

Chief S21M

PARTS MANUAL



CHIEF'S LIMITED ONE-YEAR WARRANTY & LIABILITY

Chief Automotive Technologies, Inc. warrants for one year from date of installation and/or purchase any of its products which do not perform satisfactorily due to defect caused by faulty material or workmanship. Chief's obligation under this warranty is limited to the repair or replacement of products which are defective and which have not been misused, carelessly handled, or defaced by repair or repairs made or attempted by others.

CHIEF AUTOMOTIVE TECHNOLOGIES, INC. DOES NOT ASSUME RESPONSIBILITY FOR ANY DEATH, INJURY OR PROPERTY DAMAGE RESULTING FROM THE OPERATOR'S NEGLIGENCE OR MISUSE OF THIS PRODUCT OR ITS ATTACHMENTS. CHIEF MAKES NO WRITTEN, EXPRESS OR IMPLIED WARRANTY WHATSOEVER OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE REGARDING THE EQUIPMENT OR ANY PART OF THE PRODUCT OTHER THAN THE LIMITED ONE-YEAR WARRANTY STATED ABOVE.

PARTS INFORMATION


To order replacement parts for the Chief S21M system, contact an authorized representative of Chief Automotive Technologies, 308-384-9747 (or toll free 800-445-9262 - USA only).

The parts listed in the S21M Parts Manual (Part No. 601199) represent what Chief Automotive Technologies considers to be user installed. Other repairs should be deferred to an authorized representative.

NOTE: Refer to Auxiliary Tower Users Manual (Part No. 693882) for rear tower replacement parts.

When contacting Chief Automotive Technologies by telephone or mail, provide the following information: name, name of business, business telephone number, and business address. Additional information needed when ordering: description of part(s) and part number(s). Also indicate the EZ Liner Model for which the part is intended.

NOTE: Chief reserves the right to alter product specifications and/or package components without notice.

 **CAUTION:** Always use Chief Automotive Technologies authorized replacement parts with the S21M system. When replacing any part make certain the part meets the original equipment requirements.

Electrical Components

All electrical cords and components must be replaced with Chief Automotive Technologies authorized replacement parts.

Hydraulic Hoses

The 1/4 inch I.D., two wire hoses furnished with this product meet the requirements of SAE 100R2, and have a working pressure of 5,000 PSI. They should not be used with any other system having a higher than 5,000 PSI output.

All hydraulic components must be replaced with Chief Automotive Technologies authorized replacement parts.

Bolts/Fasteners

All bolts and fasteners must be replaced with Chief Automotive Technologies authorized replacement parts

and must not be less than Grade 5. (Class 8.8).


Any bolt used in a pulling clamp that is frequently tightened must be a Grade 8 (Class 10.9).

All bolt lengths and diameters must be equal to those installed at the factory.

Chain

The front tower 1/2 inch chains furnished with this product are a special alloy frame straightening chain designed exclusively for Chief Automotive Technologies, to meet the rigid requirements of the collision repair industry. They are proof tested to 28,000 lbs. (125kN) and have a working pressure of 14,000 lbs (63 kN). If replacement is required, purchase only the original Chief product from an authorized Chief Automotive Technologies representative.

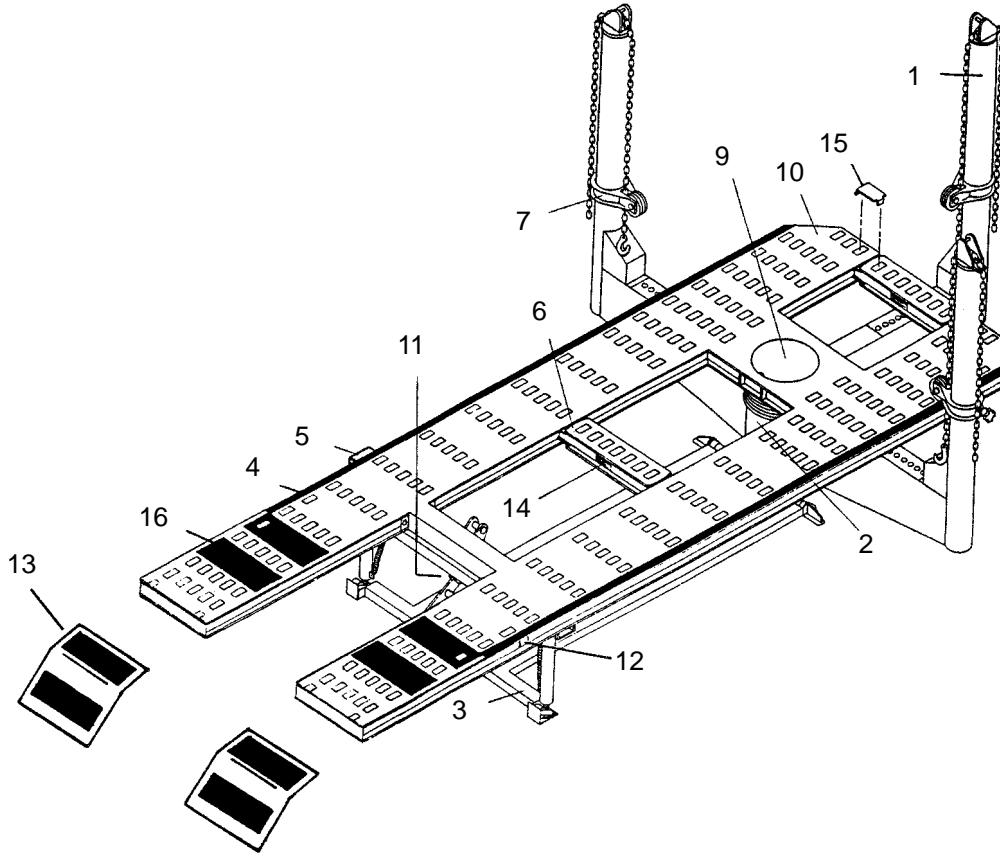
The rear tower chain and auxiliary 3/8 inch chains furnished with this product are a special alloy frame straightening chain designed exclusively for Chief Automotive Technologies to meet the rigid requirements of the collision repair industry. They are proof tested to 20,000 lbs (90 kN) and have a working pressure of 10,000 lbs (45 kN). If replacement is required, purchase only the original Chief product from an authorized Chief Automotive Technologies representative.

