PART NO.

HITACHI

Technical Manual

Operational Principle

EX

EX750-5

Hydraulic Excavator

Service Manual consists of the following separate Part No.
Technical Manual (Troubleshooting)
Workshop Manual

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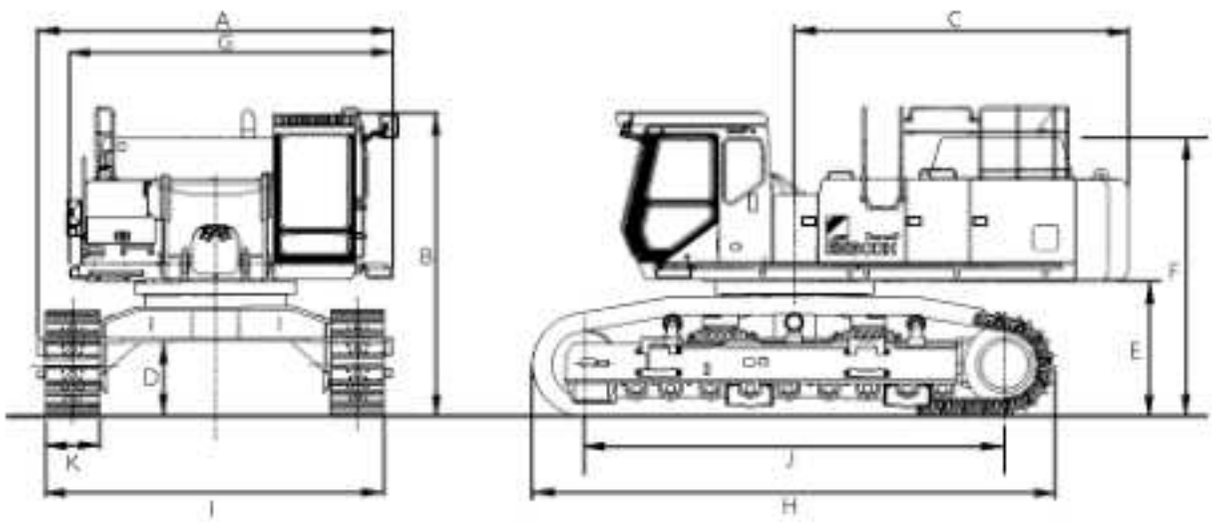
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(LOADING SHOVEL)

Model	EX800H-5 Hydraulic Excavator	
Type of Front-End Attachment	Loading Shovel	
Bucket Capacity (Heaped)	3.6 m^3 (4.7 yd^3) Bottom Dump Rock Bucket	4.0 m^3 (5.2 yd^3) Tilt Dump Rock Bucket
Operating Weight	77800 kg (172000 lb)	76600 kg (169000 lb)
Basic Machine Weight	58800 kg (129600 lb)	
Engine	Cummins Engine N14C 324 kW / 1800 min^{-1} (440 PS / 1800 rpm)	
A: Overall Width (Excluding Rear-View Mirrors)	4310 mm (14 ft 2 in)	
B: Cab Height (Excluding Head Lights)	3720 mm (12 ft 3 in)	
C: Rear End Swing Radius	4160 mm (13 ft 8 in)	
D: Minimum Ground Clearance	*870 mm (2 ft 10 in)	
E: Counterweight Clearance	*1580 mm (5 ft 2 in)	
F: Engine Cover Height	*3330 mm (10 ft 11 in)	
G: Overall Width of Upperstructure	3920 mm (12 ft 10 in)	
H: Undercarriage Length	6350 mm (20 ft 10 in)	
I: Undercarriage Width	4100 mm (13 ft 5 in) / 3480 mm (11 ft 5 in) (Extended / Retracted)	
J: Sprocket Center to Idler Center	5110 mm (16 ft 9 in)	
K: Track Shoe Width	650 mm (26 in)(Grouser shoe)	
Ground Pressure	106 kPa (1.08 kgf / cm^2, 15.4 psi)	104 kPa (1.06 kgf / cm^2, 15.1 psi)
Swing Speed	8.6 min^{-1} (rpm)	
Travel Speed (Fast / Slow)	4.6 / 3.3 km/h (3.4 / 2.1 mph)	
Gradeability	35° (tan θ=70)	

* Dimension does not include shoe lug height.



