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## Parts List Manual

For Commercial Use Only



## The DS Series of 175 RPM Floor Maintenance Machines

### MODEL NOS.

97580, 97580C, 97585 & 97585C (115V, 60Hz)  
97581 & 97586 (230V, 50Hz)

## NOTES

This instruction book covers:

<b>CATALOG NO.</b>	97580	97580C	97581
<b>SERIES</b>	E	B	E
<b>SIZE</b>	17" (43cm) Steel base	17" (43cm) Steel base	17" (43cm) Steel base
<b>HORSE POWER</b>	1-1/2	1-1/2	1-1/2
<b>VOLTS</b>	115V	115V	230V
<b>AMPS</b>	6	6	3
<b>MANUAL SOLUTION TANK</b>	Optional	Optional	Optional
<b>CERTIFICATION</b>	*	**	CE pending

<b>CATALOG NO.</b>	97585	97585C	97586
<b>SERIES</b>	E	B	E
<b>SIZE</b>	20" (51cm) Steel base	20" (51cm) Steel base	20" (51cm) Steel base
<b>HORSE POWER</b>	1-1/2	1-1/2	1-1/2
<b>VOLTS</b>	115V	115V	230V
<b>AMPS</b>	7	7	3.5
<b>MANUAL SOLUTION TANK</b>	Optional	Optional	Optional
<b>CERTIFICATION</b>	*	**	CE pending

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\*This product conforms to ANSI/UL Standard 561.

\*\*This product is certified to CAN/CSA Standard C22.2 No. 10.

All specifications are subject to change without notice.

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## Tornado<sup>®</sup> Standard Warranty Program \*

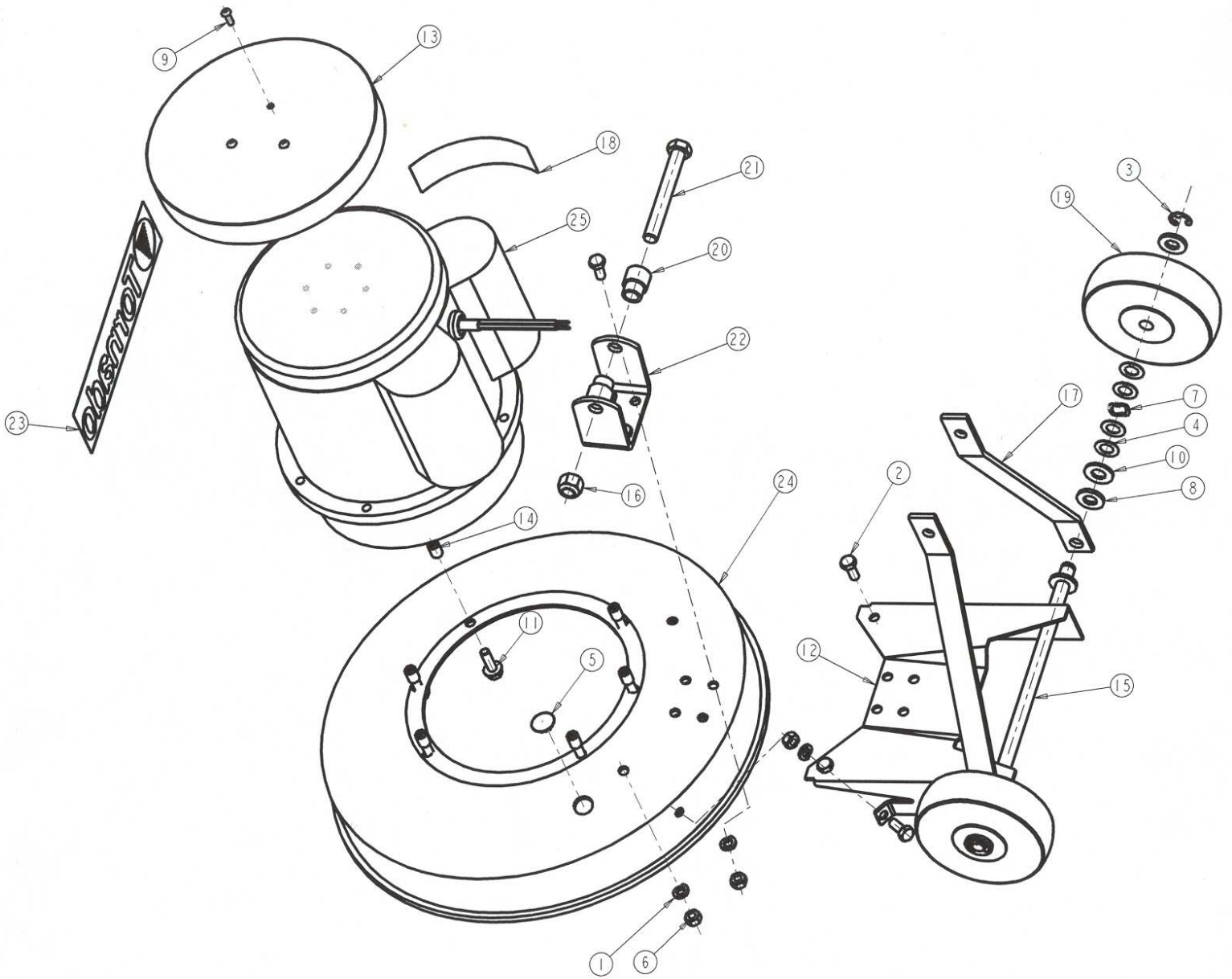
<p>Warranties do not cover components subject to normal wear or abuse and misuse, and have other limitations not specified here. For full details, contact your Authorized Tornado Distributor, Service Center, or the Tornado Technical Service Department.</p> <p>Tornado sales and service representatives are not authorized to waive or alter the terms of this warranty, or to increase the obligations of Tornado under the warranty.</p>	<p><b>10 Years:</b> <i>All plastic tanks and rotationally-molded bodies <sup>1) 5)</sup></i></p>
	<p><b>2 Year:</b> <i>Parts on all Tornado and Tornado/Karcher cleaning equipment <sup>1) 2) 3) 5)</sup></i></p>
	<p><b>1 Year:</b> <i>Labor on all Tornado and Tornado/Karcher cleaning equipment <sup>2) 5)</sup></i></p>
	<p><b>1 Year:</b> <i>Warranty on batteries and chargers, one year pro-rated.</i></p>

