



35 Frame Plunger Pump

Forged Brass Model

3545

Stainless Steel Model

3541

FEATURES

Superior Design

- Triplex plunger design gives smoother fluid flow.
- V-Packings are completely lubricated and cooled by the fluid being pumped.
- Inlet and discharge valve assemblies interchange for easier maintenance.
- Lubricated Lo-Pressure Seal provides double protection against external leakage.
- Oil bath crankcase assures optimum lubrication.
- Close tolerance concentricity of the ceramic plunger maximizes seal life.

Quality Materials

- All stainless steel valves are heat treated and seats are roller burnished for a positive seal and extended valve life.
- Forged brass and 316L stainless steel manifolds for strength and corrosion resistance.
- Special concentric, high density, polished, graphite impregnated, soid ceramic plungers are abrasion resistant and result in extended seal life.
- Specially formulated, CAT PUMP exclusive, V-Packings offer unmatched performance and seal life.
- Die cast aluminum crankcase provides high strength, minimum weight and precision tolerance control.
- Chrome-moly crankshaft gives unmatched strength and surface hardness.
- Oversized crankshaft bearings with greater loading capacity means longer bearing life.

Easy Maintenance

- Wet-end is easily serviced without entering crankcase, requiring less time and effort.
- Valve assemblies are accessible without disturbing piping, for quick service.
- Preset packings mean no packing gland adjustment is necessary, reducing maintenance costs.

SPECIFICATIONS

	U.S. Measure	Metric Measure
Flow.....	45 GPM	(171 L/M)
Discharge Pressure	100 to 1000 PSI	(7 to 70 BAR)
Inlet Pressure	Flooded to 70 PSI	(Flooded to 4.9 BAR)
RPM	800 RPM	(800 RPM)
Bore.....	1.772"	(45 mm)
Stroke.....	1.890"	(48 mm)
Crankcase Capacity.....	4.2 Qts.	(4 L)
Maximum Fluid Temperature	140°F	(60°C)
Inlet Ports (2)	1-1/2" NPT	(1-1/2" NPT)
Outlet Ports (2).....	1" NPT	(1" NPT)
Pulley Mounting	Either Side	(Either Side)
Shaft Diameter	1.378"	(35 mm)
Weight.....	139 lbs.	(63 kg)
Dimensions.....	24.1 x 18.11 x 9.7"	(612 x 460 x 247 mm)

HORSEPOWER REQUIREMENTS

FLOW		PRESSURE			RPM
		PSI 800	PSI 900	PSI 1000	
U.S. GPM	L/M	BAR 55	BAR 63	BAR 70	
45	171	24.7	27.8	30.9	800
40	152	22.0	24.7	27.4	712
35	133	19.2	21.6	24.0	622

See complete Drive Packages [Incls: Pulleys, Belts, Hubs, Key] Tech Bulletin 03.

DETERMINING THE PUMP R.P.M. $\frac{\text{Rated G.P.M.}}{\text{Rated R.P.M.}} = \frac{\text{"Desired" G.P.M.}}{\text{"Desired" R.P.M.}}$

DETERMINING THE REQUIRED H.P. $\frac{\text{GPM} \times \text{PSI}}{1460} = \text{Electric Brake H. P. Required}$

DETERMINING MOTOR PULLEY SIZE $\frac{\text{Motor Pulley O.D.}}{\text{Pump R.P.M.}} = \frac{\text{Pump Pulley O.D.}}{\text{Motor R.P.M.}}$

Note: Consult engine manufacturer when using gas or diesel engine. Refer to pump Service Manual for important Inlet Condition Check-List, Start-up Procedure, Tech Bulletins and Pump Maintenance information.