 **CAUTION:** DO NOT use the 3/8 inch chain on front towers.

Labels

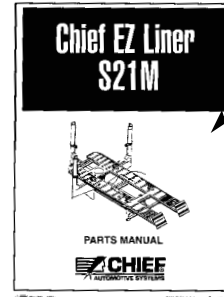
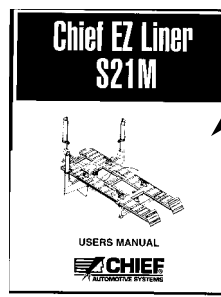
Replacement SAFETY and WARNING labels are available in several languages, and may be ordered by contacting an authorized Chief Automotive Technologies representative.

S21M (AND FORMER S21)

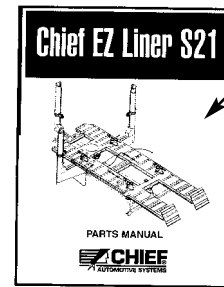
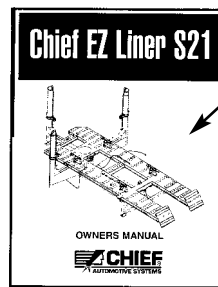


REF.	PART NO.	QTY.	DESCRIPTION
1	600065	3	Tower Assembly, S21
1	600066	3	Tower Assembly, S21M
2	610749	1	Pedestal Assembly
3	672261	1	Porta-Frame Assembly
4	620875	2	Anti-Skid Tape, 16 x 2
5	690638	1	Cover Assembly, Rear Lift Valve
6	610773	2	Moveable Crossmember
7	610386	3	Tower Collar Assembly
8	602829	3	Locking Knob, Tower Collar
9	602280	1	Lid, Pump
10	672202	1	Mainframe
11	600030	1	Lift Assembly
12	692140	1	Phone Number Decal
13	698767	2	Loading Ramp
14	692094	2	CAUTION, Crossmember Decal
15	606539	2	Crossmember Lock
16	693425	4	Anti-Skid Tape, 9 x 22
17	601198	1	Users Manual, S21M
18	683659	1	Parts Manual, S21M
19	683658	1	Users Manual, S21
20	601199	1	Parts Manual, S21

S21M Users / Parts Manuals



S21 Users / Parts Manuals

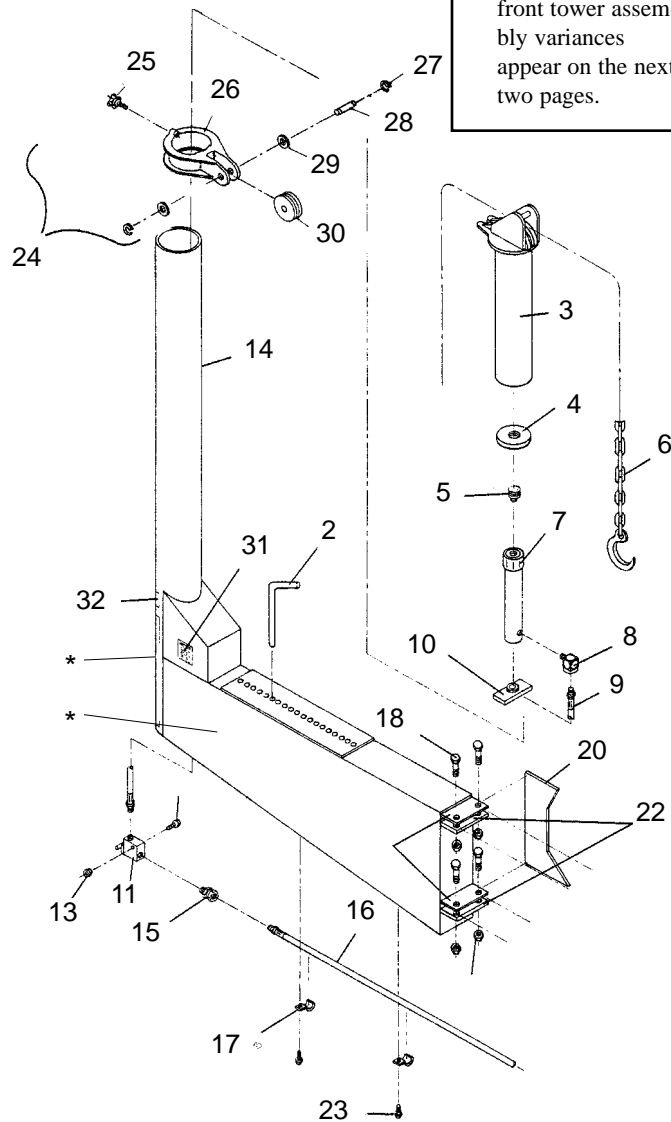


FRONT TOWER ASSEMBLY COMPONENTS (S21)

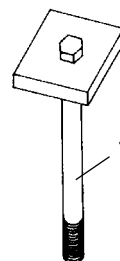
CAUTION: DO NOT interchange rear tower components with front tower components as pulling capacity of rear towers is less than S21 front towers. Refer to Auxiliary Tower Owners Manual (Part No. 693882) for rear tower parts information.

NOTE: The S21M system features many of these components. S21M front tower assembly variances appear on the next two pages.