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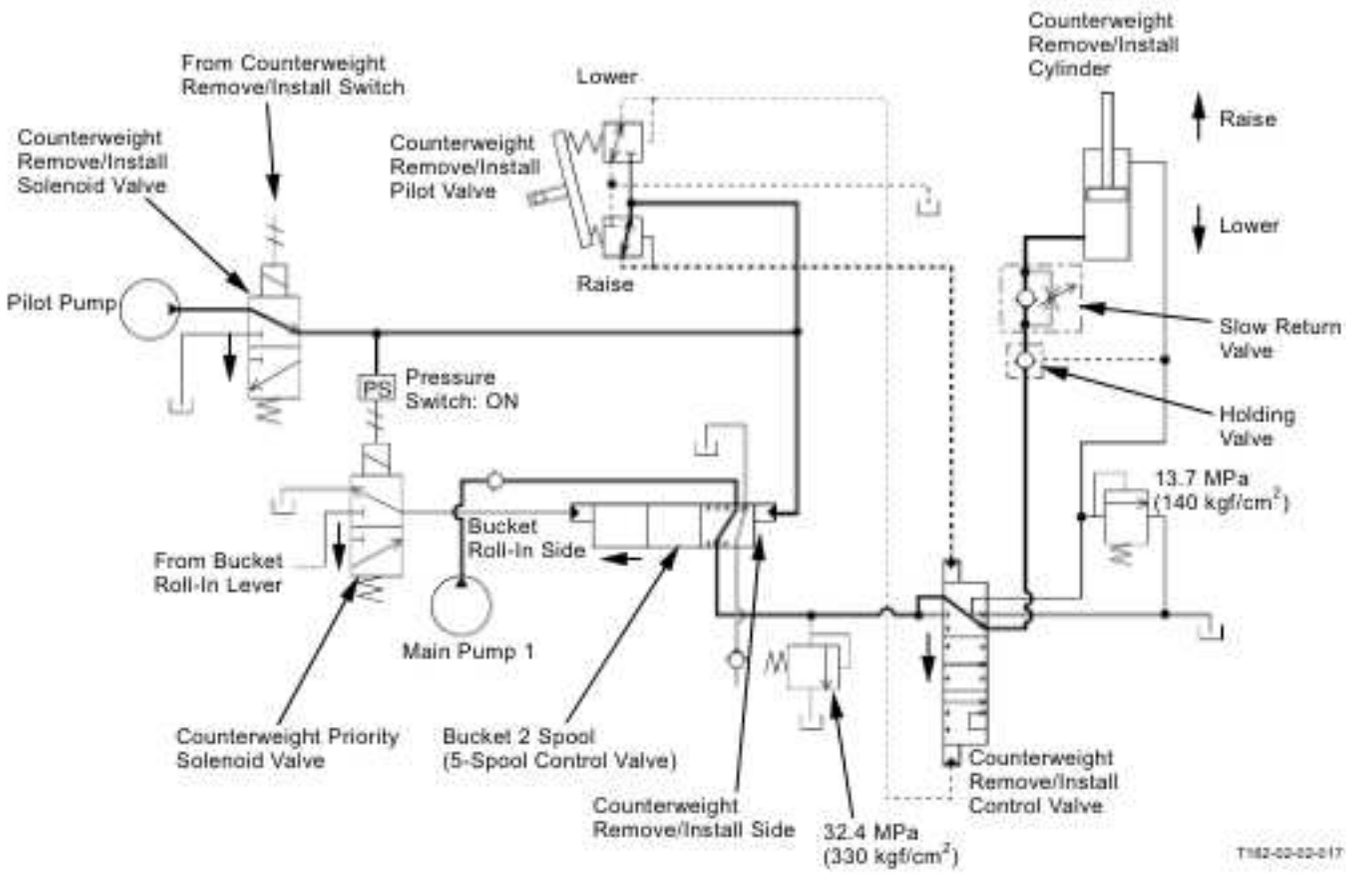
Base Machine Dimensions

