

**National Brake & Electric Co.**  
Milwaukee, U. S. A.

Air Brakes



Motor-Driven  
Compressors

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BULLETIN No. 378

DECEMBER 1907

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Price List of Repair Parts

for

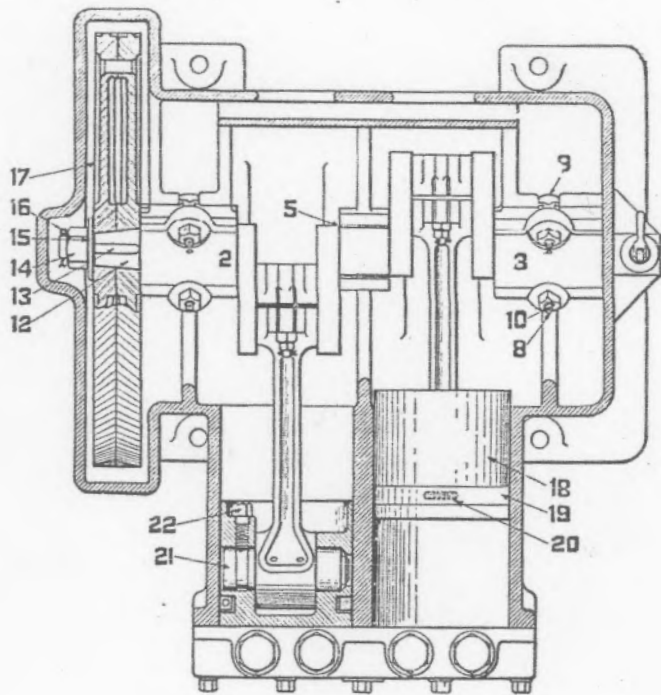
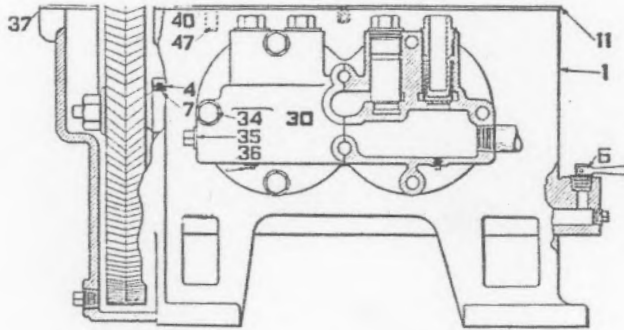
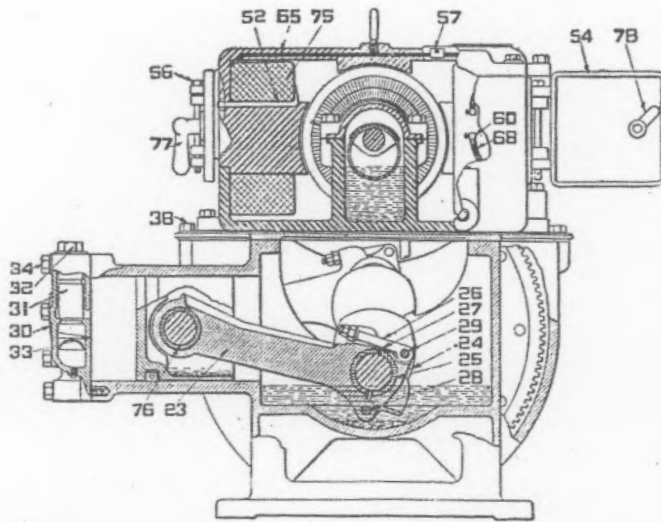
National Direct Current  
Air Compressors

Type A-4

NOTE: The Type A-4 air compressor is for mounting from below and that the Type A-5 is meant for mounting from above.

The ST Louis Water Works Car #10 has a Type A-5 compressor mounted from above.

A-4 Repair Parts.