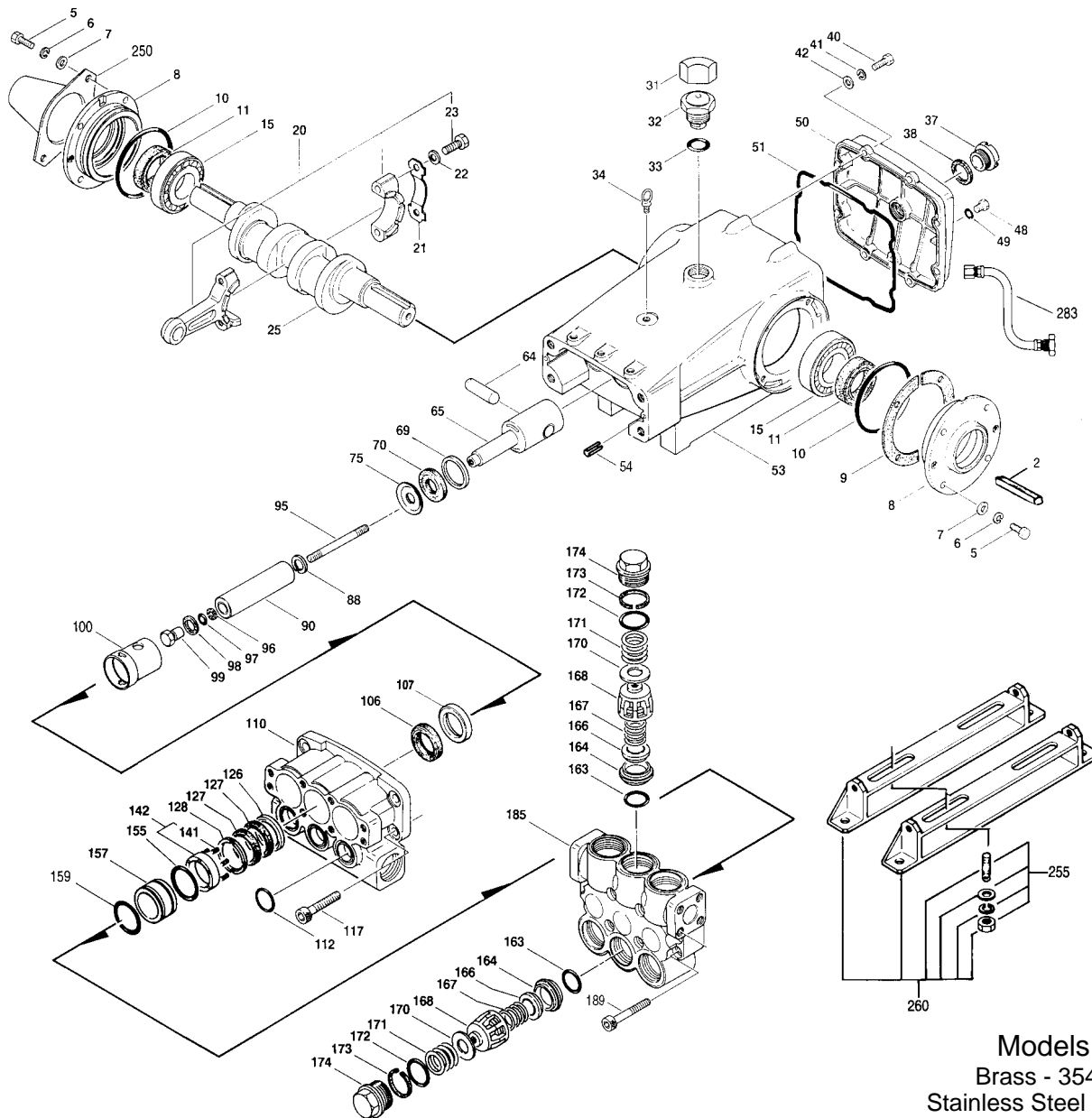
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PARTS LIST

