly - Elevator tab control							all	Ref
84	271745	Valve Assembly - Brake selector (See figure 126 for using assembly)							all	Ref

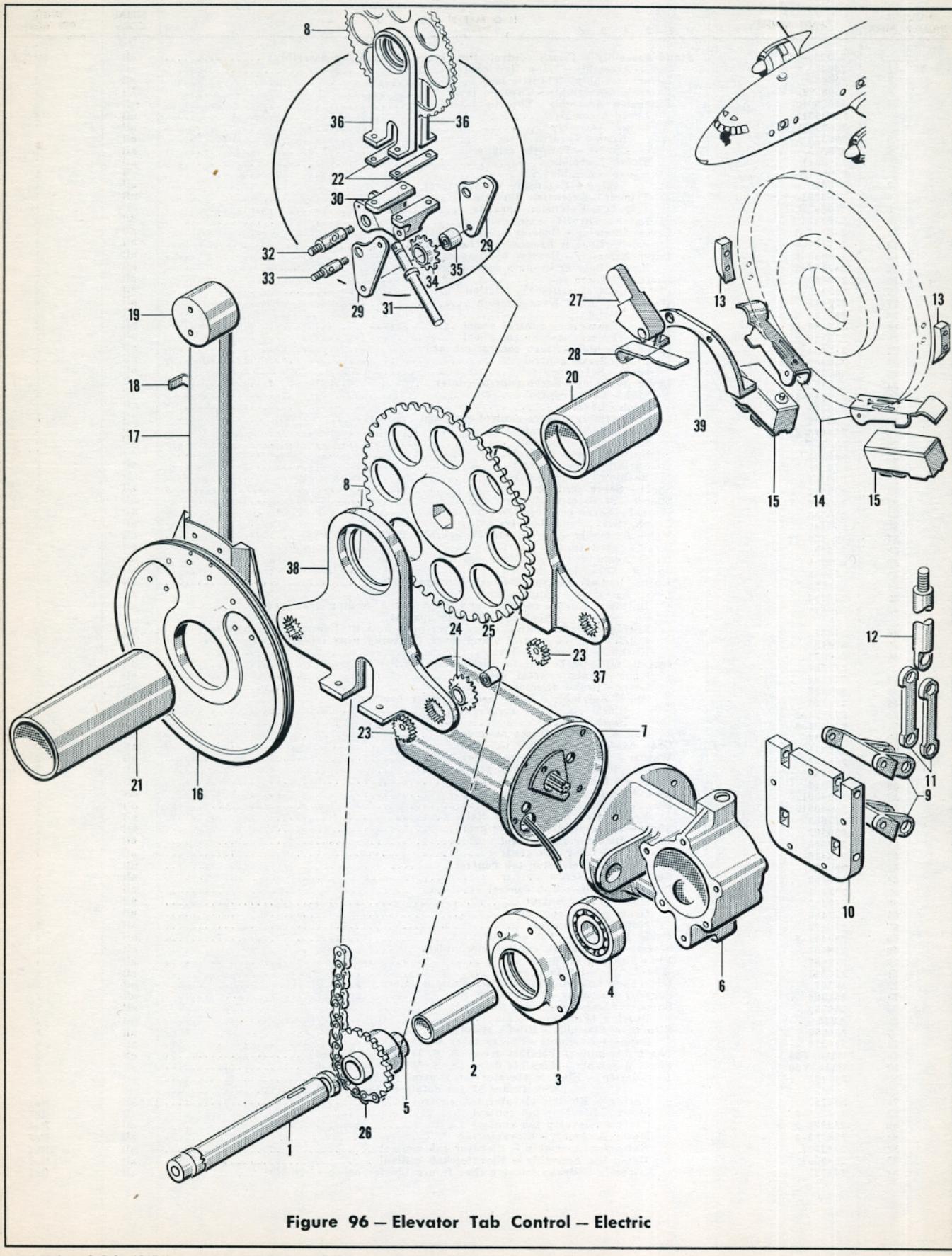
Reissued July 1947

GROUP . . . Controls Units

Detail Unit . . . Elevator Tab Control—Electric

Constellation

CONTROLS



Reissued July 1947

LOCKHEED AIRCRAFT CORPORATION

## GROUP . . . Controls Units

*Constellation*

## Detail Unit . . . Elevator Tab Control—Electric

FIGURE & INDEX NUMBER	PART NUMBER	1 2 3 4 5 6	N O M E N C L A T U R E	SERIAL CODE	UNITS PER ASSY.
				Ref	1
	285785		Installation - Electric elevator tab control (N.P.) (See figure 95 for using assembly)	all	
	285785-2		Motor Assembly - Elevator tab control	all	1
96 - 1	285788		Shaft Assembly - Electric tab gear box	all	1
2	284213		Bushing - Electric tab gear box	all	1
	285785-3		Coupling Assembly	all	1
3	284267		Retainer - Electric tab bearing	all	1
4	AN201K12A		Bearing	all	1
5	284226		Sprocket Assembly - Elevator tab gear box	all	1
6	10201		Gear Box - Electric elevator tab (Foote Bros.) (669079) (See figure 97 for detailed illustration)	all	1
7	5BA25HJ16C		Motor - General Electric (Foote Bros. 109007) (635062) (See figure 97 for detailed illustration)	all	1
8	284224		Sprocket - Electric tab quadrant	all	1
9	285096		Arm - Electric elevator tab release	all	2
10	285097		Plate - Electric elevator tab release	all	1
11	285095		Positioner - Electric elevator tab release	all	2
12	284268		Rod - Electric elevator tab release	all	1
13	284312		Cam - Electric tab limit switch	all	2
14	9-10831		Actuator - Type "T" (Micro) (619048)	all	2
15	AN3210-1		Switch	all	2
	284309L		Extension Assembly - Elevator tab control	all	1
	284309R		Extension Assembly - Elevator tab control	all	1
16	257115		Pulley Assembly - 6" Diameter control	all	1
	284302L		Spring - Elevator tab control	all	1
	284302R		Spring - Elevator tab control	all	1
	256395		Spring - Elevator tab control	all	1
17	256389		Lever - Elevator tab control	all	1
	284310L		Sleeve - Elevator tab control	all	1
	284310R		Sleeve - Elevator tab control	all	1
18	256392L		Trigger - Elevator tab control	all	1
	256392R		Trigger - Elevator tab control	all	1
	256391-2		Pin - Elevator tab control lock	all	1
	256391-3		Pin - Elevator tab control lock	all	1
	256391-4		Pin - Elevator tab control lock	all	1
	256387		Latch - Elevator tab control	all	1
19	256375		Knob - Elevator tab control lever	all	1
20	284225-3		Shaft - Elevator tab control	all	1
21	284225-2		Shaft - Elevator tab control	all	1
22	256463		Shim - Pilot's stand elevator tab drum housing	all	2
23	285786		Eccentric - Elevator tab chain tension adjusting	dd	2
	2762		Sprocket Assembly (Vard)	dd	1
24	2762-2		Sprocket (Vard)	dd	1
25	AR4-1		Bearing - Sprocket (Torrington)	dd	1
26	284223		Chain Assembly - Electric elevator tab unit	all	1
27	284292		Lever - Electric elevator tab release	all	1
28	285787		Spring - Electric elevator tab release	all	1
	287100		Adjusting Assembly - Elevator tab chain	gg	1
29	287105		Support - Elevator tab idler sprocket	gg	1
30	287101		Dog - Elevator tab adjusting	gg	1
31	287102		Screw - Elevator tab adjusting	gg	1
32	287103		Trunnion - Elevator tab adjusting	gg	1
33	287104		Trunnion - Elevator tab adjusting tapped	gg	1
	2762		Sprocket Assembly (Vard)	gg	1
34	2762-2		Sprocket (Vard)	gg	1
35	AR4-1		Bearing - Sprocket (Torrington)	gg	1
36	287176		Bracket Assembly - Elevator tab sprocket support	gg	2
37	285789-2		Bracket Assembly - Elevator tab sprocket support	dd	1
38	285789-3		Bracket Assembly - Elevator tab sprocket support	dd	1
39	284944L		Bracket - Elevator tab release lever	all	1
	284944R		Bracket - Elevator tab release lever	all	1

GROUP . . . . Controls Units

Detail Unit . . . Gear Box and Motor—Electric Elevator Tab Control

Constellation

CONTROLS

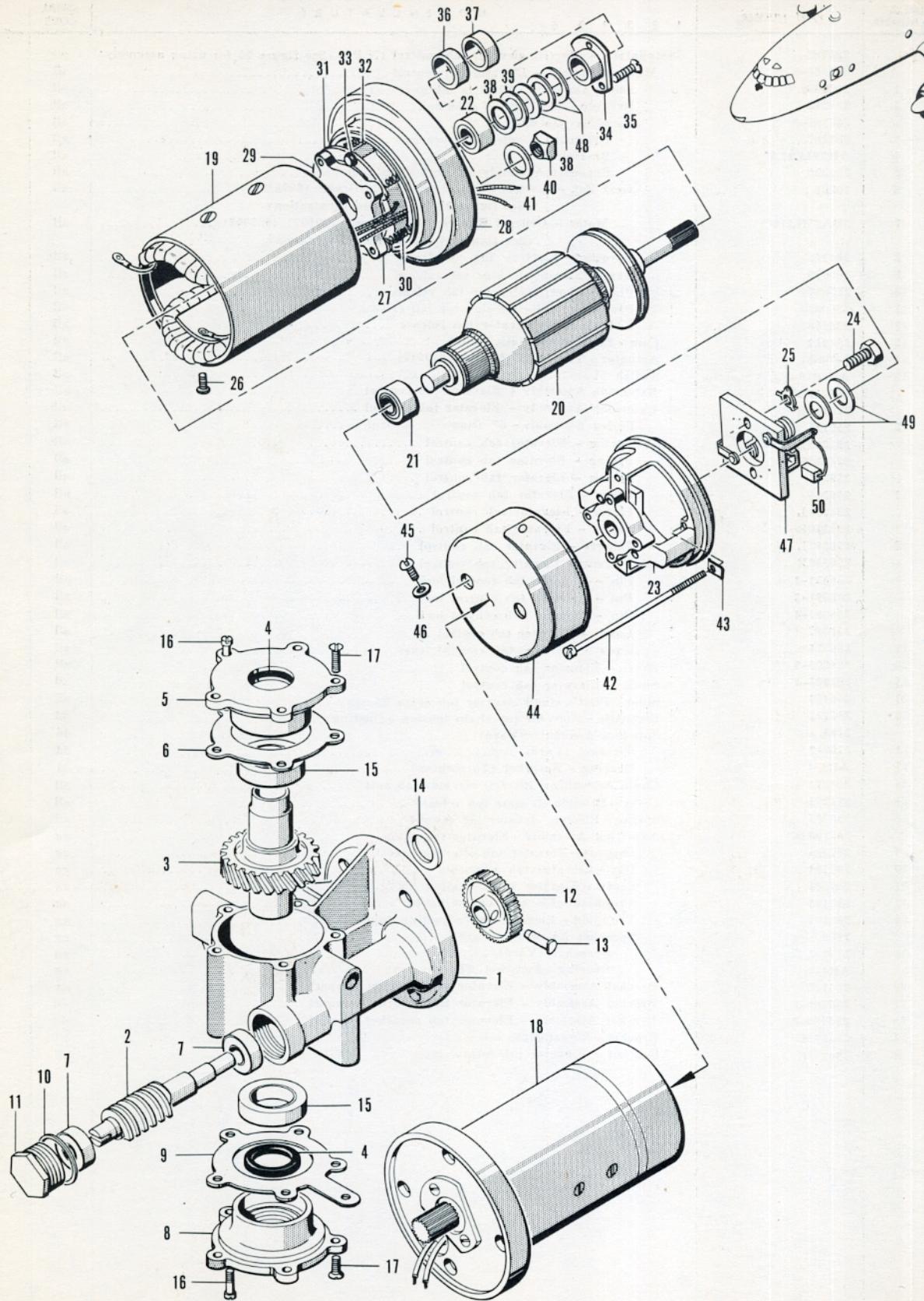


Figure 97 — Gear Box and Motor—Electric Elevator Tab Control

## GROUP . . . Controls Units

## Detail Unit . . . Gear Box and Motor—Electric Elevator Tab Control

*Constellation*

FIGURE & INDEX NUMBER	PART NUMBER		NOMENCLATURE						SERIAL CODE	UNITS PER ASSY.
			1	2	3	4	5	6		
97 - 1	10201	Gear Box — Electric tab (Foote Bros.) (669079) (See figure 96 for using assembly) . . .							all	Ref
	108022	Housing + Main gear box . . .							all	1
2	108020	Worm . . .							all	1
3	102001	Worm gear . . .							all	1
4	107004	Packing + Flap drive . . .							all	2
5	107016	Housing + Bearing . . .							all	1
6	107019	Shim + Bearing . . .							all	1
7	107002	Bearing (Fafnir KP5A) . . .							all	2
8	107023	Housing + Bearing . . .							all	1
9	108027	Shim + Flap drive . . .							all	1
10	108021	Shim + Automatic control . . .							all	1
11	107001	Retainer . . .							all	1
12	108019	Gear + Spur motor . . .							all	1
13	108018	Pin + Spur gear . . .							all	1
14	108028	Gasket + Motor . . .							all	1
15	107014	Bearing (Fafnir B-540) . . .							all	2
16	AN502A10-8	Screw + Drilled fillister head machine . . .							all	2
17	AN510-10-6	Screw + 82° flat head machine . . .							all	2
18	5BA25HJ16C	Motor (General Electric) (Foote Bros. 109007) (635062) . . .							all	1
19	4274948ABG2	Stator . . .							all	1
20	4294958ABG2	Rotor . . .							all	1
21	5893658ABP4	Bearing + Ball, commutator end . . .							all	1
22	5895156ABP5	Bearing + Ball, pulley end . . .							all	1
23	5846805AAG1	Shield + End . . .							all	1
24	8107369ABP1	Screw . . .							all	2
25	8125341AAP1	Washer + Eared . . .							all	2
26	257129	Screw . . .							all	2
27	5846781BB63	Brake Assembly . . .							all	1
28	8125044AGG1	Coil and Endshield Assembly . . .							all	1
29	8125046AAG3	Plate + Brake . . .							all	1
30	8109023AA	Spring . . .							all	4
31	8100257ABP2	Screw . . .							all	2
32	8107193AAP1	Spacer . . .							all	2
33	8107248AAP1	Washer + Eared . . .							all	2
34	8125288ACG4	Retainer + Bearing . . .							all	1
35	5855156ABP5	Screw . . .							all	2
36	8169240AAP1	Seal + Grease . . .							all	1
37	8125340AAP1	Spacer + Grease seal . . .							all	1
38	8135324ADP1	Washer + Spring . . .							all	2
39	8138741AAP1	Washer + Center . . .							all	1
40	8107365AAP1	Nut + Clamp bolt . . .							all	2
41	5863757AAP9	Washer . . .							all	2
42	8124018ADP5	Bolt + Clamp . . .							all	2
43	8107364AAP1	Washer + Eared . . .							all	1
44	5899693AFG1	Cover . . .							all	2
45	AN501A6-4	Screw . . .							all	2
46	AN960-6	Washer . . .							all	2
47	8107377AAG3	Rigging + Brush . . .							all	1
48	5859202AAP3	Washer + Shim . . .							all	AR
49	5859111AAP5	Washer + Shim . . .							all	AR
50	5861395AC3	Brush . . .							all	2

GROUP . . . . Controls Units

Detail Unit . . . Rudder and Aileron Tabs Control

# Constellation

CONTROLS

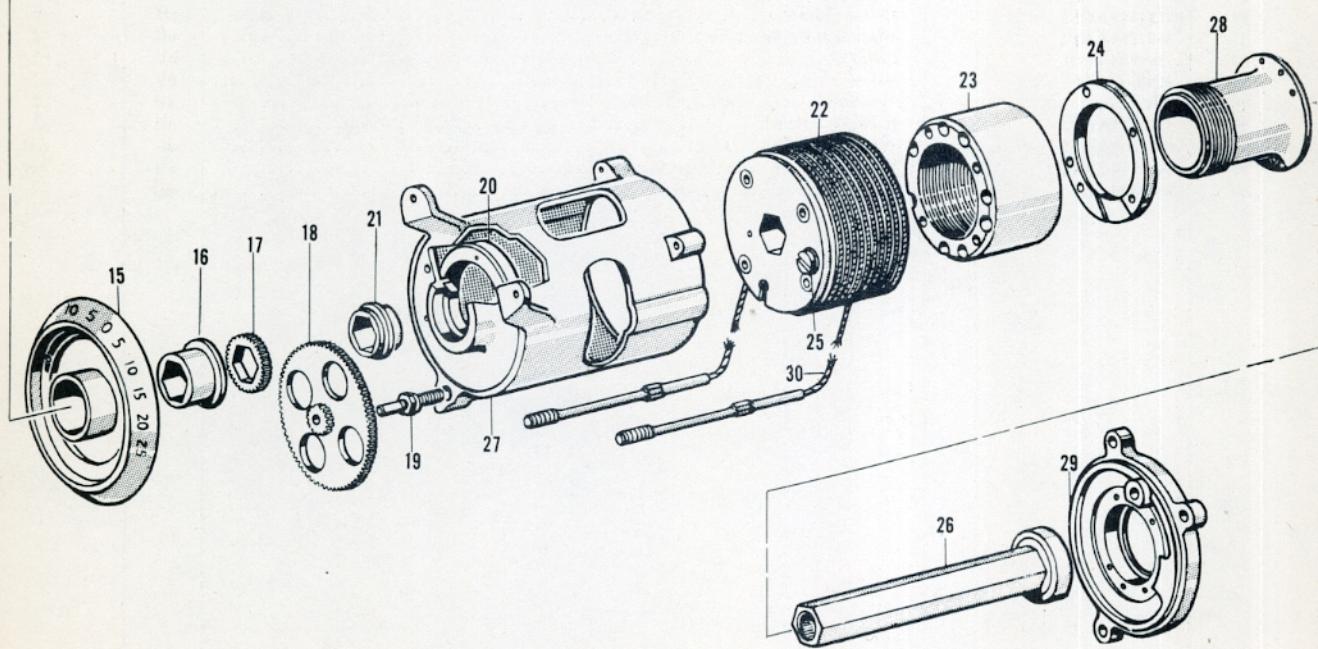
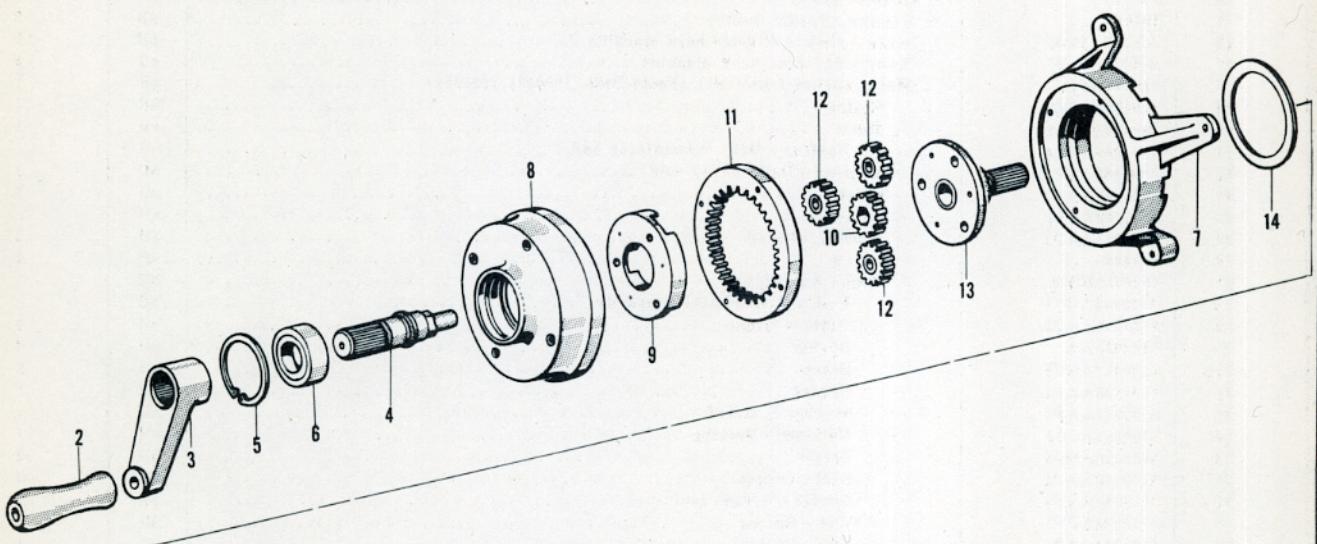
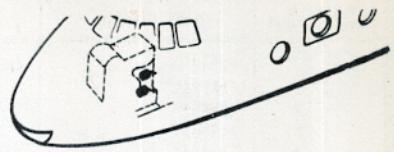
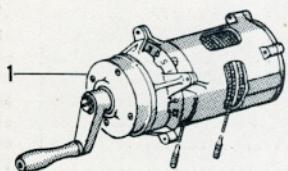


Figure 98 — Rudder and Aileron Tabs Control

## GROUP . . . Controls Units

*Constellation*

## Detail Unit . . . Rudder and Aileron Tabs Control

FIGURE & INDEX NUMBER	PART NUMBER		N O M E N C L A T U R E						SERIAL CODE	UNITS PER ASSY.
			1	2	3	4	5	6		
98 - 1	256643-2	Control Assembly - Aileron tab (See figure 94 for using assembly)							c	Ref
	256643-6	Control Assembly - Aileron tab (See figure 94 for using assembly)							d	Ref
	256643-3	Control Assembly - Rudder tab (See figure 94 for using assembly)							bx	Ref
2	277774	Handle - Rudder and aileron tab mechanism							all	1
3	277775-2	Crank (Used on 256643-2 and 256643-6)							all	1
	277775-3	Crank (Used on 256643-3 only)							all	1
	277785	Box Assembly - Mechanism gear							bx	1
4	277782	Shaft - Tab mechanism gear box							all	1
5	NAS50-112	Ring - Retainer internal type for bearing and shaft housing							all	1
6	AN201K8A	Bearing - Intermediate duty ball deep groove metal shield							all	1
7	277786-2	Housing - Rudder and aileron tab mechanism							all	1
8	277786-3	Cap - Rudder and aileron tab mechanism							all	1
9	277783	Plate - Tab mechanism gear box							all	1
10	277772	Gear - Tab mechanism gear							all	1
11	277773	Gear - Tab mechanism ring							all	1
12	277868	Gear Assembly - Tab mechanism pinion							all	3
	277780	Bushing - Tab mechanism pinion							all	1
13	277784	Spider Assembly - Tab mechanism gear							all	1
	277781	Bushing - Tab mechanism gear box shaft							all	1
14	277779	Washer - Tab mechanism gear							all	1
15	282404	Dial Assembly - Rudder and aileron tab control							all	1
16	277776	Adapter - Tab control dial							all	1
17	256145	Pinion - Rudder and aileron tab control							all	1
18	256181	Gear Assembly - Tab control							all	1
19	256153	Stud - Tab control driving gear							all	1
20	280537	Ring - Aileron tab drum stop (Used on 256643-2 and 256643-6)							all	1
21	256139	Adapter - Operating shaft							all	1
	277484-500	Drum Assembly - Tab control							all	1
22	277486	Drum - Tab control							all	1
23	256172	Nut - Tab control							all	1
24	278526	Plate Assembly - Tab control drum							all	1
25	278528	Screw - Tab control drum stop							all	1
26	277778	Shaft Assembly - Rudder and aileron tab							all	1
27	256173	Housing Assembly - Rudder and aileron tab control							all	1
28	256150	Screw - Tab control unit							all	1
29	280616	Cover - Tab control housing (Used on 256643-2 and 256643-6)							all	1
	256169	Cover - Tab control housing (Used on 256643-3 only)							bx	1
30	285189-2	Cable Assembly (Used on 256643-2 only)							c	1
	285189-16	Cable Assembly (Used on 256643-6 only)							d	1
	285189-4	Cable Assembly (Used on 256643-3 only)							bx	1
*297132		Control Assembly - Rudder tab (See figure 94 for using assembly)							ce-du	Ref
*287476		Handle Assembly - Rudder tab control							ce-du	1
*287482		Knob - Rudder tab control handle							ce-du	1
*287478		Knob - Rudder tab control handle							ce-du	1
*289777		Crank - Rudder tab control handle							ce-du	1
*289855		Pin - Rudder tab control handle							ce-du	1
*S1299162		Pulley - Rudder tab control (Westinghouse)							ce-du	2
*295029-2		Plug - Tab cable retainer							ce-du	1
*295029-3		Plug - Tab cable retainer							ce-du	1
*297133		Housing Assembly - Rudder tab control							ce-du	1
*288101-3		Cover Assembly - Rudder tab indicator mechanism							ce-du	1
*287945		Pointer - Rudder tab mechanism							ce-du	1
*NAS51-25		Ring - Retainer							ce-du	1
*287947		Gear - Rudder tab indicator drive							ce-du	1
*287946L		Arm Assembly - Tab indicator							ce-du	1
*285726		Bearing - Tab indicator							ce-du	1
*285599R		Cover Assembly - Tab control mechanism, inner							ce-du	1
*285645		Shaft - Tab control mechanism drive							ce-du	1
*FN41		Drum - Tab control (Cleveland Pneumatic) (669130-3)							ce-du	1

\* Replaces standard part per Service Instruction 49/SI-18.