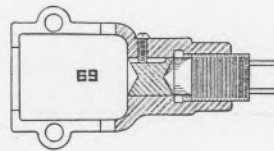
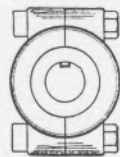
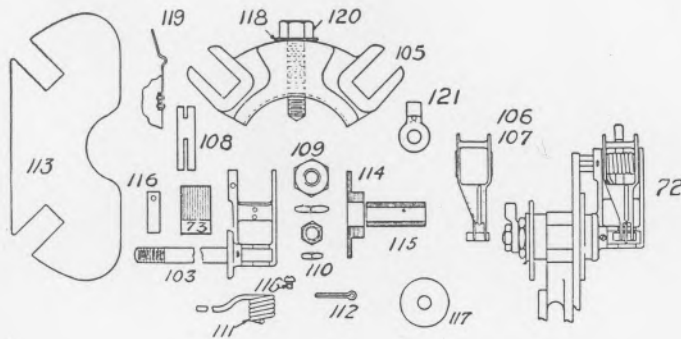
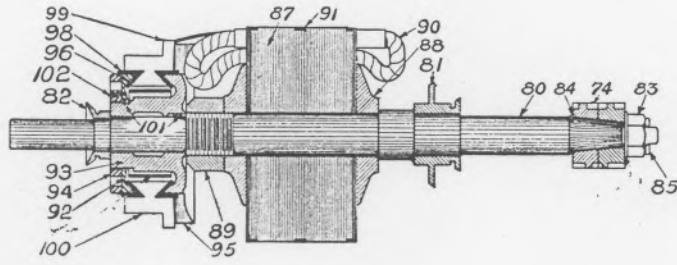
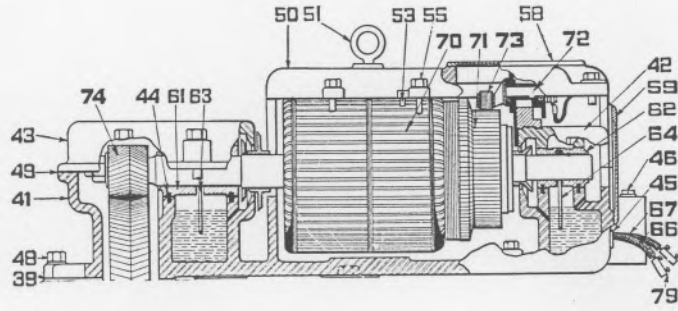


## Price List of Repair Parts for National Type A-4 Motor Compressor.

### Pump Parts

Code Word	Reference Number	Piece Number	NAME OF PARTS	Price
Bachmuch	1	1500	Pump base with bearing caps only.....	\$ 42.00
Bachnow	2	1501	Crank shaft bearing cap (gear end).....	1.00
Bachonto	3	1502	Crank shaft bearing cap (comm end).....	1.00
Bachover	4	1503	Bushings for outside bearings (complete)..... each	1.75
Bachrinse	5	1504	Bushing for center bearing.....	1.00
Bachstell	6	1505	$\frac{1}{2}$ in. pipe plug with handle.....	.20
Bachstump		1506	$\frac{1}{2}$ in. pipe plug.....	.05
Bachthen	7	1507	Dowel pins for bearings..... per doz.	.06
Bachtofa	8	1508	Crank shaft bearing stud with nut.....	.20
Bachvine	9	1509	Crank shaft bearing tee bolt with nut.....	.15
Bachwent	10	1510	Split cotters for studs and tee bolts..... per 100	.10
Baciaback	11	1511	Heavy gasket between pump base and pump base cover.....	.35
Baciacord		1511 $\frac{1}{2}$	Medium gasket between pump base and pump base cover.....	.25
Baciacum		1527	Vent hood with screws.....	.05
Baciafount		1512	Crank shaft, complete, includes one each 1513, 1514, 1515, 1516, 1517.....	19.50
Baciafund	12	1513	Crank shaft.....	19.00
Baciamust	13	1514	Crank shaft key.....	.10
Bacianow	14	1515	Crank shaft nut.....	.15
Baciapen	15	1516	Crank shaft washer.....	.25
Baciarod	16	1517	Crank shaft cotter pin..... per 100	.10
Baciasort	17	1518	Gear.....	27.00
Baciaawe		1519	Piston complete includes one each 1520, 1521, 1521 $\frac{1}{2}$ , 1522, 1523; three of 1525.....	9.00
Baciachop	18	1520	Piston.....	4.00
Baciaround	19	1521	Piston packing ring and keeper, complete, no springs.....	4.00
Baciaruf	20	1525	Piston packing ring spring.....	.05
Baciavart	21	1521 $\frac{1}{2}$	Piston wrist pin.....	1.00
Bacicitric	22	1522	Piston cap screws, $\frac{1}{2} \times 1\frac{1}{2}$ inch.....	.04
Bacific		1523	Piston pack ring dowel pin.....	.10
Bacilla		1528	Connecting rod complete, includes one each 1529, 1530, 1531, 1536, 1537, 1538; eight of 1539.....	6.00
Baciltun	23	1529	Connecting rod with babbitted half bushing.....	3.60
Bacilwhy	24	1530	Connecting rod cap babbitted.....	1.00
Bacinafe		1531	Connecting rod bolt, complete, includes one each 1532, 1533, 1534, and 1535.....	.35
	25		Included with piece No. 1530, reference No. 24.....	
Bacintre	26	1532	Connecting rod hinge bolt.....	.20
Bacinte		1533	Connecting rod socket nut.....	.10
Backart		1534	Connecting rod bolt nut.....	.03
Backample		1535	Split cotter..... per 100	.10
Backbist	27	1539	Connecting rod shims 1 set of 8.....	.05
Backbivet	28	1536	Connecting rod rivet large, $\frac{1}{16} \times 2\frac{1}{16}$ inches.....	.03
Backboat	29	1537	Connecting rod rivet small, $\frac{3}{16} \times 1\frac{1}{2}$ inch.....	.02
Backender		1540	Cylinder head complete includes one each 1541, 1543; two of 1544; four each 1545 and 1546.....	15.00
Backenfar	30	1541	Cylinder head, finished casting only.....	8.00
Backenrest	31	1545	Suction and Discharge valves.....	.50
Backenstone	32	1546	Valve caps.....	1.20
Backenzest	33	1542	Cylinder head gasket.....	.05
Backfound	34	1547	Cylinder head cap screws $\frac{1}{2} \times 2\frac{1}{2}$ inches.....	.10
Backgame	35	1543	1 inch Pipe plug.....	.08
Backgent	36	1544	$\frac{1}{2}$ in. Pipe Plug.....	.02
Backhare	37	1548	Pump base cover.....	7.00
Backheif	38	1549	Cap screws $\frac{1}{2} \times 1$ inch.....	.03
Backheim	39	1550	Motor base Gasket.....	.05
Backhorse	40	1551	Gasket for pump base cover (small).....	.01
Backkow	76	1538	Connecting rod bushing, piston end.....	1.00