ITEM	PART NUMBER		MATL		DESCRIPTION	QTY
	3545		3541			
● 2	30055	STL	30055	STL	Key (M10x6x32)	1 ●
● 3	34021	STL	34021	STL	Key (M10x8x70)	1 ●
5	118824	S	118824	S	Screw, Sems HH (M8x25)	8
6	—	—	15846	S	Lockwasher, Split (M8)	8
7	—	—	13534	S	Washer (M8)	8
8	44542	AL	44542	AL	Cover, Bearing	2
● 9	701138	F	701138	F	Cover, Bearing (Use w/701137, 39, 40, 45, 46)	2 ●
	44543	—	44543	—	Shim, Bearing Cover	4
10	12398	NBR	12398	NBR	O-Ring, Bearing Cover	2
11	13296	NBR	13296	NBR	Seal, Oil, Crankshaft	2
15	29326	STL	29326	STL	Bearing, Roller	2
20	46611	HS	46611	HS	Rod, Connecting Assembly	3
21	44940	STZP	44940	STZP	Washer, Locking (M10)	3
22	43641	STL	43641	STL	Washer (M10.5x1.5)	3
23	88155	STL	88155	STL	Screw, HH (M10x60F)	3
25	29325	FCM	29325	FCM	Crankshaft, Dual End	1
31	828710	—	828710	—	Protector, Cap	1
32	43211	—	43211	—	Cap, Oil Filler	1
33	14177	NBR	14177	NBR	O-Ring, Oil Filler Cap - 70	1
34	44319	STZP	44319	STZP	Bolt, Eye (M12)	1
35	701145	AL	701145	AL	Rivet, Serial Plate (Use w/701137, 38, 39, 40, 46)	4
36	701147	AL	701147	AL	Name Plate (Use w/701137, 38, 39, 40, 45)	1
37	43987	—	43987	—	Gauge, Oil, Bubble	1
38	44428	NBR	44428	NBR	Gasket, Flat	1
40	118824	S	118824	S	Screw, Sems HH (M8x25)	8
41	—	—	15846	S	Lockwasher, Split (M8)	8
42	—	—	13534	S	Washer (M8)	8
48	25625	STCP	25625	STCP	Plug, Drain (1/4"x11)	1
49	23170	NBR	23170	NBR	O-Ring, Drain Plug	1
50	45936	AL	45936	AL	Cover, Crankcase	1
● 51	701139	F	701139	F	Cover, Crankcase (Use w/701137, 38, 40, 45, 47)	1 ●
● 53	16612	NBR	16612	NBR	O-Ring, Crankcase Cover	1
● 53	44559	AL	44559	AL	Crankcase w/27488	1 ●
● 54	701137	F	701137	F	Crankcase (Use w/701138, 39, 40, 45, 47)	1 ●
54	27488	S	27488	S	Pin, Guide	2
56	27790	POP	27790	POP	Pan, Oil	1
57	—	—	—	—	Washer (M6)	2
58	—	—	—	—	Lockwasher, Split (M6)	2
64	43864	S	43864	S	Pin, Rist	3
65	45116	SSZZ	45116	SSZZ	Rod, Plunger	3
69	29338	S	29338	S	Washer, Oil Seal	3
70	100488	NBR	100488	NBR	Seal, Oil, Crankcase	3
	44739	FPM	44739	FPM	Seal, Oil, Crankcase	3
75	43865	S	43865	S	Slinger, Barrier	3
88	45676	SS	45676	SS	Washer, Keyhole (M16)	3
90	46806	CC	46806	CC	Plunger	3
95	89778	SS	89778	SS	Stud, Plunger Retainer (M10x135)	3
96	20189	PTFE	20189	PTFE	Back-up-Ring, Plunger Retainer	3
97	11345	NBR	11345	NBR	O-Ring, Plunger Retainer	3
	11375	FPM	11375	FPM	O-Ring, Plunger Retainer	3
	701490	EPDM	701490	EPDM	O-Ring, Plunger Retainer	3
98	44085	SS	44085	SS	Gasket, Plunger Retainer	3
99	44084	SS	44084	SS	Retainer, Plunger (M10)	3
100	44119	PVDF	44119	PVDF	Retainer, Seal	3
106	46809	NBR	48384	NBR	Seal, LPS w/SS-Spg	3
	701479	FPM	701479	FPM	Seal, LPS w/SS-Spg (Alternate)	3
	46945	EPDM	46945	EPDM	Seal, LPS w/SS-Spg	3
	46811	S	48380	SS	Spacer, LPS	3
● 110	46808	BB	48375	SSL	Manifold, Inlet	1 ●
112	18688	NBR	18688	NBR	O-Ring, Inlet Manifold - 70	3
	14183	FPM	14183	FPM	O-Ring, Inlet Manifold	3
	701659	EPDM	701659	EPDM	O-Ring, Inlet Manifold	3
117	44585	S	44585	S	Screw, HSH (M14x40)	4
126	46812	BB	48383	D	Adapter, Female	3
127	46813	STG	46813	STG	V-Packing (White)	6
	46813	FPM	46813	FPM	V-Packing (White) (Alternate)	6
	46813	EPDM	46813	EPDM	V-Packing (White) (Alternate)	6
128	46814	BB	48386	SS	Adapter, Male	3
141	45113	SS	45113	SS	Spring, Coil	6/18
142	46824	BB	48382	SS	Spacer w/Coil Springs	3
155	17784	NBR	17784	NBR	O-Ring, Spacer - 80	3
	20138	FPM	20138	FPM	O-Ring, Spacer	3
157	46816	BB	48381	SS	Spacer, V-Packing	3
159	17784	NBR	17784	NBR	O-Ring, Spacer - 80	3
	20138	FPM	20138	FPM	O-Ring, Spacer	3
	701658	EDPM	701658	EDPM	O-Ring, Spacer	3
163	26143	NBR	26143	NBR	O-Ring, Seat - 80	6
	14331	FPM	14331	FPM	O-Ring, Seat	6
	701660	EPDM	701660	EPDM	O-Ring, Seat	6
164	46822	S	48393	SSL	Seat	6
166	43932	S	44108	SSL	Valve	6
167	43933	S	44109	SS	Spring, Valve	6
168	44728	PVDF	44728	PVDF	Retainer, Spring	6
170	44729	SS	44729	SS	Washer, Spring Retainer	6
171	44644	SS	44644	SS	Coil Spring (70kg), Valve Plug	6
172	89827	NBR	89827	NBR	O-Ring, Valve Plug - 90	6
	11747	FPM	11747	FPM	O-Ring, Valve Plug	6
	701494	EPDM	701494	EPDM	O-Ring, Valve Plug	6