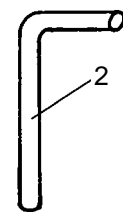
REF.	PART NO.	DESCRIPTION
1	610255	Tie Down Bolt Assembly
2	618708	Tower Lock Pin (S21)
3	610001	Tower Head Assembly
4	601236	Threaded Flange
5	602618	Threaded Adapter
6	602870	Tower Chain W/Hook, 1/2 x 12
7	602378	10 Ton Hydraulic Cylinder, 10" Stroke
8	602546	Elbow, 90°, Female x Male NPTF
9	602520	Hose, 59 x 3/8 NPT Couplings
10	610407	Ram Base, Flange (S21)
11	602810	Tower Valve, 3/8, 90° Elbow
12	629781	Bolt, 1/4-20 NC x 2, Gr. 2, PL, Hex
13	629247	Nut, 1/4-20 NC, Gr. 2, Hex, PL
14	600065	Tower Weldment, Only
15	602562	Swivel Coupler
16	602538	Hose, 72 x 3/8 NPT Couplings
17	604699	Hose Clamp, 1/2
18	601666	Bolt, 5/8-11 NC x 2-1/4, Gr. 5, PL, HHCS
19	692334	Nut, Hex, Jam, 5/8-11 NC, Gr. 5, Black
20	607339	Tower Leg Gusset
21	604744	Tower Ear (TOP), 5/16 Drilled
22	604752	Tower Ear (BOTTOM), 1/2 Drilled
*	604664	O.T.C. Cylinder Repair Kit, I.D. Blue or Silver
*	604381	O.T.C. Cylinder Repair Kit, I.D. White
*	601560	Templeton, Kenley Cylinder Repair Kit, I.D. Green
*	629992	Enerpac Cylinder Repair Kit, I.D. Silver
23	629116	Self Tapping Screw, 1/4-20 NC x 3/4
24	610386	Tower Collar Assembly (Cast) (Includes Locking Knob)
25	602829	Locking Knob, Tower Collar
26	607161	S21 Collar, Drilled & Tapped
27	693468	Retaining Ring, Heavy Duty, External
28	680747	Pin, Grooved
29	707487	Flat Washer, 1-1/4
30	601201	Roller, 5 x 1/2
31	693345	IMPORTANT Decal (White), To Prevent
32	693337	WARNING Decal (Yellow)
*	629977	Tower Decal - S21
*		Pressure Ga. (see part no./description - p. 8)



Tie Bolt



Lock Pin



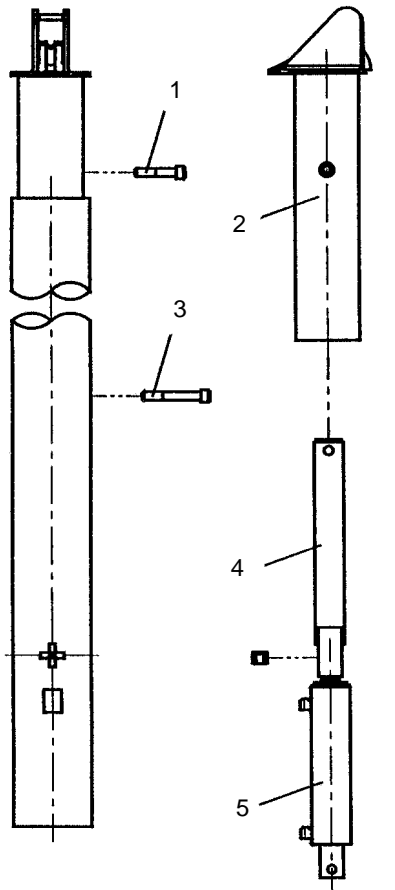
* Not Shown In Illustration

Front Tower Assembly Variances For S21M

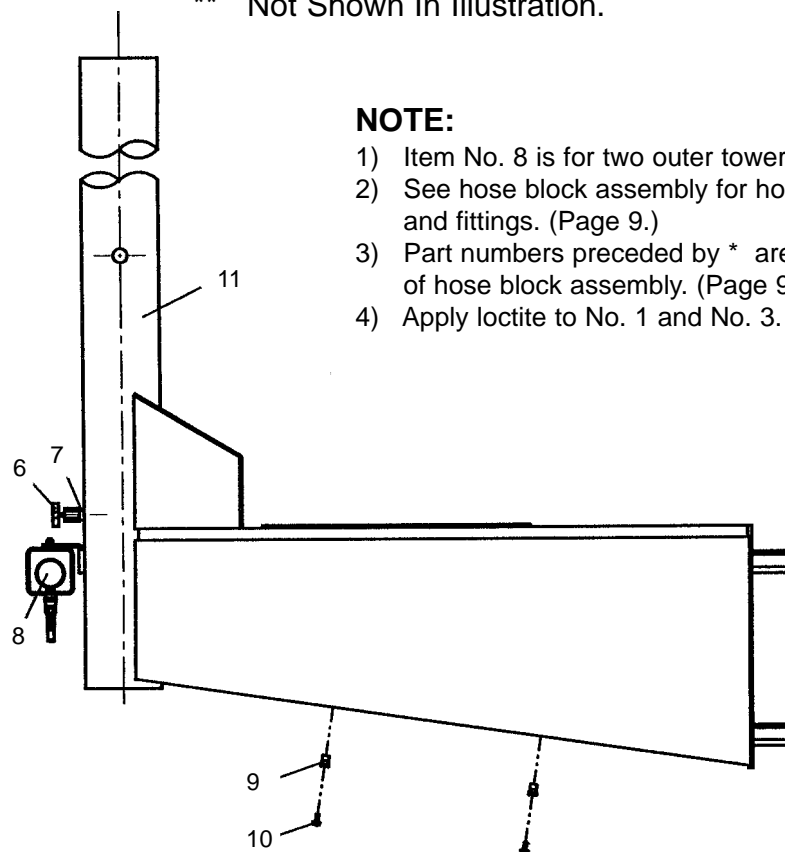
CAUTION: DO NOT interchange rear tower components with front tower components as pulling capacity of rear towers is less than S21M front towers. Refer to Auxiliary Tower Owners Manual (Part No. 693882) for rear tower parts information.