\* Effective January 1<sup>st</sup>, 2004. Terms subject to change without notice.

1. Windshear™ Blower-Dryer, Insulation Blowers, T191, T201, CV 30, CV 38, CW 50, CW 100, Pro PAC Vacs, Duo-Upright Carpetkeepers™, and all chargers are warranted for 1 (one) year for both parts and labor.
2. Warranties on all riding sweepers including the ICC1, KM 100/100 R, KMR 1250, and KMR 1700 are 24 months parts/6 months labor OR 1000 hours of operation, whichever comes first. Warranties on the 75/140 & 90/140 are 24 months parts/12 months' labor OR 1,000 hours of operation whichever comes first.
3. All-non wear item parts purchased after warranty expiration are warranted for 90 days.
4. Warranty starts from the date of sale to the consumer or, at Tornado's discretion, 6 months after dealer purchased the unit from Tornado, whichever comes first.

Note: Tornado, The Latest Dirt, Floorkeeper, Carpetkeeper, Carpetrinser, Carpetrinser/Dryer, Headmaster, Taskforce, PAC-VAC, T-Lite, Glazer, Windshear, Max-Vac, CV 30, CV 38, and Trot-Mop are trademarks of Tornado Industries.

**DS SERIES 1-1/2HP FLOOR MACHINE  
BASE ASSEMBLY**

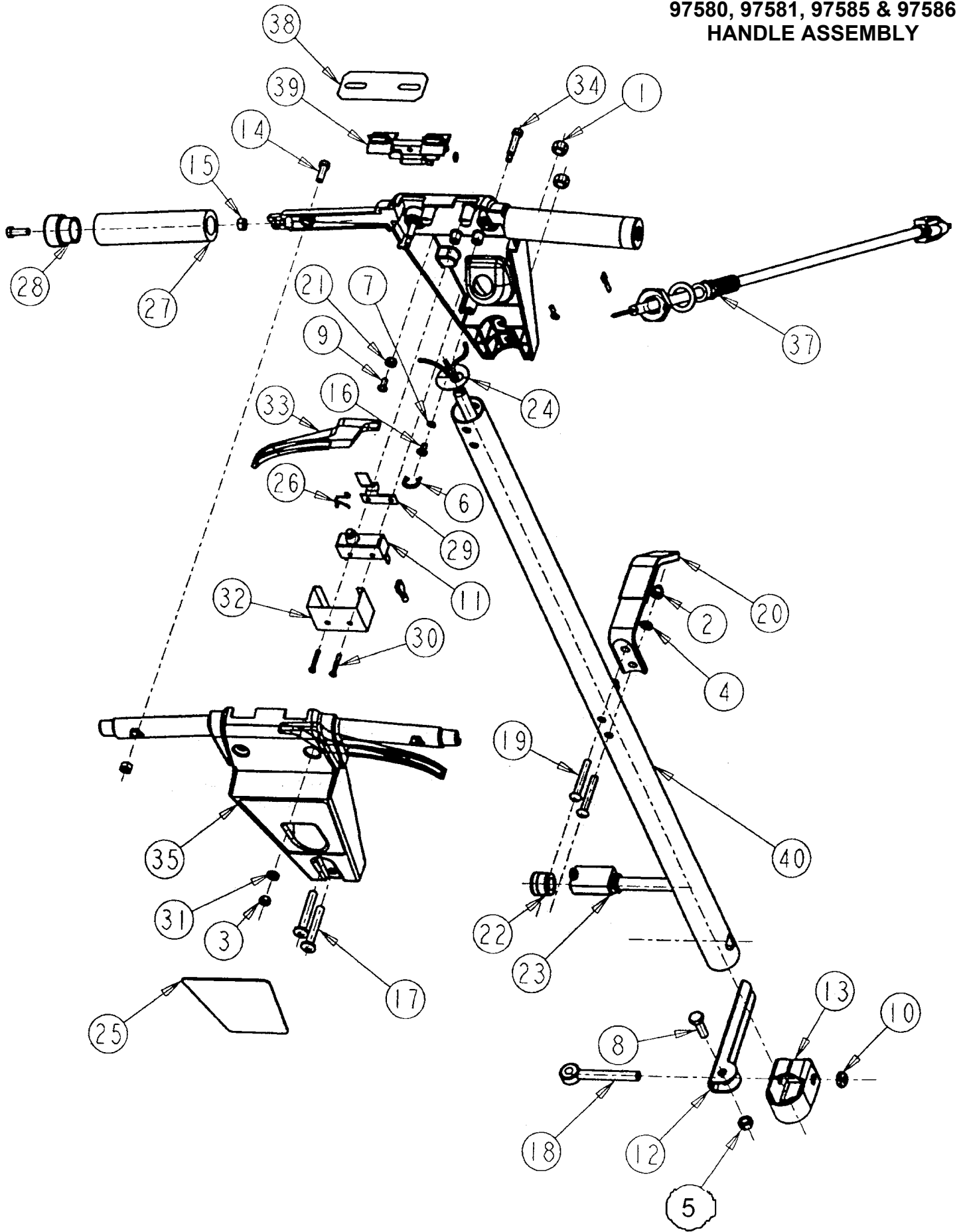


**DS SERIES 1-1/2 HP FLOOR MACHINES  
97580, 97580C, 97581, 97585, 97585C & 97586  
BASE ASSEMBLY**