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COUNTERWEIGHT REMOVE/INSTALL CIRCUIT (Optional)

When the counterweight remove/install switch is turned on, a counterweight remove/install solenoid valve is activated which opens a passage for pilot oil to flow through and do three things.
First, it sends pilot pressure to the counterweight remove/install side of the bucket spool in the 5-spool control valve. This pressure oil shifts the bucket spool to the left and allows flow from main pump 1 to reach the counterweight remove/install control valve. Secondly, this oil triggers a pressure switch which will energize a counterweight priority solenoid valve in order to give counterweight remove/install functions priority over bucket functions in the event someone in the cab activates the bucket control lever while removing or installing the counterweight. Finally, it sends pressure oil to the counterweight remove/install pilot valve. When the counterweight remove/install control lever is actuated in either direction, this oil will travel to the appropriate side of the counterweight control valve spool, shift the spool, and the oil from main pump 1 will then be directed to the counterweight remove/install cylinder.

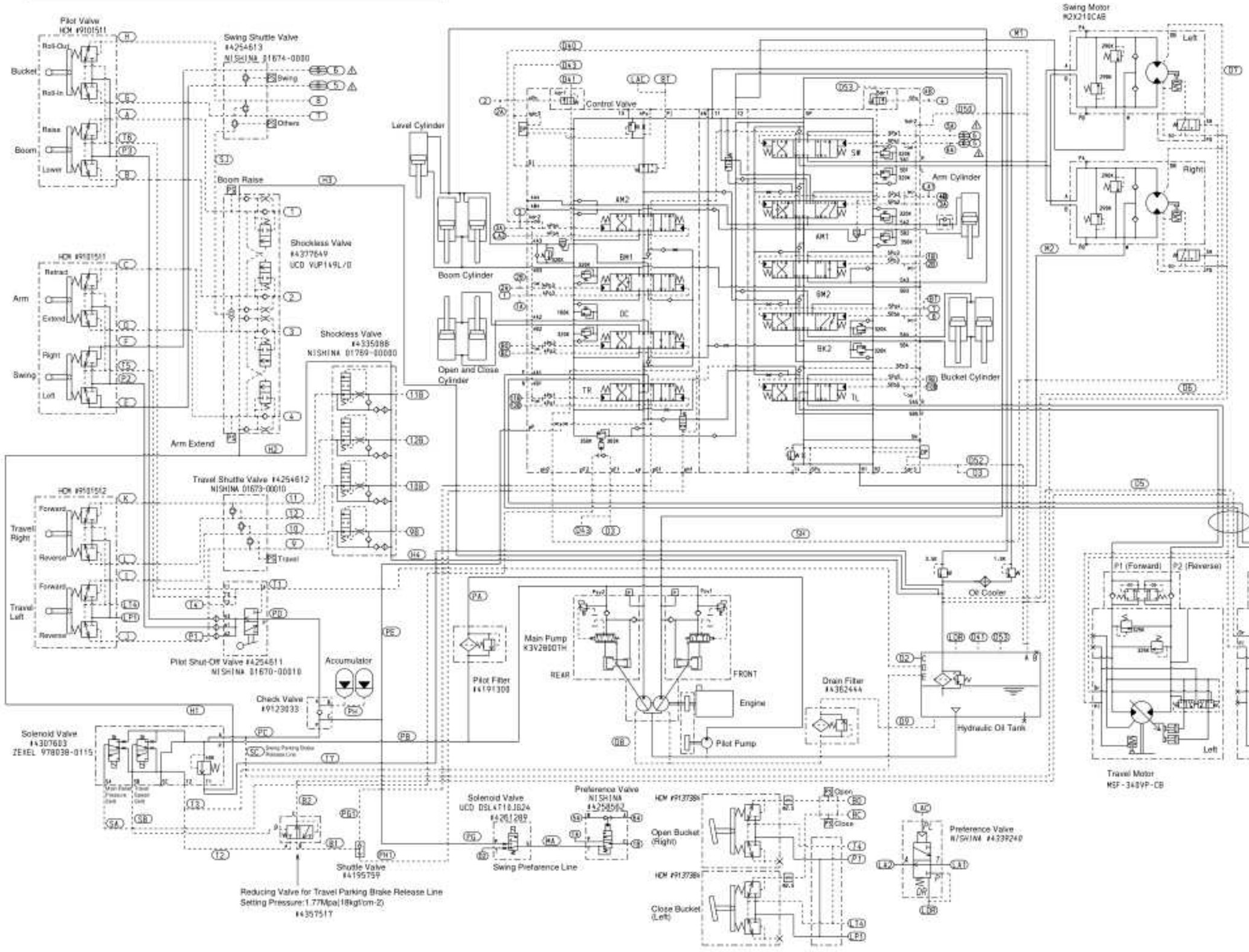
When raising the counterweight, pressure oil flows into the cylinder bottom via the holding valve and slow return valve.
When lowering the counterweight, pressure oil flows into the cylinder rod side. The return oil flow from the bottom is regulated by the slow return valve and flows to the hydraulic oil tank via the holding valve.
The holding valve is designed to open by the pressure coming from the cylinder rod side circuit. This pressure pops the valve open, allowing the return oil from the bottom side to flow through and back to tank.