A-4 Repair Parts.



## Motor Parts

Parts Common to 110-220 and 550 Volt A-4 Compressor Motors

Code Word	Reference Number	Piece Number	NAME OF PARTS	Price
Backkoner	41	1552	Motor base, finished casting only.....	\$ 40.00
Backmost	42	1553	Armature bearing cap (comm. end).....	2.00
Backoff	43	1554	Armature bearing cap (gear end).....	2.50
Backpan	44	1555	Dowel pins for motor bearings $\frac{1}{4} \times \frac{1}{8}$ inch..... per doz.	.10
Backrater	46	1506	$\frac{1}{2}$ in. pipe plug with handle.....	.20
Backsheep	47	1557	Brass tube $2\frac{1}{2}$ in. long.....	.20
Backstove	48	1558	Cap screws $\frac{1}{2} \times 2$ in. for Motor base and gear cap end.....	.05
Backstrain		1558 $\frac{1}{2}$	Cap screws $\frac{1}{2} \times 2\frac{1}{2}$ in. for Motor base into Pump base cover....	.08
Backtrust	49	1559	Gasket, for bearing cap (gear end).....	.10
Backway	50	1560	Field frame, finished casting only.....	20.00
Backwand	51	1561	Eye bolt.....	.25
Backzahn	52	1562	Clamp bolts and nut for field coils.....	.05
Baclove	53	1563	Dowel pin $\frac{3}{8} \times 1$ inch..... per doz.	.10
Baclook	54	1564	Field frame, door only.....	.50
Backlunder	55	1565	Cap screws $\frac{1}{2} \times 1\frac{1}{2}$ in. for field frame and commutator bearing cap.....	.04
Bacohed	56	1566	Door hinge pin, nut and cotter.....	.10
Bacopante	58	1568	Top cover and screws for field frame.....	.75
Bacorear	59	1569	End cover and screws for field frame.....	.15
Bacoriot	61	1571	Armature bearing, (gear end).....	2.75
Bacoround	62	1572	Armature bearing (comm end).....	2.00
Bacterity	63	1573	Oil ring (gear end).....	.25
Bacteritas	64	1574	Oil ring (comm end).....	.15
Bactrophy	69	1579	Pinion puller complete.....	13.00
Bacuafe	74	1580	Pinion.....	3.00
Bacuccus	77	1581	Door handle (only).....	.05
Baculare	78	1582	Latches.....	.05
Baculone		1583	Spring for door handle.....	.03
Bacumtore		1583 $\frac{1}{2}$	Handle and latch complete.....	.15
Badagale	80	1585	Armature shaft.....	6.00
Badaland	81	1586	Oil guard (gear end).....	1.35
Badalife	82	1587	Oil wiper (comm. end).....	.50
Badalost	83	1588	Nut for shaft.....	.10
Badale	84	1589	Pinion key.....	.10
Badaman	85	1590	Split cotter..... per 100	.10
Badanuf	88	1593	End plate.....	.75
Badartuk	89	1594	Armature collar.....	.60
Badatly	91	1595	Binding wire..... per yard	.02
Badauge	92	1596	Commutator wedges.....	1.75
Badaugher	93	1597	Commutator sleeve.....	2.00
Badauklet	94	1598	Commutator ring nut.....	1.25
Badbrake	95	1599	Commutator insulating disc.....	.50
Badbroken	96	1600	Commutator mica taper ring.....	.40
Baddisk	98	1602	Commutator mica band ring 15-16 inch wide.....	.50
Badcary		1602 $\frac{1}{2}$	Commutator mica band ring $\frac{3}{4}$ in. wide.....	.50
Badefat	101	1604	Commutator pin keys..... per doz.	.10