NOTE: The S21 and S21M front tower assemblies have many common components - see S21 Front Tower Assembly Components on preceding page. S21M front tower assembly variances appear on this page and on page 5.

REF.	PART NO.	DESCRIPTION
	601075	Tower Assembly, S21M
1	601070	Screw, 3/4-10 x 3 1/2 SHCS
2	601170	Tower Head, Front, S21M
3	601069	Screw, 3/4-10 x 5 SHCS
4	601162	Clevis Assembly, S21M
5	*601191	Ram, Tower, 3" Bore, 10 1/8" Stroke
6	*601045	Valve, Parker MV620S
7	601073	Valve Spacer
8	*601130	Portable Gauge Assembly, Front S21M
8	601030	Portable Gauge, only
9	601071	Double Hose Clamp
10	649210	Self-Tapping Screw, No. 14 x 1 1/2
11	600066	Tower Assembly, S21M
**	601010	Tower Decal S21M



** Not Shown In Illustration.

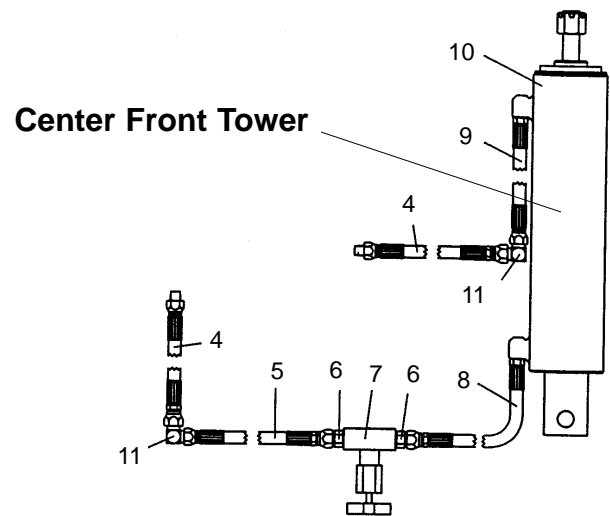
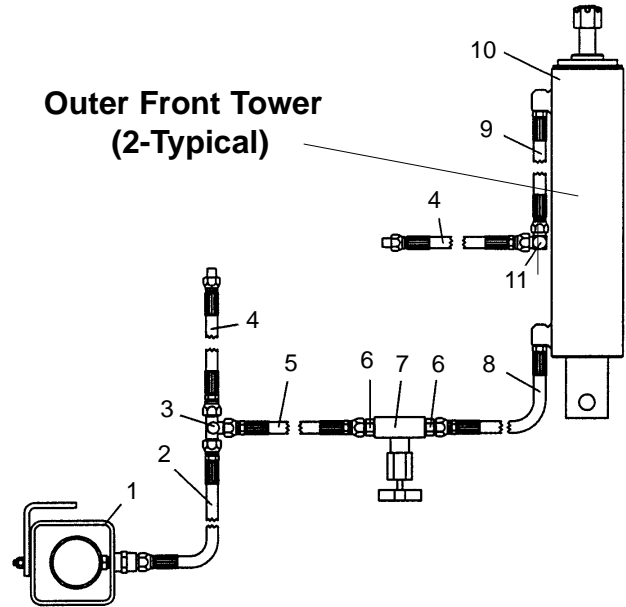


NOTE:

- 1) Item No. 8 is for two outer towers only.
- 2) See hose block assembly for hoses and fittings. (Page 9.)
- 3) Part numbers preceded by * are part of hose block assembly. (Page 9.)
- 4) Apply loctite to No. 1 and No. 3.

(Continued From Previous Page - Front Tower Assembly Variances For S21M)

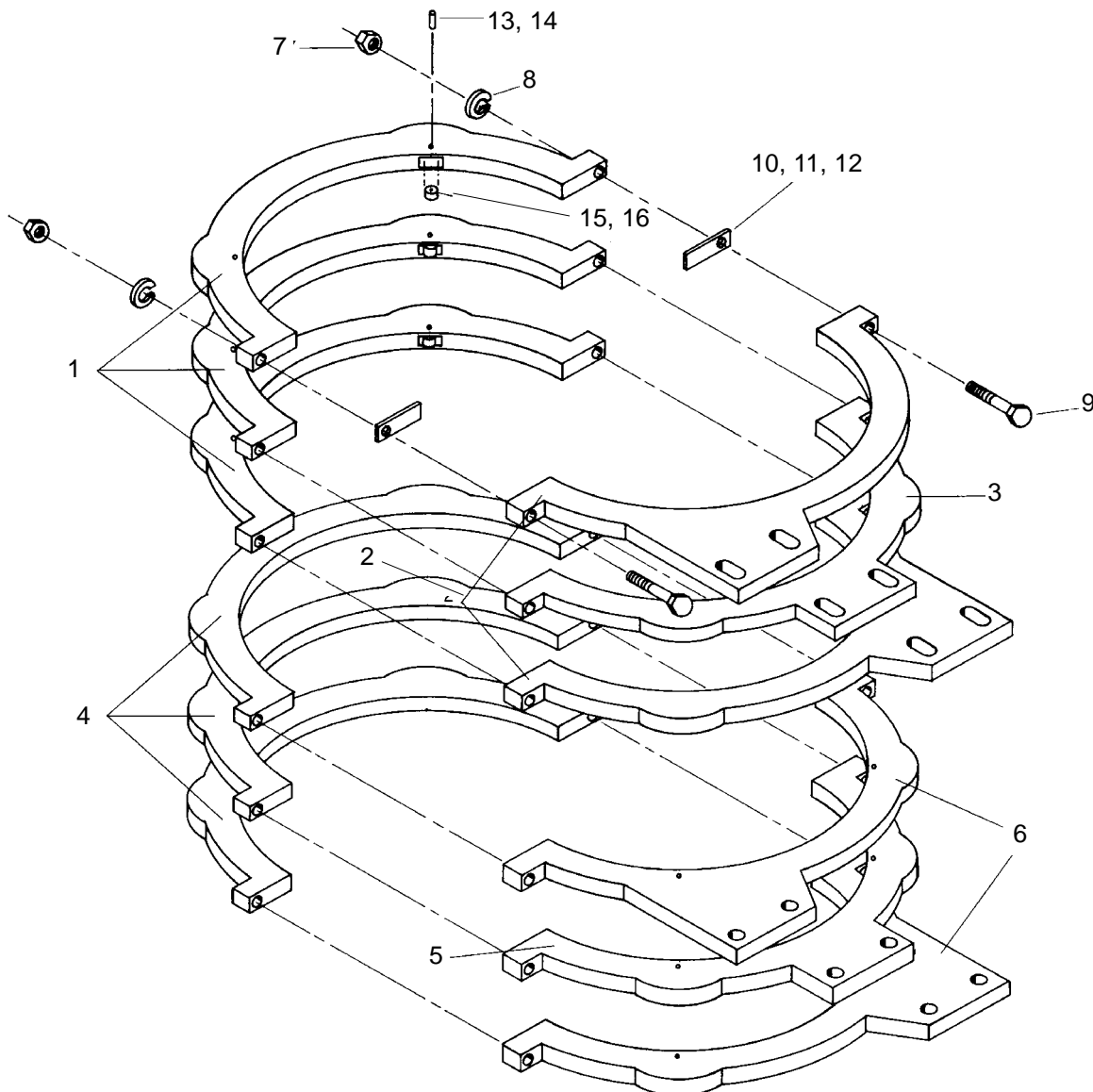
REF.	PART NO.	DESCRIPTION
1	601130	Portable Ga. Ass'y, Front, S21M
2	601001	Hose, 16", 6MPX-6FJX
3	601042	Tee Adapter, 2603-6-6-6
4	601006	Hose, 82.5", 6FJX-4MPX
5	601002	Hose, 15.5", 6FJX-6FJX
6	601046	Straight Adapter, 6400-6-6
7	601045	Valve, Parker, MV620S
8	601004	Hose, 26", 4MB-6FJX
9	601057	Hose, 54", 4MB-6FJX
10	601191	Ram Tower, 3" Bore, 10 1/8" Stroke
11	601056	Elbow, 2500-6-6
	601095	Seal Kit, Front Tower Ram, S21M