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EX750-5 EX800H-5 HYDRAULIC CIRCUIT DIAGRAM (LOADING SHOVEL)

⚠ CAUTION: Parts numbers on the drawing are provided only for reference purpose.
To order parts on the drawing, be sure to consult the Parts Catalog.



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EX750-5 CAB HARNESS 2 (Machines produced up to end of April 1997)

⚠ CAUTION : This cab harness is applicable to all machines manufactured before April, 1997.

NO.	SIZE	COLOR	CIRCUIT FROM	CIRCUIT TO	COMENT
1	0.5	LOr	E c/u 1	RELAY/H 3	CAVS
2	0.5	BW	E c/u 2	V c/u 11	CAVS
3	0.5	BY	E c/u 3	V c/u 5	CAVS
4	0.5	W	E c/u 4	ENG/H	AV Seald
8	0.5	YR	E c/u 8	ENG/H	CAVS
9	0.5	BR	E c/u 9	V c/u 4	CAVS
10	0.5	BL	E c/u 10	V c/u 12	CAVS
11	0.5	B	E c/u 11	ENG/H	AV Seald
14	0.5	BrY	E c/u 14	RELAY/H 2	CAVS
15	0.5	LW	E c/u 15	Max.Flow Change Sw. 1	CAVS
16	0.5	GOr	E c/u 16	Max.Flow Change Sw. 6	CAVS
17	0.5	OrL	E c/u 17	RELAY/H 1	CAVS
18	0.5	OrB	E c/u 18	RELAY/H 1	CAVS
19	0.5	BG	E c/u 19	ENG/H	CAVS
20	0.5	RG	E c/u 20	Cut Off Press. Change Sw. 2	CAVS
21	0.5	WG	E c/u 21	ENG/H	CAVS
22	0.5	WG	E c/u 22	(21)	CAVS
23	0.5	WR	E c/u 23	Eng.Control Dial 9	CAVS
24	0.5	BrY	E c/u 24	FUSE 2	CAVS
25	0.5	B	E c/u 25	Floor GND	CAVS
26	0.5	BrB	E c/u 26	(39)	CAVS
28	0.5	YL	E c/u 28	Max.Flow Change Sw. 3	CAVS
29	0.5	BrG	E c/u 29	Cut Off Press. Change Sw. 3	CAVS
30	0.5	W	E c/u 30	RELAY/H 1	CAVS
31	0.5	RW	E c/u 31	Quick Idle SW(Fe)	CAVS
32	0.5	YB	E c/u 32	Quick Idle SW(M)	CAVS
33	0.5	LY	E c/u 33	ENG/H	CAVS
34	0.5	GB	E c/u 34	ENG/H	CAVS
35	0.5	WB	E c/u 35	ENG/H	CAVS