Badegone	102	1605	Grub screw.....	.03
Badeguld	105	1606	Brush-holder yoke.....	1.75
Badehart	106	1607	Brush-holder lever (right hand).....	.25
Badehelve	107	1608	Brush-holder lever (left hand).....	.25
Badehunt	108	1609	Brush holder pin.....	.10
Badekamp	109	1610	Hex. nut (large).....	.10
Badekaart	110	1611	Hex. nut (small).....	.05
Badekattle	111	1612	Tension spring.....	.10
Badekesent	112	1613	Split Cotter..... per 100	.10
Badekleife	113	1614	Shield.....	.50
Badeknife	114	1615	V. B. Washer $\frac{5}{8}$ in. thick.....	.15
Badekros	114	1615 $\frac{1}{2}$	V. B. Washer $\frac{1}{2}$ in. thick.....	.25
Badeleven	115	1616	Mica tube.....	.20
Badelove	116	1617	Contact spring and screw..... per doz.	.10
Bademake	117	1618	Washer for brush holder.....	.05
Bademust	118	1619	Washer for brush holder yoke..... per doz.	.10
Badeover	119	1620	Latch spring and rivets.....	.05
Badeplace	120	1621	Cap screws $\frac{1}{2} \times 2$ inches.....	.05

A-4 Repair Parts.

Parts Special to 110 Volt A-4 Compressor Motors

Code Word	Reference Number	Piece Number	NAME OF PARTS	Price
Badepend	45	1556	Cable bushing.....	\$ 0.15
Badepete	57	1567	Cleat and screw for cable.....	.07
Badepoak	60	1570	Field coil terminal.....	.05
Badepomp	65	1575	Insulated solid wire connection between field coils.....	.10
Badepoper	66	1576	Cable connection, line to field coil.....	.10
Badepork	67	1577	Cable connection, line to brush holder.....	.25
Badepostal	68	1578	Cable connection, between brushholder and field coil.....	.25
Badequail		1623	Motor complete.....	150.00
Badequst	70	1624	Armature complete, includes one each 1585, 1586, 1587, 1588, 1589, 1590, 1594, and 1625; two 1593; twenty-five 1626; one set 1592; and 1595.....	60.00
Baderhen	71	1625	Commutator complete includes one each 1596, 1597, 1598, 1599, 1602, 1602½, and 1605; two each 1600, 1604 and forty-nine 1603 and 1627.....	25.00
Badeson		1625½	Commutator bars and segments only, assembled and slotted..	12.00
Badesota	72	1628	Brush holder complete, includes one each 1607 or 1608, 1609, 1610, 1611, 1612, 1613, 1615 and 1615½, 1616, 1617, 1618, 1620, 1629 or 1630 and 1631.....	3.00
Badesout	73	1631	Carbon brush.....	.04
Badestore	75	1632	Field coils.....	10.00
Badestuble	79	1584	Two way connector.....	.06
Badestuf	87	1592	Laminations.....	per set 7.50
Badestuke	90	1626	Armature coils (silk taped).....	per set 12.00
Badetaby	99	1603	Commutator mica segments.....	per set of 49 2.00
Badeten	100	1627	Commutator bars.....	per set 7.50
Badethrob	103	1629	Brush holderbody (right hand).....	1.50
Badewander		1630	Brush holder body, (left hand).....	1.50
Badewasit		1653	Brush holder and yoke complete, includes one each 1606, 1614 and two of 1628.....	9.50
Badewatter	121	1622	Terminal.....	.15