GROUP . . . Controls Units  
Detail Unit . . . Control Column

# Constellation

CONTROLS

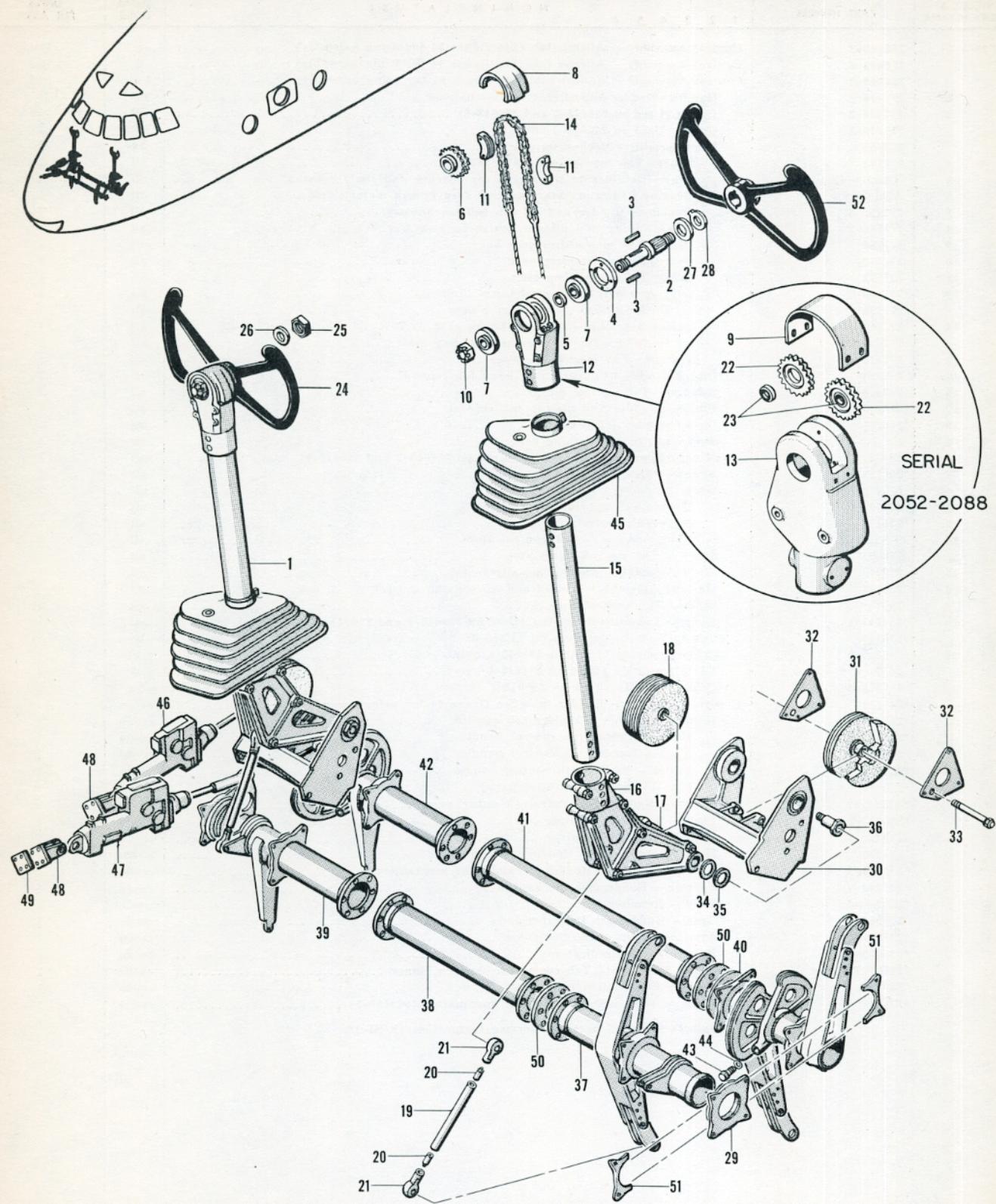


Figure 99 – Control Column

## GROUP . . . Controls Units

## Detail Unit . . . Control Column

FIGURE & INDEX NUMBER	PART NUMBER		N O M E N C L A T U R E						SERIAL CODE	UNITS PER ASSY.
			1	2	3	4	5	6		
99 - 1	256001	Installation - Control column (N.P.) (See figure 76 for using assembly)							all	Ref
	269071	Column Assembly - Control							ao	2
	287776	Column Assembly - Control							ap	2
2	283931	Shaft - Control wheel							all	1
3	256092	Key - Control wheel sprocket							all	2
4	256098	Plate - Retainer							all	1
5	256100	Spacer - Control wheel							all	1
6	256128	Sprocket - Control wheel							ao	1
	288774	Sprocket - Control wheel							aq	1
	287777	Sprocket - Control wheel							gg	1
7	AN201K12A	Bearing - Intermediate duty ball deep groove metal shield							all	2
8	256088	Cover - Control wheel housing							ao	1
9	287775	Cover - Control wheel housing							ap	1
10	AN316-12R	Nut - Aircraft shear							all	1
11	256090	Guide - Control wheel							ao	2
12	256091	Housing - Control wheel chain							ao	1
13	287771	Housing - Control wheel chain							ap	1
14	256087	Cable Assembly - Control column							ao	1
	287773	Cable Assembly - Control column							ap	1
	256892	Fitting - Aileron cable chain							ao	2
	288505	Fitting - Aileron cable chain							ap	2
	256087-3	Chain (Boston Gear Works)							ao	2
	287773-3	Chain (Boston Gear Works)							ap	2
15	256105	Tube - Control column							ao	1
	287769	Tube - Control column							ap	1
16	256097	Lever Assembly - Control column							all	1
17	256381	Tube - Spreader							all	1
18	AN210-5A	Pulley - Anti-friction bearing control							all	2
	257313	Link Assembly - Connector							all	1
19	257313-2	Tube							all	1
20	256590	Fitting - Male link							all	2
21	256586	End Assembly - Rod							all	2
	AR4-1	Bearing (Torrington)							all	1
	288775	Sprocket Assembly - Control column idler							ap	2
22	288775-2	Sprocket							ap	1
23	AN201K4A	Bearing							ap	1
24	640103-3	Wheel Assembly - Co-pilot's control							all	1
	NAS160	Wheel - Control, pilot's aileron							all	1
	NAS161	Cap Assembly							all	1
25	AN364-1216	Nut - Self locking thin							all	2
26	AN960-1216	Washer - Plain							all	2
27	283929	Filler - Control wheel							ddd	2
28	285673	Stop - Control wheel							all	2
29	256021	Housing Assembly - Tube bearing							all	2
	K37B	Bearing (Fafnir)							all	1
	256698	Bracket Assembly - Aileron idler							all	2
30	256319	Bracket Assembly - Idler							all	1
	AN201K16A	Bearing - Intermediate duty ball deep groove metal shield							all	2
31	AN210-5A	Pulley							all	2
	LS643-8-10	Tube - Spacer							all	1
32	256607	Plate - Idler guard							all	2
33	NAS146-58	Bolt - Internal wrenching - Steel $\frac{3}{8}$ -24							ar	1
	NAS146ADH58	Bolt - Internal wrenching - Steel $\frac{3}{8}$ -24							as	1
34	225503	Washer							all	4
35	65259	Oil Throw							all	4
36	256554	Bolt - Control column pivot							all	4
37	256027	Tube Assembly - LH Torque							all	1
38	256031	Tube Assembly - Center Torque							all	1
39	256028	Tube Assembly - RH Torque							all	1
40	256025	Tube Assembly - Aileron Torque							all	1
41	257542	Tube Assembly - Aileron center torque							all	1
42	256026	Tube Assembly - RH Aileron torque							all	1
	256021	Housing Assembly - Tube bearing							all	2
43	256728	Bolt - Cable adjusting							all	4
44	51816	Washer							all	4
	256614	Installation - Control column boot assembly (N.P.)							all	2
45	256617	Boot Assembly							all	1
46	645218 (115 psi.)	Servo Assembly + Gyro (Aileron) (Sperry) (629020-3)							all	1
47	645218 (140 psi.)	Servo Assembly + Gyro (Elevator) (Sperry) (629020-4)							all	1
48	256207	Bracket - Servo cylinder							all	2
49	268486	Spacer - Servo bracket							all	1
50	256697	Shim - Torque tube coupling							all	2
51	256033	Shim - Torque tube bearing half							all	8
52	640103-2	Wheel Assembly - Pilot's control (See figure 196 for using assembly)							all	Ref

Reissued July, 1947

GROUP . . . Controls Units

Detail Unit . . . Pressure Control Stand and Overhead Emergency Panel

*Constellation*

CONTROLS

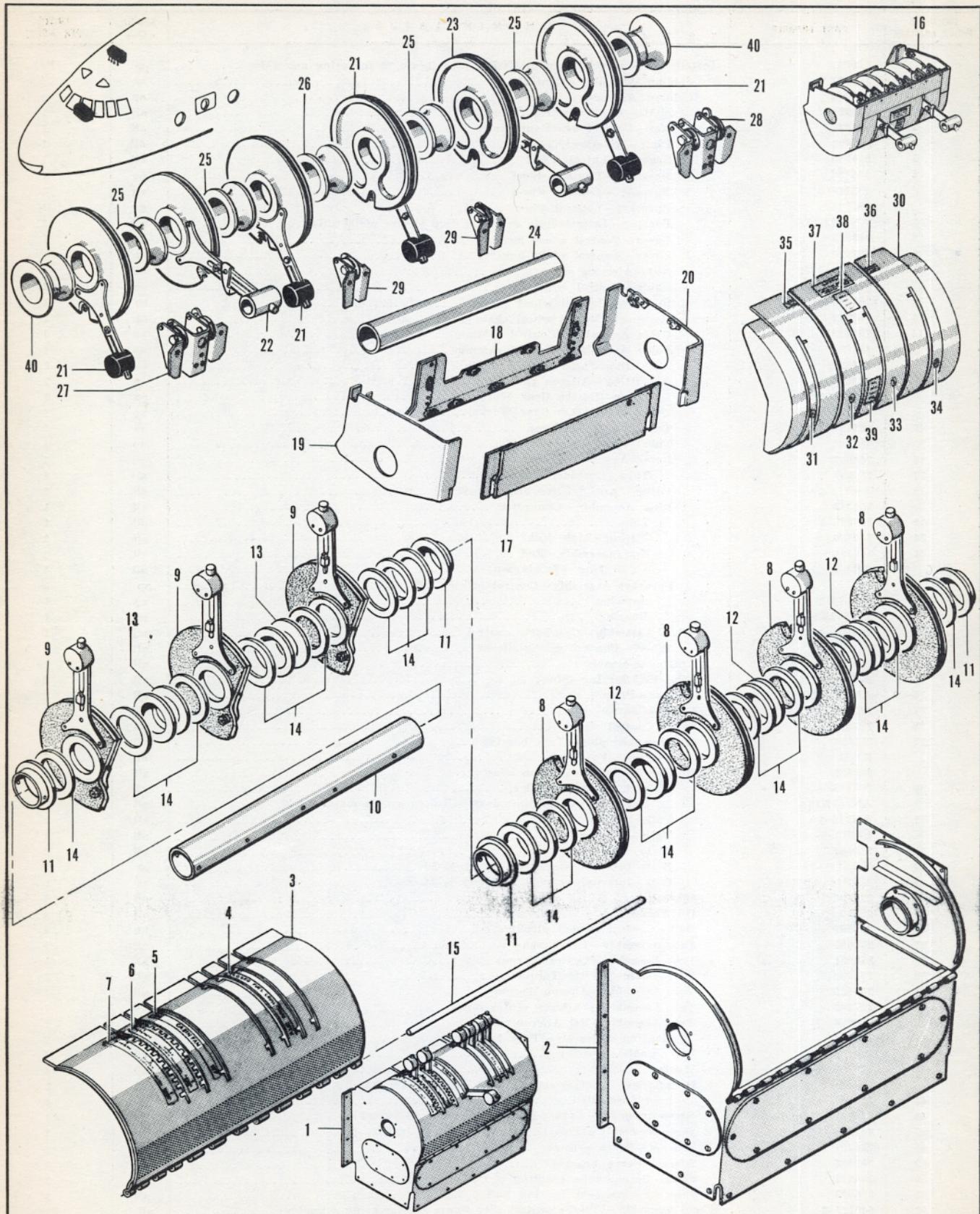


Figure 100 — Pressure Control Stand and Overhead Emergency Panel

## GROUP . . . Controls Units

## Detail Unit . . . Pressure Control Stand and Overhead Emergency Panel

*Constellation*

FIGURE & INDEX NUMBER	PART NUMBER	1	2	3	4	5	6	N O M E N C L A T U R E	SERIAL CODE	UNITS PER ASSY.
100 - 1	267534							Installation - Pressure control (N.P.) (See figure 1 for using assembly) .....	all	Ref
	268832							Installation - Fuel cross feed and pressure control stand (N.P.) .....	all	1
2	268847							Stand Assembly - Fuel cross feed and pressure control .....	all	1
	268808							Box Assembly - Fuel cross feed and pressure control .....	all	1
	256407							Support - Fuel and air conditioning control .....	all	2
	259593							Hinge Assembly - Fuel control lower .....	all	1
	268807							Quadrant Assembly - Fuel cross feed and pressure control .....	all	1
3	268807-2							Panel .....	all	1
4	259576							Nameplate - Fuel cross transfer .....	all	1
5	259574							Nameplate - Cabin fan control .....	all	1
6	259572							Nameplate - RH inflow and outflow control .....	all	1
7	259571							Nameplate - LH inflow and outflow control .....	all	1
8	257270							Lever Assembly - Fuel cross feed .....	all	4
	257234-2							Knob - Push button control lever .....	all	1
	290638							Button - Lever push (Replaces 57816 for spares) .....	all	1
	57817							Spring - Lever push button .....	all	1
	57818							Latch - Lever .....	all	1
	257115							Pulley - "6" Dia control .....	all	1
9	259707							Lever Assembly - Air conditioning control .....	all	3
	257234-2							Knob - Push button control lever .....	all	1
	290638							Button - Lever push (Replaces 57816 for spares) .....	all	1
	57817							Spring - Lever push button .....	all	1
	57818							Latch - Lever .....	all	1
	259707-2							Pulley - Air conditioning control .....	all	1
10	258914							Shaft - Fuel and air conditioning control .....	all	1
11	256406							Ring - Fuel and air conditioning control shaft .....	all	4
12	257130-12							Spacer - Emergency control panel .....	all	3
13	257130-11							Spacer - Emergency control panel .....	all	2
14	257131							Washer - Control lever friction .....	all	18
15	259797-2							Pin .....	all	1
	256580							Installation - Overhead emergency control aft panel (N.P.) .....	all	Ref
								(See figure 56 for using assembly)		
16	269356							Panel Assembly - Overhead emergency .....	all	1
17	256286							Panel Assembly - Emergency control rear .....	all	1
18	256287							Panel Assembly - Emergency control front .....	all	1
19	256289L							Panel Assembly - Emergency control end up .....	all	1
20	256289R							Panel Assembly - Emergency control end up .....	all	1
21	256280							Lever Assembly - Oil shut-off .....	all	4
	257234-2							Knob - Push button control .....	all	1
	290638							Button - Lever push (Replaces 57816 for spares) .....	all	1
	57817							Spring - Lever .....	all	1
	57818							Latch - Lever .....	all	1
22	256713L							Lever Assembly - Fuel dump .....	all	1
23	256713R							Lever Assembly - Fuel dump .....	all	1
	279050							Knob - Dump fuel lever .....	all	1
	290638							Button - Lever push (Replaces 57816 for spares) .....	all	1
	57817							Spring - Lever push .....	all	1
	57818							Latch - Lever .....	all	1
24	256296							Shaft - Emergency control panel .....	all	1
25	257130-2							Spacer - Emergency control panel .....	all	4
26	257130-3							Spacer - Emergency control panel .....	all	1
27	256706L							Bracket Assembly - Pulley, outer .....	all	1
28	256706R							Bracket Assembly - Pulley, outer .....	all	1
	AN210-1A							Pulley - Anti-friction bearing .....	all	2
29	256278							Bracket Assembly - Pulley, inner .....	all	2
	AN210-1A							Pulley - Anti-friction bearing .....	all	1
	256290							Quadrant Assembly - Overhead emergency panel .....	all	1
30	256290-2							Quadrant - Overhead emergency panel .....	all	1
31	270600							Nameplate - Engine No. 1 .....	all	1
32	270601							Nameplate - Engine No. 2 .....	all	1
33	270602							Nameplate - Engine No. 3 .....	all	1
34	270603							Nameplate - Engine No. 4 .....	all	1
35	256285-2							Nameplate - Fuel tank .....	all	1
36	256285-3							Nameplate - Fuel tank .....	all	1
37	256710							Nameplate - Warning .....	all	1
38	256284							Nameplate - Dump valve .....	all	1
39	256298							Nameplate - Oil valve .....	all	1
40	257133-2							Support - Emergency control panel .....	all	2

GROUP . . . Controls Units

Detail Unit . . . Control Stand—Flight Engineer's

Constellation

CONTROLS

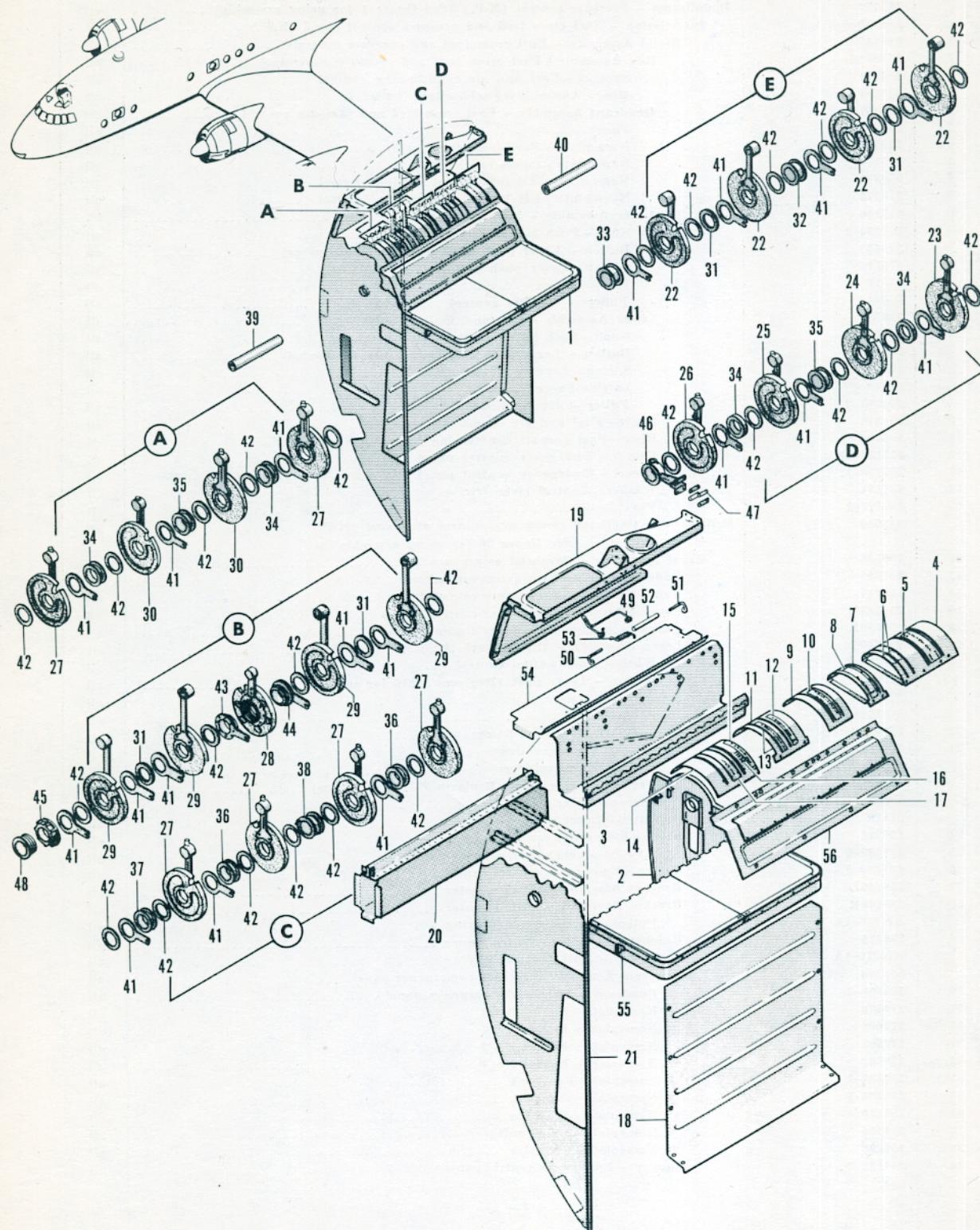


Figure 101—Control Stand—Flight Engineer's

## GROUP . . . Controls Units

*Constellation*

## Detail Unit . . . Control Stand—Flight Engineer's

FIGURE & INDEX NUMBER	PART NUMBER		N O M E N C L A T U R E						SERIAL CODE	U N I T S P E R A S S Y.
			1	2	3	4	5	6		
101 - 1	256404	Installation — Engineer's control stand (N.P.) (See figure 56 for using assembly)							all	Ref
	256118	Stand Assembly							jj	1
	256118-501	Stand Assembly							ii	1
2	271596-28	Panel Assembly							all	1
	271596-17	Panel Assembly							all	1
3	256177	Box Assembly — Switch panel							all	1
	257261	Box — Switch panel							all	1
	256180	Hinge — Switch panel							all	1
4	257140	Quadrant Assembly — Tank selector feed							tt	1
	291741	Quadrant Assembly — Engineer's control fuel shut-off							uu	1
5	256694	Nameplate — Tank selector							all	1
6	271833	Nameplate — Mixture control quadrant							all	2
7	257141	Quadrant Assembly — Mixture							tt	1
	291739	Quadrant Assembly — Engineer's control mixture							uu	1
8	256692	Nameplate — Mixture control quadrant							all	1
9	256231	Quadrant Assembly — Supercharger							all	1
10	256691	Nameplate — Supercharger control							all	1
11	256230	Quadrant Assembly — Throttle							all	1
12	256502	Nameplate — Throttle							all	1
13	256503	Nameplate — Throttle							all	1
14	276535	Quadrant Assembly — Carburetor heat							all	1
15	256502	Nameplate — Throttle							all	1
16	281874	Nameplate — Carburetor heat control							all	1
17	276538	Nameplate — Carburetor air and filter							all	1
18	256117	Guard Assembly — Cable							all	1
19	256116	Guard Assembly — Engineer's control stand							all	1
20	257308	Brace Assembly — Engineer's control stand							all	1
21	256119	Panel Assembly — Station 212 control stand							jj	1
	256119-500	Panel Assembly — Station 212 control stand							ii	1
22	257114L	Lever Assembly — Engineer's control stand							all	4
23	256377	Pulley Assembly — Mixture control right outboard							all	1
24	256378	Pulley Assembly — Mixture control right inboard							all	1
25	256120	Pulley Assembly — Mixture control left inboard							all	1
26	256123	Pulley Assembly — Mixture control left outboard							all	1
27	257105	Lever Assembly — Carburetor heat control inboard							all	6
28	257174	Lock Assembly — Throttle							all	1
29	256661	Lock Assembly — Throttle							all	4
30	257270	Lever Assembly — Carburetor heat control outboard							all	2
31	257128-2	Spacer — Solid							all	4
32	257130-16	Spacer — Emergency control panel							all	1
33	257130-15	Spacer — Emergency control panel							all	1
34	257130-4	Spacer — Emergency control panel							all	4
35	257130-9	Spacer — Emergency control panel							all	2
36	257130-11	Spacer — Emergency control panel							all	2
37	257130-17	Spacer — Emergency control panel							all	1
38	257129	Spacer — Pinned							all	1
39	257109-2	Shaft — Pulley							all	1
40	257109-3	Shaft — Pulley							all	1
41	257173	Plate — Control pulley $\frac{1}{2}$ friction							all	18
42	257131	Washer — Control lever friction							all	26
43	257121L	Wedge Assembly — Lock							all	1
44	257121R	Wedge Assembly — Lock							all	1
45	256102	Nut — Friction adjusting							all	1
46	257110	Support — Pulley shaft							all	1
47	256133	Shim — Support							all	4
48	256103	Screw — Friction adjusting							all	1
49	281831	Stop — Carburetor heat control lever							all	1
50	281828L	Pivot — Carburetor heat control lever stop							all	1
51	281828R	Pivot — Carburetor heat control lever stop							all	1
52	281829	Tube — Carburetor heat control stop							all	1
53	281830	Spring — Carburetor heat control lever stop							all	1
54	277793	Cover Assembly — Engineer's control stand							all	1
55	256356	Installation — Engineer's table (N.P.)							all	1
56	291505	Panel Assembly — Flight engineer's switch and fuse							rrr-du	Ref
	293585	(See figure 198 for detailed illustration)							sss	Ref
		Panel Assembly — Flight engineer's switch and fuse								
		(See figure 198 for detailed illustration)								