36	0.5	WB	E c/u 36	(35)	CAVS
37	0.5	BrY	E c/u 37	(24)	CAVS
38	0.5	B	E c/u 38	(25)	CAVS
39	0.5	RB	E c/u 39	FUSE 6	CAVS
42	0.5	W	(233)	ENG/H	CAVS
45	0.5	RY	(240)	ENG/H	CAVS
101	1.25	B	E c/u 101	Floor GND	CAVS
102	0.5	BrW	E c/u 102	RELAY/H 3	CAVS
103	0.5	Br	E c/u 103	ENG/H	CAVS
104	0.5	R	E c/u 104	ENG/H	CAVS
105	1.25	B	E c/u 105	(101)	CAVS
106	0.5	BrW	E c/u 106	(102)	CAVS
107	0.5	Or	E c/u 107	ENG/H	CAVS
108	0.5	Y	E c/u 108	ENG/H	CAVS
201	0.5	BW	V c/u 1	ENG/H	CAVS
202	0.5	BG	V c/u 2	ENG/H	CAVS
203	0.5	BrR	V c/u 3	ENG/H	CAVS
206	0.5	BL	V c/u 6	Dr.EX 3	CAVS
207	0.5	RB	V c/u 7	Dr.EX 2	CAVS
208	0.5	BY	V c/u 8	ENG/H	CAVS
209	0.5	WB	V c/u 9	ENG/H	CAVS
210	0.5	BrG	V c/u 10	ENG/H	CAVS
213	0.5	BG	V c/u 13	Dr.EX 1	CAVS
215	0.5	BP	V c/u 15	Dr.EX 4	CAVS
216	0.5	LOr	V c/u 16	ENG/H	CAVS
217	0.5	LB	V c/u 17	ENG/H	CAVS
218	0.5	BY	V c/u 18	ENG/H	CAVS
220	0.5	GrL	V c/u 20	RELAY/H 1	CAVS
221	0.5	BY	V c/u 21	RELAY/H 1	CAVS
222	0.5	YB	V c/u 22	ENG/H	CAVS
223	0.5	WL	V c/u 23	D10-A	CAVS
224	0.5	LG	V c/u 24	ENG/H	CAVS
225	0.5	LW	V c/u 25	ENG/H	CAVS
227	0.5	GrR	V c/u 27	RELAY/H 1	CAVS
228	0.5	BR	V c/u 28	RELAY/H 1	CAVS
229	0.5	Or	V c/u 29	ENG/H	CAVS
230	0.5	WR	V c/u 30	ENG/H	CAVS
231	0.5	GB	V c/u 31	ENG/H	CAVS
232	0.5	G	V c/u 32	ENG/H	CAVS
233	0.5	W	V c/u 33	ENG/H	CAVS
234	0.5	GOr	V c/u 34	ENG/H	CAVS
235	0.5	RW	V c/u 35	ENG/H	CAVS
236	0.5	Y	V c/u 36	EX3-1 2	CAVS
237	0.5	YG	V c/u 37	FUSE 8	CAVS
238	0.5	B	V c/u 38	(25)	CAVS
239	0.5	BrY	V c/u 39	(24)	CAVS
240	0.5	RY	V c/u 40	ENG/H	CAVS
241	0.5	G	V c/u 41	ENG/H	CAVS
242	0.5	RG	V c/u 42	ENG/H	CAVS
243	0.5	RY	V c/u 43	ENG/H	CAVS