TOWER RING ASSEMBLY COMPONENTS (S21M AND S21)

REF.	PART NO.	DESCRIPTION
1	610845	Ring Half, Top, Rear
2	607072	Ring Half, Top, Front, Left/Right
3	607056	Ring Half, Top, Front, Center
4	607064	Ring Half, Bottom, Rear
5	610853	Ring Half, Bottom, Front, Center
6	610861	Ring Half, Bottom, Front, Left/Right
7	629255	Nut, 5/8 - 11 NC, Gr. 5, Hex, Black
8	629263	Lock Washer, 5/8 Lock, Spring, Black

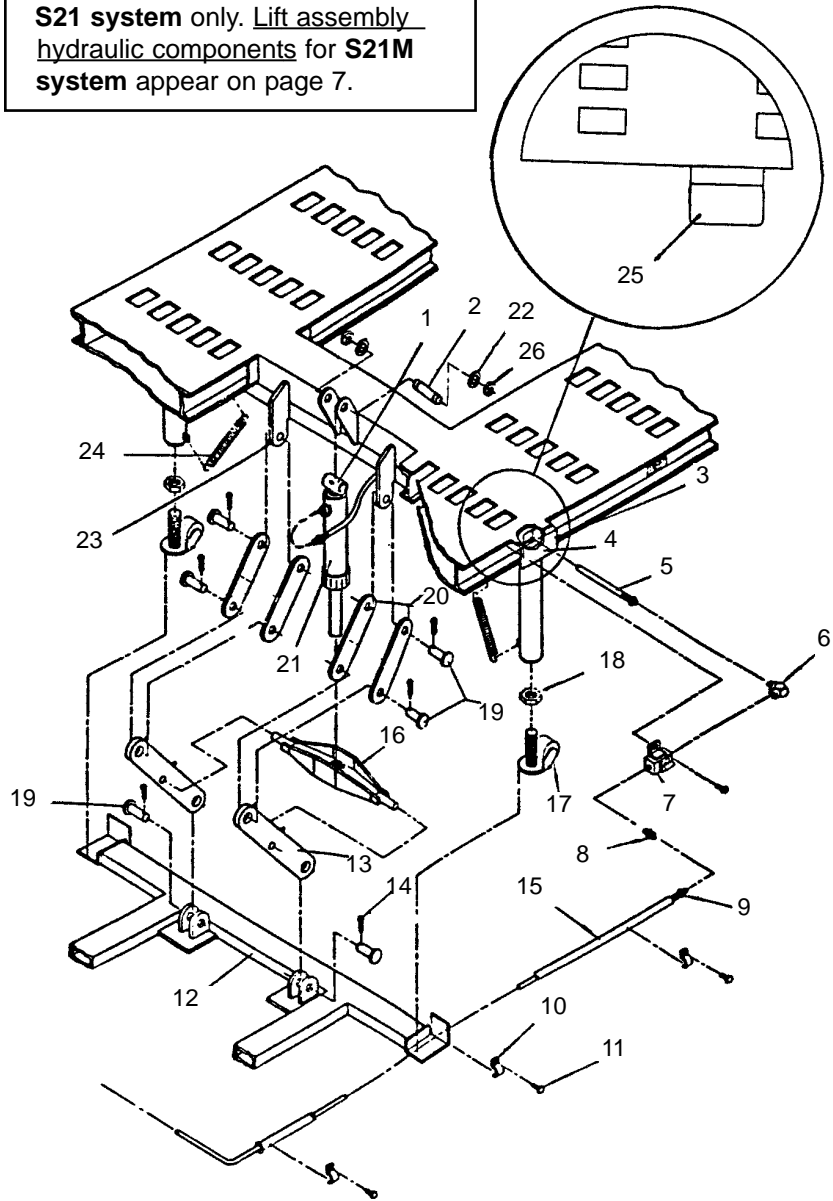
REF.	PART NO.	DESCRIPTION
9	629271	Bolt, 5/8 - 11 NC x 3 1/2, Gr. 5, Bl. HHCS
10	681205	Tower Ring Shim, 16 Ga.
11	681213	Tower Ring Shim, 1/8
12	681221	Tower Ring Shim
13	602001	Dowel Pin (Before 708), 3/8 x 1
14	606109	Dowel Pin Ring (After 708), 5/16 x 1
15	602837	Tower Ring Bearing (Before 708)
16	601770	Tower Ring Bearing (After 708)