GROUP . . . Controls Units  
Detail Unit . . . Control Panel—Cabin Air

# Constellation

## CONTROLS

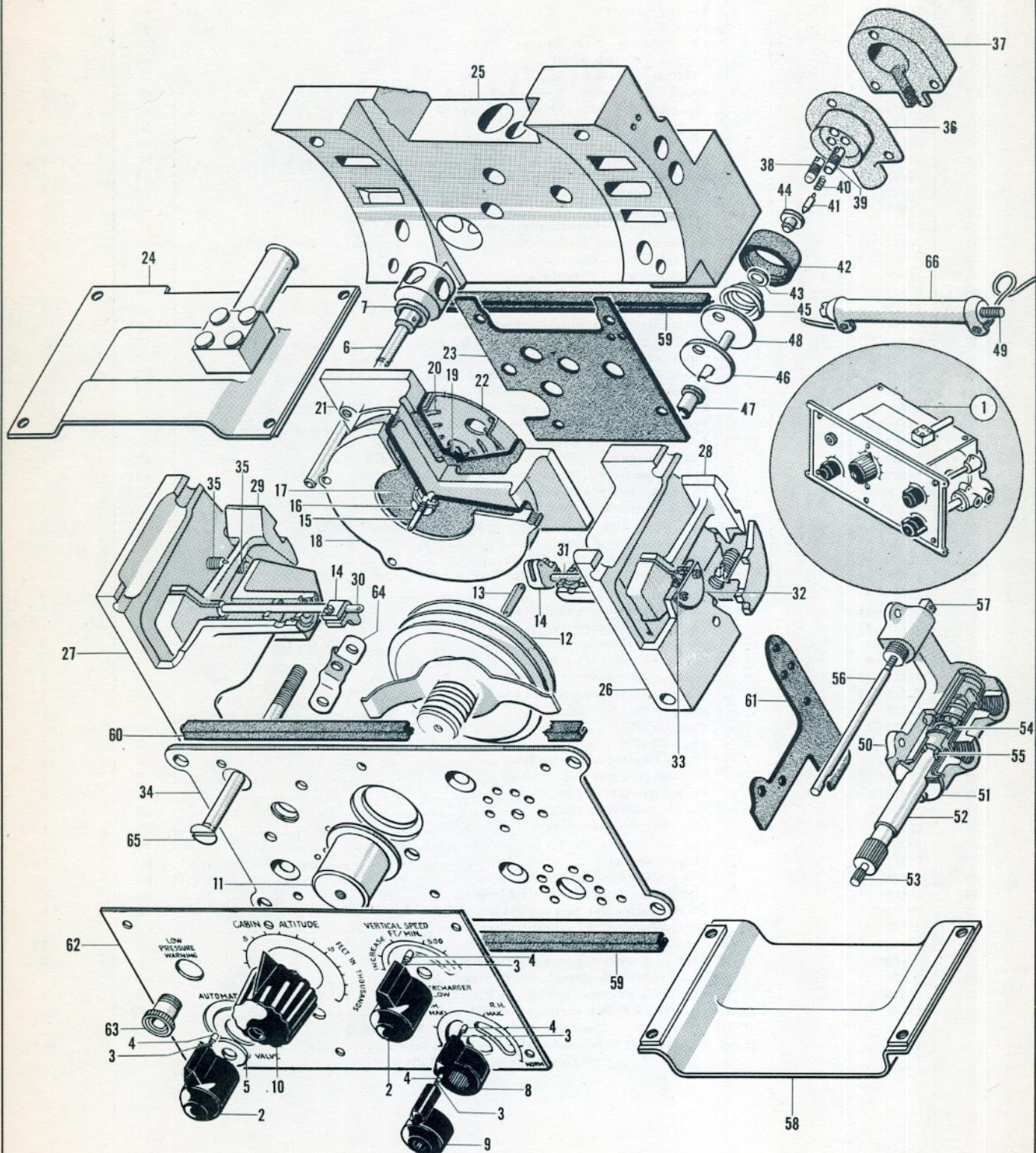


Figure 102 — Control Panel — Cabin Air

## GROUP . . . Controls Units

## Detail Unit . . . Control Panel—Cabin Air

*Constellation*

FIGURE & INDEX NUMBER	PART NUMBER		N O M E N C L A T U R E						SERIAL CODE	UNITS PER ASSY.
			1	2	3	4	5	6		
102 - 1	525B900	Panel Assembly - Pressure control (Kollsman) (644062) (See figure 194 for using assembly)							all	Ref
2	825-3	Knob - Supercharger flow control							all	2
3	825-59	Spring							all	4
4	825-60	Pin							all	4
5	825-83	Washer - Felt							all	1
6	825-917	Valve Assembly - Manual control							all	1
7	825-66	Spacer - Upper bolt door							all	1
8	825-7	Knob - Supercharger load lower							all	1
9	825-8	Knob - Supercharger load upper							all	1
10	825-5	Knob - Control panel pressure adjustment							all	1
11	825-30	Nut - Control panel pressure adjustment							all	1
12	825-913	Bellows Assembly - Control panel pressure							all	1
13	825-34	Link - Control panel pressure bellows							all	2
14	825-51	Lever - Control panel beam valve							all	1
15	825-74	End - Control diaphragm							all	1
16	825-14	Nut - Rate control linkage adjustment							all	1
17	825-923	Diaphragm Assembly - Control							all	1
18	825-6B	Ring - Control panel rate control							all	1
19	825-20	Diaphragm - Pressure regulator							all	1
20	825-24	Spring - Control panel regulator							all	1
21	825-10B	Regulator - Control panel pressure							all	1
22	825-61	Ring - Control panel pressure regulator							all	1
23	825-64	Gasket - Control panel regulator							all	1
24	825-908	Cover Assembly - Control panel inboard							all	1
25	825-901	Body Assembly - Control panel inboard							all	1
	X516	Plug - Expansion (Western Washer & Stamping Co.)							all	4
26	825-902	Case Assembly - Beam valve							all	1
	825-38	Seal - Control panel shaft							all	1
	825-37	Ring - Control panel bearing snap							all	1
	662-11	Bearing (Marlin-Rockwell)							all	2
27	825-903	Case Assembly - Relay beam valve							all	1
	825-38	Seal - Control panel shaft							all	1
	825-37	Ring - Control panel bearing snap							all	1
	662-11	Bearing (Marlin-Rockwell)							all	2
28	825-920	Valve - Control panel pressure beam							all	1
29	825-921	Valve - Control panel pressure beam valve							all	1
30	825-36	Shaft - Control panel pressure beam valve							all	1
31	825-42	Shaft - Control panel relay beam valve							all	1
32	825-33	Cover - Control panel bearing							all	2
33	825-29	Spacer - Control panel bearing							all	2
34	825-11	Face - Control panel							all	1
35	825-40	Stop - Control panel rate beam valve							all	1
36	825-924	Cover - Control panel alarm switch							all	1
	825-26	Contact Assembly - Warning light switch							all	1
37	825-25	Block							all	1
38	825-28	Terminal - Alarm switch plug							all	1
39	825-27	Terminal - Warning light switch plug							all	1
40	825-39B	Spring - Warning light switch plug							all	1
41	825-41	Contact - Warning light switch plug							all	1
	825-906	Diaphragm Assembly - Alarm switch							all	1
42	825-16	Diaphragm - Control panel alarm switch							all	1
43	825-31	Retainer - Control panel alarm switch							all	1
44	825-55	Contact - Control panel alarm switch							all	1
45	825-23B	Spring - Control panel alarm switch							all	1
46	825-58	Insulator - Control panel alarm switch							all	1
47	825-22	Bushing - Control panel alarm switch							all	1
48	825-907	Terminal Assembly - Alarm switch							all	1
49	825-35	Bolt - Control panel resistor attaching							all	1
	825-919	Valve Assembly - Vertical speed							all	1
50	825-914	Housing Assembly - Supercharger control							all	1
51	825-15	Cover - Control panel supercharger control							all	1
52	825-72	Valve - Control panel supercharger control outer							all	1
53	825-73	Valve Assembly - Control panel supercharger control inner							all	1
54	825-69	Spring - Control panel supercharger control							all	1
55	825-70	Washer - Control panel supercharger control							all	2
56	825-65	Valve - Control panel rate control							all	1
57	825-32	Plug - Control panel rate control valve							all	1
58	825-918	Cover Assembly - Control panel outboard							all	1
59	825-17	Channel - Control panel sealing							all	2
60	825-18	Channel - Control panel sealing							all	1
61	825-67	Gasket - Control panel supercharger control							all	1
62	825-2B	Nameplate - Pressure control panel							all	1
63	319	Bulb - T-1 1/4 (General Electric Co.) (Kollsman No. R274B900)							all	1
64	825-905	Contact Assembly - Control panel light							all	1
65	825-52	Screw - Control panel beam case							all	4
66	X519	Resistor (Brown Devil) (Interchangeable with lug No. 40-10 watt 200 ohm) (Ohmite Mfg. Co.)							all	1
	X517	Grommet							all	2
	X520	Screw - Set							all	4
	X522	Screw - Set							all	1
	X523	Screw - Set							all	1

GROUP . . . . Controls Units

Detail Unit . . . Controls—Engine Compartment

# Constellation

CONTROLS

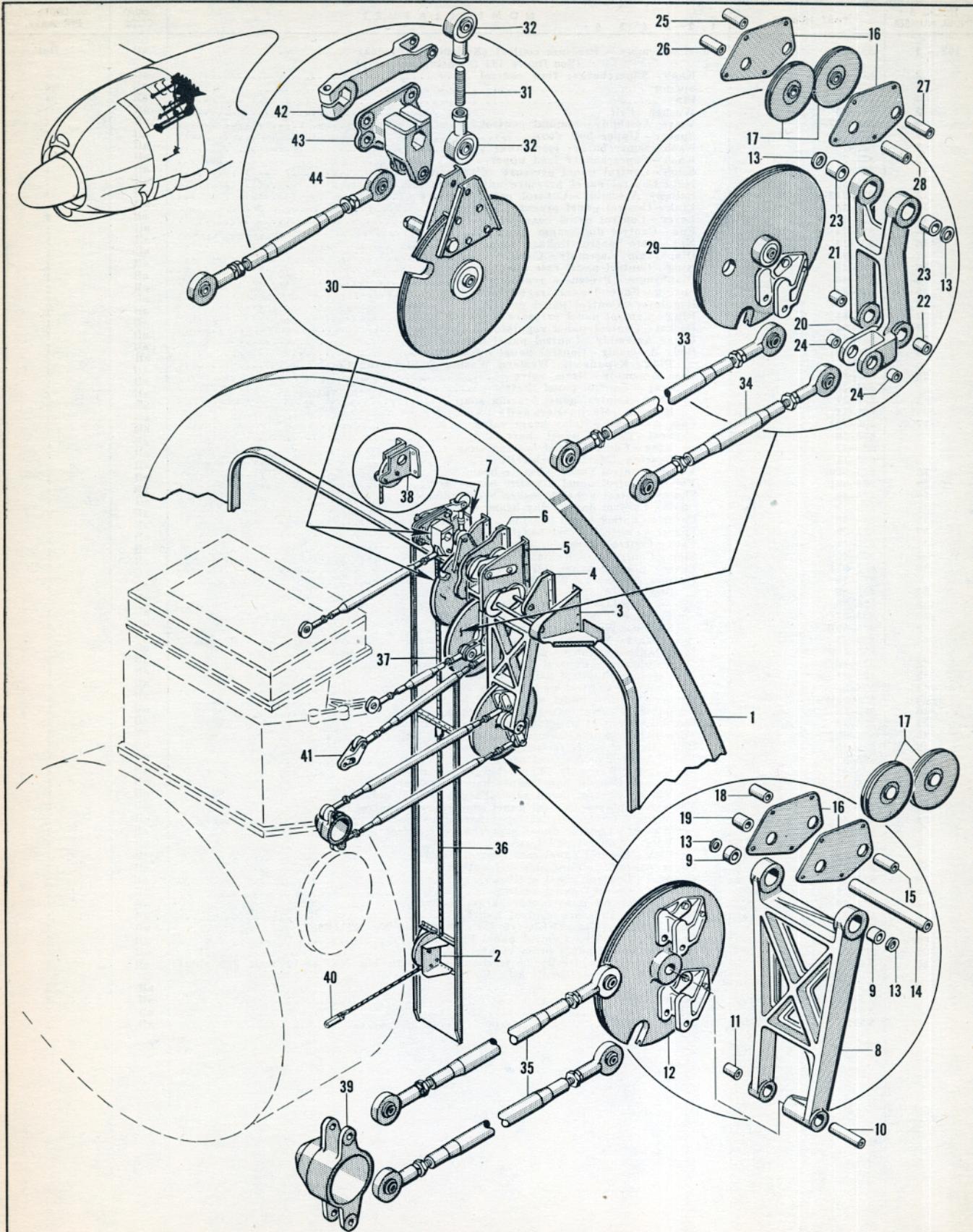


Figure 103 — Controls — Engine Compartment

## GROUP . . . Controls Units

## Detail Unit . . . Controls—Engine Compartment

FIGURE & INDEX NUMBER	PART NUMBER	1	2	3	4	5	6	N O M E N C L A T U R E		SERIAL CODE	U N I T S P E R A S S Y.
103 - 1	276179-4		Firewall Assembly - Inboard LH (See figure 13 for using assembly) . . . . .							all	Ref
	276179-5		Firewall Assembly - Inboard RH (See figure 13 for using assembly) . . . . .							all	Ref
	279343-4		Firewall Assembly - Outboard LH (See figure 15 for using assembly) . . . . .							all	Ref
	279343-5		Firewall Assembly - Outboard RH (See figure 15 for using assembly) . . . . .							all	Ref
	261186		Column Assembly - Inboard firewall . . . . .							all	1
	261397		Column Assembly - Outboard firewall . . . . .							all	1
2	261476		Bracket Assembly - Supercharger lower palleys . . . . .							all	1
	270870		Nut - Special plate . . . . .							a	2
	267415		Installation - Inner wing power plant control LH (N.P.) . . . . .							all	Ref
			(See figure 2 for using assembly)								
	267416		Installation - Inner wing power plant control RH (N.P.) . . . . .							all	Ref
			(See figure 2 for using assembly)								
	276170-2		Installation - Outboard engine compartment controls (N.P.) . . . . .							all	1
	276170-3		Installation - Inboard engine compartment controls (N.P.) . . . . .							all	1
	276529		Controls Assembly - Engine compartment . . . . .							all	1
3	276841		Bracket Assembly - Carburetor throttle control arm . . . . .							all	1
4	272840		Bracket Assembly - Carburetor pulley . . . . .							all	1
5	262668		Bracket Assembly - Carburetor control LH . . . . .							all	1
6	262611		Bracket Assembly - Carburetor control RH . . . . .							all	1
7	262573-500		Bracket Assembly - Carburetor air valve control . . . . .							all	1
	283469		Arm Assembly - Throttle control . . . . .							all	1
8	283469-2		Arm - Throttle control . . . . .							all	1
9	263029-2		Bushing . . . . .							all	2
10	263029-3		Bushing . . . . .							all	1
11	263029-7		Bushing . . . . .							all	1
12	283487		Pulley Assembly - Carburetor throttle control . . . . .							tt	1
	291253		Pulley Assembly - Carburetor throttle control . . . . .							uu	1
13	233214		Washer - Aileron counter-balance . . . . .							all	4
14	273053-3		Spacer - Throttle control arm . . . . .							all	1
15	LS630-5-22		Spacer - Aluminum alloy . . . . .							all	1
16	262693		Retainer - Carburetor mixture control guard pin . . . . .							all	4
17	254360		Pulley Assembly - Engine control . . . . .							all	4
	K4A		Bearing . . . . .							all	1
18	LS630-5-20		Spacer - Aluminum alloy . . . . .							all	1
19	273053-2		Spacer - Throttle control arm . . . . .							all	1
	283468		Arm Assembly - Carburetor mixture control . . . . .							all	1
20	283468-2		Arm - Carburetor mixture control . . . . .							all	1
21	263029-7		Bushing . . . . .							all	1
22	263029-8		Bushing . . . . .							all	1
23	283509-3		Bushing . . . . .							all	2
24	263029-2		Bushing . . . . .							all	2
25	LS630-5-28		Spacer - Aluminum alloy . . . . .							all	1
26	273053-6		Spacer - Throttle control arm . . . . .							all	1
27	LS630-5-35		Spacer - Aluminum alloy . . . . .							all	1
28	273053-5		Spacer - Throttle control arm . . . . .							all	1
29	283489		Pulley Assembly - Carburetor mixture control . . . . .							all	1
30	276503		Pulley Assembly - Carburetor preheat valve . . . . .							all	1
	262712		Rod Assembly - Carburetor air valve control . . . . .							all	1
31	262712-2		Rod - Carburetor air valve control . . . . .							all	1
32	RE4F5		Bearing - Rod end (Fafnir) . . . . .							fq	2
	292846		End - Carburetor air valve control rod . . . . .							fr	2
33	270845-16		Rod Assembly - Carburetor mixture control . . . . .							a	1
34	270845-2		Rod Assembly - Carburetor mixture control . . . . .							b	1
35	270845-36		Rod Assembly - Carburetor throttle control . . . . .							all	2
36	*292507-4		Cable Assembly - Two speed supercharger control . . . . .							a	1
37	*292507-2		Cable Assembly - Two speed supercharger control upper . . . . .							a	1
38	262945		Pulley Assembly - Two speed supercharger control upper . . . . .							all	1
39	*291357		Lever - Carburetor throttle (See figure 67 for using assembly) . . . . .							all	Ref
40	262743		Fitting - Two speed supercharger control (See figure 67 for using assembly) . . . . .							all	Ref
41	255724		Lever - Carburetor throttle (See figure 67 for using assembly) . . . . .							all	Ref
42	276278		Lever - Preheat duct valve control (See figure 119 for using assembly) . . . . .							all	Ref
43	261302		Housing - Air induction aft bearing (See figure 119 for using assembly) . . . . .							all	Ref
44	270845-20		Rod Assembly - Engine control (See figure 119 for using assembly) . . . . .							n	Ref
	LS506-13QQ		Rod Assembly - Engine control (See figure 119 for using assembly) . . . . .							t	Ref

\* Replaces standard part per Service Bulletins 49/SB-1 and 49/SB-14.

GROUP . . . Controls Units

Detail Unit . . . Bracket—Lower Main Keelson

*Constellation*

CONTROLS

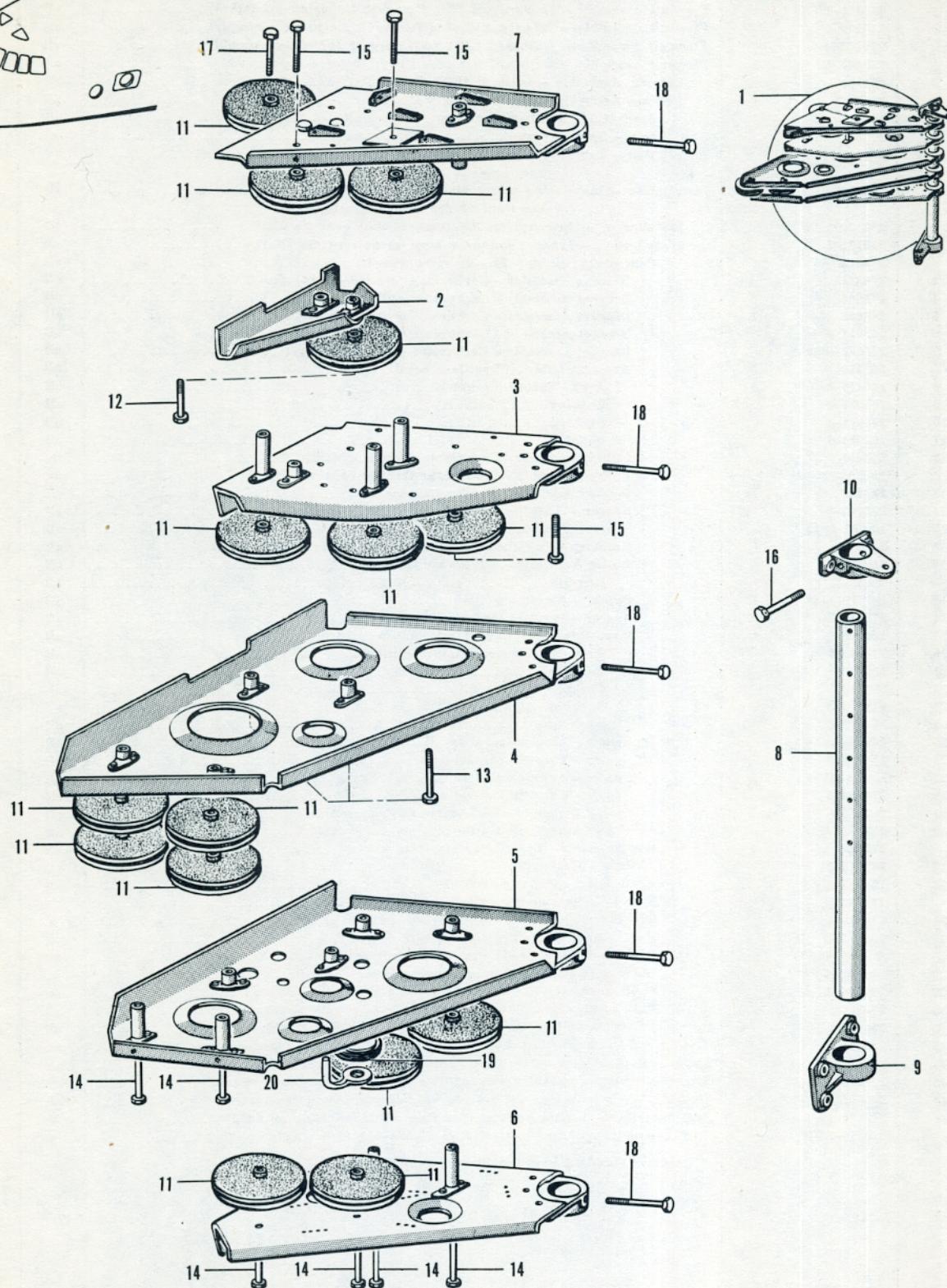


Figure 104 — Bracket — Lower Main Keelson

Reissued July 1947

LOCKHEED AIRCRAFT CORPORATION

GROUP . . . Controls Units

Detail Unit . . . Bracket—Lower Main Keelson

*Constellation*

FIGURE & INDEX NUMBER	PART NUMBER		N O M E N C L A T U R E						SERIAL CODE	UNITS PER ASSY.
			1	2	3	4	5	6		
	262367		Installation - Station 164-170 Keelson lower main bracket assembly (N.P.) .....	(See figure 28 for using assembly)					all	Ref
104 - 1	261431		Bracket Assembly - Lower main keelson .....						all	1
2	262345		Web Assembly - Outboard Bracket RH .....						all	1
3	262344		Web Assembly - Outboard Bracket RH .....						all	1
4	262343		Web Assembly - Outboard Bracket RH .....						all	1
5	262342		Web Assembly - Outboard Bracket RH .....						all	1
6	262341		Web Assembly - Outboard Bracket RH .....						all	1
7	262346		Web Assembly - Outboard Bracket RH .....						all	1
8	262339		Tube - Outboard bracket assembly RH .....						all	1
9	262340		Fitting Assembly - Bracket lower tube .....						all	1
10	262347		Fitting Assembly - Bracket upper tube .....						all	1
11	AN210-2A		Pulley - Anti-friction bearing .....						all	15
12	LS583-10		Bolt - Drilled head #10-32 .....						all	1
13	LS583-14		Bolt - Drilled head #10-32 .....						all	2
14	LS583-15		Bolt - Drilled head #10-32 .....						all	6
15	LS583-16		Bolt - Drilled head #10-32 .....						all	3
16	AN3-15A		Bolt - Aircraft 10-32 .....						all	1
17	LS583-11		Bolt - Drilled head #10-32 .....						all	1
18	AN3-16A		Bolt - Aircraft 10-32 .....						all	5
19	FL3C3		Fairlead - Roller (Fafnir) .....						all	1
20	234237-2		Pin - Guard .....						all	1