Replace as a set

EXPLODED VIEW



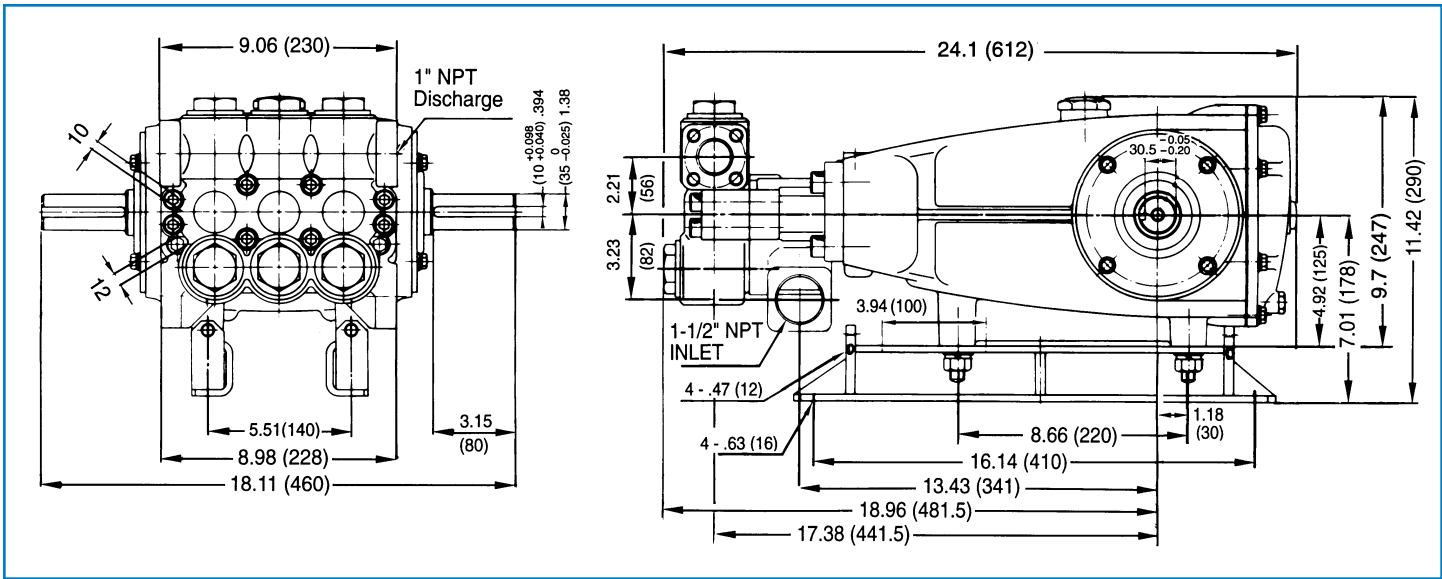
Models
 Brass - 3545
 Stainless Steel - 3541
 April 1999