LIFT ASSEMBLY COMPONENTS (S21M AND S21)

REF	PT. NO.	QTY.	DESCRIPTION
1	610124	1	Jack T Assembly
2	770083	1	Grooved Pin, 1.25 x 4.438 Long, S21
2	649065	1	Grooved Pin, S21M
3	690638	1	Cover Assembly, Rear Lift Valve
4	692086	1	Label, CAUTION, Lift Valve
5	685100	1	Hose, 49 x 3/8 NPT Couplings
6	602546	1	Elbow, 90 Degrees, Female x Male NPTF
7	610415	1	Valve With Bracket, Lift
8	602562	1	Swivel Coupler
9	602474	1	Hose, 170 x 3/8 NPT Couplings
10	629829	3	Clamp Hose Housing, 1 Inch
11	629116	4	Screw, 1/4-20 NC x 3/4, HH-TEK, Type 1
12	672261	1	Porta Frame Assembly, S21, 1992
13	610722	2	Lift Leg, Bottom
14	618644	6	Cotter Pin, 1/4 x 2
15	603936	1	Conduit, 99 Inch Hose Housing
16	610116	1	Bolster Bar Assembly
17	610677	2	Threaded Rod Assembly, Stiff Leg
18	629095	2	Nut, 1-1/2-6 NC, Hex Jam, Gr. 2, Black
19	610079	6	Lift Leg Pin Assembly, S21
20	603215	4	Lift Leg, Top
21	610520	1	Coupler & Ram Assembly, 10 Ton, S21
22	707487	2	Washer, 1-1/4 I.D. x 1-7/8 O.D. x 14 Ga. Flat, Pl.
23	603928	2	Zerk Fitting, 1/4, Press Fit
24	602570	2	Spring, Stiff Leg, .105 Wire
25	690638	1	Cover Assembly, Rear Lift Valve
26	693468	2	Retaining Ring, Heavy Duty, Ext. Series 5160
N/S	604656	4	Bolt, 1/2-13 NC x 1-1/2, Gr. 5, Pl. Hex
N/S	620736	4	Nut, 1/2-13 NC, Gr. 8, Hex Pl.
N/S	707436	4	Washer, 1/2" Lock, Split, Spring-Lock

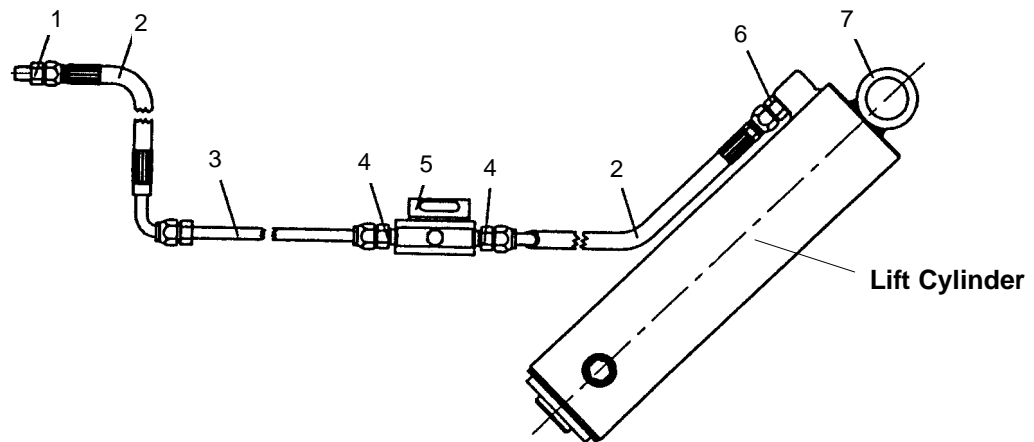
NOTE: Lift assembly hydraulic components shown on this page are for **S21 system** only. Lift assembly hydraulic components for **S21M system** appear on page 7.



LIFT ASSEMBLY HYDRAULIC COMPONENTS (S21M)

REF.	PART NO.	DESCRIPTION
1	601027	Adapter, 2404-6-4
2	601066	Hose, 60" 6FJX90M-6FJX
3	601025	Steel Tube, Side, S21M
4	601044	Straight Adapter, 2404-6-6
5	610415	Valve, With Bracket, Lift
6	601034	Straight Adapter 6400-6-6 With Orifice
7	601193	Ram Lift, 3" Bore, 10-1/8" Stroke