ITEM NO	PART NO	DESCRIPTION	QTY
1	01577	WASHER LOCK 5/16	10
2	02109	SCREW HEX HEAD CAP 5/16 -18 X 3/4	10
3	03470	RING RETAINING EXT.	2
4	03658	WASHER-PLAIN .500	8
5	04054	PLUG HOLE 11/64	1
6	07719	NUT – FINISHED HEX 5/16 – 18	10
7	07723	WASHER – SPRING 1/2	2
8	12554	WASHER – PLAIN 1/2	6
9	12896	SCREW-PHIL. RND. HD. MACHINE #10-32 X 5/8" LG.	3
10	16581	WASHER – PLAIN 1/2	2
11	17617	SCREW – HEX FLANGE HEAD 5/16 – 18 X 1.000	6
12	17620	BRACKET WHEEL MOUNTING ( 97585, 97585C, 97586 )	1
*	17621	BRACKET WHEEL MOUNTING ( 97580, 97580C, 97581 )	1
13	17731	TOP COVER (CHROME)	1
14	18593	CAP SCREW THREAD	6
15	19335	AXLE – WHEEL	1
16	19337	NUT – HEX LOCK ( NYLON INSERT ) 1/2 -13	2
17	19339	ARM HANDLE TUBE PIVOT	1
18	19347	LABEL – CAUTION	1
19	19447	WHEEL – 5 INCH DIA.	2
20	19448	SPACER – H ANDLE TUBE PIVOT	2
21	19449	SCREW – HEX HEAD CAP 1/2 -13 X 4.00	1
22	19450	BRACKET HANDLE TUBE MTG.	1
23	30817	DECAL TORNADO W/ LOGO	1
24	30836	BASE 20 INCH BLACK	1
*	30835	BASE 17 INCH BLACK	
25	32086	MOTOR/GEAR UNIT ASS'Y 1 - 1/2 HP 115V ( 97580, 97580C, 97585 & 97585C)	1
*	32235	MOTOR/GEAR UNIT ASS'Y 1 - 1/2 HP 230V ( 97581, 97586 )	1
(26)	11094	BUMPER ( 97585, 97585C, 97586 )	1
*	18578	BUMPER ( 97580, 97580C, 97581 )	1
(27)	18604	GASKET MOTOR COVER	1
(28)	19364	LABEL – WARNING	1