	3545	MATL	3541	MATL		
● 173	48364	D	48364	D	Back-up-Ring, Valve Plug	6
● 174	46444	FBB	48419	SSNP	Plug, Valve	6
● 185	46820	FBB	48376	SSL	Manifold, Discharge	1 ●
● 189	89981	S	89981	S	Screw, HSH (M12x70)	8
● 250	44516	NY	44516	NY	Protector, Shaft w/2 89283 Screws (Included with Pump)	1 ●
● 255	701140	F	701140	F	Protector, Shaft (Use w/701137, 38, 39, 45, 46)	1 ●
● 260	34039	SS	34039	SS	Kit, Stud Mount	1 ●
● 275	92674	STZP	92674	STZP	Assy, Box Mounting	1 ●
● 283	990013	STL	990013	STL	Hub, "B", (M35), (Keyway M10x8x70) [See complete Drive Packages Tech Bulletin 03]	1 ●
● 290	34334		34334		Kit, Oil Drain	1 ●
● 299	6108		6108		Gasket, Liquid (1.5 oz.)	1 ●
● 300	814834	BB	816669	SS	Head, Complete	1 ●
	33234	NBR	33834	NBR	Kit, Seal (Incls: 97, 106, 112, 127, 155, 159)	1
	31261	FPM	31261	FPM	Kit, Seal (Incls: 97, 106, 112, 127, 155, 159)	1
	◆ 33223	EPDM	◆ 33223	EPDM	Kit, Seal (Incls: 97, 106, 112, 127, 155, 159)	1
310	33235	NBR	33835	NBR	Kit, Valve (Incls: 163, 164, 166, 167, 168, 170, 172, 173)	2
	31262	FPM	31262	FPM	Kit, Valve (Incls: 163, 164, 166, 167, 168, 170, 172, 173)	1
	◆ 31235	EPDM	◆ 31264	EPDM	Kit, Valve (Incls: 163, 164, 166, 167, 168, 170, 172, 173)	1
● —	—	—	—	—	C.A.T. (For R.O. or Industrial Applications)	1 ●
● —	—	—	—	—	Adapter (2 per C.A.T.) (See Data Sheet for complete selection)	2 ●
—	6565.3		6565.3		Plunger Pump Service Video	1