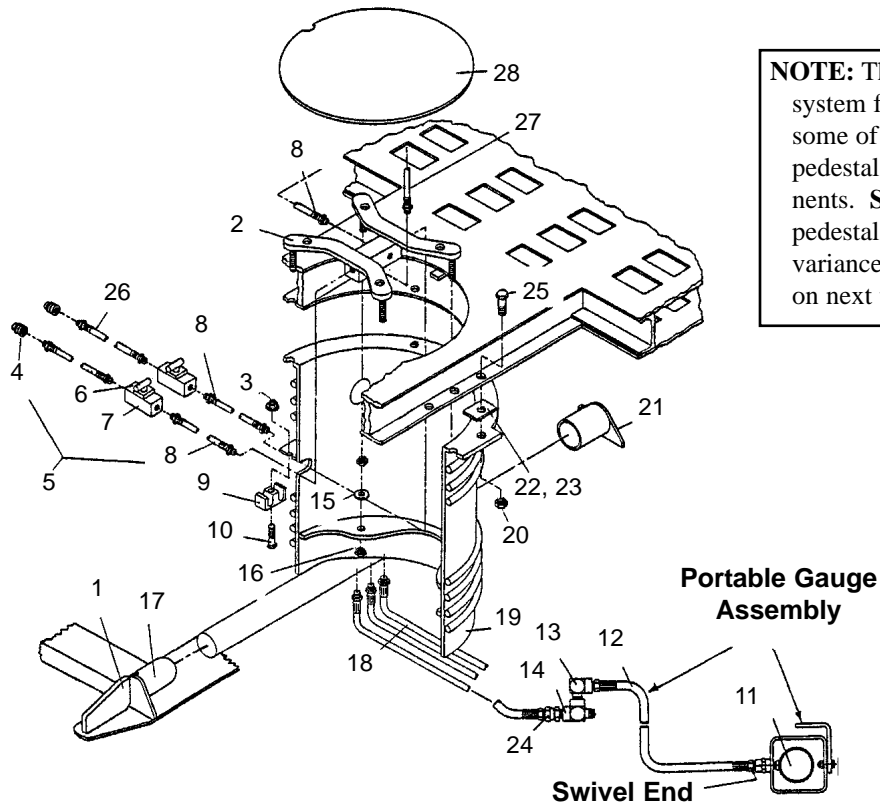
NOTE: Lift assembly hydraulic components for **S21** system appear on previous page.



PEDESTAL ASSEMBLY COMPONENTS (S21)

REF.	PART NO.	QTY.	DESCRIPTION
1	619620	2	Gusset, Extension Foot, Porta-Frame, S21
2	610597	2	Pump Plate Assembly With Block
3	629423	5	Nut, 1/4-20NC, Whiz Flange Lock, Pl.
4	602407	1	Quick Coupler, Male End
5	672270	2	Auxiliary Line Assembly, S21
6	625043	1	Valve Handle, 3/8 Valve
7	602802	1	Valve, Auxiliary Line, 3/8 Straight
8	602474	1	Hose, 170 x 3/8 NPT Couplings
9	705086	1	Double Hose Clamp
10	630643	1	Bolt, 1/4-20NC x 1 1/2, Gr. 2
11	649080	2	Portable Gauge Assembly, S21
11	649081		Portable Gauge, only, S21
12	649286	2	Hose, 18 1/2 x 3/8 M x 3/8 Swivel M
13	602546	2	Elbow, 90 Degree Female x Male, NPT
14	649282	2	Street Tee

REF.	PART NO.	QTY.	DESCRIPTION
15	629909	4	Washer, 1/2 Flat, Series W
16	629722	8	Nut, 1/2-13NC, Hex, Heavy, Black
17	610212	1	Pedestal Foot Assembly, Right, S21
18	609174	3	Hose, 76 x 3/8 NPT Couplings
19	610327	1	Pedestal Assembly Standard / S21
20	629896	8	Nut, 3/4-10NC, Jam, Hex, Gr. 5, Black
21	610554	1	Pedestal Foot Assembly, Left, S21
22	605587	N/A	Pedestal Shim
23	605579	N/A	Pedestal Shim
24	602562	2	Swivel Coupler
25	629802	8	Bolt, 3/4-10NC x 1 1/4, Gr. 5, Black, Hex
26	602511	2	Hose, 45 x 3/8 NPT Couplings
27	602520	1	Hose, 59 x 3/8 NPT Couplings
28	602280	1	Lid, Pump, S21



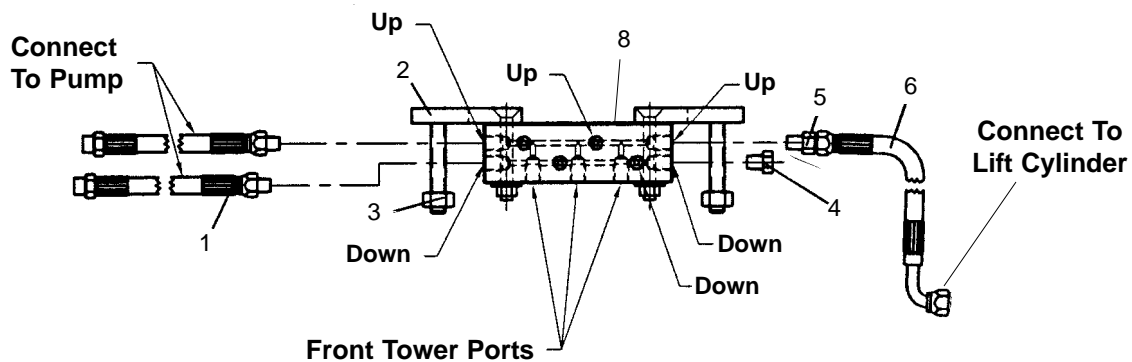
NOTE: The S21M system features some of these pedestal components. S21M pedestal assembly variances appear on next two pages.

PEDESTAL ASSEMBLY VARIANCES FOR S21M

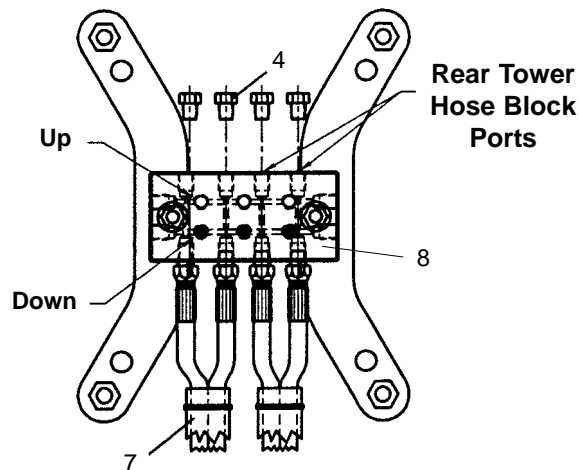
REF.	PART NO.	DESCRIPTION
	601186	Hose Block Assembly, S21M
1	601005	Hose, 45" 6MB-4MPX
2	601185	Pump Plate Assembly With Block
3	629722	Nut, 1/2-13NC, Hex Heavy, Black
4	601026	Plug, 5406-P-4
5	601027	Adapter, 2404-6-4
6	601066	Hose, 60" 6FJX90M-6FJX
7	601040	Auxiliary Line Assembly, S21M
8	601151	Hose Block, only, Aluminum (S21M)

NOTE: The S21M and S21 pedestal assemblies have some common components - see S21 Pedestal Assembly Components on preceding page. S21M Pedestal Assembly variances appear on this page.