CONTROLS

GROUP . . . . Controls Units

Detail Unit . . . . Cable Slack Absorbers and Tension Regulators

Constellation

CONTROLS

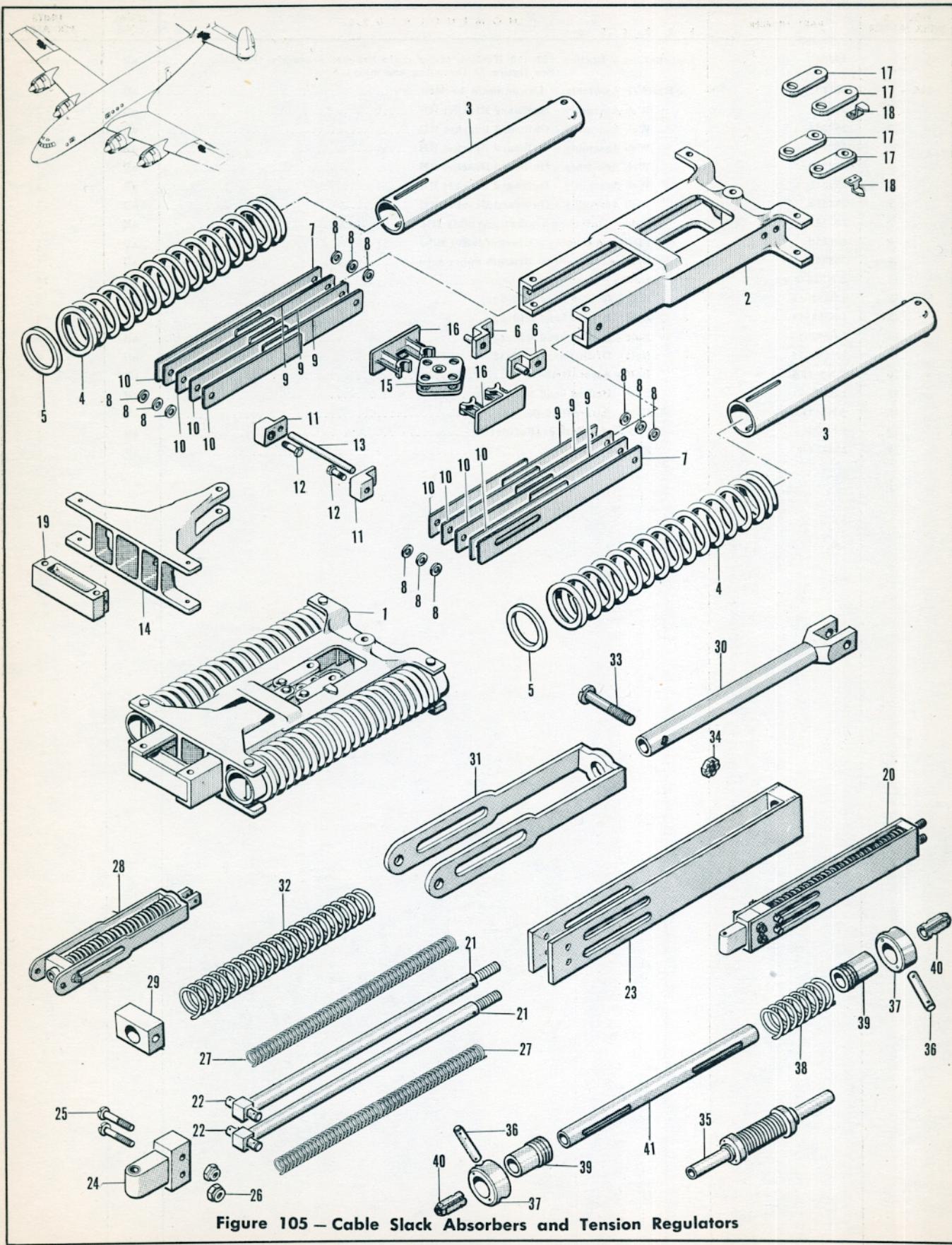


Figure 105 – Cable Slack Absorbers and Tension Regulators

## GROUP . . . Control Units

## Detail Unit . . . Cable Slack Absorbers and Tension Regulators

*Constellation*

FIGURE & INDEX NUMBER	PART NUMBER	1 2 3 4 5 6	N O M E N C L A T U R E						SERIAL CODE	UNITS PER ASSY.
			Regulator Assembly	Regulator Assembly	Regulator Assembly	Regulator Assembly	Regulator Assembly	Regulator Assembly		
105 - 1	R66-2		Regulator Assembly	- Cable tension (Aileron) (Pacific Scientific) (649006-2) .... (See figures 77 and 78 for using assembly)					c	Ref
	R66A40-2		Regulator Assembly	- Cable tension (Aileron and rudder) (Pacific Scientific) .... (649019-2) (See figures 77, 78, and 134 for using assembly)					d	Ref
	R66-3		Regulator Assembly	- Cable tension (Elevator) (Pacific Scientific) (649006-3) .... (See figure 82 for using assembly)					c	Ref
	R66A70-2		Regulator Assembly	- Cable tension (Elevator) (Pacific Scientific) (649019-3) .... (See figure 82 for using assembly)					d	Ref
	R66-4		Regulator Assembly	- Cable tension (Rudder) (Pacific Scientific) (649006-4) .... (See figure 134 for using assembly)					c	Ref
				NOTE: Aileron and Rudder Regulators are identical. Elevator is identical except for the cable tension spring.						
2	R66A50		Frame	- Cable tension regulator .....					all	1
3	R66A63		Tube	- Cable tension regulator .....					all	2
4	R66A85		Spacer (Pacific Scientific)	.....					all	2
	R64-3		Spring	- Cable No. 70 load tension regulator (Used on elevator regulator only) .....					c	2
	R64A64-70		Spring	- Cable No. 70 load tension regulator (Used on elevator regulator only) .....					d	2
	R64-4		Spring	- Cable No. 40 load tension regulator .....					c	2
	R66A64-40		Spring	- Cable No. 40 load tension regulator .....	(Used on aileron and rudder regulators only)				d	2
5	R66A65		Sleeve	- Spring retaining .....					all	2
6	R66A58		Block	- Stationary leaf anchor .....					all	2
7	R66A59		Leaf	- Stationary wear .....					all	2
8	R66A84		Washer	.....					all	12
9	R66A60		Leaf	- Stationary bronze brake .....					all	6
10	R66A60-2		Leaf	- Steel runner brake .....					all	8
11	R66A56		Block	- Runner leaf anchor .....					all	2
12	AN3-5		Bolt	- Aircraft 10-32 .....					all	2
13	R66A62-2		Pin	- Yoke leaf retaining .....					all	1
14	R66A51		Yoke	- Cable tension regulator .....					all	1
15	R66A52		Plate	- Assembly Equalizer wrist .....					all	1
16	R66A61		Shoe	- Brake .....					all	2
17	R54		Link	- Assembly Cable .....					c	4
	R66A54		Link	- Assembly Cable .....					d	4
18	R66A77		Pointer	.....					all	2
19	R66A53		Block	- Spreader .....					all	1
20	282275		Absorber	Assembly - Double cable slack (See figure 76 for using assembly) .....					all	Ref
	282273		Rod	Assembly - Double cable slack absorber .....					a	2
21	282273-2		Rod	.....					a	1
22	282335		Pin	- Double cable slack absorber .....					a	1
23	282274		Keeper	Assembly - Double cable slack absorber .....					all	1
24	282272		Fitting	- Double cable slack absorber .....					all	1
25	AN23-16A		Bolt	- Clevis 10-32 .....					all	2
26	AN364D1032		Nut	- Self-locking thin .....					all	2
27	282854-4		Spring	.....					all	2
28	282085		Absorber	Assembly - Cable slack (See figure 79 for using assembly) .....					all	Ref
	282083		Tube	Assembly - Cable slack absorber .....					all	1
29	282083-3		Guide	- Cable .....					all	1
30	282083-5		Tube	Assembly .....					all	1
31	282086		Frame	Assembly - Cable slack absorber .....					all	1
32	282854-5		Spring	.....					all	1
33	AN25-29		Bolt	- Clevis 5/16-24 .....					all	1
34	AN320-5		Nut	- Aircraft Shear .....					all	1
35	282130		Absorber	Assembly - Elevator tab cables (See figure 80 for using assembly) .....					all	Ref
36	282378		Pin	- Elevator tab slack absorber .....					all	2
37	282158		Collar	- Elevator tab slack absorber .....					all	2
38	282132		Spring	- Elevator tab slack absorber .....					all	1
39	282134		Plug	- Elevator tab slack absorber .....					all	2
40	282133		Fitting	- Elevator tab slack absorber .....					all	2
41	282131		Tube	- Elevator tab slack absorber .....					all	1

GROUP . . . . Controls Units

Detail Unit . . . Shift Control—Elevator Booster

*Constellation*

CONTROLS

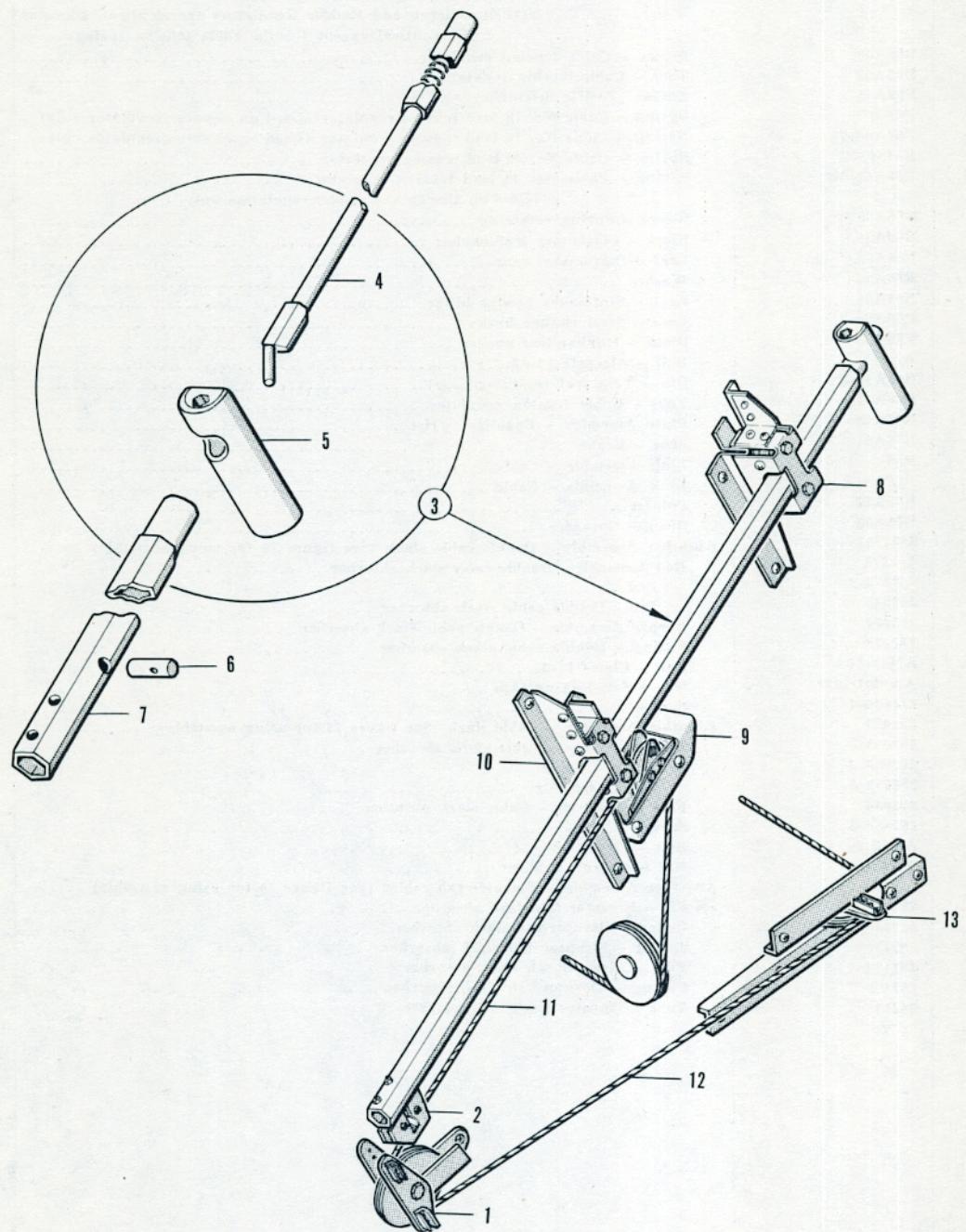
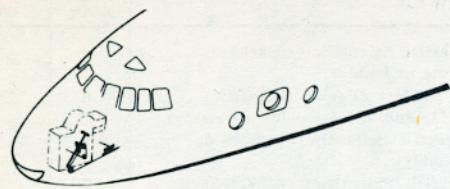


Figure 106 — Shift Control — Elevator Booster

## GROUP . . . Controls Units

## Detail Unit . . . Shift Control—Elevator Booster

*Constellation*

FIGURE & INDEX NUMBER	PART NUMBER		N O M E N C L A T U R E						SERIAL CODE	UNITS PER ASSY.
			1	2	3	4	5	6		
106 - 1	278564	Installation	- Elevator booster shift control (See figure 79 for using assembly) . . .						all	Ref
	278599	Bracket Assembly	- Elevator booster shift lower pulley . . .						all	1
	AN210-2A	Pulley	- Anti-friction bearing control . . .						all	2
	LS633-5-6	Spacer	- Aluminum alloy . . .						all	1
2	278606	Channel	- Elevator booster shift control . . .						all	1
3	278602	Handle Assembly	- Elevator booster shift control . . .						all	1
4	278604	Rod Assembly	- Elevator booster shift control . . .						all	1
	283688	Spring	- Elevator booster shift control . . .						all	1
5	278603	Grip	- Elevator booster shift control . . .						all	1
6	278605	Latch	- Elevator booster shift control . . .						all	1
7	278609	Tube	- Elevator booster shift control . . .						all	1
8	278601	Bracket Assembly	- Elevator booster shift control upper roller . . .						all	1
	278607	Roller	- Elevator booster shift control . . .						all	2
	LS630-4-29	Spacer	- Aluminum alloy . . .						all	2
9	278691	Bracket Assembly	- Elevator booster shift upper . . .						all	1
	AN210-2A	Pulley	- Anti-friction bearing control . . .						all	1
	LS634-19	Spacer	- Flanged . . .						all	1
	263008	Clip	- Guard pin . . .						all	2
	LS825-19	Pin	- Cable guard . . .						all	2
10	278600	Bracket Assembly	- Elevator booster shift lower roller . . .						all	1
	278607	Roller	- Elevator booster shift control . . .						all	2
	LS630-4-29	Spacer	- Aluminum alloy . . .						all	2
11	278676-2	Cable Assembly	- Elevator booster shift forward . . .						all	1
	166238	Fitting	(At booster shift control) . . .						all	1
	AN669L3RH	Terminal	- Turnbuckle cable for swaging . . .						all	1
12	278676-3	Cable Assembly	- Elevator booster shift forward . . .						all	1
	166238	Fitting	(At booster shift control) . . .						all	1
	AN669L3RH	Terminal	- Turnbuckle cable for swaging . . .						all	1
13	278564-2	Bracket Assembly	- Booster shift control . . .						all	1
	258475	Lug	- Cable guard . . .						all	2
	263008	Clip	- Guard pin . . .						all	2
	LS825-18	Pin	- Cable guard $\frac{1}{8}$ . . .						all	2

GROUP . . . Controls Units

Detail Unit . . . Rudder Pedal and Brake Controls

*Constellation*

CONTROLS

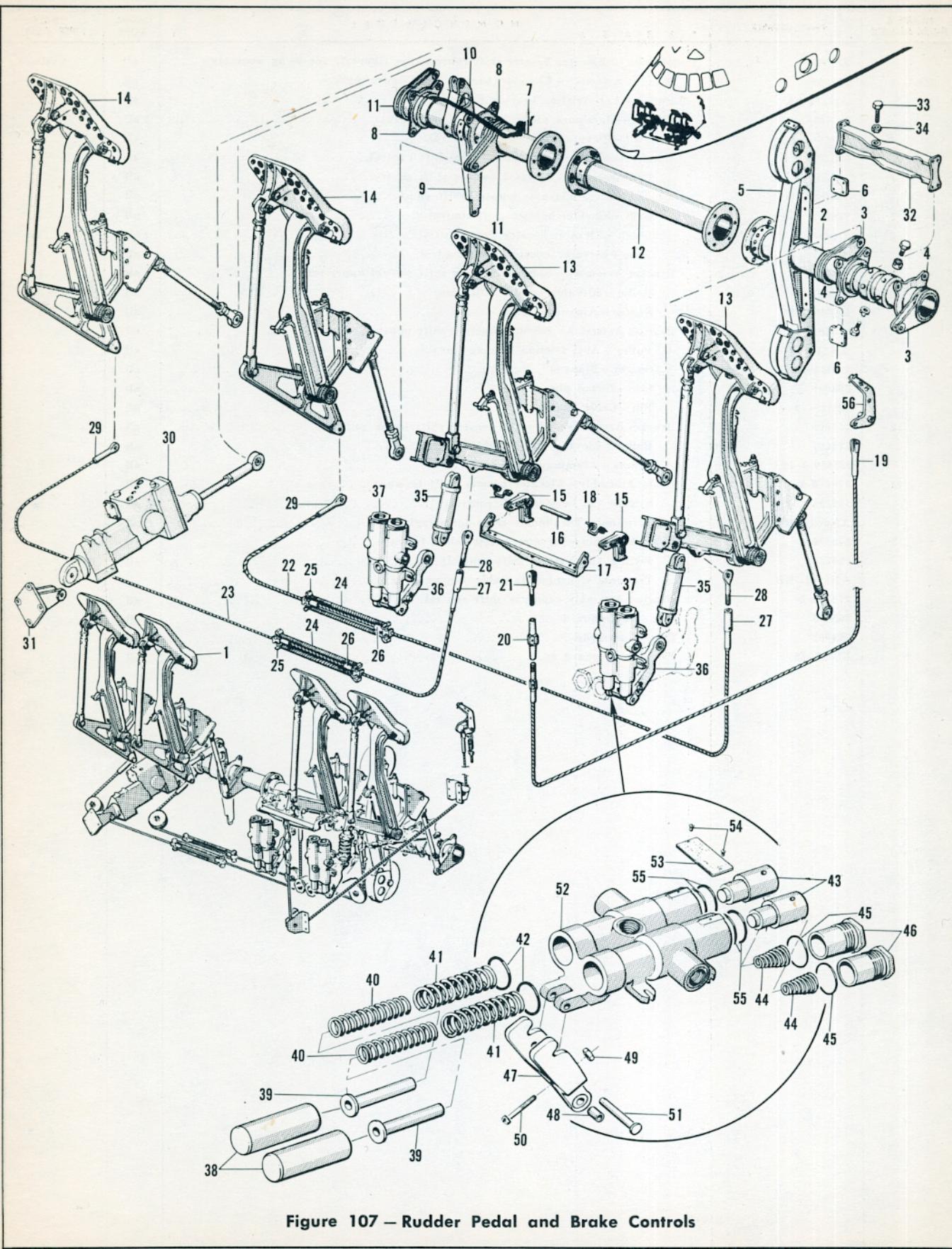


Figure 107 – Rudder Pedal and Brake Controls

## GROUP . . . Controls Units

## Detail Unit . . . Rudder Pedal and Brake Controls

*Constellation*

FIGURE & INDEX NUMBER	PART NUMBER	1 2 3 4 5 6	N O M E N C L A T U R E	SERIAL CODE	U N I T S P E R A S S Y .	
					Ref	
107 - 1	256578		Installation - Rudder pedal and brake controls (N.P.) (See figure 80 for using assembly)	all		
2	256029		Tube Assembly - Cockpit rudder LH torque	all	1	
3	256019		Lever - Cockpit torque tube actuating	all	2	
4	256021		Housing Assembly - Torque tube bearing	all	2	
	K37B		Bearing (Fafnir)	all	1	
5	256018		Horn - Cockpit torque tube	all	1	
6	256412		Bumper - Rudder pedal cable crank	all	2	
7	256030		Tube Assembly - Cockpit rudder RH torque	all	1	
8	256021		Housing Assembly - Torque tube bearing	all	2	
	K37B		Bearing (Fafnir)	all	1	
9	257336		Lever Assembly - Gyro pilot follow-up	all	1	
10	257337		Lever - Gyro pilot servo	all	1	
11	256019		Lever - Cockpit torque tube actuating	all	2	
12	256031		Tube Assembly - Cockpit rudder and elevator center torque	all	1	
13	256663-2		Pedal Assembly - Rudder and brake control (See figure 108 for detailed illustration)	all	2	
14	256663-3		Pedal Assembly - Rudder and brake control (See figure 108 for detailed illustration)	all	2	
15	256224		Pawl - Parking brake locking	all	2	
16	256600		Bearing - Parking brake pawl spacer	all	2	
17	256668		Link Assembly - Parking brake pawl equalization	all	1	
18	274683		Spring - Parking brake pawl	all	2	
19	256670		Cable Assembly - Parking brake locking	ddd	1	
	256670-3		Cable Assembly - Parking brake locking	ccc	1	
20	AN155-8S		Barrel - Turnbuckle	all	1	
21	AN160-8LS		Fork + Turnbuckle	all	1	
22	256666-2		Cable Assembly - Brake actuating	all	1	
23	256666-3		Cable Assembly - Brake actuating	all	1	
24	282854-7		Spring - Brake actuating cable	all	2	
25	256780		Fitting - Brake actuating cable spring	all	2	
26	259654		Fitting - Brake actuating cable swaged	all	2	
27	256778		Terminal - Brake actuating cable	all	1	
28	AN165-16SR		Eye - Turnbuckle for pin	all	1	
29	AN668-3		Fitting	all	1	
30	645218 (115 psi.)		Unit - Gyro servo (Sperry Gyroscope Co.) (629020-3)	all	1	
31	256207		Bracket - Servo cylinder	all	1	
32	256415		Stop - Rudder pedal torque tubes	all	1	
33	258469		Bolt - Rudder torque tube stop	all	2	
34	AN316-5R		Nut - Aircraft check	all	2	
35	257332		Link Assembly - Brake actuating	all	2	
36	256587		Fitting - Female brake lever actuating	all	2	
37	36083A		Valve - Brake assembly (Aireon) (662055)	all	2	
38	36467		Piston - End cap	all	2	
39	36907		Guide - Spring	all	2	
40	36906		Spring - Brake valve plunger	all	2	
41	26887		Spring - Brake valve main	all	2	
42	AN6227-18		Packing - "O" Ring hydraulic	all	2	
43	36912		Sleeve Assembly - Brake valve piston	all	2	
44	36536		Spring - Brake valve return	all	2	
45	AN6227-21		Packing - "O" Ring hydraulic	all	2	
46	36769		Retainer - Brake valve sleeve	all	2	
	36795		Lever Assembly - Brake valve	all	1	
47	36796		Lever - Brake valve	all	1	
48	AR4-1		Bearing (Torrington)	all	1	
49	AN315-4R		Nut + Aircraft plain	all	1	
50	AN502-416-22		Screw - Drilled fillister head, machine coarse thread	all	1	
51	AN394-63		Pin - Clevis	all	1	
52	36767		Housing - Brake valve	all	1	
53	2007		Nameplate	all	1	
54	AN535-2-2		Screw - Round head drive	all	2	
55	AN6227-23		Packing - "O" Ring hydraulic	all	4	Ref
	286975		Installation - Parking brake lever (N.P.) (See figure 1 for using assembly)	all		
	289640		Spring - Parking brake lever	all	1	
56	256531		Lever Assembly - Parking brake	all	1	
	168597		Knob - Lever	all	1	

GROUP . . . Controls Units  
Detail Unit . . . Rudder and Brake Pedal

# Constellation

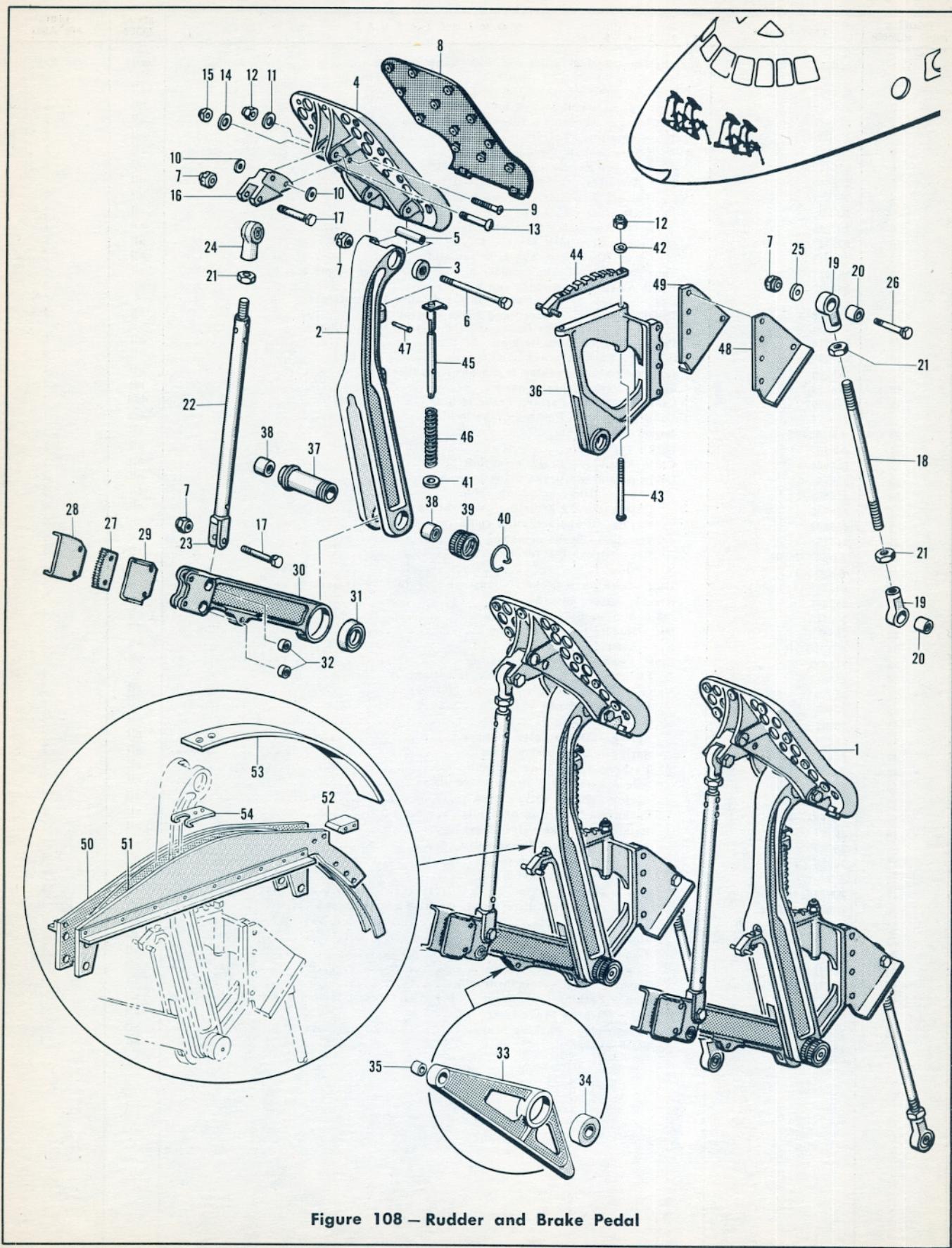


Figure 108 – Rudder and Brake Pedal

## GROUP . . . Controls Units

## Detail Unit . . . Rudder and Brake Pedal

*Constellation*

FIGURE & INDEX NUMBER	PART NUMBER		N O M E N C L A T U R E						SERIAL CODE	UNITS PER ASSY.
			1	2	3	4	5	6		
108 - 1	256663-2	Pedal Assembly	Rudder and brake control (See figure 107 for using assembly) . . .						all	Ref
	256663-3	Pedal Assembly	Rudder and brake control (See figure 107 for using assembly) . . .						all	Ref
	256176		Assemblies identical except as noted.							
2	256176-2	Arm Assembly	Rudder pedal control . . .						all	1
3	AN201K4A	Arm	. . .						all	1
4	256163	Bearing	. . .						all	2
5	LS630-5-62	Pedal	Rudder and brake controls . . .						all	1
6	AN4-33	Spacer	Aluminum alloy . . .						all	1
7	AN310-4	Bolt	Aircraft - $\frac{1}{4}$ -28 . . .						all	1
8	256166	Nut	Aircraft . . .						all	4
9	LS560-22	Pad	Brake pedal . . .						all	1
10	AN940-7	Screw	#1032 Phillips binding head . . .						all	1
11	AN960-10	Washer	Burr . . .						all	2
12	AN365-1032	Washer	Plain . . .						all	1
13	AN24-22A	Nut	Self-locking . . .						all	2
14	AN960-416L	Bolt	$\frac{1}{4}$ -28 . . .						all	1
15	AN364-428	Washer	Plain . . .						all	1
16	276767	Nut	Self-locking thin . . .						all	1
17	AN4-13	Extension	Rudder pedal link . . .						all	1
18	256602	Bolt	Aircraft - $\frac{1}{4}$ -28 . . .						all	2
	256586	Link	Rudder torque tube actuating . . .						all	1
	256586	End Assembly	Rod . . .						all	2
19	256586-2	Housing	. . .						all	1
20	AR4-1	Bearing	(Torrington) . . .						all	1
21	AN316-6R	Nut	Aircraft check . . .						all	3
22	256588	Link Assembly	Brake lever actuating . . .						a	1
	256588-4	Link Assembly	Brake lever actuating . . .						b	1
23	256590	Fitting	Male link . . .						all	1
24	256587	Fitting	Female brake lever actuating . . .						all	1
25	AN960A416	Washer	Plain . . .						all	2
26	AN4-12	Bolt	Aircraft - $\frac{1}{4}$ -28 . . .						all	1
27	256585	Ratchet	Parking brake locking (Used on -2 only) . . .						all	1
28	256593L	Guide Assembly	Parking brake ratchet (Used on -2 only) . . .						all	1
29	256593R	Guide Assembly	Parking brake ratchet (Used on -2 only) . . .						all	1
	256360	Lever Assembly	Pilot brake actuating (Used on -2 only) . . .						all	1
30	256360-2	Lever	. . .						all	1
31	K12A	Bearing	(Fafnir) . . .						all	1
32	AR4-1	Bearing	(Torrington) . . .						all	2
	256138	Lever Assembly	Co-pilot brake actuating (Used on -3 only) . . .						all	2
33	256138-2	Lever	. . .						all	1
34	K12A	Bearing	(Fafnir) . . .						all	1
35	AR4-1	Bearing	(Torrington) . . .						all	1
36	256165	Quadrant	Rudder pedal adjusting . . .						all	1
	256595	Spacer Assembly	Rudder arm bearing . . .						all	1
37	256595-2	Cage	. . .						all	1
	LS633-6-56	Spacer	Aluminum alloy . . .						all	1
	AR4-1	Bearing	(Torrington) . . .						all	2
38	256594	Nut	Rudder arm bearing retainer . . .						all	1
39	256596	Clip	Rudder arm bearing retainer . . .						all	1
40	AN960-616	Washer	Plain . . .						all	1
41	LS881-2	Washer	Alclad plain . . .						all	1
42	AN23-34A	Bolt	Clevis $\frac{5}{16}$ -24 . . .						all	1
43	256167	Ratchet Assembly	Rudder actuating . . .						all	1
44	289285	Pawl Assembly	Rudder pedal quadrant adjusting (Replaces 265547 for spares) . . .						all	1
45	256604	Spring	Rudder pedal quadrant seal . . .						all	1
46	AN392-25	Pin	Flat head $\frac{3}{16}$ . . .						all	1
47	256601L	Plate	Rudder control quadrant . . .						all	1
48	256601R	Plate	Rudder control quadrant . . .						all	1
49	265843	Structure Assembly	Fuselage front section (See figure 1 for using assembly) . . .						all	Ref
	287905L	Installation	Rudder pedal slot closure (NP) . . .						gg	1
	287905R	Installation	Rudder pedal slot closure (NP) . . .						gg	1
	284587	Guide Assembly	Rudder pedal slot cover . . .						gg	2
50	284581L	Guide	Rudder pedal slot cover . . .						gg	1
51	284581R	Guide	Rudder pedal slot cover . . .						gg	1
52	284573	Block	Rudder pedal slot . . .						gg	1
53	284551	Cover	Rudder pedal slot . . .						gg	2
54	284548	Clip Assembly	Rudder pedal slot cover . . .						gg	2