\* ITEMS TO BE USED WHERE APPLICABLE  
( ) ITEM NOT SHOWN

DS MACHINES EXPLODED VIEW  
97580, 97581, 97585 & 97586  
HANDLE ASSEMBLY





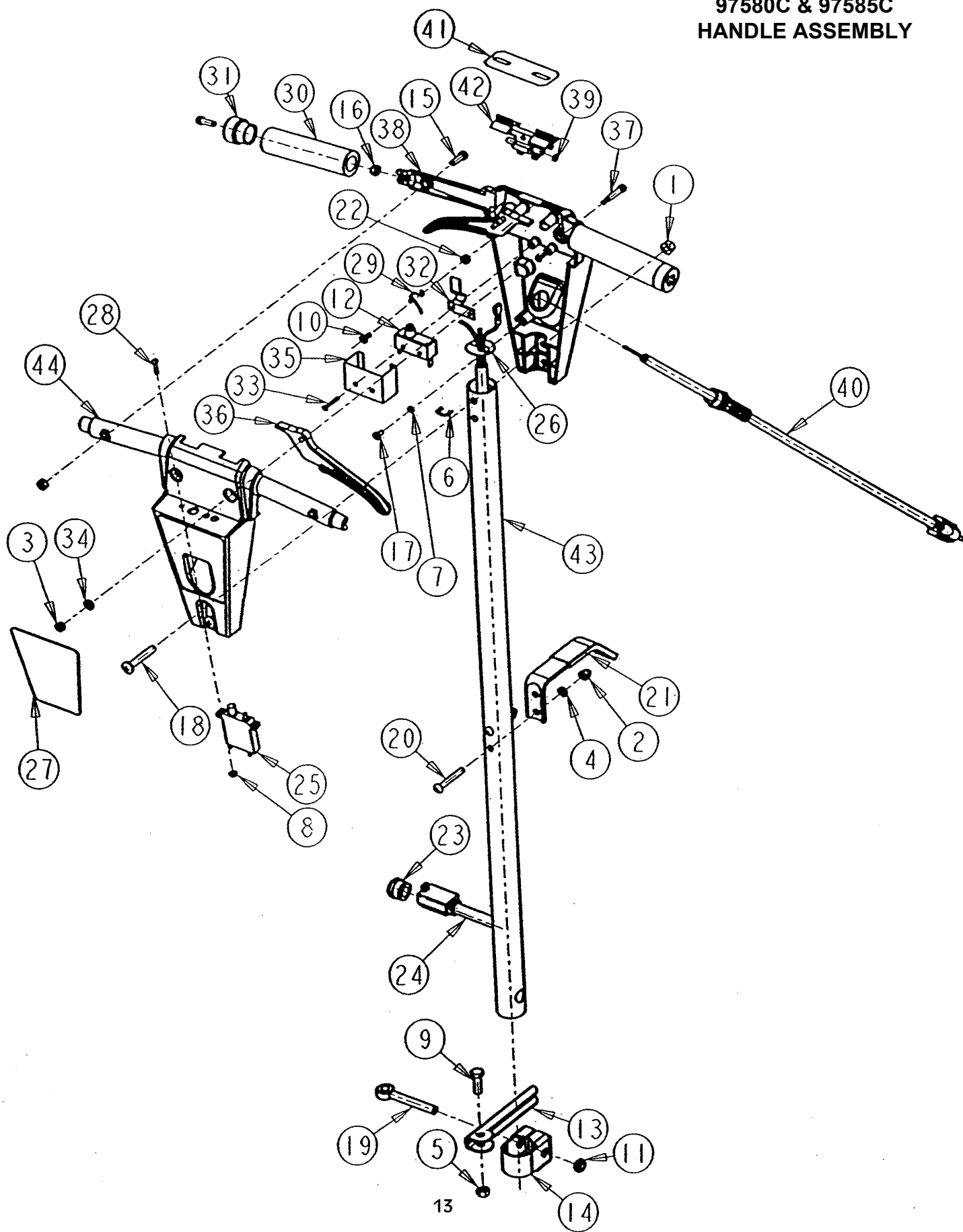
**DS SERIES FLOOR MACHINES  
97580 & 97585 (115V), 97581 & 97586 (230V)  
HANDLE ASSEMBLY**