Parts Special to 220 Volt A-4 Compressor Motors

Code Word	Reference Number	Piece Number	NAME OF PARTS	Price
Badeweak	45	1663	Cable bushing.....	\$ 0.15
Badeweel	57	1664	Cleat and screw for cable.....	.07
Badewise	69	1665	Field coil terminal.....	.05
Badewon	65	1656	Insulated solid wire connection between field coils.....	.10
Badeworld	66	1657	Cable connection, line to field coil.....	.10
Badewurst	67	1658	Cable connection, line to brush holder.....	.25
Badeye	68	1659	Cable connection between brush holder and field coil.....	.25
Badezeal		1633	Motor complete.....	150.00
Badezunk	70	1634	Armature complete, includes one each 1585, 1586, 1587, 1588, 1589, 1590, 1594 and 1635; one set 1636, fifty-three of 1637; two of 1593; and 1595.....	60.00
Badegab	71	1635	Commutator complete, includes one each 1596, 1597, 1598, 1599, 1602, 1602½, 1605; two each 1600, 1604; 105 of 1661 and 1638.....	25.00
Badegander		1635½	Commutator bars and segments only assembled and slotted...	12.00
Badegeck	72	1639	Brush holder complete, includes one each 1607 or 1608, 1609, 1610, 1611, 1612, 1613, 1615, 1615½, 1616, 1617, 1618, 1620, 1640 or 1641 and 1642.....	3.00
Badgore	73	1642	Carbon brush.....	.04
Badegost	75	1643	Field coils.....	10.00
Badhat	79	1660	Two-way connector.....	.06
Badheath	87	1636	Laminations.....	per set 7.50
Badhelm	90	1637	Armature coils.....	per set 12.00
Badhesser	99	1661	Commutator mica segments.....	per set of 105 2.00
Badhorde	100	1638	Commutator bars.....	7.50
Badhurt	103	1640	Brush holder body (right hand).....	1.50
Badiant		1641	Brush holder body (left hand).....	1.50
Badiamber		1654	Brush holder and yoke complete, including two 1639, one each 1614 and 1606.....	9.50
Badiatom	121	1626	Terminal.....	.15

## Parts Special to 550 Volt A-4 Compressor Motors

Code Word	Reference Number	Piece Number	NAME OF PARTS	Price
Badewenk	45	1663	Cable bushing.....	\$ 0.15
Badeweel	57	1664	Cleat and screw for cable.....	.07
Badewise	60	1665	Field coil terminal.....	.05
Badewon	65	1656	Insulated wire connection, between field coils.....	.10
Badeworld	66	1657	Cable connection, line to field coil.....	.10
Badewurst	67	1658	Cable connection, line to brush holder.....	.25
Badeye	68	1659	Cable connection, between brush holder and field coil.....	.25
Badiax		1644	Motor complete.....	150.00
Badichain	70	1645	Armature complete, includes one each 1585, 1586, 1587, 1588, 1589, 1590, 1594 and 1667; one set 1636; two of 1593; fifty-three of 1647; and 1595.....	60.00
Badidid	71	1667	Commutator complete, includes one each 1596, 1597, 1598, 1599, 1602, 1602½, 1605; two each 1600, 1604, and 105 of 1661 and 1666.....	25.00
Badifal		1667½	Commutator bars and segments only, assembled and slotted..	12.00
Badilast	72	1648	Brush holder complete includes one each 1607 or 1608, 1609, 1610, 1611, 1612, 1613, 1615, 1615½, 1616, 1617, 1618, 1620, 1649 or 1650 and 1651.....	3.00
Badiliter	73	1651	Carbon brush.....	.04
Badinabor	75	1652	Field coils.....each	10.00
Badhat	79	1660	Two-way connector.....	.06
Badheath	87	1636	Laminations.....per set	7.50
Badinafter	90	1647	Armature coils, silk taped.....per set	12.00
Badhesser	99	1661	Commutator mica segments.....per set of 105	2.00
Badinakton	100	1666	Commutator bars.....	7.50
Badinery	103	1649	Brush holder body (right hand).....	1.50
Badisit		1650	Brush holder body (left hand).....	1.50
Badisable		1655	Brush holder and yoke complete, includes two 1648, one each 1606 and 1614.....	9.50
Badiatom	121	1626	Terminal.....	.15