GROUP . . . Controls Units  
Detail Unit . . . Tab Operating Mechanism

Constellation

CONTROLS

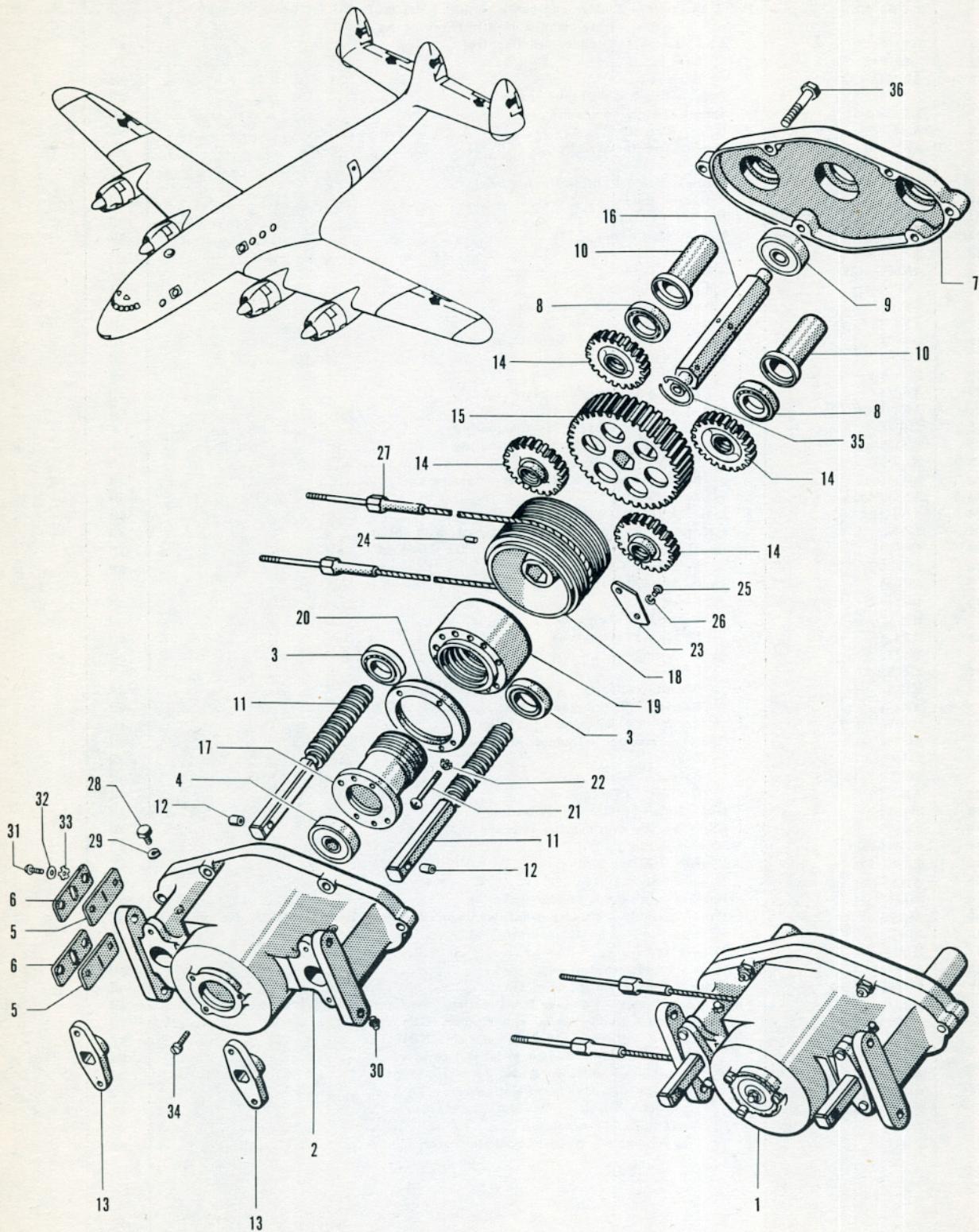


Figure 109 – Tab Operating Mechanism

## GROUP . . . Controls Units

*Constellation*

## Detail Unit . . . Tab Operating Mechanism

FIGURE & INDEX NUMBER	PART NUMBER		N O M E N C L A T U R E						SERIAL CODE	UNITS PER ASSY.
			1	2	3	4	5	6		
109 - 1	219390-2	Mechanism Assembly - Aileron tab (See figures 77 and 78 for using assembly).....	c	Ref						
	219390-8	Mechanism Assembly - Aileron tab (See figures 77 and 78 for using assembly).....	d	Ref						
	219390-4	Mechanism Assembly - Elevator tab (See figure 81 for using assembly).....	all	Ref						
	219390-7	Mechanism Assembly - Outboard rudder tab (See figure 81 for using assembly).....	all	Ref						
		NOTE: -2, -4, -7 Assemblies are identical except for cable assemblies.								
	256187	Case Assembly - Tab operating drum .....	all	1						
2	256187-2	Case .....	all	1						
3	A540	Bearing (Fafnir) .....	all	2						
4	K10A	Bearing (Fafnir) .....	all	1						
5	256189	Wiper - Tab operating cable .....	all	2						
6	256190	Retainer - Tab operating cable wiper .....	all	2						
	256184	Cap Assembly - Tab operating drum case .....	all	1						
7	256184-2	Cap .....	all	1						
8	A540	Bearing (Fafnir) .....	all	2						
9	K10A	Bearing (Fafnir) .....	all	1						
10	256188	Cap - Tab operating screw .....	all	2						
	256194	Screw Assembly - Tab operating .....	all	2						
11	256194-2	Screw .....	all	1						
12	279657	Bushing - Tab operating screw .....	all	1						
13	256185	Bushing - Tab operating screw .....	all	2						
14	256192	Gear - Tab operating screw .....	all	4						
15	256191	Gear - Tab operating drum shaft .....	all	1						
16	*284133	Shaft - Tab operating drum .....	all	1						
17	256150	Screw - Tab control unit .....	all	1						
	*277484-501	Drum Assembly - Tab control .....	all	1						
18	277486	Drum - Tab control .....	all	1						
19	256172	Nut - Tab control drum .....	all	1						
20	277485	Plate - Tab .....	all	1						
21	NAS205-30	Screw - 100° Flush head Phillips recess no. 1032 .....	all	4						
22	AN936C10	Washer - Lock external and internal .....	c	4						
23	*284201	Plate - Tab mechanism drum seal .....	all	1						
24	*284175	Seal - Tab mechanism drum .....	all	1						
25	*AN526-632R4	Screw - Truss head coarse and fine thread .....	all	1						
26	*AN935-6	Washer - Medium spring lock .....	all	1						
27	285189-8	Cable Assembly - Aileron tab (Used on 219390-2 only) .....	c	1						
	285189-14	Cable Assembly - Aileron tab operating .....	d	1						
	285189-10	Cable Assembly - Elevator tab (Used on 219390-4 only) .....	all	1						
	285189-12	Cable Assembly - Rudder tab outboard (Used on 219390-7 only) .....	all	1						
28	*284132	Plug - Tab unit lubricant unit .....	all	2						
29	*AN935-416	Washer - Medium spring lock .....	all	2						
30	*NAS2-101	Fitting - Lubrication .....	all	3						
31	*AN515-8R5	Screw - Round head coarse thread .....	all	4						
32	*AN960-8	Washer - Plain .....	all	4						
33	*AN936B8	Washer - Lock external and internal teeth .....	all	4						
34	AN502-10-10	Screw - Drilled fillister head .....	all	3						
35	AN996-16	Ring - Lock .....	all	1						
36	AN4-14A	Bolt - Aircraft 1/4-28 .....	all	6						

\* Serialization per Mod. Print 288708.

GROUP . . . . Controls Units  
Detail Unit . . . Flap Operating Mechanism

Constellation

CONTROLS

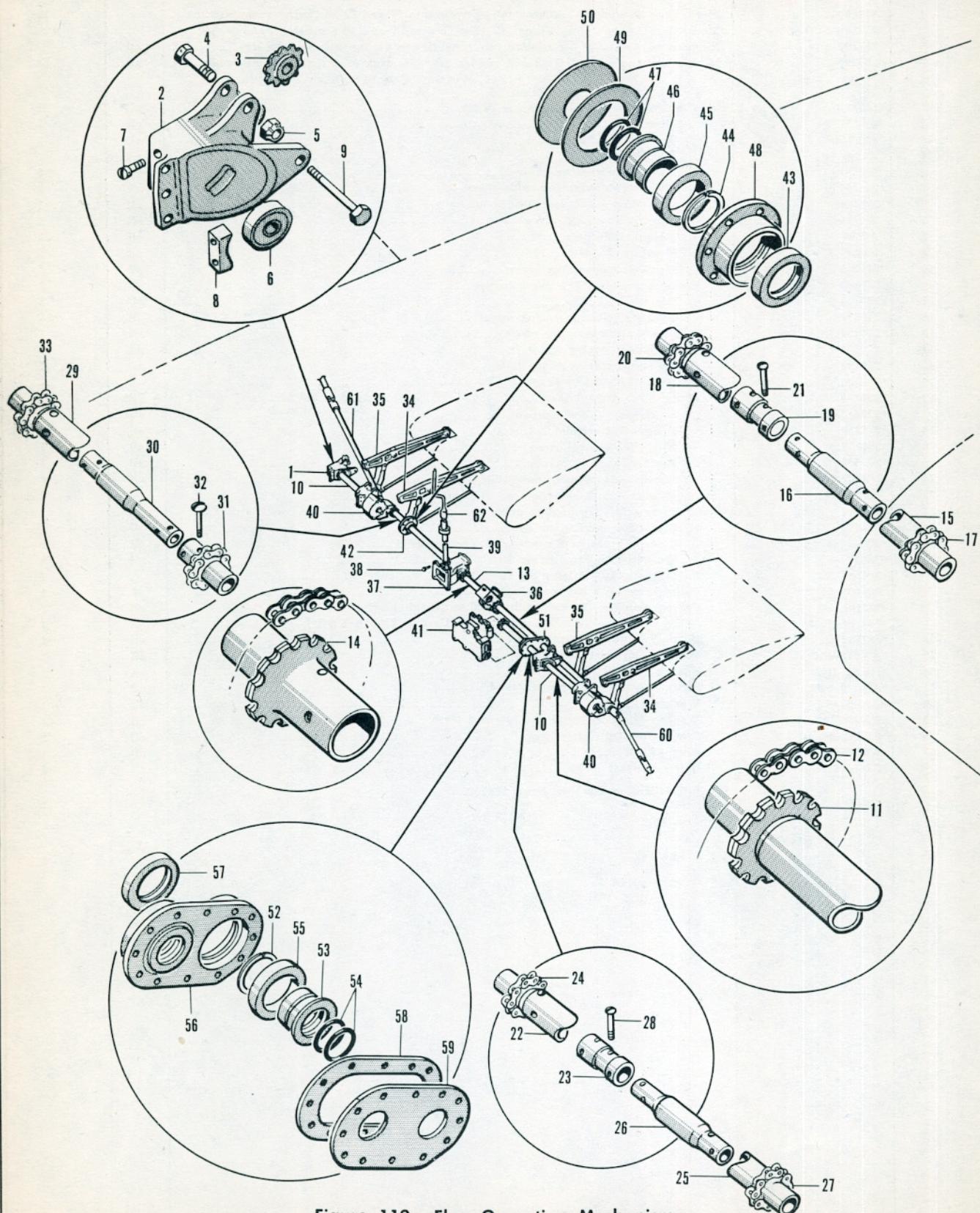


Figure 110 – Flap Operating Mechanism

## GROUP . . . Controls Units

## Detail Unit . . . Flap Operating Mechanism

*Constellation*

CONTROLS

FIGURE & INDEX NUMBER	PART NUMBER		N O M E N C L A T U R E						SERIAL CODE	UNITS PER ASSY.
			1	2	3	4	5	6		
110 - 1	265844	Structure Assembly - Fuselage mid section (See figure 1 for using assembly)							all	Ref
	273903	Installation + Flap operating mechanism (NP)							all	1
2	273717	Housing Assembly - Stub wing flap drive sprocket							all	2
3	273715	Housing + Stub wing flap drive sprocket							all	1
4	2762	Sprocket Assembly (Vard)							all	1
5	AN4-15	Bolt - Aircraft $\frac{1}{4}$ -28							all	1
6	AN310-4	Nut - Aircraft castle							all	1
7	AN200KS6	Bearing - Heavy duty metal shield							all	1
8	AN502-10-10	Screw - Drilled fillister head							all	2
9	278030	Shoe + Stub wing flap drive chain							all	1
10	AN4-31A	Bolt - Aircraft $\frac{1}{4}$ -28							all	2
11	279370	Tube Assembly - Stub wing flap welded torque							all	2
12	ES13178-201	Coupling Sprocket (Link Belt Co.)							all	1
13	ES13178-101	Chain (Link Belt Co.)							all	1
14	267961-5	Tube Assembly - Stub wing operating central torque							all	1
	ES13178-401	Coupling Assembly (Link Belt Co.)							all	2
	*288244-6	Tube Assembly - Wing flap torque							all	1
15	*288244-18	Tube Assembly							all	1
16	*288552-3	Shaft							all	1
17	*ES13178-401	Coupling Assembly (Link Belt Co.)							all	1
18	*288244-12	Tube Assembly							all	1
19	*288243	Sleeve							all	1
20	*ES13178-401	Coupling Assembly (Link Belt Co.)							all	1
21	*AN23-16	Bolt - Clevis 10-32							all	2
	*288244-7	Tube Assembly - Wing flap torque							all	1
22	*288244-13	Tube Assembly							all	1
23	*288243	Sleeve							all	1
24	*ES13178-401	Coupling Assembly (Link Belt Co.)							all	1
25	*288244-19	Tube Assembly							all	1
26	*288552-3	Shaft							all	1
27	*ES13178-401	Coupling Assembly (Link Belt Co.)							all	1
28	*AN23-16	Bolt - Clevis 10-32							all	2
29	*287234	Tube Assembly - Wing flap torque							all	1
30	*288552-2	Shaft							all	1
31	*288553	Coupling Assembly							all	1
32	*AN23-16	Bolt - Clevis 10-32							all	2
33	*ES13178-401	Coupling Assembly (Link Belt Co.)							all	1
34	273327L	Carriage Assembly - Wing stub flap (See figure 111 for detailed illustration)							all	2
35	273327R	Carriage Assembly - Wing stub flap (See figure 111 for detailed illustration)							all	2
	01-281366	Service Assembly - Wing flap main gear box							all	Ref
36	281366	Installation + Wing flap main gear box (NP) (See figure 140 for detailed illustration)							all	1
37	2640	Emergency Gear Box (Vard Inc.) (669053) (See figure 113 for detailed illustration)							all	1
38	AN4-7A	Bolt - Aircraft $\frac{1}{4}$ -28							all	4
	AN364-428	Nut - Self locking thin							all	4
	278158	Installation + Emergency gear box crankshaft (NP)							a	1
39	284323	Installation + Wing flap emergency crankshaft (NP) (See figure 113 for detailed illustration)							b	1
40	2765	Gear Box (Vard Inc.) (669051) (See figures 112 and 113 for detailed illustration)							all	2
	AN4-33A	Bolt - Aircraft $\frac{1}{4}$ -28							all	2
41	282033	Installation + Wing flap mechanism and control valve (NP) (See figure 138 for detailed illustration)							all	1
42	278313	Support Assembly - Flap operating mechanism torque tube seal RH							all	1
43	478	Seal - Klozure (Garlock)							all	1
44	*NAS51-131	Ring							all	1
	AN202K21B	Bearing - Extra light duty ball deep groove							all	1
45	*287232	Bushing							all	1
46	ANG6227-17	Packing - "O" Ring							all	2
47	278312	Support							all	1
48	278309	Gasket							all	1
49	278308	Doubler							all	1
50	278314	Support Assembly							all	1
51	*NAS51-131	Ring							all	2
52	*287232	Bushing							all	2
53	ANG6227-17	Packing							all	4
	AN202K21B	Bearing							all	2
55	278311	Support							all	1
56	478	Seal - Klozure (Garlock)							all	2
57	278306	Gasket							all	1
58	278307	Doubler							all	12
59	250002	Installation + Wing group (NP) (See figure 1 for using assembly)							all	Ref
60	2338A1	Universal Joint Assembly - LH inner wing flap drive (Borg Warner Corp.)							all	1
61	2338A2	Universal Joint Assembly - RH inner wing flap drive (Borg Warner Corp.)							all	1
	251725L	Flap Assembly - Wing stub (See figure 10 for using assembly)							all	Ref
	251725R	Flap Assembly - Wing stub (See figure 10 for using assembly)							all	Ref
62	287663	Crank Assembly - Wing flap emergency (See figure 66 for stowed position and using assembly)							all	Ref

\* Serialization per Mod. Print 288712.

GROUP . . . Controls Units

Detail Unit . . . Flap Operating Arm—Stub Wing

*Constellation*

CONTROLS

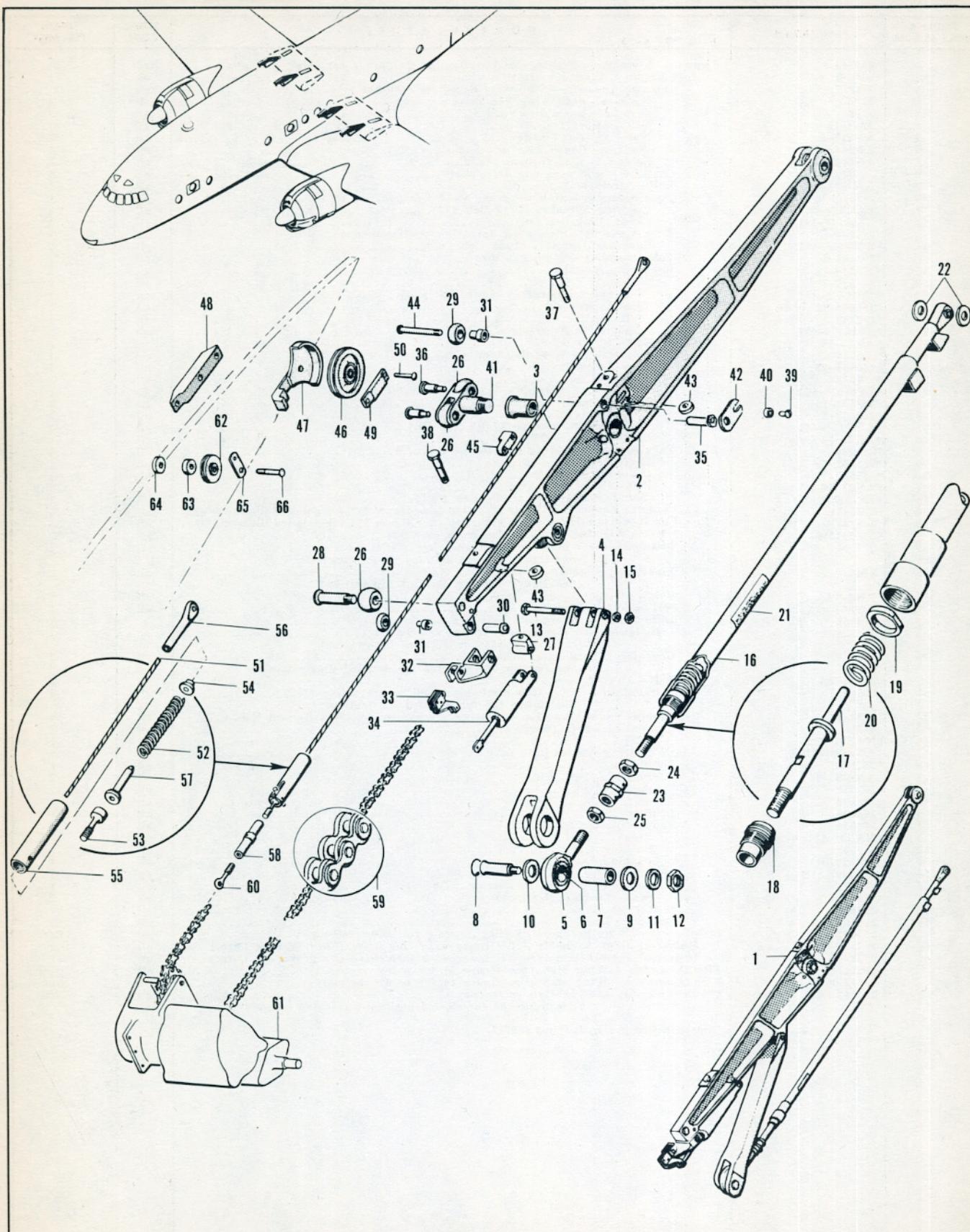


Figure 111 – Flap Operating Arm – Stub Wing

## GROUP . . . Controls Units

*Constellation*

## Detail Unit . . . Flap Operating Arm—Stub Wing

FIGURE & INDEX NUMBER	PART NUMBER	1 2 3 4 5 6	N O M E N C L A T U R E			SERIAL CODE	U N I T S P E R A S S Y.
			1	2	3		
	273903		Installation - Wing stub flap operating mechanism (See figure 110 . . . for continuation of breakdown and using assembly)			all	Ref
111 - 1	273327L		Carriage Assembly - Wing flap . . .			all	Ref
	273327R		Carriage Assembly - Wing flap . . .			all	Ref
2	273325L		Arm Assembly - Wing flap carriage . . .			all	1
	273325R		Arm Assembly - Wing flap carriage . . .			all	1
3	251424		Bushing - Wing flap carriage . . .			all	1
	270364		Link Assembly - Wing flap carriage short . . .			all	1
4	274565		Link - Flap carriage short . . .			all	1
5	265044		Fitting Assembly - Wing flap long link eye . . .			all	1
6	268677		Bushing - Long link eye fitting . . .			all	2
7	272227		Bearing Assembly - Wing flap carriage . . .			all	1
8	283081		Roller - Wing flap short link . . .			all	1
9	272228-2		Washer - Wing flap link carriage . . .			all	1
10	272228-4		Washer - Wing flap short link . . .			all	1
11	283080		Nut - Wing flap short link . . .			all	1
12	AN310-6		Bolt . . .			all	1
13	LS580-5-64		Washer . . .			all	1
14	AN960-D516		Nut . . .			all	1
15	AN320-5		Link Assembly - Flap retraction . . .			all	1
16	278377		Rod - Flap retraction link . . .			all	1
17	278373		Retainer - Flap retraction link . . .			all	1
18	278374		Nut - Flap retraction link . . .			all	1
19	278375		Spring - Flap retraction link . . .			all	1
20	278376		Decal - Flap retraction link assembly . . .			all	1
21	280784		Washer - Arrest hook center bolt . . .			all	1
22	67017		Barrel - Wing flap long adjusting . . .			all	2
23	265049		Nut - Wing flap long link safety . . .			all	1
24	280783-2		Nut - Wing flap long link safety . . .			all	1
25	280783-3		Roller (Fafnir) . . .			all	3
27	278068		Block - Wing flap take up spring . . .			all	1
26	D7R6-2		Bolt - Wing flap main roller forward . . .			all	1
28	276029		Roller - Wing flap carriage guide . . .			all	2
29	272224		Bushing - Flap carriage eccentric . . .			all	1
30	271564-2		Bushing - Wing flap carriage guide . . .			all	2
31	272226		Bracket - Flap retracting chain attaching (On LH assembly only) . . .			all	1
32	272766L		Bracket - Flap retracting chain attaching (On RH assembly only) . . .			all	1
	272766R		Link Assembly - Retracting chain take up . . .			all	1
33	278067L		Link Assembly - Retracting chain take up . . .			all	1
	278067R		Spring Assembly - Retracting chain take up . . .			all	1
34	278053		Bushing - Flap carriage eccentric . . .			all	1
35	271564-3		Bolt - Wing flap main roller forward . . .			all	2
36	276030		Bolt - Flap carriage eccentric . . .			all	1
37	264923-2		Bolt - Flap carriage eccentric . . .			all	1
38	264923-3		Screw - Drilled fillister head machine . . .			all	1
39	AN502-10-8		Spacer - Flap carriage lock . . .			all	1
40	265924		Fitting - Wing flap carriage truck . . .			all	1
41	251477		Lock - Hex bolt 12 point . . .			all	1
42	LS451-62		Roller - Wing flap horizontal guide . . .			all	2
43	282327		Bolt - Wing flap carriage guide roller . . .			all	1
44	282326		Bracket - Flap extension cable attaching . . .			all	4
45	272747		Pulley Assembly - Wing flap operating mechanism . . .			all	4
46	276303		Bracket Assembly - Flap operating aft pulley . . .			all	4
47	283271-14		Channel - Flap operating mechanism aft pulley . . .			all	2
48	272606L		Channel - Flap operating mechanism aft pulley . . .			all	2
	272606R		Strap - Flap operating mechanism aft pulley . . .			all	4
49	272595		Bolt - Clevis 10-32 . . .			all	4
50	AN23-19		Cable and Spring Assembly - Wing flap operating mechanism extending . . .			all	4
	285192		Cable - Wing flap carriage . . .			all	1
51	285192-2		Spring - Wing flap cable take up . . .			all	1
52	278060		Fitting - Wing flap extending cable swaged . . .			all	1
53	285193		Washer - Wing flap take up . . .			all	1
54	278104		Tube - Wing flap take up . . .			all	1
55	285192-3		Terminal - Eye end cable for swaging . . .			all	1
56	AN668-4		Fitting - Wing flap extending cable . . .			all	1
57	285194		Barrel - Turnbuckle . . .			all	4
58	AN155-16S		Chain Assembly - Wing flap operating mechanism . . .			all	4
59	278066		End - Wing flap retraction chain turnbuckle . . .			all	1
60	278065		Gear Box (Vard) (669051) (See figure 113 for detailed illustration) . . .			all	Ref
61	2765		Pulley Assembly - Wing flap operating mechanism . . .			all	4
62	280934		Spacer - Wing flap operating mechanism . . .			all	4
63	280878-3		Washer - Plain . . .			all	4
64	AN960D10		Plate - Flap operating idler pulley guard . . .			all	4
65	280675		Bolt . . .			all	4
66	AN23-18						