NO.	SIZE	COLOR	CIRCUIT FROM	CIRCUIT TO	COMENT
244	0.5	YL	V c/u 44	ENG/H	CAVS
246	0.5	YG	V c/u 46	(237)	CAVS
247	0.5	B	V c/u 47	(25)	CAVS
248	0.5	BrY	(239)	V c/u 48	CAVS
301	1.25	B	V c/u 101	(101)	CAVS
302	0.5	BrR	V c/u 102	FUSE 9	CAVS
303	0.5	GY	V c/u 103	D20-K	CAVS
306	0.5	RB	V c/u 106	ENG/H	CAVS
309	1.25	B	V c/u 109	(101)	CAVS
310	0.5	BrR	V c/u 110	(302)	CAVS
312	0.5	OrL	V c/u 112	ENG/H	CAVS
314	0.5	RL	V c/u 114	ENG/H	CAVS
317	0.5	GOr	(234)	ENG/H	CAVS
355	0.5	BrR	(302)	ENG/H	CAVS
362	0.5	BW	RELAY/H 3	FUSE 3	CAVS
364	Seald	Wire	(101)	ENG/H	AVS
401	0.5	RL	RELAY/H 1	D16-A	CAVS
402	0.5	WY	RELAY/H 1	ENG/H	CAVS
403	0.5	GL	RELAY/H 1	ENG/H	CAVS
404	0.5	BrW	RELAY/H 1	Auto-Lub./Con 19	CAVS
406	0.5	P	RELAY/H 1	Limit SW 2	CAVS
407	0.5	WB	RELAY/H 1	ENG/H	CAVS
408	0.5	L	RELAY/H 1	ENG/H	CAVS
409	0.5	G	RELAY/H 1	ENG/H	CAVS
410	0.5	WL	RELAY/H 1	ENG/H	CAVS
429	0.5	YG	RELAY/H 2	(237)	CAVS
434	0.5	YL	RELAY/H 2	Eng.Control Dial 1	AVS
435	0.5	YR	RELAY/H 2	Eng.Control Dial 3	AVS
438	0.5	YW	RELAY/H 2	Eng.Control Dial 2	CAVS
439	0.5	R	RELAY/H 2	FUSE 1	CAVS
440	0.5	YG	RELAY/H 3	(237)	CAVS
443	0.5	Or	RELAY/H 3	D20-A	CAVS
446	0.5	Br	RELAY/H 2	ENG/H	CAVS
447	0.5	RG	RELAY/H 2	ENG/H	CAVS
500	5	B	RELAY/H 5	Floor GND	AVS
501	3	B	(500)	ENG/H	AVS
515	0.85	BrB	ENG/H	FUSE 5	CAVS
531	3	R	ENG/H	Key SW 1	AVS
534	3	RW	FUSE 18 +	Key SW 4	AVS
535	2	RB	D6-A	Key SW 5	AVS
536	2	BW	FUSE 4 +	Key SW 6	AVS
537	2	RW	D6-K	ENG/H	AVS
548	8	W	FUSE 11 +	ENG/H	AV
549	2	RB	(535)	FUSE 5 +	AVS
550	0.5	R	(531)	RELAY/H 2	CAVS
552	0.5	RW	(537)	RELAY/H 2	CAVS
553	3	RG	FUSE 11	RELAY/H 5	AVS
557	0.85	Y	ENG/H	RELAY/H 3	CAVS
558	2	RL	ENG/H	RELAY/H 4	AVS
562	2	R	ENG/H	RELAY/H 4	AVS
565	2	RW	FUSE 18	RELAY/H 4	AVS
568	0.5	P	Horn SW(Fe)	RELAY/H 3	CAVS
569	0.5	B	Horn SW(M)	(501)	CAVS
570	1.25	RG	RELAY/H 4	ENG/H	CAVS
572	0.5	L	FUSE 13	RELAY/H 2	CAVS
593	0.5	LY	ENG/H	RELAY/H 2	CAVS
595	0.85	BrR	FUSE 20	Room Lamp	CAVS
596	0.5	LgW	Speaker R+	RADIO FM 3	CAVS
597	0.5	LgB	Speaker R-	RADIO FM 9	CAVS
598	0.5	LgY	Speaker L+	RADIO FM 4	CAVS
599	0.5	LgR	Speaker L-	RADIO FM 10	CAVS
600	0.5	B	(500)	RADIO FM 7	CAVS
602	0.5	R	(439)	RADIO FM 6	CAVS
610	0.85	WY	FUSE 7	Air Con./C 1	CAVS
611	3	R	(531)	FUSE 1 +	AVS
612	5	W	(548)	FUSE 10 +	AVS Divar.from 6
613	3	W	(548)	FUSE 12 +	AVS Divar.from 6
614	3	W	(548)	FUSE 16 +	AVS
620	1.25	Br	FUSE 19	RELAY/H 4	CAVS
621	0.5	BrR	(595)	RADIO FM 2	CAVS
625	2	W	(548)	FUSE 14 +	AVS
630	0.85	L	FUSE 15 +	Key SW 3	CAVS
631	0.5	Y	FUSE 15	Ether SW 1	CAVS
632	0.5	YL	ENG/H	Ether SW 2	CAVS
633	0.5	Sb	RELAY/H 3	ENG/H	CAVS
634	0.5	W	(548)	RELAY/H 3	CAVS