FRONT VIEW



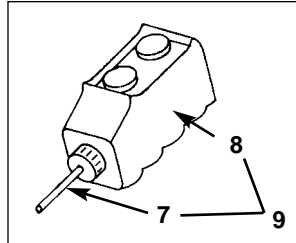
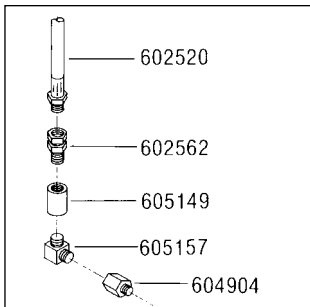
BOTTOM VIEW



NOTE: Every part is not shown in both views.

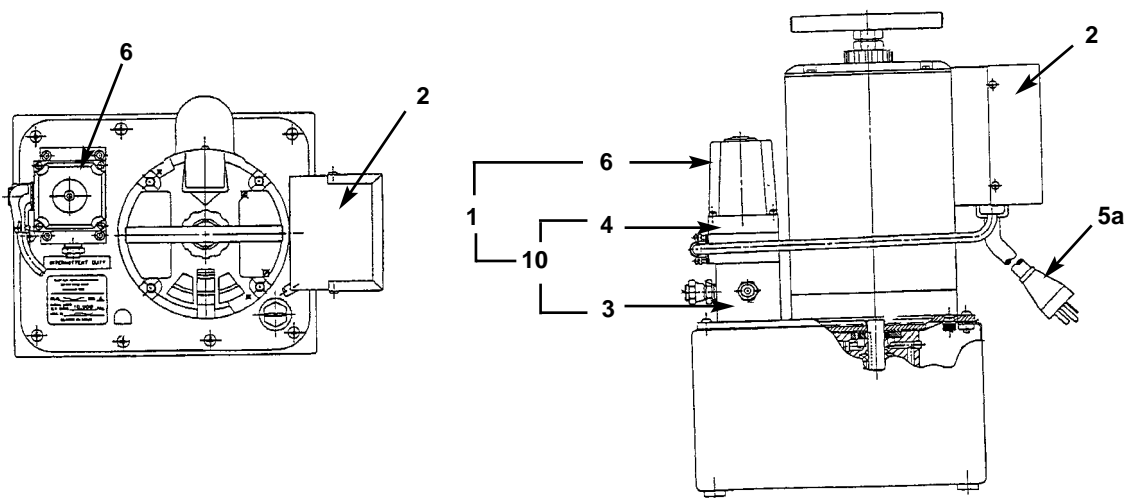
O.T.C MODEL PUMP ASSEMBLY COMPONENTS

Pump Fitting
Assembly

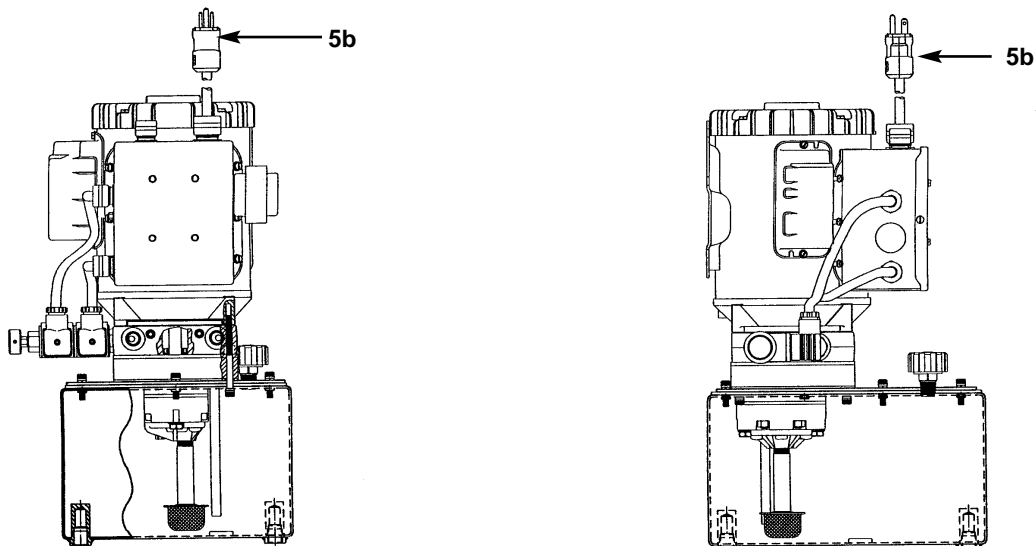


REF.	PART NO.	DESCRIPTION
	605843	O.T.C. Model, S21
	601190	Fenner Model, S21M
1	605835	Valve Body, Complete OTC
2	605851	Motor Starting Relay, OTC
3	605860	Valve Block, OTC
4	605878	Linkage Block
5a	620701	Power Cord, 20', 15 AMP, S21
5b		Power Cord, S21M
6	605042	Solenoid
7	620234	Joy Cord Male, 21
8	605018	Square "D" Switch (not shown)
9	611119	Control Switch Assembly
10	629327	OTC Valve Body W/Linkage Base

EZ Liner S21



S21M





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www.chiefautomotive.com

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