Reissued July, 1947

GROUP . . . Controls Units

Detail Unit . . . Flap Operating Arm—Inner Wing

Constellation

CONTROLS

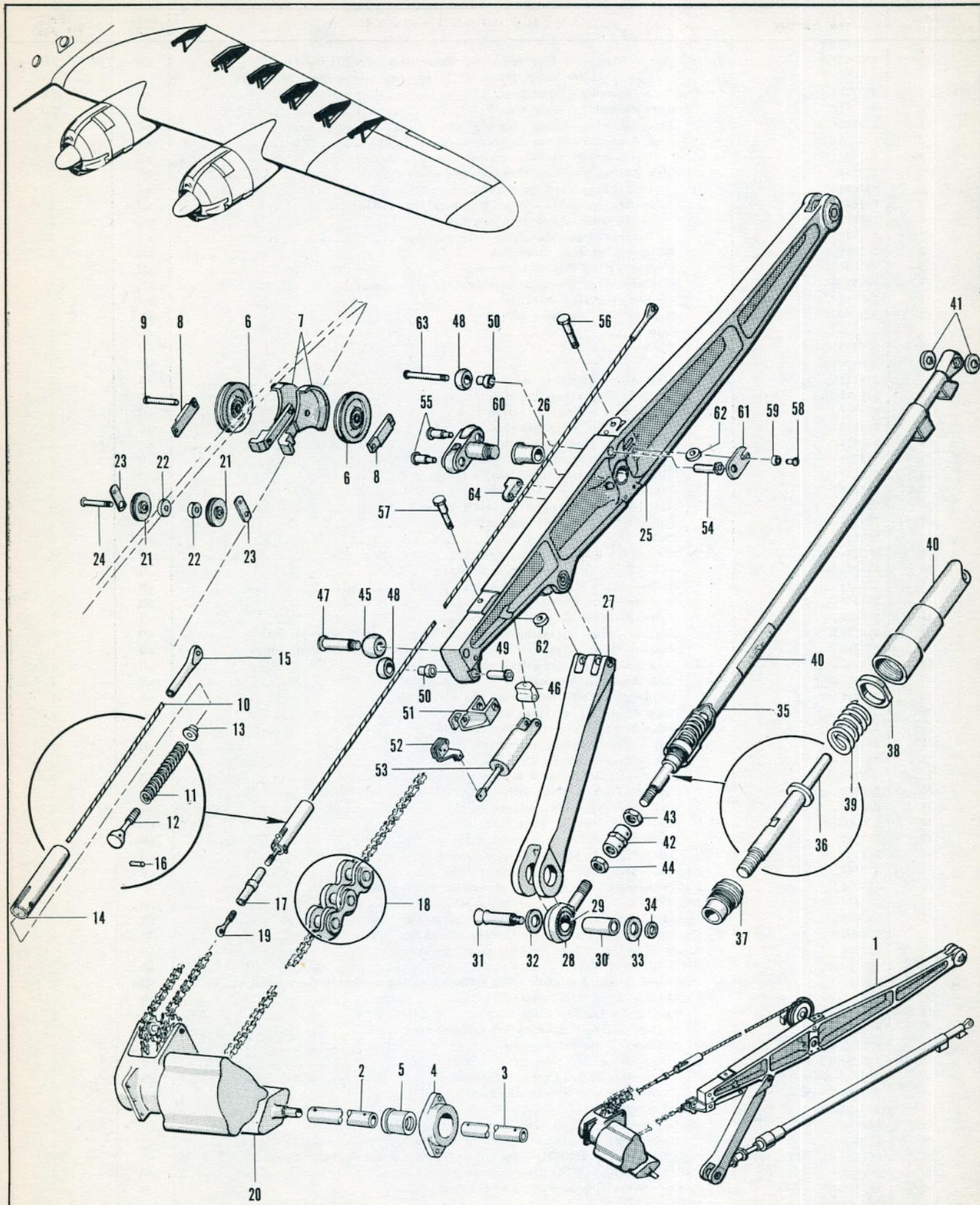


Figure 112 — Flap Operating Arm — Inner Wing

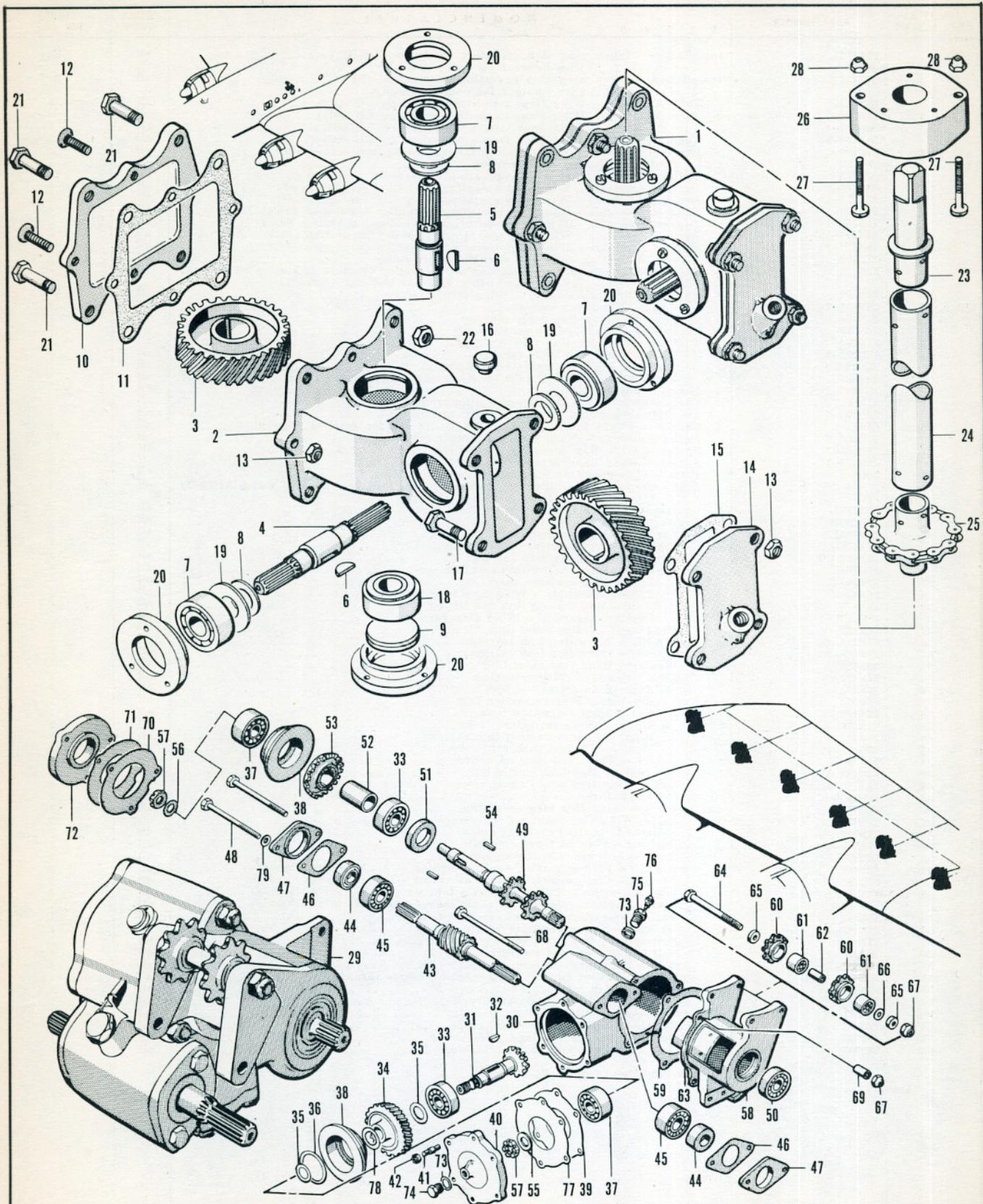
## GROUP . . . Controls Units

## Detail Unit . . . Flap Operating Arm—Inner Wing

*Constellation*

FIGURE & INDEX NUMBER	PART NUMBER	1 2 3 4 5 6	NOMENCLATURE	SERIAL CODE	UNITS PER ASSY.
112 - 1	273326L		Installation — Inner wing flap operating mechanism (NP) . . . . .	all	Ref
	273326R		Installation — Inner wing flap operating mechanism (NP) . . . . .	all	Ref
2	*288244-2		Tube Assembly — Wing flaps torque (Required on LH only) . . . . .	all	3
3	*288244-3		Tube Assembly — Wing flaps torque (Required on LH only) . . . . .	all	2
	*288244-4		Tube Assembly — Wing flaps torque (Required on RH only) . . . . .	all	3
	*288244-5		Tube Assembly — Wing flaps torque (Required on RH only) . . . . .	all	2
4	278596		Bearing Assembly — Wing flap operating mechanism torque tube . . . . .	all	5
5	287232		Bushing + Torque tube bearing . . . . .	all	1
6	276303		Pulley Assembly — Wing flap operating mechanism . . . . .	all	10
7	283271-9		Bracket Assembly — Wing flap operating aft pulley (at station 88) . . . . .	all	1
	283271-14		Bracket Assembly — Wing flap operating aft pulley (at station 451) . . . . .	all	1
	283271-10		Bracket Assembly — Wing flap operating aft pulley (at station 160.6) . . . . .	all	2
	283271-11		Bracket Assembly — Wing flap operating aft pulley (at station 233.2) . . . . .	all	2
	283271-12		Bracket Assembly — Wing flap operating aft pulley (at station 305.8) . . . . .	all	2
	283271-13		Bracket Assembly — Wing flap operating aft pulley (at station 375.4) . . . . .	all	2
8	272595		Strap — Wing flap operating mechanism aft pulley . . . . .	all	10
9	280673		Bolt — Wing flap operating mechanism aft pulley (Pulleys at station 88 and 451 are assembled using AN20-23 bolt and AN23-22)	all	8
	285192		Cable and Spring Assembly — Wing flap carriage . . . . .	all	10
10	285192-2		Cable — Wing flap carriage . . . . .	all	1
11	278060		Spring — Wing flap cable tank up . . . . .	all	1
12	285193		Fitting — Wing flap extension cable . . . . .	all	1
13	278104		Washer — Wing flap take up . . . . .	all	1
14	285192-3		Tube + Wing flap cable take up . . . . .	all	1
15	AN668-4		Terminal — Eye end cable for swaging . . . . .	all	1
16	Type 5		Pin — Wing flap cable take up (Groove Pin Corporation) . . . . .	all	1
17	AN155-16S		Barrel — Turnbuckle . . . . .	all	10
18	278066		Chain Assembly + Wing flap operating mechanism . . . . .	all	10
19	278065		End — Wing flap retracting chain turnbuckle . . . . .	all	1
20	2765		Gear Box (Vard Inc.) (669051) (See figure 113 for detailed illustration) . . . . .	all	6
21	280934		Pulley Assembly — Wing flap operating mechanism . . . . .	all	10
22	280878-2		Spacer — Wing flap operating mechanism . . . . .	all	4
	280878-3		Spacer — Wing flap operating mechanism . . . . .	all	6
23	280675		Plate — Flap operating idler pulley guard . . . . .	all	10
24	AN23-28		Bolt — Clevis 10-32 (Pulleys at stations 88 and 451 are assembled using AN23-20 and AN23-22 bolts) . . . . .	all	4
	273327L		Carriage Assembly — Wing flap . . . . .	all	5
	273327R		Carriage Assembly — Wing flap . . . . .	all	5
25	273325L		Carriage Arm Assembly — Wing flap . . . . .	all	1
	273325R		Carriage Arm Assembly — Wing flap . . . . .	all	1
26	251424		Bushing + Wing flap carriage . . . . .	all	1
	270364		Link Assembly — Wing flap carriage short . . . . .	all	1
27	274565		Link + Flap carriage short . . . . .	all	1
28	265044		Fitting Assembly — Wing flap long link eye . . . . .	all	1
29	268677		Bushing — Long link eye fitting . . . . .	all	2
30	272227		Bearing Assembly — Wing flap carriage . . . . .	all	1
31	283081		Roller — Wing flap short link . . . . .	all	1
32	272228-2		Washer — Wing flap link carriage . . . . .	all	1
33	272228-4		Washer — Wing flap link carriage . . . . .	all	1
34	283080		Washer — Wing flap short link . . . . .	all	1
35	278377		Link Assembly — Flap retraction . . . . .	all	1
36	278373		Rod — Flap retraction link . . . . .	all	1
37	278374		Retainer — Flap retraction link . . . . .	all	1
38	278375		Nut — Flap retraction link . . . . .	all	1
39	278376		Spring — Flap retraction link . . . . .	all	1
40	280784		Decal — Flap retraction link assembly . . . . .	all	1
41	67017		Washer — Arrest hook center bolt . . . . .	all	2
42	265049		Barrel — Wing flap long adjusting . . . . .	all	1
43	280783-2		Nut — Wing flap long link safety . . . . .	all	1
44	280783-3		Nut — Wing flap long link safety . . . . .	all	1
45	D7R6-2		Roller (Fafnir) . . . . .	all	3
46	278068		Block — Wing flap take up spring . . . . .	all	1
47	276029		Bolt — Wing flap main roller forward . . . . .	all	1
48	272224		Roller — Wing flap carriage guide . . . . .	all	2
49	271564-2		Bushing + Flap carriage eccentric . . . . .	all	1
50	272226		Bushing — Wing flap carriage guide . . . . .	all	2
51	272766L		Bracket — Flap retracting chain attaching (On LH assembly only) . . . . .	all	1
	272766R		Bracket — Flap retracting chain attaching (On RH assembly only) . . . . .	all	1
52	278067L		Link Assembly — Retracting chain take up (On LH assembly only) . . . . .	all	1
	278067R		Link Assembly — Retracting chain take up (On RH assembly only) . . . . .	all	1
53	278053		Spring Assembly — Retracting chain take up . . . . .	all	1
54	271564-3		Bushing — Flap carriage eccentric . . . . .	all	1
55	276030		Bolt — Wing flap main roller forward . . . . .	all	2
56	264923-2		Bolt — Flap carriage eccentric . . . . .	all	1
57	264923-3		Bolt — Flap carriage eccentric . . . . .	all	1
58	AN502-10-8		Screw — Drilled fillister head machine coarse thread . . . . .	all	1
59	265924		Spacer — Flap carriage lock . . . . .	all	1
60	251477		Fitting — Wing flap carriage truck . . . . .	all	1
61	LS451-62		Lock — Hex bolt 12 point . . . . .	all	1
62	282327		Roller — Wing flap horizontal guide . . . . .	all	2
63	282326		Bolt — Wing flap carriage guide roller . . . . .	all	1
64	272747		Bracket — Flap extension cable attaching . . . . .	all	10

\* Serialization per Mod. Print 288712.



**Figure 113 – Gear Boxes – Emergency and Flap Transmission**

## GROUP . . . Controls Units

## Detail Unit . . . Gear Boxes—Emergency and Flap Transmission

*Constellation*

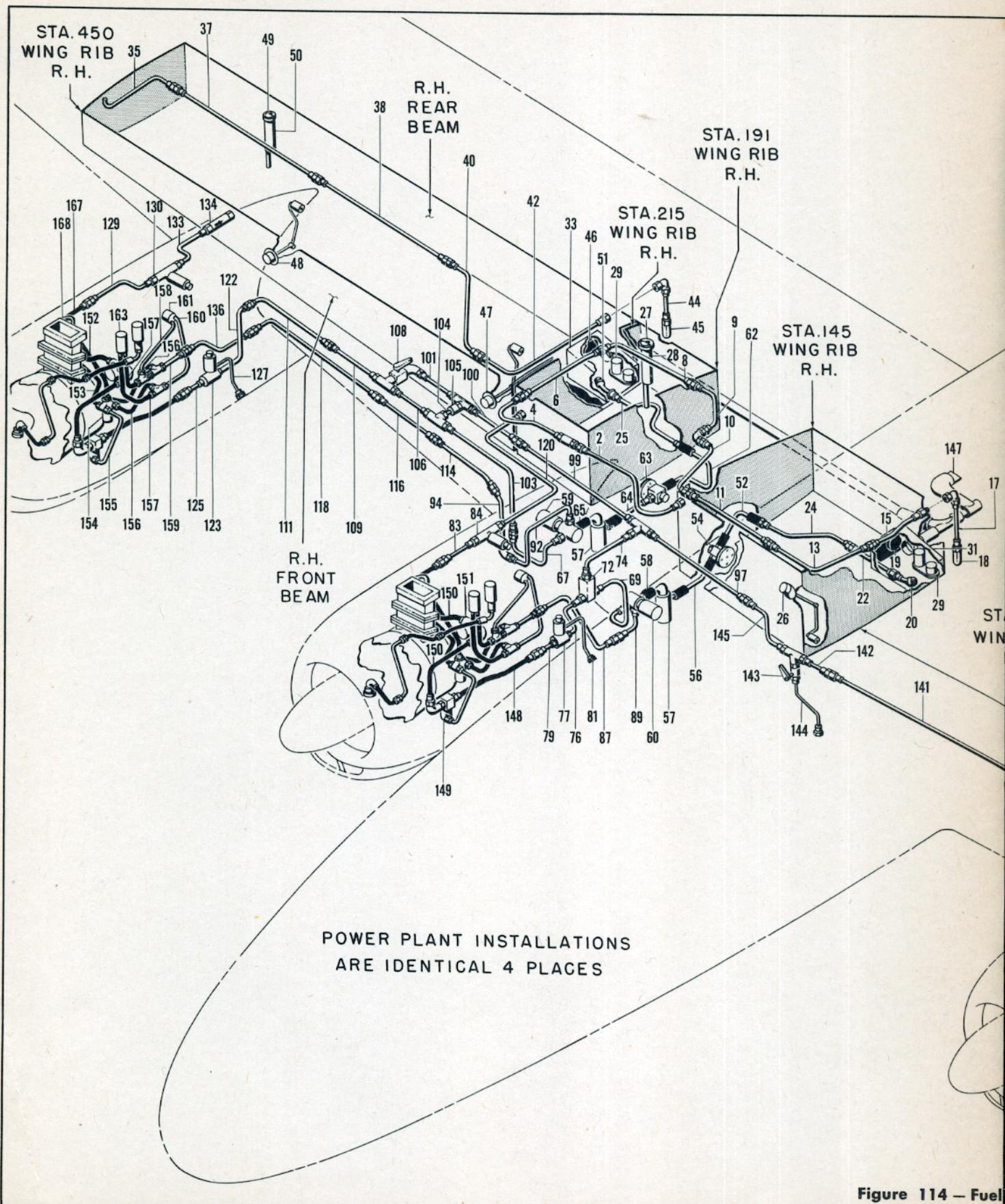
FIGURE & INDEX NUMBER	PART NUMBER		N O M E N C L A T U R E						SERIAL CODE	UNITS PER ASSY.
			1	2	3	4	5	6		
113 - 1	2640		Emergency Gear Box (Vard Inc.) (669053) (See figure 110 for using assembly)						all	Ref
2	2641		Body - Emergency gear box						all	1
3	2668		Gear - Emergency gear box						all	2
4	2644		Main Shaft - Emergency gear box						all	1
5	2645		Drive Shaft - Emergency gear box						all	1
6	AN280H405		Key + Woodruff (Emergency shafts)						all	2
7	8502		Bearing + Main shaft (New Departure)						all	4
8	2649		Shim - Emergency gear box						all	4
9	2672		Cover - Emergency gear box						all	1
10	2643		Rear Cap - Emergency gear box						all	1
11	2647		Rear Gasket - Emergency gear box						all	1
12	AN510-10-14		Screw - 82° Flat head machine (Fine thread)						all	4
13	AN365-1032		Nut - Self locking						all	8
14	2642		Front Cap - Emergency gear box						all	1
15	2648		Front Gasket - Emergency gear box						all	1
16	2790		Vent						all	1
17	AN3-5A		Bolt - Aircraft 10-32						all	4
18	3202		Bearing - Main shaft (New Departure)						all	1
19	7089		Washer - Emergency gear box						all	3
20	2384		Cap - Emergency gear box						all	4
21	AN4-7A		Bolt + Aircraft 1/4-28 (See figure 110 for using assembly)						all	Ref
22	AN364-428		Nut - Self locking thin (See figure 110 for using assembly)						all	Ref
	278158		Installation - Emergency gear box crankshaft (N.P.)						a	Ref
	284323		(See figure 110 for using assembly)						b	Ref
	278182		Installation - Wing flap emergency crankshaft (N.P.)							
23	278183		(See figure 110 for using assembly)							
24	278182-2		Crankshaft Assembly - Emergency gear box						all	1
25	ES13179-401		Shaft - Emergency gear box						all	1
26	278185		Tube						all	1
	278184		Coupling Assembly (Link Belt Co.)						all	1
	278185		Bearing Assembly - Emergency gear box						all	1
	278184		Housing - Emergency gear box bearing						all	1
27	AN200KS10		Bearing - Heavy duty metal shield						all	1
	LS560-22		Screw - No. 10-32 Phillips binding head						a	2
	LS560-26		Screw - No. 10-32 Phillips binding head						b	2
28	AN365-1032		Nut - Self locking						all	2
29	2765		Gear Box Assembly - Flap transmission (Vard Inc.) (669051)						all	Ref
	2766		(See figures 110 and 112 for using assembly)							
31	2671		Body - Flap transmission gear box						all	1
32	AN280H406		Pinion - Flap transmission						all	1
33	3203		Key - Woodruff						all	1
34	2771		Bearing - Flap transmission pinion						all	2
35	2784		Gear - Flap transmission worm						all	1
36	2788		Shim - Flap transmission gear						all	2
37	3302		Shim - Flap transmission bearing						all	1
38	2775		Bearing - Flap transmission						all	2
39	2778		Cage - Flap transmission ball bearing						all	2
40	2785		Shim - Flap transmission lower cap						all	1
41	2779		Cap - Flap transmission lower						all	1
42	AN320-4		Stud - Flap transmission						all	6
43	2770		Nut - Aircraft shear						all	6
44	67		Shaft - Flap transmission worm						all	1
45	5202		Seal - Klozure (Garlock)						all	2
46	2802		Bearing - Worm shaft (New Departure)						all	2
47	2773		Gasket - Lower retainer						all	2
48	AN4-40A		Retainer - Lower						all	2
49	2774		Bolt + Aircraft 1/4-28						all	1
50	77502		Shaft - Upper drive						all	1
51	215		Bearing - Upper drive shaft (New Departure)						all	1
52	2780		Seal + Klozure (Garlock)						all	1
53	2669		Spacer - Flap transmission gear shaft						all	1
54	2772		Gear - Flap transmission						all	2
55	AN960-816L		Key - Gear flap transmission						all	1
56	AN960-816		Washer - Plain						all	1
57	AN320-8		Washer - Plain						all	2
58	2767		Nut + Aircraft shear						all	1
59	2803		Housing - Flap transmitter sprocket						all	1
	2762		Gasket - Sprocket housing						all	2
	2762-2		Sprocket Assembly - Flap transmission						all	2
61	AR4-1		Sprocket						all	2
62	2761		Bearing - Sprocket assembly (Torrington)						all	1
63	2782		Spacer - Flap transmission						all	1
64	AN4-32A		Guard - Flap transmission chain						all	1
65	2781		Bolt + Aircraft 1/4-28						all	1
66	2791		Washer + Flap transmission spacer						all	2
67	AN365-428		Shim - Flap transmission idler						all	1
68	AN4-36A		Nut - Self-locking						all	6
69	2783		Bolt - Aircraft 1/4-28						all	3
70	2777		Sleeve - Flap transmission dowel						all	3
71	2800		Shim - Flap transmission upper cap						all	1
72	2768		Gasket - Flap transmission upper cap						all	1
73	AN900-6		Cap - Flap transmission upper						all	1
74	AN905-6		Gasket - Copper asbestos annular						all	2
75	2776		Plug - Hex drilled for locking						all	1
76	NAS2-201		Plug - Flap transmission						all	1
77	2801		Fitting - Lubrication						all	1
78	1022		Gasket - Flap transmission lower cap						all	1
79	2793		Shim - Gear						all	1
	2790		Washer						all	1
	2790		Vent						all	1