NO.	SIZE	COLOR	CIRCUIT FROM	CIRCUIT TO	COMMENT
640	0.85	YW	FUSE 17	ENG/H	CAVS
644	0.85	B	Motion Alarm SW1	(500)	CAVS
645	0.85	YL	Motion Alarm SW2	ENG/H	CAVS
650	0.5	GW	(675)	ENG/H	CAVS
651	0.5	YW	Auto-Lub./C 14	Auto-Lub. Main SW 3	CAVS
652	0.5	OrW	Auto-Lub./C 3	Auto-Lub. Main SW 2	CAVS
654	0.5	RW	Auto-Lub./C 17	Auto-Lub. Main SW 4	CAVS
656	0.5	WR	Auto-Lub./C 6	Auto-Lub. Interval SW 4	CAVS
658	0.5	RG	Auto-Lub./C 8	RELAY/H 3	CAVS
661	0.5	GW	Auto-Lub./C 11	(675)	CAVS
662	0.5	LW	Auto-Lub./C 12	Auto-Lub. Interval SW 2	CAVS
663	0.5	YR	Auto-Lub./C 13	Auto-Lub. Interval SW 3	CAVS
664	0.5	WL	Auto-Lub./C 1	ENG/H	CAVS
667	0.5	RL	Auto-Lub./C 4	ENG/H	CAVS
668	0.5	LY	Auto-Lub./C 18	RELAY/H 3	CAVS
671	0.5	B	Auto-Lub./C 21	(25)	CAVS
675	1.25	GW	RELAY/H 4	FUSE 10	CAVS
676	1.25	Y	RELAY/H 4	ENG/H	CAVS
677	0.5	WL	ENG/H	D10-K	CAVS
678	0.5	WL	(677)	D11-K	CAVS
679	0.5	G	ENG/H	D11-A	CAVS
681	0.5	BrR	(302)	D9-K	CAVS
682	0.5	OrL	(312)	D9-A	CAVS
684	0.5	BrB	(515)	D12-K	CAVS
685	0.5	B	(500)	D12-A	CAVS
686	0.5	WG	(21)	Resistor 2	CAVS
687	0.5	WB	(35)	Cut Off Press. Change Sw. 1	CAVS
690	0.5	YW	(438)	Eng.Control Dial 4	CAVS
691	0.5	B	(25)	Eng.Control Dial 6	CAVS
692	0.5	Y	(557)	Eng.Control Dial 7	CAVS
693	0.5	WB	(35)	Eng.Control Dial 8	CAVS
694	0.5	WG	(21)	Eng.Control Dial 10	CAVS
700	0.5	WY	Blower Main Relay 1	(610)	CAVS
701	0.5	G	Blower Main Relay 2	Air Con./C 2	CAVS
702	1.25	RW	Blower Main Relay 3	Blower Motor 2	CAVS
703	2	Br	Blower Main Relay 4	FUSE 12	AVS
706	1.25	B	Blower Hi. Relay 3	(500)	CAVS
707	1.25	BR	Blower Hi. Relay 4	Blower Motor 1	CAVS
708	0.5	WY	Blower Hi. Relay 1	(700)	CAVS
709	0.5	YL	Blower Hi. Relay 2	Air Con./C 5	CAVS
712	1.25	B	Blower Mid. Relay 2-3	(706)	CAVS
713	1.25	LR	Blower Mid. Relay 2-4	Blower Resistor 2	CAVS
714	0.5	WY	Blower Mid. Relay 2-1	(700)	CAVS
715	0.5	L	Blower Mid. Relay 2-2	Air Con./C 4	CAVS
718	1.25	B	Blower Mid. Relay 1-3	(706)	CAVS
719	1.25	WR	Blower Mid. Relay 1-4	Blower Resistor 3	CAVS
720	0.5	WY	Blower Mid. Relay 1-1	(700)	CAVS
721	0.5	W	Blower Mid. Relay 1-2	Air Con./C 3	CAVS
724	1.25	W	Compress.Relay 3	ENG/H	CAVS
725	1.25	Br	Compress.Relay 4	(703)	CAVS
726	0.5	WY	Compress.Relay 1	(700)	CAVS
727	0.5	BrW	Compress.Relay 2	Dual Press. SW2	CAVS
730	0.5	P	Air Con./C 6	Dual Press. SW1	CAVS
731	0.5	LG	Air Con./C 21	Sirc.Servo Motor 1	CAVS
732	0.5	GR	Air Con./C 22	Sirc.Servo Motor 2	CAVS
733	0.85	B	Air Con./C 14	(706)	CAVS
734	1.25	B	Blower Resistor 4	(706)	CAVS
735	1.25	BR	Blower Resistor 1	(707)	CAVS
736	0.5	BrR	Vent.Servo Motor 2	Air Con./C 13	CAVS
737	0.5	Or	Vent.Servo Motor 3	Air Con./C 11	CAVS
738	0.5	Lg	Vent.Servo Motor 4	Air Con./C 23	CAVS
739	0.5	BG	Vent.Servo Motor 2	Air Con./C 18	CAVS
740	0.5	RY	Vent.Servo Motor 1	Air Con./C 17	CAVS
741	0.5	BrR	A/M Servo Motor 5	(736)	CAVS
742	0.5	RW	A/M Servo Motor 3	Air Con./C 10	CAVS
743	0.5	GW	A/M Servo Motor 4	Air Con./C 16	CAVS
744	0.5	BL	A/M Servo Motor 2	Air Con./C 20	CAVS
745	0.5	RL	A/M Servo Motor 1	Air Con./C 19	CAVS
746	0.5	BrR	Thermister 1	(736)	CAVS
747	0.5	PG	Thermister 2	Air Con./C 9	CAVS
750	0.85	BW	FUSE 4	ENG/H	CAVS
751	2	RW	FUSE 19 +	(534)	CAVS