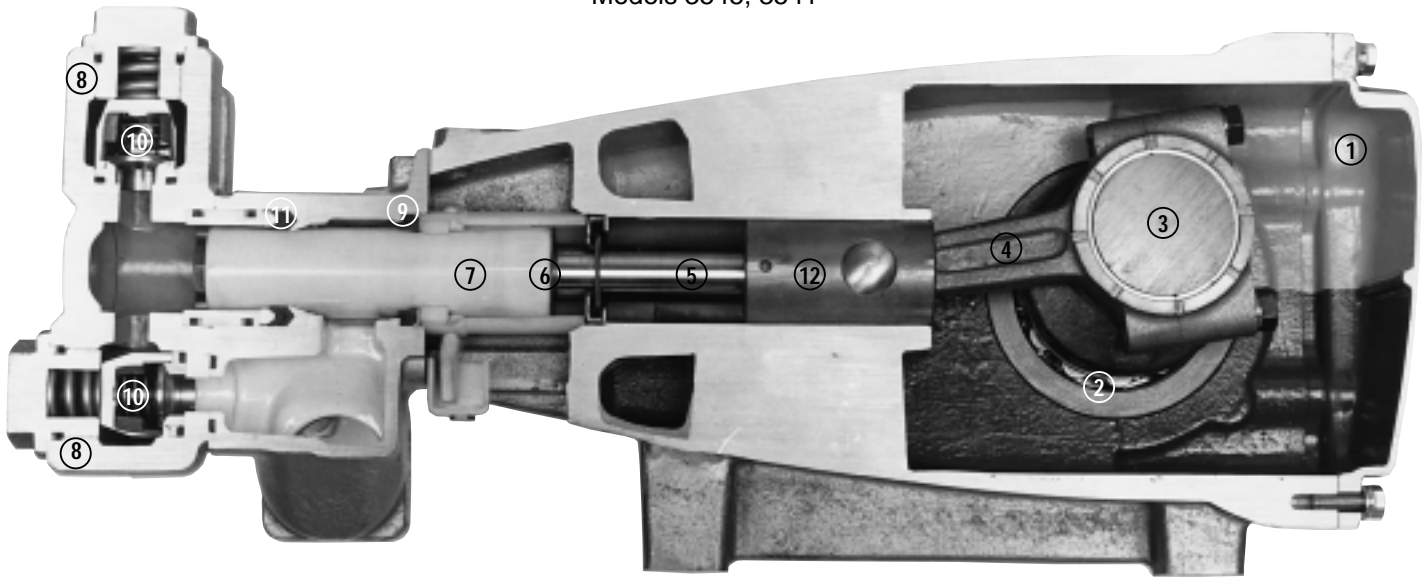
● Industrial discount. **Bold print part numbers are unique to a particular pump model.** *Italics are optional items.* ◆ Silicone oil/grease required.

Pressurized Inlet and C.A.T. highly recommended for Hi-Temp, R.O. and industrial applications. See Tech Bulletins 03, 24, 40, 41, 53, 74 and 77 for additional information.

MATERIAL CODES (Not Part of Part Number): AL=Aluminum BB=Brass BBCP=Brass/Chrome Plated CC=Ceramic D=Delryn® EPDM=Ethylene Propylene Diene Monomer F=Cast Iron FBB=Forged Brass FCM=Forged Chrome-moly FPM=Fluorocarbon (Viton®) HS=High Strength NBR=Medium Nitrile (Buna-N) NY=Nylon POP=Polypropylene PTFE=Polytetrafluoroethylene (Teflon®) PVDF=Fluoroplastic (High Strength) S=304SS SS=316SS SSL=316SS/Low Carbon SSNP=316SS/Nickel Plated SSZZ=316SS/Zamak STG=Special Blend (Teflon®)-White STL=Steel STCP=Steel/Chrome Plated STZP=Steel/Zinc Plated



Models 3545, 3541



- 1 Die cast aluminum **crankcase** means high strength, lightweight, and excellent tolerance control.
- 2 Oversized crankshaft **bearings** provide extended bearing life and pump performance.
- 3 Chrome-moly **crankshaft** provides unmatched strength and surface hardness for long life.
- 4 Matched oversized high strength **connecting rods** are noted for superior strength and bearing quality.
- 5 Special stainless steel **plunger rods** with high strength crossheads for longevity and corrosion resistance.
- 6 The stainless steel **slinger** provides back-up protection for the crankcase seal, keeping pumped fluids out of the crankcase.
- 7 Special concentric, high density, polished, graphite impregnated, solid ceramic **plungers** are abrasion resistant and result in extended seal life.
- 8 **Manifolds** are a high tensile strength forged brass or 316 stainless steel for long term, continuous duty.
- 9 100% **wet seal** design adds to service life by allowing pumped fluids to cool and lubricate on both sides.
- 10 Stainless steel **valves, seats and springs** provide corrosion-resistance, positive seating and long life.
- 11 Specially formulated, CAT PUMP exclusive, **V-Packings** offer unmatched performance and seal life.
- 12 **Crossheads** are 360° supported for uncompromising alignment.

Products described hereon are covered by one or more of the following U.S. patents 3558244, 3652188, 3809508, 3920356, 3930756 and 5035580

Apr 1999 3925

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