Notes

*Constellation*

**GROUP . . . Fuel System**

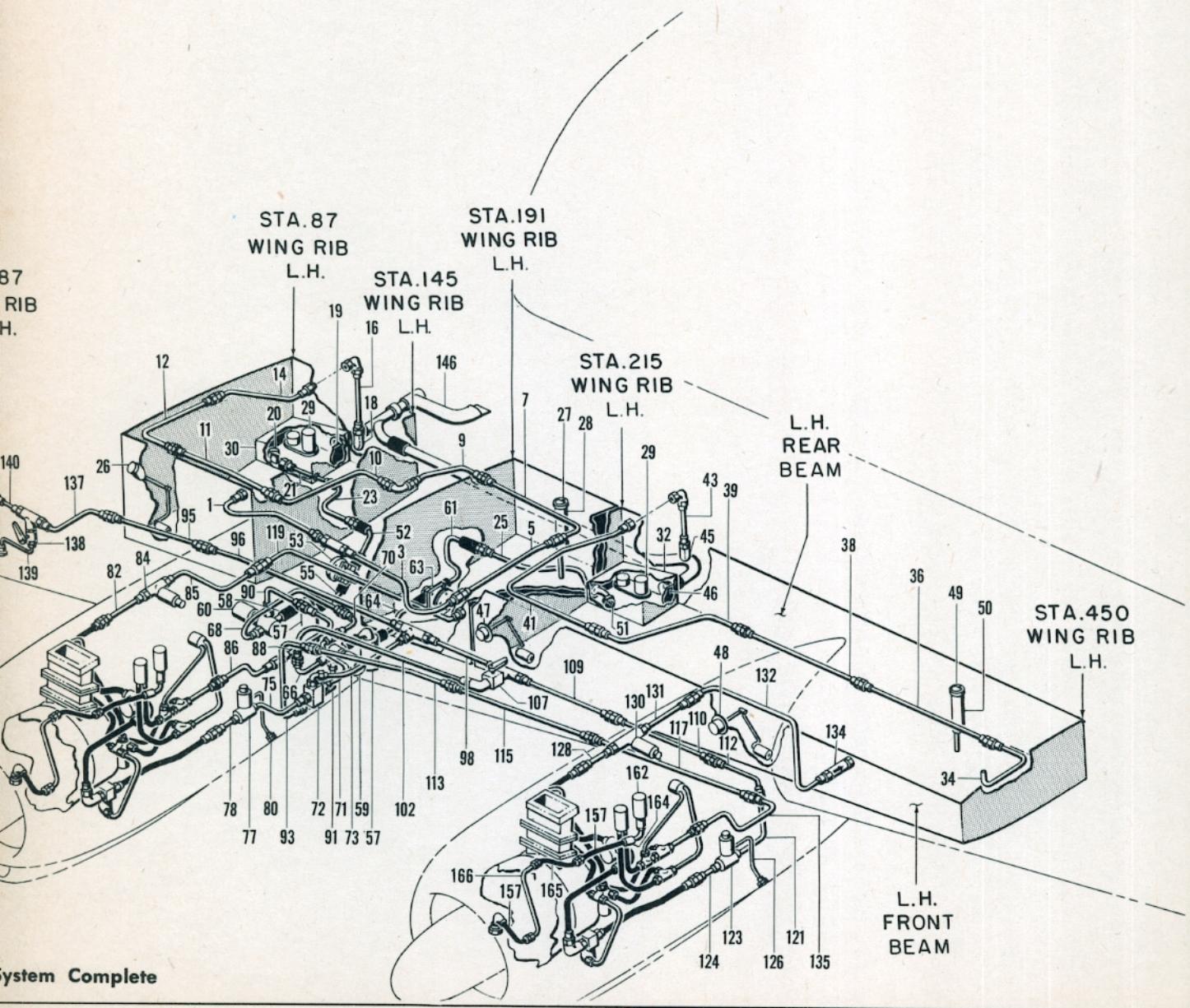
**Detail Unit . . . Fuel System Complete**



# Constellation

SEE FIGURE 4 FOR WING RIBS  
AND BEAMS THAT FORM THE FUEL  
TANKS

SEE FIGURES 82 THRU 88  
FOR FUEL SYSTEM CONTROLS



**System Complete**

## GROUP . . . . Fuel System

*Constellation*

## Detail Unit . . . Fuel System Complete

FIGURE & INDEX NUMBER	PART NUMBER	1 2 3 4 5 6	N O M E N C L A T U R E						SERIAL CODE	UNITS PER ASSY.
114 - 1	281764L		Installation - Inboard fuel tank fittings (NP) (See figure 2 for using assembly)						all	Ref
	281764R		Installation - Inboard fuel tank fittings (NP) (See figure 2 for using assembly)						all	Ref
2	254025-46		Tube Assembly - Inboard fuel tank vent (LH only)						all	1
3	254025-47		Tube Assembly - Inboard fuel tank vent (RH only)						all	1
4	268428-38		Tube Assembly - Inboard fuel tank vent (LH only)						all	1
5	254025-45		Tube Assembly - Inboard fuel tank vent (RH only)						all	1
6	254025-24		Tube Assembly - Inboard fuel tank vent (LH only)						all	1
7	254025-25		Tube Assembly - Inboard fuel tank vent (RH only)						all	1
8	254025-26		Tube Assembly - Inboard fuel tank vent (LH only)						all	1
9	254025-27		Tube Assembly - Inboard fuel tank vent (RH only)						all	1
10	280885-2		Tube Assembly - Inboard fuel tank vent						all	1
11	280885-68		Tube Assembly - Inboard fuel tank vent						all	1
12	280885-66		Tube Assembly - Inboard fuel tank vent (LH only)						all	1
13	254025-30		Tube Assembly - Inboard fuel tank vent (RH only)						all	1
14	254025-31		Tube Assembly - Inboard fuel tank vent (LH only)						all	1
15	280885-70		Tube Assembly - Inboard fuel tank vent (RH only)						all	1
16	280885-72		Tube Assembly - Inboard fuel tank vent (RH only)						all	1
17	*281764-6		Tube Assembly - Inboard fuel tank vent (LH only)						all	1
18	*281764-5		Tube Assembly - Inboard fuel tank vent (RH only)						all	1
19	*296617		Fairing - Inboard fuel tank vent (Same as index No. 45)						all	1
	*285750-600		Flapper Assembly - Surge box (Same as index No. 46)						all	1
	*285250-7		Plate - Surge box flapper						all	1
	*285909		Spacer - Surge box flapper						all	1
20	283680		Screen Assembly - Inboard fuel tank outlet (Same as index No. 51)						all	1
21	280885-62		Tube Assembly - Inboard fuel tank pressure (LH only)						all	1
22	284131-14		Tube Assembly - Inboard fuel tank pressure (RH only)						all	1
23	254025-36		Tube Assembly - Inboard fuel tank pressure (LH only)						all	1
24	254025-37		Tube Assembly - Inboard fuel tank pressure (RH only)						all	1
25	254025-34		Tube Assembly - Outboard fuel tank pressure						all	1
26	EA65A375		Transmitter - Inboard tank fuel quantity (Liquidometer) (628016)						all	1
27	254182		Cap Assembly - Fuel tank fillerwell						all	1
	254087-3		Body - Fuel fillerwell cap						all	1
	261791		Shim - Fuel fillerwell cap						all	2
	254098-3		Handle - Fuel fillerwell cap						all	1
	254076-3		Retainer - Fuel fillerwell cap handle						all	1
	254157		Gasket - Fuel fillerwell cap						all	1
	278379		Bushing - Fuel fillerwell cap						all	1
	278853		Spring - Fuel fillerwell cap						all	1
	278380		Retainer - Fuel fillerwell cap						all	1
	278854		Pin - Fuel fillerwell cap						all	1
	261792		Spring - Fuel fillerwell cap						all	1
28	279046		Screen Assembly - Fuel tank fillerwell (Same as index No. 50)						all	1
	01-287762		Service Assembly - Inboard fuel tank screen						all	Ref
	02-287762		Service Assembly - Outboard fuel tank screen						dy	Ref
	03-287762		Service Assembly - Inboard fuel tank screen						du	Ref
	287762		Screen Assembly Rework - Fuel tank fillerwell (See figure 1 for using assembly)						all	Ref
	287762-4		Dip Stick Assembly - Fuel quantity measure (Carried in inboard tanks - calibrated for both inboard and outboard tanks)						all	2
29	290012-22		Dip Stick Assembly - Fuel quantity measure (See note Re. 287762-4)						du	2
	283690-100		Sump Assembly - Fuel tanks (See figure 2 for using assembly)						all	Ref
	254237		Cap - Water drain valve						all	1
	254186		Bushing - Water drain valve						all	1
	254187		Stem - Water drain valve						all	1
	254185		Spring - Water drain valve						all	1
	254188		Gasket - Water drain valve						all	1
	254216		Seat - Water drain valve						all	1
	286745		Container - Fuel tank inhibitor						all	1
30	283004L		Installation - Inboard fuel tank surge box (NP) (See figure 2 for using assembly)						all	Ref
31	283004R		Installation - Inboard fuel tank surge box (NP) (See figure 2 for using assembly)						all	Ref
32	284845L		Installation - Outboard fuel tank surge box (NP) (See figure 2 for using assembly)						all	Ref
33	284845R		Installation - Outboard fuel tank surge box (NP) (See figure 2 for using assembly)						all	Ref
	268192L		Installation - Outboard fuel tank fittings (NP) (See figure 2 for using assembly)						all	Ref
	268192R		Installation - Outboard fuel tank fittings (NP) (See figure 2 for using assembly)						all	Ref
	268428-2		Tube Assembly - Outboard fuel tank vent (LH only)						all	1
	268428-3		Tube Assembly - Outboard fuel tank vent (RH only)						all	1
	268428-4		Tube Assembly - Outboard fuel tank vent (LH only)						all	1
	268428-5		Tube Assembly - Outboard fuel tank vent (RH only)						all	1
	268428-6		Tube Assembly - Outboard fuel tank vent						all	1
	268428-6		Tube Assembly - Outboard fuel tank vent (LH only)						all	1
	254025-6		Tube Assembly - Outboard fuel tank vent (RH only)						all	1
	254025-7		Tube Assembly - Outboard fuel tank vent (RH only)						all	1
	254025-8		Tube Assembly - Outboard fuel tank vent (LH only)						all	1
	254025-9		Tube Assembly - Outboard fuel tank vent (RH only)						all	1
	*268192-6		Tube Assembly - Outboard fuel tank vent (LH only)						all	1
	*268192-5		Tube Assembly - Outboard fuel tank vent (RH only)						all	1
	*296617		Fairing - Outboard fuel tank vent (Same as index No. 18)						all	1
	*285750-600		Flapper Assembly - Surge box (Same as index No. 19)						all	1
	*285250-7		Plate - Surge box flapper						all	1
	*285909		Spacer - Surge box flapper						all	1
47	EA86A376		Transmitter - Outboard tank fuel quantity (Liquidometer) (628017)						all	1
48	EA87A377		Transmitter - Outboard tank fuel quantity (Liquidometer) (628015)						all	1
49	254182		Cap Assembly - Fuel tank fillerwell (See index No. 27 for components)						all	1
50	279046		Screen Assembly - Fuel tank fillerwell (Same as index No. 28)						all	1
51	283680		Screen Assembly - Outboard fuel tank outlet (Same as index No. 20)						all	1
	264773		Installation - Inboard nacelle fuel system, LH (NP) (See figure 2 for using assembly)					c	Ref	
	264772		Installation - Inboard nacelle fuel system, RH (NP) (See figure 2 for using assembly)					c	Ref	
	281741L		Installation - Inboard nacelle fuel system (NP) (See figure 2 for using assembly)					d	Ref	
	281741R		Installation - Inboard nacelle fuel system (NP) (See figure 2 for using assembly)					d	Ref	
	278510-38		Tube - Inboard fuel tank pressure					c	1	
	280885-28		Tube - Inboard fuel tank pressure					d	1	
52	259898-4		Valve Assembly - Inboard fuel shut-off (LH only) (See figure 87 for using assembly, serial C) (See figure 118 for detailed illustration)					all	1	
53	259898-2		Valve Assembly - Inboard fuel shut-off (RH only) (See figure 87 for using assembly, serial C) (See figure 118 for detailed illustration)					all	1	
54			(Continued on next page.)							

## GROUP . . . Fuel System

*Constellation*

## Detail Unit . . . Fuel System Complete (Continued)

FIGURE & INDEX NUMBER	PART NUMBER	1	2	3	4	5	6	N O M E N C L A T U R E	SERIAL CODE	U N I T S P E R A S S Y.
114-55	264773-2 280885-26 *295287-5 56	Hose - Inboard fuel tank pressure .....	c						1	
	280885-27 *295287-6 57	Tube - Inboard fuel tank pressure (LH only) .....	fh						1	
	*34103 AN771-2 58	Tube - Inboard fuel tank pressure (LH only) .....	sss						1	
	*295290-2 59	Tube - Inboard fuel tank pressure (RH only) .....	fh						1	
	TFD10100-1 Pos. IB2 60	Tube - Inboard fuel tank pressure (RH only) .....	sss						1	
	TFD10100-1 Pos. IIIB2 TFD10100-2 IBR	Filter - Fuel (Purolator) (633418) (See figure 118 for detailed illustration) .....	all						2	
		Cock - Fuel filter drain .....	all						2	
		Hose Assembly - Inboard fuel tank pressure .....	all						1	
		Pump - Auxiliary electrical fuel (Thompson Products) (633224) .....	c-cr						1	
		(See figure 116 for detailed illustration)								
		Pump - Auxiliary electrical fuel (Thompson Products) (633155) .....	c-cr						1	
		(See figure 116 for detailed illustration)								
		Pump - Auxiliary electrical fuel (Thompson Products) (633424) .....	cz						1	
		(See figure 116 for detailed illustration)								
		Pump - Auxiliary electrical fuel (Thompson Products) (633423) .....	cz						1	
		(See figure 116 for detailed illustration)								
61	278510-36 278510-39 280885-29 280885-30 62	Tube Assembly - Outboard fuel tank pressure (LH only) .....	c						1	
	280885-29 255532L 255532R 282356L 282356R 63	Tube Assembly - Outboard fuel tank pressure (RH only) .....	c						1	
	259898-3 259897L 259897S 278510-37 64	Tube Assembly - Outboard fuel tank pressure (LH only) .....	d						1	
	280885-31 *295287-3 262111-30 65	Tube Assembly - Outboard fuel tank pressure (RH only) .....	d						1	
	*295287-2 66	Installation - Outboard fuel shut-off valve (NP) .....	c						1	
	254025-42 67	Installation - Outboard fuel shut-off valve (NP) .....	c						1	
	254025-17 281027 281029 280885-75 68	Installation - Outboard fuel shut-off valve (NP) .....	d						1	
	254025-45 69	Installation - Outboard fuel shut-off valve (NP) .....	d						1	
	287795-40 70	Installation - Inboard nacelle piping, LH (NP) (See figure 2 for using assembly) .....	all						Ref	
	287795-42 71	Installation - Inboard nacelle piping, RH (NP) (See figure 2 for using assembly) .....	all						Ref	
	259898-5 72	Tube Assembly - Inboard fuel tank pressure .....	c						1	
	255693-10 73	Tube Assembly - Inboard fuel tank pressure (LH only) .....	c						1	
	280885-64 74	Tube Assembly - Inboard fuel tank pressure (RH only) .....	c						1	
	282855-50 75	Tube Assembly - Fuel tank pressure (LH only) .....	all						1	
	282855-46 76	Tube Assembly - Fuel tank pressure (RH only) .....	all						1	
	44R128C 77	Valve Assembly - Motor driven shut-off (General Controls) (633259) .....	all						1	
		(See figure 118 for detailed illustration)								
78	282855-69 *295605-10 80	Tube Assembly - Inboard fuel tank pressure (LH only) .....	all						1	
	*295605-12 81	Tube Assembly - Inboard fuel tank pressure (RH only) .....	all						1	
	*295605-6 *295607 82	Tube Assembly - Shut-off valve drain (LH only) .....	all						1	
	280885-12 83	Tube Assembly - Shut-off valve drain (RH only) .....	all						1	
	278510-16 84	Tube Assembly - Drain stub .....	all						2	
	40R249H 85	Tube Assembly - Vapor separator return (LH only) .....	all						1	
	268428-44 86	Tube Assembly - Vapor separator return (RH only) .....	all						1	
	282855-57 87	Tube Assembly - Inboard fuel pressure balance (LH only) .....	all						1	
	278510-41 88	Tube Assembly - Inboard fuel pressure balance (RH only) .....	all						1	
	280885-52 89	Tube Assembly - Inboard fuel pressure balance (LH only) .....	c						1	
	287795-44 90	Tube Assembly - Inboard fuel pressure balance (RH only) .....	dm						1	
	286450-71 91	Tube Assembly - Inboard fuel pressure balance (RH only) .....	dm						1	
	278510-40 92	Tube Assembly - Inboard fuel pressure balance (LH only) .....	q						1	
	286450-73 93	Tube Assembly - Inboard fuel pressure balance (LH only) .....	er						1	
	280885-54 94	Tube Assembly - Outboard fuel pressure balance (LH only) .....	c						1	
	287795-48 95	Tube Assembly - Outboard fuel pressure balance (LH only) .....	ez						1	
	286450-75 96	Tube Assembly - Outboard fuel pressure balance (LH only) .....	er						1	
	255693-25 97	Tube Assembly - Outboard fuel pressure balance (RH only) .....	c						1	
	287795-46 98	Tube Assembly - Outboard fuel pressure balance (RH only) .....	dm						1	
	286450-69 99	Tube Assembly - Outboard fuel pressure balance (RH only) .....	dn						1	
	280885-82 100	Tube Assembly - Outboard fuel pressure balance (LH only) .....	all						1	
	278510-17 101	Tube Assembly - Outboard fuel pressure balance (RH only) .....	all						1	
	267177 102	Installation - Front beam piping LH (NP) (See figure 2 for using assembly) .....	all						Ref	
	267178 103	Installation - Front beam piping RH (NP) (See figure 2 for using assembly) .....	all						Ref	
	284131-28 104	Tube Assembly - Fuel tank pressure (LH only) .....	all						1	
	262111-26 105	Tube Assembly - Fuel tank pressure (RH only) .....	all						1	
	255693-44 106	Tube Assembly - Fuel tank pressure (LH only) .....	all						1	
	*288724-64 107	Tube Assembly - Fuel tank pressure (RH only) .....	all						1	
	*288724-63 108	Tube Assembly - Fuel tank pressure (LH only) .....	all						1	
	262111-28 109	Tube Assembly - Fuel tank pressure (RH only) .....	all						1	
	*288724-66 110	Hose Assembly - By-pass (RH only) .....	all						1	
	*318-4W14 105	Valve - Relief (RH only) .....	all						1	
	*N8182-14 106	Tube Assembly - Fuel tank pressure (RH only) .....	all						1	
	*288724-65 107	Tube Assembly - Outboard fuel tank cross-feed shut-off (LH only) .....	all						1	
	259898-2 108	(See figure 118 for detailed illustration)								
	259898-4 109	Valve Assembly - Outboard fuel tank cross-feed shut-off (RH only) .....	all						1	
		(See figure 118 for detailed illustration)								
	255693-45 110	Tube Assembly - Fuel tank pressure .....	all						1	
	255693-46 110	Tube Assembly - Fuel tank pressure (LH only) .....	all						1	

(Continued on next page.)

## GROUP . . . Fuel System

## Detail Unit . . . Fuel System Complete (Continued)

FIGURE & INDEX NUMBER	PART NUMBER	1 2 3 4 5 6	N O M E N C L A T U R E						SERIAL CODE	UNITS PER ASSY.
			Tube	Assembly	+ Fuel tank pressure (RH only) . . . . .	all	1			
114-111	286450-40		Tube	Assembly	+ Fuel tank pressure (LH only) . . . . .	all	1			
112	255693-47		Tube	Assembly	+ Outboard fuel pressure balance (LH only) . . . . .	all	1			
113	278510-11		Tube	Assembly	+ Outboard fuel pressure balance (RH only) . . . . .	all	1			
114	268428-40		Tube	Assembly	+ Outboard fuel pressure balance (LH only) . . . . .	all	1			
115	278510-8		Tube	Assembly	+ Outboard fuel pressure balance (RH only) . . . . .	all	1			
116	262111-26		Tube	Assembly	+ Outboard fuel pressure balance (RH only) . . . . .	all	1			
117	278510-9		Tube	Assembly	+ Outboard fuel pressure balance (LH only) . . . . .	all	1			
118	268428-41		Tube	Assembly	+ Outboard fuel pressure balance (RH only) . . . . .	all	1			
119	278510-10		Tube	Assembly	+ Vapor separator return (LH only) . . . . .	all	1			
120	268428-39		Tube	Assembly	+ Vapor separator return (RH only) . . . . .	all	1			
	269400		Installation	+ LH	Outboard nacelle piping (NP) (See figure 2 for using assembly)	all				Ref
	262123		Installation	+ RH	Outboard nacelle piping (NP) (See figure 2 for using assembly)	all				Ref
121	282855-34		Tube	Assembly	+ Fuel tank pressure (LH only) . . . . .	all	1			
122	282855-40		Tube	Assembly	+ Fuel tank pressure (RH only) . . . . .	all	1			
123	44R128C		Valve - Motor driven shut-off (General Controls) (633359)	(See figure 118 for detailed illustration)		all				
124	*295605-5		Tube	Assembly	+ Fuel tank pressure (LH only) . . . . .	all	1			
125	282855-66		Tube	Assembly	+ Fuel tank pressure (RH only) . . . . .	all	1			
126	282855-36		Tube	Assembly	+ Shut-off valve drain (LH only) . . . . .	all	1			
127	282855-42		Tube	Assembly	+ Shut-off valve drain (RH only) . . . . .	all	1			
	255716-2		Tube	- Drain stub		all				
128	278510-12		Tube	Assembly	+ Vapor separator return (LH only) . . . . .	all	1			
129	278510-14		Tube	Assembly	+ Vapor separator return (RH only) . . . . .	all	1			
130	40R249H		Valve - Solenoid	shut-off (General Controls) (633259)	(See figure 118 for detailed illustration)	all	1			
131	284131-22		Tube	Assembly	+ Vapor separator return (LH only) . . . . .	all	1			
132	255693-36		Tube	Assembly	+ Vapor separator return (LH only) . . . . .	all	1			
133	280885-13		Tube	Assembly	+ Vapor separator return (RH only) . . . . .	all	1			
134	525LFT4D		Valve - Swing check (Parker) (633169)			all				
135	282855-61		Tube	Assembly	+ Outboard fuel pressure balance (LH only) . . . . .	all	1			
136	282855-64		Tube	Assembly	+ Outboard fuel pressure balance (RH only) . . . . .	all	1			
	281028		Installation	+ Fuselage stub wing piping (NP) (See figure 1 for using assembly)		all				Ref
137	278510-6		Tube	Assembly	+ Fuel tank pressure . . . . .	all	1			
138	*W7010-4D		Valve	- Fuel drain (Whittaker) (633429)		all				
139	*289644-32		Tube	Assembly	+ Fuel drain . . . . .	all	1			
	*263063		Tube	- Drain stub		all				
140	278510-7		Tube	Assembly	+ Fuel tank pressure . . . . .	all	1			
141	262111-15		Tube	Assembly	+ Fuel tank pressure . . . . .	all	1			
	261282		Installation	- RH Stub wing piping (See figure 1 for using assembly)		all				Ref
142	262111-14		Tube	Assembly	+ Fuel tank pressure . . . . .	all	1			
143	*W7010-4D		Valve	- Fuel drain (Whittaker) (633429)		all				
144	*289644-33		Tube	Assembly	+ Fuel drain . . . . .	all	1			
	*263063		Tube	- Drain stub		all				
145	262111-13		Tube	Assembly	+ Fuel tank pressure . . . . .	all	1			
146	254009L		Installation	- Fuel dump valves (See figure 115 for detailed illustration)		all				Ref
147	254009R		Installation	- Fuel dump valves (See figure 115 for detailed illustration)		all				Ref
	282867-2		Installation	- LH Inboard engine compartment plumbing (NP) (See figure 67 for using assembly)		y				Ref
	282867-3		Installation	- LH Outboard engine compartment plumbing (NP) (See figure 67 for using assembly)		y				Ref
	282868-2		Installation	- RH Inboard engine compartment plumbing (NP) (See figure 67 for using assembly)		y				Ref
	282868-3		Installation	- RH Outboard engine compartment plumbing (NP) (See figure 67 for using assembly)		y				Ref
	288146		Installation	- Engine fuel system (See figure 67 for using assembly)		z				Ref
	288148-2		Installation	- Engine instruments pressure transmission system, LH (NP) (See figure 67 for using assembly)		z				Ref
	288148-3		Installation	- Engine instruments pressure transmission system, RH (NP) (See figure 67 for using assembly)		z				Ref
148	3706A16QA01160116- 27½	Hose Assembly	- Fuel tank pressure (Weatherhead)			all	1			
149	TFD2100 (Pos.3)	Pump - Engine driven fuel (Thompson Prod.) (633156) (Alternate 248EB-Lot 7) (See figure 116 for detailed illustration)				all	1			
150	*340A16D26½	Hose Assembly	- Fuel pump pressure . . . . .			all	2			
151	9054-5	Transmitter - Fuel flow (Pioneer) (628031)				all	1			
152	*318-4W24	Hose	- Fuel pressure balance . . . . .			all	1			
	*270085	Restrictor	- Fuel gage line . . . . .			all	1			
153	*318-4W18	Hose	- Fuel pressure gage . . . . .			all	1			
154	263273	Sump	- Fuel vent . . . . .			all	1			
	254128	Plug	- Fuel pump vent sump . . . . .			all	1			
155	*318-4W12½	Hose Assembly	+ Fuel pressure balance . . . . .			all	1			
156	*295276-2	Hose Assembly	+ Fuel pressure balance and gage . . . . .			all	2			
157	3706A4QA014014- 10½	Hose Assembly	+ Fuel pressure balance, gage and torque meter . . . . .			all	4			
158	295270-6	Tube	Assembly	+ Fuel pressure balance . . . . .		all	1			
159	282855-18	Tube	Assembly	+ Fuel pressure balance . . . . .		all	1			
160	*295270-3	Tube	Assembly	+ Fuel pressure gage . . . . .		all	1			
161	*3123-3A	Unit	- Fuel pressure warning (Eclipse) (624153-4)			all	1			
	282525-4	Installation	- Engine instrument autosyn transmitter (NP)			all	1			
	282525-8	Transmitter	- Autosyn . . . . .			all	1			
162	4150-11	Transmitter	- Autosyn engine torque (Pioneer) (628032)			all	1			
163	4050-4	Transmitter	- Autosyn fuel pressure (Pioneer) (628052)			all	1			
	11D2	Snubber	- Pressure (Ray Pressure Snubber Co.) (629138-2)			y	1			
164	2162R4A	Snubber	- Pressure (Rochester Mfg. Co.) (629140)			z	1			
165	*340A16D23	Hose Assembly	+ Fuel pump drain and torque meter . . . . .			all	2			
166	*295291-14	Tube	Assembly	- Torquemeter . . . . .		all	1			
	263063	Hose	- Fuel pump drain stub . . . . .			all	1			
167	3706A4QA014014-20	Hose	Assembly	- Vapor separator return . . . . .		all	1			
168	287795-74	Tube	Assembly	- Vapor separator return . . . . .		all	1			

\* Replaces standard part, added or serialized per one or more of the following:  
 Service Bulletins 49/SB-14, 49/SB-48, 49/SB-100,  
 49/SB-102, 49/SB-103, 49/SB-108, 49/SB-121,  
 49/SB-134, 49/SB-143, 49/SB-201;  
 Service Instructions 49/SI-15, 49/SI-15A, 49/SI-10;  
 Mod. Prints 295270, 295278, 295287, 295291, 295606.