ITEM NO	PART NO	DESCRIPTION	QTY
1	00067	NUT-HEX.LOCK(KEPS) 5/16-18	2
2	00685	NUT-ACORN 1/4-20(NICKEL)	2
3	01477	NUT-FINISHED HEX #10-24 (ZP)	2
4	01574	WASHER-LOCK(H/S)1/4"	2
5	01589	NUT-FINISHED HEX 5/16-18 (ZP)	1
6	01608	RING-HOG	1
7	01713	WASHER-LOCK(H/S)#10	2
8	03361	SCREW-HEX HD CAP 5/16-18 X 1.00 (ZP)	1
9	03660	SCREW-PHIL. PAN HD MACH #10-24 X 7/16 (ZP)	1
10	03868	NUT-HEX JAM LOCK (NYL) 3/8-16 (ZP)	1
11	06685	SWITCH, PUSH BUTTON 20AMP S.P.N.O.	1
12	07525	LEVER-HANDLE TUBE CLAMP	1
13	07526	BRACKET-HNDL.TUBE CLAMP	1
14	07532	SCREW-PHIL. FILLISTER HD 1/4-20 X 3/4 (ZP)	4
15	07533	NUT-HEX.LOCK(P/T) 1/4-20	4
16	07534	SCREW-PHIL. FLAT HD TAPT #10-32 X 3/8 (ZP)	2
17	07536	SCREW-PAN HEAD 5/16-18 X 2"	2
18	07547	PIVOT-HANDLE TUBE CLAMP LEVER	1
19	10398	SCREW-PHIL. RND HD MACH 1/4-20 X 1-7/8 (ZP)	2
20	10407	ASSEMBLY-CABLE HOOK	1
21	10894	NUT-HEX.LOCK(P/T) #10-24	1
22	12047	STRAIN RELIEF BUSHING	1
23	14545	CORD-HANDLE TUBE (115V) 14/3 GA.X 46"(FEM.BLACK)	1
24	15226	STRAIN RELIEF WASHER (HANDLE TUBE)	1
25	16170	NAMEPLATE, HANDLE	1
26	17157	SPRING – LEVER LOCK RETURN	1
27	17162	GRIP HANDLE	2
28	17163	HANDLE – PLUG	2
29	17165	SPRING – SWITCH ACTUATION	1
30	17167	SCREW-TCT (T) P.H. #6-32 X 1	2
31	17245	WASHER-PLAIN 17/64 ID (ZP)	4
32	17900	SWITCH COVER	1
33	18969	LEVER-SWITCH ACTUATION	2
34	18991	LEVER-SWITCH ACTUATION 1/4D X 1.00 (ZP)	2
35	18996	HANDLE-F/M	2
36	19211	WASHER – PLAIN .252	1
37	19462	ASSY-PWR. CORD,115V,METAL(F/M'S) 50' CORD (97580 & 97585)	1
*	19458	ASSY-PWR. CORD,230V,METAL(F/M'S) 50' CORD (97581 & 97586)	1
38	19615	ESCUTCHEON-LOCK LEVER	1
39	19651	LEVER LOCK(STARTGUARD)	1
40	30859	TUBE-HANDLE (DS)	1
(42)	14413	DECAL-"WARNING READ OPERATION"	1
(43)	31271	DECAL-"WARNING TO REDUCE THE RISK"	1
(44)	17154	DECAL-"TO OPERATE MACHINE"	1
(45)	06824	TERMINAL-CLOSD.END CRIMP	1
(46)	30813	DECAL-LOGO "SWIRL"	1