NO.	SIZE	COLOR	CIRCUIT FROM	CIRCUIT TO	COMENT
756	0.5	LY	ENG/H	(33)	CAVS
758	0.5	RW	(235)	ENG/H	CAVS
759	0.5	RY	(243)	ENG/H	CAVS
760	0.5	G	(241)	ENG/H	CAVS
762	0.5	WB	(35)	ENG/H	CAVS
763	0.5	RW	(235)	EX3-1 1	CAVS
764	0.5	RY	(243)	EX3-1 3	CAVS
765	0.5	LR	EX3-2 2	EX3-2 3	CAVS
766	3	R	FUSE 16	Aux.+	AVS
767	3	B	(500)	Aux.-	AVS
768	0.5	R	(766)	D7-K	CAVS
769	0.5	B	(767)	D7-A	CAVS
804	2	W	ENG/H	FUSE 14	AVS
823	1.25	RW	ENG/H	RELAY/H 4	CAVS
829	0.5	B	(500)	Limit SW 1	CAVS
831	0.5	YL	D16-K	ENG/H	CAVS
832	0.5	YL	D17-K	(831)	CAVS
833	0.5	LY	D17-A	(756)	CAVS
834	0.5	W	D18-K	(724)	CAVS
835	0.5	B	D18-A	(500)	CAVS
836	0.5	GY	Buzzer	(303)	CAVS
837	0.5	YG	Buzzer	(237)	CAVS
850	0.5	WB	(35)	Cut Off Press. Change Sw. 4	CAVS
851	0.5	WB	(35)	ENG/H	CAVS
852	0.5	LW	(225)	ENG/H	CAVS
853	0.5	Or	Max. Flow Change Sw. 2	ENG/H	CAVS
854	0.5	Or	Max. Flow Change Sw. 4	(853)	CAVS
855	0.5	Or	Max. Flow Change Sw. 5	(851)	CAVS
856	0.5	RG	(20)	Resistor 1	CAVS
857	0.5	Or	D21-K	(853)	CAVS
858	0.5	LW	D21-A	(852)	CAVS
864	0.5	RG	Signal Line	(20)	CAVS
865	0.5	WB	Ground Line	(887)	CAVS
866	0.85	R	ENG/H	(766)	CAVS

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