GROUP . . . Fuel System Units

Detail Unit . . . Valves — Fuel Dump

*Constellation*

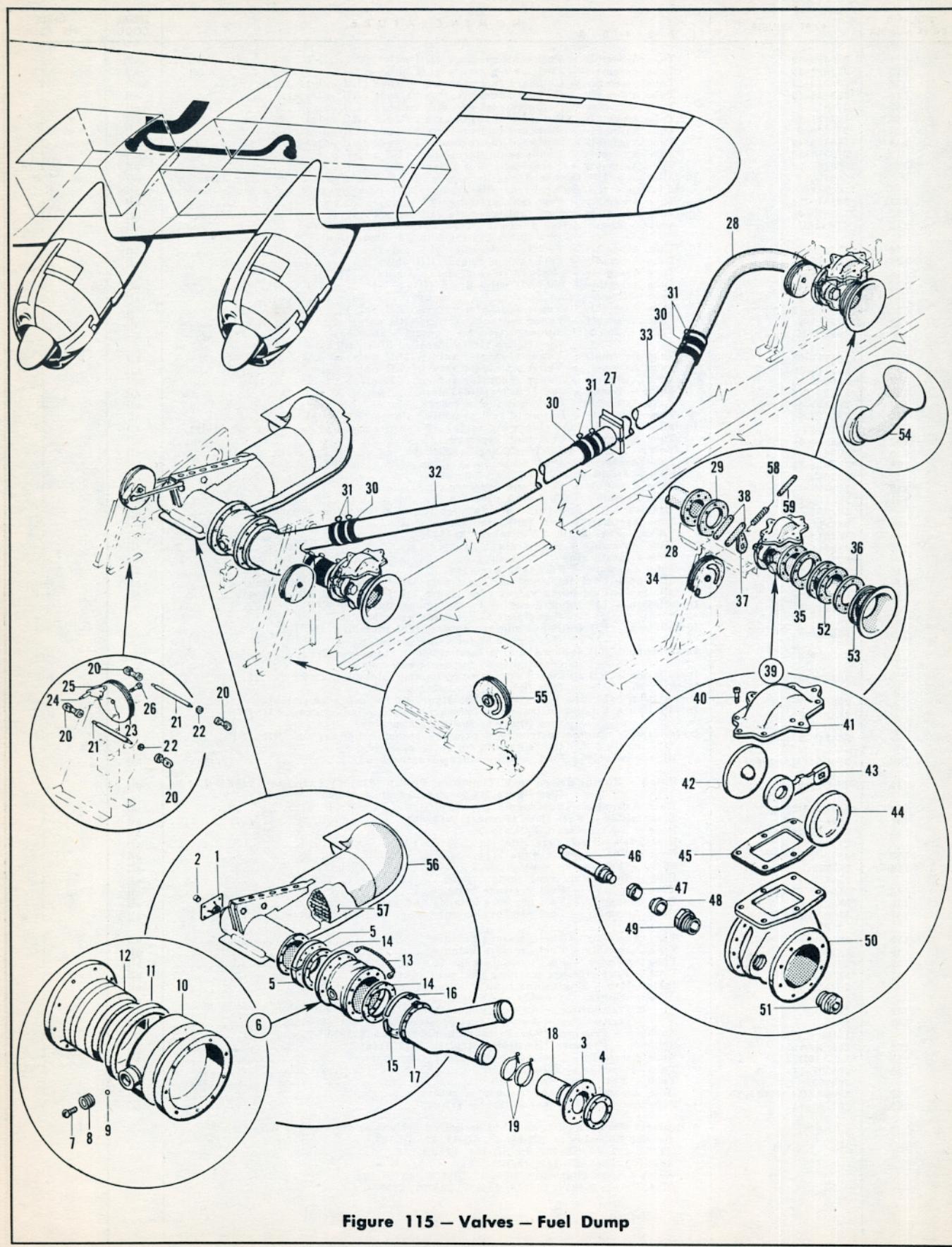


Figure 115 — Valves — Fuel Dump

Reissued July 1947

## GROUP . . . Fuel System Units

## Detail Unit . . . Valves—Fuel Dump

*Constellation*

FIGURE & INDEX NUMBER	PART NUMBER	1	2	3	4	5	6	N O M E N C L A T U R E		SERIAL CODE	UNITS PER ASSY.
	254009L							Installation - Fuel dump valves (NP) (See figure 2 for using assembly)	.....	all	Ref
	254009R							Installation - Fuel dump valves (NP) (See figure 2 for using assembly)	.....	all	Ref
	269630L							Installation - Fuel dump chute (NP)	.....	all	1
	269630R							Installation - Fuel dump chute (NP)	.....	all	1
	254615							Plate Assembly - Fuel dump chute bearing	.....	all	1
115 - 1	254615-2							Plate	.....	all	1
2	BC5W11							Bearing (Fafnir)	.....	all	1
3	254337L							Flange - Fuel dump valve outlet	.....	all	1
4	254337R							Flange - Fuel dump valve outlet	.....	all	1
5	254059							Gasket - Fuel dump valve	.....	all	2
6	255569-2							Reinforcement - Dump valve flange	.....	all	1
7	SPL320B							Swing Joint Assembly - Style 20 (Chiksan Tool Co.) (633154)	.....	all	1
8	1/4							Screw - 3/4 Round head machine	.....	all	1
9	A1534							Plug - Ball retainer	.....	all	1
10	SPL332							Ball - Stainless steel	.....	all	1
11	SPA310							Flange - Coupling	.....	all	1
12	SPL331							Unit Assembly - Packing	.....	all	1
13	SPA309							Flange - Swing	.....	all	1
14	AQ7Q							Jumper - Bonding (Thomas & Betts)	.....	all	2
15	254347							Gasket - Fuel dump swivel	.....	all	1
16	266569-3							Reinforcement - Dump valve flange	.....	all	1
17	266569-4							Reinforcement - Dump valve flange	.....	all	1
18	254346L							"Y" Tube Assembly - Fuel dump chute	.....	all	1
19	254346R							"Y" Tube Assembly - Fuel dump chute	.....	all	1
20	AN884-40-22							Hose - Fuel dump valve outlet	.....	all	2
21	748-98A							Clamp - Ideal hose (Ideal Clamp Co. 2 1/4)	.....	all	1
22	269476L							Installation - Dump valve operating mechanism (NP)	.....	all	1
23	269476R							Installation - Dump valve operating mechanism (NP)	.....	all	1
24	254163							End - Dump chute rod	.....	all	4
25	254164							Rod - Dump chute mechanism	.....	all	2
26	AN316-4R							Nut - Aircraft check	.....	all	2
27	254178							Pulley Assembly - Dump chute	.....	all	1
28	254171							Link - Dump chute pulley	.....	all	1
29	254174							Arm - Dump chute pulley	.....	all	1
30	AN6DD13							Bolt - Aircraft 3/8-24	.....	all	1
31	266749							Fairlead Assembly - Fuel dump tube	.....	all	1
32	254378							Tube Assembly - Outboard fuel dump valve	.....	all	1
33	254059							Gasket - Fuel dump valve	.....	all	1
34	AN884-40-14							Hose - Aromatic resistant synthetic	.....	all	3
35	748-98A							Clamp - Ideal hose (Ideal Clamp Co. 2 1/4)	.....	all	6
36	254376							Tube - Flap station 58 fuel dump	.....	all	1
37	254377							Tube - Flap station 88 fuel dump	.....	all	1
38	269494L							Installation - Outboard dump valve mechanism (NP)	.....	all	1
39	269494R							Installation - Outboard dump valve mechanism (NP)	.....	all	1
40	269465L							Installation - Inboard dump valve mechanism (NP)	.....	all	1
41	269465R							Installation - Inboard dump valve mechanism (NP)	.....	all	1
42	254198							Pulley - Dump valve mechanism (Used on inboard mechanism only)	.....	all	1
43	284839							Gasket - Fuel dump valve (Used on inboard mechanism only)	.....	all	1
44	286678							Seal (2 Required on 269494R, 1 Required on 2694654R)	.....	all	1
45	254202							Spring - Dump valve control	.....	all	1
46	254201							Lever - Dump valve control	.....	all	1
47	254200							Strap - Dump valve control	.....	all	2
48	L7691L							Valve - Fuel dump (Lunkenheimer) (633024)	.....	all	1
49	L7691R							Valve - Fuel dump (Lunkenheimer) (633024)	.....	all	1
50	AN502-1/4-28							Screw - Drilled fillister head machine coarse thread	.....	all	6
51	A32							Cap - Body	.....	all	1
52	N2677							Disc - Female	.....	all	1
53	A94							Carrier + Disc	.....	all	1
54	N2678							Disc - Female	.....	all	1
55	P242M							Packing	.....	all	1
56	RSB594							Stem - Valve	.....	all	1
57	RA25							Gland	.....	all	1
58	AS364M							Gasket	.....	all	1
59	RSB595							Hub	.....	all	1
60	A93							Body - Dump valve	.....	all	1
61	RSB597							Cap - Stem bearing	.....	all	1
62	286335							Flange - Fuel dump valve	.....	all	1
63	251000L							Wing Assembly - Inner section (See figure 2 for using assembly)	.....	all	Ref
64	251000R							Wing Assembly - Inner section (See figure 2 for using assembly)	.....	all	Ref
65	251002L							Beam Assembly - Inner wing rear	.....	all	1
66	251002R							Beam Assembly - Inner wing rear	.....	all	1
67	254398							Fitting Assembly - Dump valve entrance	.....	all	2
68	291680							Pipe Assembly - Dump valve entrance	.....	all	1
69	254198							Pulley - Dump valve mechanism (See figure 87 for using assembly)	.....	all	Ref
								(Used on outboard mechanism)			
70	292677							Installation - Modified fuel dump system (See figure 305 for using assembly)	.....	all	Ref
71	291280-600L							Chute Assembly - Fuel dump (Replaces 291060L and *291280L for spares)	.....	all	1
72	291280-600R							Chute Assembly - Fuel dump (Replaces 291060R and *291280R for spares)	.....	all	1
73	9000							Arrestor (Johnston & Jennings) (603373)	.....	all	1
74	291062							Dump Valve - Spring attaching rib station 146-717 forward	.....	all	1
75	291061							Spring - Outboard dump chute	.....	all	1
76	291063							Installation - Inboard dump chute spring (NP)	.....	all	1
77	291061							Spring - Inboard dump chute	.....	all	1
78	291063-2							Link - Inboard dump chute	.....	all	1
79	291051							Installation - Dump chute bracket gusset (NP)	.....	all	1

\* Replaces modification part per Service Bulletin 49/SB-201.

FUEL

GROUP . . . . Fuel System Units

Detail Unit . . . Pump — Electric Driven Fuel

*Constellation*

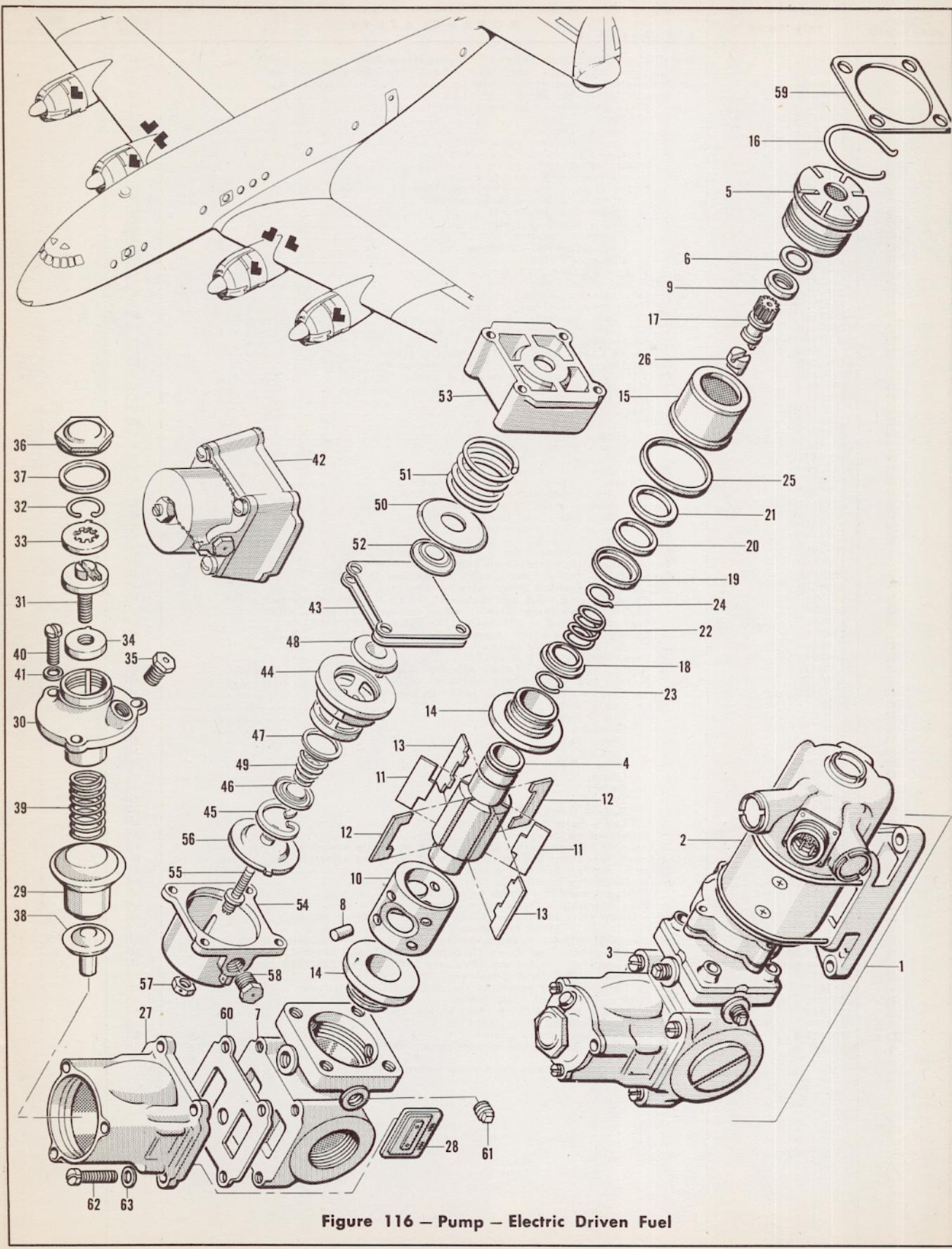


Figure 116 — Pump — Electric Driven Fuel

## GROUP . . . Fuel System Units

*Constellation*

## Detail Unit . . . Pump—Electric Driven Fuel

FIGURE & INDEX NUMBER	PART NUMBER		N O M E N C L A T U R E						SERIAL CODE	UNITS PER ASSY.
			1	2	3	4	5	6		
116 - 1	TFD10100-1Pos.IIIB2	Pump — Electric driven (Thompson Products) (633155) . . . . .							c-cr	Ref
	TFD10100-2Pos.IIIBR	(See figure 114 for using assembly)							cz	Ref
	TFD10100-1Pos.IB2	Pump Assembly — Electric driven (Thompson Products) (633423) . . . . .							c-cr	Ref
	TFD10100-2Pos.IBR	(See figure 114 for using assembly)							cz	Ref
2	A7046	Pump Assembly — Electric driven (Thompson Products) (633224) . . . . .							all	1
		(See figure 114 for using assembly)								
3	TFD2100	Pump — Aircraft fuel (Alternate 248EB, Lot 7) . . . . .							all	1
		(See figure 114 for engine driven usage)								
	TFD2101	Pump Assembly . . . . .							all	1
4	TFD2102	Rotor Assembly . . . . .							all	1
	TFB2104	Nut Assembly . . . . .							all	1
5	TFB2105	Nut + Seal . . . . .							all	1
6	TFA107	Washer — Drive thrust (Bronze) . . . . .							all	1
7	TFD2106	Body — Aircraft fuel pump . . . . .							all	1
	TFD2109-1	Plate — Manufacturer's information . . . . .							all	1
	TFA165	Screw — Round head drive (AN535-00-2) . . . . .							all	4
8	TFA2107	Pin — Liner locking . . . . .							all	1
9	TFA111-1	Seal + Engine oil . . . . .							all	1
10	TFA2108	Liner — Fuel pump . . . . .							all	2
11	TFA3813	Blade — Center tongue . . . . .							all	2
12	TFA3814	Blade — Side tongue . . . . .							all	2
13	TFA3815	Blade — Intermediate tongue . . . . .							all	2
14	TFA3817	Bearing + Anti-drive end . . . . .							all	2
15	TFA3818-1	Housing — Seal . . . . .							all	1
16	TFA119	Ring — Seal nut lock . . . . .							all	1
17	TFA3520	Shaft — Spline drive . . . . .							all	1
18	TFA121	Retainer — Seal spring . . . . .							all	1
19	TFA822	Seal + Fuel . . . . .							c-cr	1
	TFA3522	Seal + Fuel . . . . .							ez	1
20	TFA823	Seal Diaphragm . . . . .							all	1
21	TFA824	Cup + Seal . . . . .							all	1
22	TFA825	Spring — Seal . . . . .							all	1
23	TFA126	Ring — Seal spring snap . . . . .							all	1
24	TFA127	Ring — Seal driver . . . . .							c-cr	1
	TFA873	Gasket — Bearing . . . . .							ez	1
25	TFA2115-1	Link — Coupling . . . . .							all	1
26	TFA3564	Valve Assembly — Fuel pump relief . . . . .							all	1
27	TFB130	Body Assembly — Fuel pump valve lower . . . . .							c-cr	1
	TFA131	Body — Relief valve lower . . . . .							c-cr	1
	TFD132	Plate — Valve instruction . . . . .							c-cr	4
	TFA133	Screw — Round head drive (AN535-00-2) . . . . .							c-cr	1
	TFA165	Valve Assembly — Fuel pump by-pass . . . . .							c-cr	1
28	TFA134	Support — By-pass valve . . . . .							c-cr	1
	TFA138	Hinge — By-pass valve . . . . .							c-cr	1
	TFA139	Spring — By-pass valve . . . . .							c-cr	1
	TFA140	Valve Sub-assembly — By-pass . . . . .							c-cr	1
29	TFA175-1	Diaphragm Assembly — Fuel pump relief valve . . . . .							c-cr	1
	TFA142-3	Body Assembly — Pump valve upper . . . . .							c-cr	1
	TFA145	Body — Relief valve upper . . . . .							c-cr	1
30	TFB146	Screw Assembly — Valve adjustment . . . . .							c-cr	1
31	TFA147	Screw — Adjustment . . . . .							c-cr	1
	TFA148	Bar — Adjustment lock . . . . .							c-cr	1
	TFA149	Pin — Adjustment lock . . . . .							c-cr	1
	TFA150	Ring — Valve adjustment snap . . . . .							c-cr	1
32	TFA151	Washer — Thrust . . . . .							c-cr	1
33	TFA152	Nut — Valve adjustment . . . . .							c-cr	1
34	TFA154	Plug — Plain vent . . . . .							c-cr	1
35	TFA155-1	Nut + Valve cap . . . . .							c-cr	1
36	TFA158-1	Gasket — Valve cap nut . . . . .							c-cr	1
37	TFA159	Valve — Relief . . . . .							c-cr	1
38	TFA156	Spring — Relief valve . . . . .							c-cr	1
39	TFA157	Screw — Drilled fillister head machine coarse thread (AN503-10-8) . . . . .							c-cr	1
40	TFA166	Washer + Plain (AN960-10) . . . . .							all	3
41	TFA167	Valve Assembly — Fuel pump relief . . . . .							ez	1
42	TFD3530	Diaphragm — Valve . . . . .							cz	2
43	TFA3543	Valve Assembly . . . . .							cz	1
	TFD3534	Valve — Relief . . . . .							cz	1
44	TFB3556	Ring — Relief valve snap . . . . .							cz	1
45	TFA3551	Cup — Dash pot . . . . .							cz	1
46	TFA3590	Disc — Relief valve by-pass . . . . .							cz	1
47	TFA3541	Washer — Diaphragm retaining lower . . . . .							cz	1
48	TFA3589	Spring — By-pass valve . . . . .							cz	1
49	TFA3540	Retainer — Lower spring . . . . .							cz	1
50	TFA3587	Spring — Relief valve . . . . .							cz	1
51	TFA3557	Washer + Diaphragm retaining upper . . . . .							cz	1
52	TFA3588-1	Body — Relief valve lower . . . . .							cz	1
53	TFA3532	Body Assembly — Aircraft fuel pump valve upper . . . . .							cz	1
	TFA3545	Body — Relief valve upper . . . . .							cz	1
54	TFA3546	Screw — Adjustment . . . . .							cz	1
55	TFA3548	Washer — Valve adjustment . . . . .							cz	1
56	TFA3554	Nut + Check . . . . .							cz	1
57	TFA3558	Plug — Plain vent . . . . .							cz	1
58	TFA155-1	Gasket — Mounting flange . . . . .							all	1
59	TFA160	Gasket — Valve flange . . . . .							all	1
60	TFA161	Plug (AN91B-1) . . . . .							all	3
61	TFA168	Screw — Fillister sheet metal round head . . . . .							c-cr	4
62	AN503-416-12	Screw — Fillister sheet metal round head . . . . .							ez	4
	AN503-416-32	Screw — Fillister sheet metal round head . . . . .							ez	4
63	AN960-416	Washer — Plain . . . . .							all	4

FUEL

GROUP . . . . Fuel System Units

Detail Unit . . . Motor—Electric Driven Fuel Pump

Constellation

FUEL

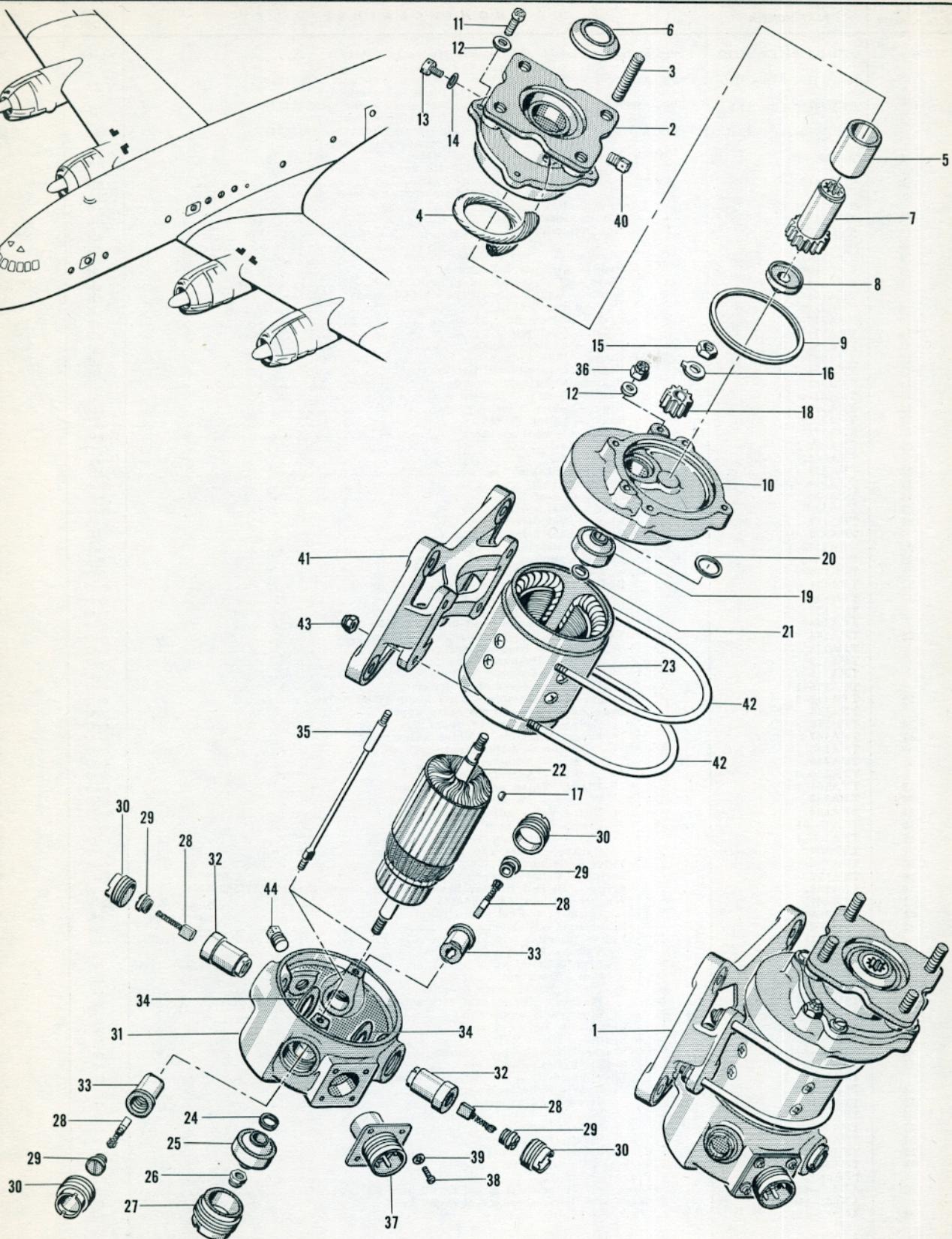


Figure 117 — Motor—Electric Driven Fuel Pump