\* ITEMS TO BE USED WHERE APPLICABLE

( ) ITEMS NOT SHOWN

**DS MACHINES EXPLODED VIEW  
97580C & 97585C  
HANDLE ASSEMBLY**



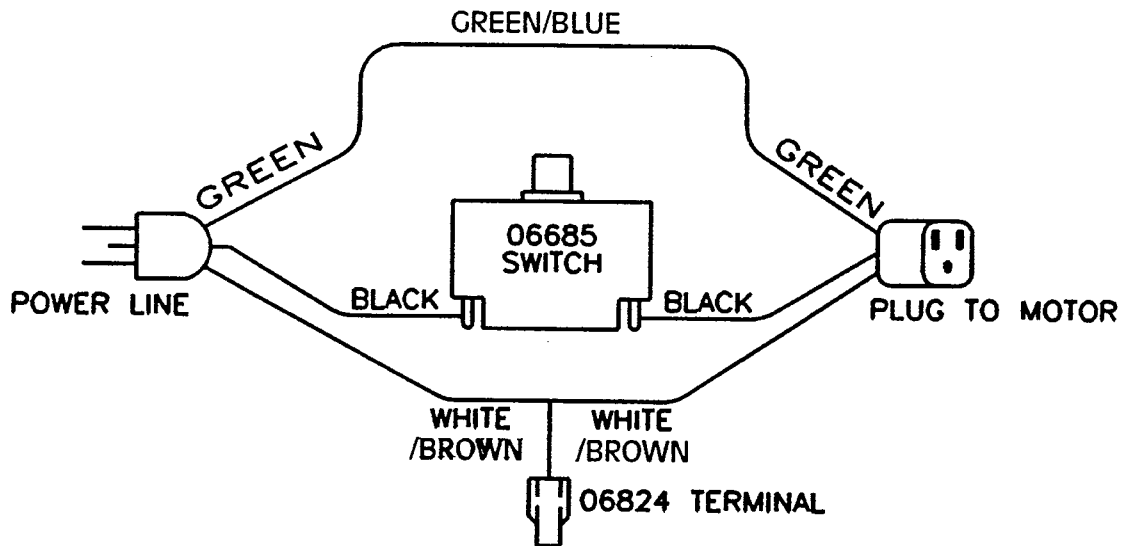
**DS SERIES FLOOR MACHINES  
97580C & 97585C (115V)  
HANDLE ASSEMBLY**

ITEM NO	PART NO	DESCRIPTION	QTY
1	00067	NUT-LOCK 5/16-18	2
2	00685	NUT-ACORN 1/4-20 (NICKEL)	2
3	01477	NUT-FINISHED HEX #10-24	2
4	01574	LOCK WASHER 1/4"	2
5	01589	NUT-FINISHED HEX 5/16-18	1
6	01608	RING-HOG	1
7	01713	WASHER-LOCK (H/S) #10	2
8	02958	NUT-HEX LOCK (KEPS) #6-32	2
9	03361	SCREW-HEX HEAD CAP 5/16-18 X 1.000	1
10	03660	SCREW-PHILLIPS PAN HEAD MACHINE #10-24 X 7/16	1
11	03868	NUT-HEX JAM LOCK (NYLON INSERT) 3/8-16	1
12	06685	SWITCH BUTTON	1
13	07525	LEVER HANDLE TUBE CLAMP	1
14	07526	BRACKET-HNDL. TUBE CLAMP	1
15	07532	SCREW-PHILLIPS FILLISTER HEAD MACHINE 1/4-20 X 3/4	4
16	07533	NUT HEX LOCK (P/T) 1/4-20	4
17	07534	SCREW-PHILLIPS PAN HEAD TAPTITE #10-32 X 3/8	2
18	07536	SCREW, PHILLIPS PAN HEAD MACHINE	2
19	07547	PIVOT-HANDLE TUBE CLAMP	1
20	10398	SCREW-PHILLIPS ROUND HEAD MACHINE 1/4-20 X 1-7/8	2
21	10407	ASSEMBLY-CABLE HOOK	1
22	10894	NUT-HEX LOCK (P/T) #10-24	1
23	12047	STRAIN RELIEF BUSHING	1
24	14545	CORD-HANDLE TUBE	1
25	15195	CIRCUIT BREAKER (15A)	1
26	15226	STRAIN RELIEF WASHER	1
27	16170	NAMEPLATE, HANDLE	1
28	16924	SCREW-PAN HEAD (PHILLIPS) #6-32 X 3/4"	2
29	17157	SPRING-LEVER LOCK RETURN	1
30	17162	GRIP HANDLE	2
31	17163	HANDLE-PLUG	2
32	17165	SPRING-SWITCH ACTUATION	1
33	17167	TCT PAN HEAD MACHINE SCREW	2
34	17245	WASHER-PLAIN 17/64	4
35	17900	SWITCH COVER	1
36	18969	LEVER-SWITCH ACTUATION	2
37	18991	SCREW-SOCKET HD SHOULDER 1/4D X 1.00	2
38	18996	HANDLE-F/M (CASTING)	1
39	19211	WASHER-PLAIN .252	1
40	19462	ASSEMBLY-POWER CORD, 115V, METAL	1
41	19615	ESCUTCHEON-LOCK LEVER	1
42	19651	LEVER LOCK (STARTGUARD)	1
43	30859	HANDLE TUBE	1
44	31206	HANDLE-F/M (CASTING/MACHINED PART)	1
(45)	14413	DECAL-"WARNING READ OPERATION"	1
(46)	31271	DECAL-"WARNING TO REDUCE THE RISK"	1
(47)	17154	DECAL-"TO OPERATE MACHINE"	1
(48)	06824	TERMINAL-CLOSED-END CRIMP (F.I.)	1
(49)	30813	DECAL-LOGO "SWIRL" 2.125 DIA. BLACK	1
(50)	16424	LEAD WIRE 14GA X 4" BLACK	1

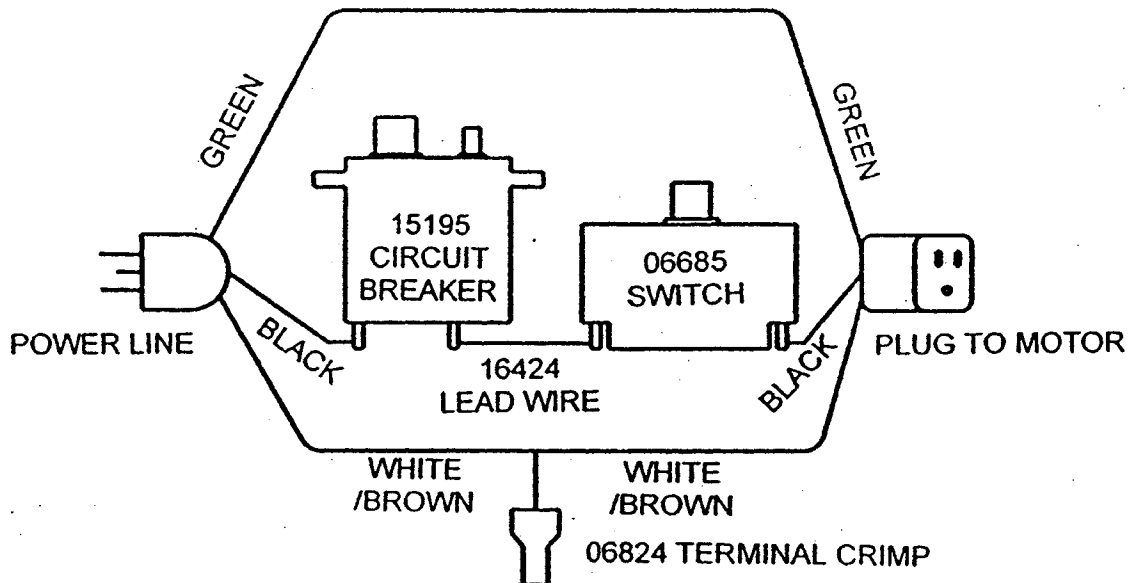
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## Common Options and Attachments For the DS Series of Floor Machines

Part No.	Description
97790	4.5 Gallon Solution Tank
94300	Brush Yoke Only
98619	17" Pad Holder
98118	17" Poly. Scrub Brush
94717	17" Nylon Shampoo Brush
98620	20" Pad Holder
98538	20" Poly. Scrub Brush
94917	20" Nylon Shampoo Brush



97580, 97581, 97585, 97586 WIRING DIAGRAM



97580C & 97585C WIRING DIAGRAM